

SHIPWRECKS IN CAPE HORN ISLA DE LOS ESTADOS, MAGALLANES, MITRE PENINSULA, MALVINAS AND SOUTH GEORGIAS

Lic. Carlos Pedro Vairo



Nova Navegación de Historia



ZAGIER & URRUTY
PUBLICATIONS

Museo Marítimo de Ushuaia



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Maritime Museum of Ushuaia Civil Association

Electoral years are always particularly difficult. Apart from expectations for provincial and later national elections, we had to undergo an economic downturn at the national level and a more serious one in the province. This brought about a standstill which is absolutely understandable; still, I believe this was unjustified as policy, in general, should not interfere with the rest of activities.

Nevertheless, the Museum's balance is positive as three new books were published and a nautical chart (N° 63 by the Servicio de Hidrografía Naval) showing an approximate record of the wreckages that took place in the Beagle Channel, Mitre Peninsula, Isla de los Estados, and the surroundings of Cape Horn was also issued.

New "small rooms" have been opened such as the ones of the *Fragata Sarmiento*, *Fragata Libertad*, *Corbeta Uruguay*, *Belgica's* expedition under Adrianne de Gerlache (a donation of Belgian citizens), the *Austral*, the *Monte Cervantes* organized by Enrique Inda with the contribution of Carlos Maida, the *Petrolero* by the company "Total Austral," "Isla de los Estados y Don Luis Piedra Buena;" the exhibits Hidrografía Naval and Servicio Penitenciario have been reassigned.

Throughout the last months, the Art Gallery, inaugurated on 3 March 1999 and headed by Nicolás Martín, has had an outstanding performance featuring a series of exhibits and cultural activities. Workshops: the visual artist Miguel Pereyra coordinated a workshop on his specialty on Wednesdays from 6 to 8 p.m. Comics workshop under Roberto Rotger on Saturdays from 3 to 6 p.m. Exhibits: from March 3 to 23, Artistas Patagónicos: Mónica Alvarado, María Laura Bratoz, Mónica Giavotto, Gerardo Piero, Eduardo Nicolai, Miguel Calparsoro, Miguel Pereyra, Alejandro Abt, Gustavo Farrell, and Elsa Tessier. From April 30 to May 16, "Arte de Patagonia," with twenty artists taking part. From May 21 to June 6, Eduardo Nicolai. Myrtha Inés Kümmel and Margarita Canga Osorio from June 11 to 23. Miguel Pereyra with oil paintings and installations from June 20 to July 11. Graphic Art exhibit at the Centro Cultural Recoleta with speeches by Carlos Nine and Elenio Pico from August 13 to 29. Fino Echagüe, Paintings, from September 3 to 19. Through the Universidad Nacional de la Patagonia, a painting and photo exhibit at the Centro Cultural Ricardo Rojas curated by Alfredo Londaibere, from September 25 to October 10, and workshops under Alberto Goldstein and Alfredo Londaibere; videos by José Miralles. Exhibit of projects for the Provincia de Tierra del Fuego flag from October 15 to 21 and the winner "Albatros," by architect Teresa Martínez. Mariposario Interactivo, from October 11 to 21, showing insects in showcases and free in the rooms. Mario Pagliaro, from October 22 to November 4. Mónica Alvarado, Paintings, from November 5 to 14. "González," a play by Enrique Guevara. Photo exhibit and presentation of the book *Paisajes del Fin del Mundo* on November 5. Alejandro Abt with his paintings "Latinoamérica," from November 19 to December 3. During the summer season exhibits by local artists presenting Antarctic and Patagonic topics will be on. All of these has been possible thanks to the enthusiasm of Nicolás and volunteers such as Nico, Silvia, Sol, Gabriela, and all the ones that contribute for the sake of art; we are very grateful to all of them.

We are indebted to the Major of Ushuaia, Engineer Jorge Garramuño, for his supporting the Museum, especially the Library and the Art Gallery, as well as to the Tourist Authority, Julio Lovece, for his contribution.

Under the supervision of Norma Cigna, the Library went on working in the classification of material and in new acquisitions and donations such as the one by Victoria Padín. New computers, a scanner, and a printer, apart from Internet access, benefit the communication of the library and the art gallery.

The Federación Argentina de Asociaciones de Museos (FADAM) has chosen the Maritime Museum of Ushuaia as representative of the activities carried out in the country and a video of the Museum was shown, and highly regarded, at the Worldwide Convention in Sydney.

Thanks to an invitation by the *Fragata Libertad*, we had the chance to visit the archipelagos of the Guaitecas and the Guayanecas and the Fuegian channels. These visits have been exceedingly useful

as we had the opportunity to collect material, which will be reflected in future publications and research works. All this area was inhabited before the arrival of the Europeans and all their peoples, with their own characteristics, sailed the channels. The frigate set sail from Valparaíso (Chile) on October 21 and arrived in Ushuaia on October 30. We are grateful to the Commander, Captain Enrique Martínez, and to all officers that were patient to us.

The first expedition this season set off from Isla de los Estados on November 25 and, together with that in August, with a snow-capped island that made us feel as if in Antarctica, completed a panorama of the island. In collaboration with the Instituto Darwiniano, a herbarium is being organized on the island by experts assigned by the institution. It is also our intention to gather all the material of expeditions carried out in the 60s and for this purpose we are negotiating with the CONICET.

We say farewell to the millenium giving thanks to the authorities of the provincial government, municipality, and the Argentine Navy and, especially, to the Naval Base of Ushuaia and to its staff for their contribution. We will see in the year 2000.

By the Maritime Museum Civil Association
Carlos Pedro Vairo
Co-Director of the Maritime Museum at the Prison of Ushuaia

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IN CAPE HORN
ISLA DE LOS ESTADOS, MAGALLANES,
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Lic. Carlos Pedro Vairo



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Dedication

To the pleasant memory of the people and places that made me love the sea and the human activity linked to it, I will never forget Uncle Eduardo "Dicky" Vairo.

On Sundays, the family gathered around a long table (cold meat, ravioli, peceto with salad, even with 35°C), he used to tell us about his adventures during World War I on board of submarines or as a wrecker in the Black Sea or his campaign in Russia as one of the few survivors. All this mixed with descriptions of the places along the shores of Liguria, where my family comes from. Or children's adventures in building their own barks to go to sea; both my father and grandfather built them but, luckily enough, they never put to sea.

To the pleasant memory of fishermen's families from Chiavari, Portofino, Santa Margherita, Camogli and Rapallo, where I learnt to walk, swim and first got in touch with ships. It is due to them that my call for the sea is so engrossing and through them I also knew that I was not going to be an army man.

Maritime tragedies were experienced with great intensity at home. The arrival of a ship or the fate of a fishing boat was always more relevant than the stock market or the dollar.

Sea, storm and challenge tales were of vital importance.

We usually visited the Commanders of passenger ships, so we attended the sad farewell party. A crowded port with the hustle and bustle of porters, relatives, passengers, and even a band. The throwing of paper streamers was a magical rite that kept together those who were leaving up to the last minute. Then came the mystery and, sometimes, a wire was received.

Many ports and sea days went by. After having been to countries such as Norway, Denmark, and Holland, with a long-standing maritime tradition, I arrived in Ushuaia looking for the most maritime place in our country. I found out that, although it is situated on an island and its main means of communication is the sea—at least until short ago—there was little available as regards stories, tales, and traditions.

I found a port with legends but almost without history, without identity.

Everybody repeated what others had told mingling it with something they had read or made up. Most people only longed for the time to leave; just like wreckers and prisoners that only dreamt of returning home. I think it was then when this initiative, now reflected on the stories transcribed, was born.



Acknowledgements

Together with Engineer Mirón Genik, the naval modeler that built many of the models of the Maritime Museum of Ushuaia, I started to work on the subject in early 1986. The group grew with Francis Gatti, Guillermo Cardozo, Miriam Corsi, and Jorge F. May, who sponsored the project.

At first, the research was focused on libraries, but very little was found. Therefore, we decided to resort to files. The Archivo General de la Nación, the files of the Ministerio de Relaciones Exteriores and the Navy's were consulted. As a result of these inquiries, we went on with the library of the Centro Naval, the Departamento de Estudios Históricos Navales, the Museo Naval de la Nación, and even the Prefectura Naval. Unfortunately, as the last one still lacks a department for historical research, a lot of information must be in unknown places, if it was not destroyed with the passing of time.

Soon after this, we got in touch with the Naval Base of Ushuaia, where we found as much help as possible. At that time (1988), Captain Don Héctor J. Alvarez was heading the Agrupación Lanchas Rápidas. Thanks to that group, we were able to start with field research, both in the Beagle channel (with launches *Clorinda*, *Barranqueras*, and *Concepción del Uruguay*) and on Isla de los Estados and Península Mitre with the *Indómita*, the dispatch boats *A.R.A. Tye*, *Oliveri* and *A.R.A. Sobral*, *A.R.A. Somellera*, and *A.R.A. Yrigoyen*. This enabled us to make a first contact that was the beginning of ten years of frequent voyages that, thanks to the support of the present Jefe del Area Naval Austral (1999), Rear Admiral Don Héctor J. Alvarez, and his predecessors (A. Berisso, H. Fisher, and R. García), lead to important works both in Península Mitre and Isla de los Estados. Among these works, we find: San Juan de Salvamento and its lighthouse, rescue station and cemetery; Bahía Franklin and the remains of the *Espora*, which belonged to Luis Piedra Buena, and the remains of his stay in the place; Puerto Cook and "Eyroa's hut," Bahía "Crossley" and

Don Luis Piedra Buena's "factory," Año Nuevo and Luis Vernet's "establishment"; Puerto Roca and the shelters found, which are now under research. All this thanks to Dispatch boats *A.R.A. Somellera*, *Sobral*, *Gurruchaga*, *Castillo*, Icebreaker *Alte. Irizar*; Ushuaia Naval Air Base with Sea King helicopters as well as the Super Puma of the Icebreaker. And we are not forgetting the sailing boat *Callas*, owned by Jorge Luis Trabuchi, and the many trips around the region.

Others who also contributed collecting data were: Daniel Kuntschik (Georgias Islands); Don Mateo Martinic Berós, from the Instituto de la Patagonia (Strait of Magellan); Captain Don Juan José P. Devalle (Malvinas Islands); Oscar Pablo Zanola, from the Museum of the End of the World (*Duchess of Albany*); Cristina Morandi and Rolando Ríos, from the Servicio de Hidrografía Naval (shipwrecks south of Cape Horn). Later, we started to cross-check with the National Maritime Museum of London, the Naval Museum of Paris, the Naval Museum of Spain, the Museo Naval de la Nación, and the Maritime Museum of New York.

The following experts also contributed in correcting or offering information: Guido Seidel; Captain Horacio Molina Pico, from the Museo Naval; José Bamio, from the Instituto Browniano; Lieutenant Commander José Urrutia; Lieutenant Commander Guillermo Tarapow and his brother Marcelo; the expert in plant anatomy, Dr. María Agueda Castro; the researcher Natalie Goodall; Licentiate Ernesto Piana (CADIC); Eduardo Nicolai (photos and water-color paintings); Carlos Maida (*Monte Cervantes*); Héctor Monsalves (*Monte Cervantes*); Sergio Zagier; researcher Eduardo Segovia, from Comandante Luis Piedra Buena; historians Arnaldo Canclini, Enrique Inda, Rear-admiral Pablo Arguindeguy, Félix Luna and many others that I probably failed to remember, to whom I apologize.

For the final presentation of the work, we would like to thank to the Maritime Museum of Cape Town (South Africa) and the Maritime

Museum of Sydney (Australia); both are greatly experienced as regards these topics and we have tried to learn as much as possible from their way of dealing with and explaining them.

We are especially grateful to the Government of the Province that, through Don Ricardo Martín (Secretario de Desarrollo y Planeamiento), Engineer Francisco Alvarez (Ministro de Educación), and Dr. Omar Mandolini (Coordinador General del Ministerio de Educación y Cultura), encouraged our works and made things easier.

Last, but not least, we give our thanks to all those who took part in field works, i.e. all officers and crews of the ships involved and to Luis Mac, Carlos Dipilato, Sheryl Macnie,

Silvia Gigli, Esteban "Gato" Curuchet, and Jorge Trabuchi, and the successive crews of the *Callas*.

The Servicio de Hidrografía Naval, through Captain Poy, Captain Raúl E. Benmuyal, and his current chief, Captain Juan Carlos Ianuzzo, made it possible the edition of chart 63 with the approximate location of the shipwrecks in the area (Beagle Channel, Isla de los Estados, Península Mitre, and Cape Horn).

The following were close contributors to the present work: Iraí Rayén Freire (proofreading and translation); Mario Luis Rivero (illustrations); Cecilia Illa (photos); Juan Roil (from Río Gallegos) and Alfredo Saez, both from the black and white laboratory.

Preface

The present work, a printed draft of some research, is the outcome of over thirteen years of search which brought many questions and few answers. We are aware of the fact that this may be incomplete and that there may be mistakes, but what determined the publication was the fact that we have come to a standstill and we can neither enlarge or correct the information received.

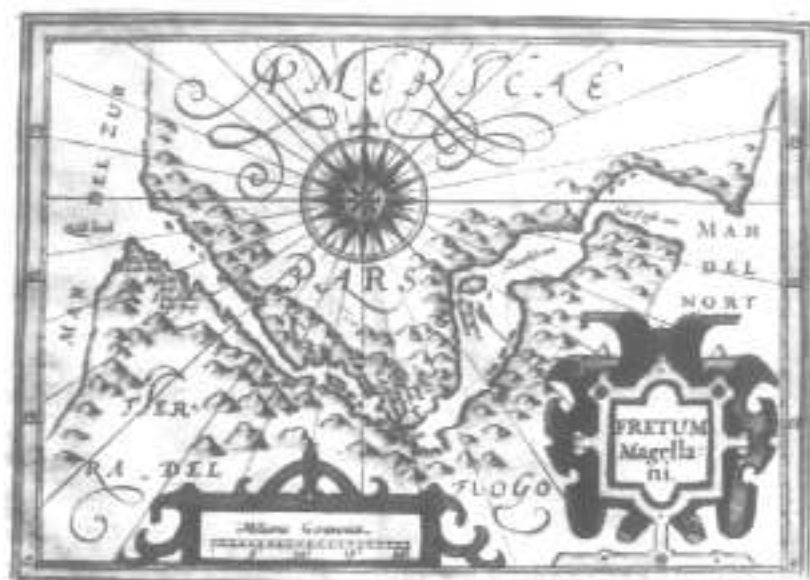
Lately, a lot of information has been contributed by people visiting the Maritime Museum, and we have been able to verify that there are

many sunk ships such as the *Lotos*, whose details have been given by the captain's granddaughter, who owns all the documents as a family keepsake while here we had no news about this ship.

Cases as this one encouraged the edition of this work hoping that it will be useful for other researchers and, if there are incorrect details, omissions or new findings, we would like you to let us know. You will find the necessary information in the last pages. Of course, we are very grateful.



Tierra del Fuego, a History of Navigators. The Discovery of The Strait



Survey of the Strait of Magellan (c. 1550).

The Portuguese: Fernão de Magalhães and Rui Falero

After almost three decades from the discovery of the new lands West of the Ocean Sea, the West Indies had become an impassable barrier.

Ginger, cinnamon, nutmeg, clove... in short, all the goods obtained in the East Indies went on traveling by the route opened by Vasco da Gama rounding Africa.

So two Portuguese sailors, Fernão de Magalhães and Rui Falero, were determined to persuade the King about their belief that, as the African coast turned to the east thus making it possible to arrive in the East, the same would happen in the American coast where a passage from the Atlantic to the South Sea would appear.

At that time, Portugal was a nautical power in the world. Lisbon was the meeting point for two naval traditions: the North Sea one and the Mediterranean. Captains, pilots, different ship-building techniques and a lot of experience in the various seas met there. Skilled cartographers draw charts; scribes wrote the captains' voyage accounts; draftsmen deciphered the new plants, animals and customs; the sailors talked

about and the rest of the world knew them from Lisbon.

After persuading the King of Castilla and his advisors and after defeating palatial intrigues —because of which Rui Falero could not set sail—the order for the Navy to get ready was given.

It set off from Seville via Guadalquivir river on 10th August 1519 with five vessels: *San Antonio*, *Trinidad*, *Concepción*, *Victoria*, and *Santiago* (the smallest) with 265 people in all.

They sighted land in Rio de Janeiro in December and went on sailing south visiting the River Plate—discovered by Juan Díaz de Solís—and set sail from the river Uruguay on board of the smallest ship. In March, they found shelter in the harbor of San Julián where they spent a hard winter that started together with an insurrection bloodily controlled and with hard punishments: captains were beheaded, a chaplain and a Navy Inspector were exiled in Patagonian territory (they were given wine and a sack with ship biscuits as a merciful act).

In June, natives appeared on the beach and violently impressed the expeditionaries. They

were scarcely covered with furs down to the knees and appeared to be quite tall and the footprints found on the snow were huge. This is why they were called Patagones (meaning that they had huge feet). But the huge footprints left derived from the fact that the natives covered their feet with leather filled with straw. After catching a pair of these natives to exhibit them in Europe and some frustrated chases in which marines died, the first meeting between the natives and the European came to an end. The Venetian Pigafetta was the chronicler on board and to him we owe all what is known about this voyage.

The expedition went on in August. The river Santa Cruz was explored and the whole fleet was in danger of shipwreck because of a heavy storm.

After getting new provisions and repairing the ships they put to sea on 11th October. On 21st the same month, they saw a cape "with a Dragon-Tail-like promontory" they called *Once Mil Virgenes*, according to the Roman calendar.

On rounding it, they noticed that it was a bay in fact; but they did not realize that they were sailing the passage they were looking for. They started to explore the "bay" and after some storms and other setbacks, the *San Antonio* and the *Concepción* succeeded in passing the first and second paths coming back bringing news—they had sailed through the passage between the two Oceans.

While "Magallanes" was waiting for these two vessels to return from their exploration, he saw many fires shine on the lands situated in the south and this drew his attention in such a

way that he called the place *Tierra del Fuego* (Land of Fire).

After an uprising, the *San Antonio* went back to Seville via the same route and carried the news about the cold weather, the uprising at San Julián and the punishments suffered.

Meanwhile, a sloop completed the crossing of the Strait and christened the Cape where the strait ends *Deseado*. On November 27th, the three Magallanes' ships left the Strait of *Todos los Santos* and sailed in the South Sea. They came to the conclusion that the land on the right belonged to the continent and the land on the left belonged to islands because of the sound of waves against reefs they heard. Within twenty days, the *Victoria*, the *Trinidad* and the *Concepción* had sailed through the strait and penetrated into a calm sea that Magallanes called *Pacific*. So, with eighteen deaths, a deserter ship and the *Santiago* sunk, the new passage was discovered. Some called it "Victoria vessel Strait", "Patagones Strait" or "of All Saints." In the end, it was deservedly called after its discoverer—"Strait of Magellan".

Sailing in the "Pacific" meant throwing corpses into the sea. Storms, scurvy, and the lack of food made the *Concepción* dispensable—there were no people—so it was set on fire in open sea. The remark by Antonio Pigafetta—who sailed writing a narration of the voyage—is quite interesting: "...The biscuits we ate were bread any longer, but a powder mixed with worms that had devoured all of its substance, and besides they had an unbearable reek as they were impregnated with rats urine. The water we had to drink was similar-

ly putrid and stinky. In order to avoid starvation, we had to eat pieces of cow leather with which the large yard had been covered... Usually we had to feed ourselves with sawdust, and even rats... each of them were paid half a ducat."

On arriving at Mactán island, on 27th April 1521, Fernando de Magallanes died in a battle against the natives. Practically at that same moment, the deserter ship reached port in Seville. Few days later, the captains of the rest of the vessels as well as the chaplains and officers followed. On Cebú island, thirty-five men died in all.

On board of the *Victoria* and veering *Cabo Buena Esperanza* (Cape of Good Hope), they arrived in Seville on 9th September 1522 with



The Strait of Magellan. The Mar del Norte is the Atlantic Ocean and the Mar del Zur is the Pacific (See upside down, c.1570).

eighteen men in charge of Juan Sebastián Elcano. Although there were a few men, the ship was full of clove, cinnamon, nutmeg, and other spices that showed the power of Spain in the Moluccas islands. The shield was supported by two monarchs with their crowns and a bunch of clove and another of nutmeg in their hands.

The Old Maps Showed the Passage

Fernando de Magallanes is known in Universal History as the first navigator to see Tierra del Fuego and sail the strait after his name. But the maps he used for the voyage on which he based his expedition remain a mystery.

Magellan used Ptolemy's charts, in which the west coast of Tierra del Fuego was suggested (100 - 200 A. D.) the same as in Enricus Martellus' map of the world where a portion of land in the area of Tierra del Fuego is found. But this is already the 15th century.

The map of Martín Benhaim, cartographer of Nuremberg, displayed a strait that joined the two oceans and was seen by Magallanes before leaving. The King of Portugal kept it with his treasure. An interesting work to comment on is the earth globe of Johann Schoner, with a strait at 45° South and land further south.

It is also known that the *Trinidad* also carried two planispheres, supposed to be by Pedro Reinal, which also marked the passage. Were they visionary cartographers that drew the narrations of other navigators? Was it mere imagination? Who were those unknown navigators? If they existed, why is that they did not become known? None will ever know. But anyway it was the courage and knowledge of a great sailor that proved that the earth is round and taught how to join the East via the west.

And, in our case, we were officially discovered and besides christened *Tierra del Fuego*.



Isla de los Estados (Staten Land) was thought to be the beginning of the Southern Continent (c. 1680).

Other Expeditions

Les Mystères de l'Océan



Giant squids that caught ships sinking them were among the feared monsters.

Spanish and Lusitanian

Immediately after Fernando de Magallanes', the expedition ordered by Carlos V set sail. Fray García de Loisa was named Commander-in-Chief and Juan Sebastián Elcano was the second authority and captain of one of the ships. Six vessels and a galleon got ready and set to sea from Corunna in July 1525. After many vicissitudes and having mistaken the Río Gallegos estuary for the entrance to the Strait, only four ships succeeded in crossing it.

In one of the storms, the vessel *San Lesmes* was taken to southern lands. Apparently, Isla de los Estados and San Diego Cape —i.e. the mouth of Le Maire strait— were seen. If this is true, the Flemish Le Maire and Schouten discovery was anticipated 89 years.

The fleet started to scatter as some vessels disappeared and others sunk. On this voyage Juan Sebastián Elcano died. The only ship that returned to Galicia was *San Gabriel*, which deserted and sailed back before the crossing of the strait.

In 1534, another two vessels set sail from Guadalquivir and got to the Strait of Magellan. They were the *San Pedro* and *Madre de Dios* caravels. The Portuguese Alcazaba headed the expedition. They tried to colonize Patagonia, but many setbacks came up and only the *San*

Pedro returned to Santo Domingo, leaving behind hundreds of dead people and the seditious ones exiled in Patagonian land.

The last navy in setting out from Spain with the aim of setting up a permanent domain in the strait was the one supported by the bishop of Plasencia (Extremadura), Don Gutierre de Vargas Carbajal. Fray Francisco de la Ribera was the admiral of the fleet which set sail from Sevilla in August 1539 with four ships. On the other hand, they were seeking to control navigation in the (biocceanic) austral strait—to connect the Pacific to the Atlantic—and thus avoid the expensive cargo transfer from one ship to another crossing the Panama Isthmus on mule back. Only one out of the four ships anchored in Arequipa. Two were lost in the Strait and the fourth was driven by a storm out of the Strait in the direction of Spain.

After these attempts to cross from the Atlantic to the Pacific, there were three important Spanish expeditions—fostered by Valdivia—that explored the Chilean coast and the last two penetrated the Strait from west to east. They were: Juan Bautista Pastene's Expedition (1544) to Puerto Montt on the *Santiago* (caravel rebuilt to its normal size and which is in Valparaíso, Chile); Francisco de Ulloa's (1553-1554), which contributed with very valuable data about

the difficult austral Chilean coast and penetrated the Strait about 40 leagues; besides, their observations on the primitive inhabitants (Alakaluf and Chonos) of the area are excellent. The last one was Ladrillero's expedition (1557-1559). Apart from getting almost to the eastern mouth of the Strait—where it wrecked—, he had to build a smaller vessel to be able to come back and thus save himself and two more men out of the 150 on the expedition. He brought important information for navigation and for the study of the life and customs of the native sailors of those coasts and channels.

Results of these expeditions were so varied that it was said that the strait had been closed as they could not find the entrance. They said that "perhaps some island driven by a seaquake or sprang up after an eruption must have plugged the mouth." This kind of legends are not so absurd if we take into consideration the fact that navigators used to tell stories about marine cows, octopuses catching large whales, apart from mermaids and big snakes.

The Spanish Crown decided to officially abandon reconnaissance voyages to the strait and forbade the publishing of any information that could affect the region.

England

Englishmen were the ones to continue with exploration voyages. Basically because they did not want to lose the domain of the seas, even when they started after the Spaniards and Portuguese. The European political situation favored them.

The first one—at least officially—was the pirate or simply carrier Drake who was invested Corsair. Drake was the prominent head of an association of navigators which were associated to the British Crown. Elizabeth I gave a ship, some thousands of pounds and excluded them from paying taxes.

This expedition was of great importance because Drake was the second navigator in sailing round the world. His fleet was made up of five ships—the *Pelican* (*Golden Hind* afterward) commanded by Francis Drake, the barges *Elizabeth* and *Marygold*, the hooker *Swan* and the pinnace *Benedict* then exchanged for a Spanish fishing ship christened *Cristopher*.

The expedition had several aims: the "cold" war with Spain, the search for new markets and partners, the defeat of Catholicism, possible discoveries and new possessions, fame, an untouchable Austral Sea and, of course, the silver and gold that was shipped from Peru and Chile to the Panama Isthmus.

They set off from Plymouth on 13th December 1577. The voyage was full of vicissitudes, Spanish and Lusitanian ships captures and storms. Of course they were amazed by places like Cape Verde and the Brazilian coast as for many of them it was the first time they navigated the oceans. The *Pelican*, the *Elizabeth* and the *Marygold* reached the Strait (on 20th August 1578) after being supplied with fresh sealions meat, penguins and potable water, and after setting aside the slower ships and beheading the most rebellious. It took them seventeen days to cross the Strait. Several heavy storms, the fact that the *Marygold* disappeared and the forced parting of the other two vessels—because of another storm—, made the captain of the *Elizabeth* decide to sail through the Atlantic getting to Devonshire on 2/6/1579.

General Francis Drake—after demonstrating his naval knowledge by eluding new storms—started his plundering in Valparaíso, where he got 37,000 ducats of fine gold from the vessel *Los Reyes* and the village taking with him the holy attributes of the chapel. And, when looking for water, towards the north, he plundered some silver (transported on llama back) from some Spanish people and then in Arica they found three ships with 11,000 silver pounds that were shipped on the *Golden Hind*. So they continued north and, after plundering eighteen ships in Callao, they set sail after a Spanish vessel which had an important gold cargo. On their way, they captured several ships with different cargoes and near Panama they captured the *Cacafuegos* with its 26 tons of silver, gold, fabric and fourteen arks with coins and fine Chilean wines.

Drake cautiously sailed to the west and he found a ship which transported china and silk from China. The plundering included the pilot, so that he could serve them as a guide.

Then he engaged in plundering ships coming from the Philippines and Oceania in order to get cartography and pilots who knew the area. While they were sailing in the sector, they became aware of the importance that the records they got would have—when arriving to England—for merchants and authorities as they were wealthy markets controlled only by the Chinese, the Portuguese, and some Dutch and Turkish. Therefore, by flattering kings and sultans, he signed the first trade treaty between England and a country of the Indian Ocean. Then, 6 tons of clove were shipped on the *Golden Hind*.

After their stay in Java and Batavia—where they exchanged fabric for gold and silver—they

went on to Africa. The *Golden Hind* arrived at Plymouth three years after having left with a crew of 58 men with Francis Drake heading it (3/11/1580). There was an important repercussion: the British, military men, merchants, and authorities were enthusiastic about the new possibilities and the geographic, cartographic, and hydrographic aspects together with the description of new populations and their customs. So corsair Francis Drake became knight Sir Francis Drake. Soon afterward, his collection of charts and his logbook were issued and the last one was used for the following expeditions of the Crown.

This also encouraged Holland and, later on, France to dispute the domain of maritime trade. On the other hand, it was the beginning of the Spanish decay which made them think about fortifying the Strait as they had seen how a single ship with a few men and 12 cannon could plunder villages, capture ships, and do whatever they wanted to. Another important point was the possibility of a passage between the two oceans southward. Anyway, the rest of the world did not pay too much attention to this.

The Spanish Reaction

The Viceroy of Peru appointed Pedro Sarmiento de Gamboa General of the Navy and gave him two ships—the *Nuestra Señora de la Esperanza* and the *San Francisco* (11/10/1579)—aiming to the study of the area to set up fortifications on the Strait in order to avoid situations like the one caused by Drake.

Gamboa entered the Strait and got in touch with the indigenous people of Tierra del Fuego whom he called "Gente Grande" ("Big People"). This name is still used as a toponymy in a region to the north of Porvernir town. After

almost two months exploring the Strait, he left for Spain to show the King how the area should be fortified.

After arriving in Spain in August 1580, and once the idea of fortifying and settling down a population in the region had been accepted, Gamboa chose the future settlers. People of varied occupations were chosen—ranging from Franciscans and hairdressers to trumpeters. They were 350 people in all with women and children. Six hundred soldiers were recruited and assigned to Chile.

Twenty-three ships set sail for the Strait (25/9/1581), but a heavy tempest made the navy come back with 800 missing sailors and seven lost ships. After recovering, the sixteen vessels left set off and after undergoing storms, desertions, the selling of the supplies and provisions for the future settlers and several murders, only five ships arrived at the mouth of the Strait on 1st February 1584. On disembarking in Cabo Virgenes, Gamboa set up a precarious camp—near some drinking water sources—which was the base of a village that he called Ciudad del Nombre de Jesús.

There disembarked the colonists with all the materials for the building of the two fortifications and the remaining provisions. On this occasion the *Trinidad* was lost and Sarmiento de Gamboa decided that the others returned to Spain to get more supplies, so the *Santa María de Castro* was the only means of transport left. This ship was sent with materials to set up the second settlement which Gamboa called Los Rincones. As soon as the ship set sail, he set off on foot with ninety-eight men. During a 20 day's journey—they suffered from hunger, tiredness, cold, and the lack of appropriated shoes—they fought against the native Tehuelches and there

Los Misterios de L'Océan



According to popular belief, there were sea monsters that hid in ambush for navigators.

were dead and injured men. Anyway, ninety-one men together with the ones on the ship summed up 143 and they set up the buildings of the village Rey Don Felipe, opposite Dawson Island (20/3/1584).

After the foundations of the village were built, he set sail for the first settlement to see how it was and to look for more supplies. While they were shipping, a tempest from the south surprised them and made them lose the only anchor they had, so Gamboa decided that the best thing to do was to sail for Brazil to look for provisions. After a lot of misfortunes—one of them the losing of the *Santa María de Castro* against the coast—he tried to go back to the Strait on another ship he got, but a heavy storm sent him back to Río de Janeiro. As it was more than a year since he had left the Strait, his sailors had abandoned him—apart from the fact that he enjoyed no reputation—he went back to Spain. Again, he had no good luck because after being imprisoned in England, he was kidnapped in France and he got the King to pay for his ransom deducing it from the money the Crown owned him.

Eventually, he arrived in Spain to ask for supplies and provisions for the two villages he had founded on December 1586.

But his requests were not satisfied. In the first place, because the Armada for the war against England was being planned and, after the war, because of the defeat of the Invincible Armada. One after the other, his requests were ignored and the settlers depended on their good luck.

Fortune was not on their side because—to round it off—Tomé Hernández was rescued by the English corsair Cavendish succeeding in escaping from them in the *Quintero*. The rest starved or died in the hands of the natives, except for another man who stayed to live in Rey Felipe village—where the English pirate Andrew Merick arrived in 1590—until he pleasantly joined the pirates' crew.

To have an idea of what they used to eat, we can consult this account: "They ate the cats, the

wooden clogs leathers, and tanned cow leathers and the leather of the boots that turned out to be more harmful than hunger itself..." The English changed the name of the village "Rey Felipe" for another one more telling: "Famine

Port." (Quite close to Fuerte Bulnes, later on moved to Sandy Point, present Punta Arenas.)

The Spanish—after the great naval defeat in the hands of England—focused their efforts in watching the galleons that sailed from America to Europe shipping gold, silver and another goods because of the corsairs and pirates of different flags that abounded. So the Strait was left aside, i.e., it depended on its own fortune.

English Navigators

The pioneer Francis Drake was followed by

the famous corsair Thomas Cavendish who, apart from rescuing the only survivor of Port Famine, was the third sailor to circumnavigate the world.

He set off from Plymouth on 21st July 1586 with the *Desire*, the *Content* and the *Hugh Galant* and a crew made up of 123 men. It sighted land in Port Desire (Puerto Deseado) and after shipping penguin and sealion meat, drinking water they set sail for the Strait and entered it on 6th January 1587. At Primera Angostura, they rescued Tomé Hernández (a survivor from the colonization that Sarmiento de Gamboa had left) and they sighted land at Port Famine (Puerto Hambre).

Sailing along Chile and Peru coasts, the English corsair plundered every important settlement he found and took several ships. On arriving in Acapulco, not only he plundered ships and villages but he also set on fire several ships under construction. But the most important prey was the galleon *Santa Ana* of 700 tons that was sailing from Manila to Acapulco. It was estimated that he got over 122,000 gold pesos apart from silk, fabric, and spices. Wealthy, he started his voyage west arriving at the departure port two years later (9/9/1588). Cavendish was conferred knighthood and his fame was known all around the world. Only the *Desire* went back.



In a letter, he wrote: "...I have sailed by the Chilean coast, the Peruvian, and the Nueva España's where I have collected a wealthy plunder, setting on fire and wrecked nineteen ships including small and big ones. All settlements I disembarked in were plundered and set on fire..." (sic).

Having spent all his wealth in court, Sir Thomas Cavendish organizes another expedition in 1591. He gets five vessels ready and sets off bound for the North Pacific. The idea was to block the ships that sailed from the Philippines to America.

In an attempt to cross the Strait, he loses many men and ships because of the heavy westerly storms. The winter takes Cavendish by surprise with little food and his people tired and ill. He sails back to Brazil to winter, but the fleet scatters and after many setbacks Cavendish dies in high seas.

John Davis, one of Cavendish's captains, in charge of the *Desire* failed to find Cavendish's ships and found shelter at Puerto Deseado. He set off to sail the Strait of Magellan. He did it, but the northern tempests were so many that he decided to go back to Puerto Deseado. After getting provisions, he went back to England losing almost all his men (Nov. 1593).

Andrew Merrick

He set sail (5/8/1589) together with Sir John Chidley's with three vessels in all. Only Merrick, on the *Delight of Bristol*, arrived in the Strait of Magellan and tried to sail in order to attack Arauco.

When anchoring at Port Famine, he found a Spanish man belonging to Gamboa's expedition who joined the crew. After many failures in trying to get out of the Strait and many dead men, he decided to go back to the departure port. Out of ninety-one men—counting the Spaniard—only six survived. Four of them got to England on a sloop. The Spaniard's fortune was lost somewhere in the Atlantic Ocean.

Richard Hawkins

He was an English knight from a wealthy family. Trading with slaves and wine from the Canary Islands, he built three ships to sail to the hunting area in the Pacific. The idea was to reach as far as Japan, but he proved a bad sailor because he lost half his men and a ship before arriving at the Strait. After sailing through it, and when he was about to start hunting, they were caught and sent to Lima. He was transferred from that colony to Seville and, once rescued, he went back to England.

Dutch Expeditions

Toward the 17th century, the Netherlands were the greatest Maritime power in the World. There were no better shipyards than the Dutch ones, and no better navigators or map cartographers (Mercator, etc.). The rest of the maritime nations had to learn naval techniques and the art of navigation from the Netherlands. With very little land, the Dutch had no other way out than putting to sea and they started by being fishermen in the rough North Sea. That was their best school and got them ready for trade with remote lands.

Without intending it, the Dutch became colonizers and conquerors. Their war techniques developed shamelessly at the same pace as their diplomatic skills. Having an adventurous, religious, sacrificed temper and being lovers of freedom, the Dutch claimed that the seas belonged to nobody and that navigation should be free for everybody. Thus, they objected the Papal Bull of 1494 that had split the world giving to the Spaniard and the Portuguese the monopoly of maritime communications.

Just the opposite to the Spanish Crown maritime and commercial adventures, the "Dutch" ones were in charge of private companies (1594). These companies started to compete among them but, in order to prevent Prince Mauritius' (the stadholder) valuable efforts from being wasted, he got them to merge in a sole large company which was the famous "East India Company." Its activity extended from Cape of Good Hope to Australia, including Japan.

The West India Company enjoyed the same prerogative than that of the East India. Their activities not only extended to America but also to the African coasts.

Its intention was to compete with its counterpart in the West and this is the reason why Schouten's and Le Maire's expeditions looked for a pass other than the Strait of Magellan. The end of both companies was similar and, after having settled down colonies, having carried on a successful privateering war against Spain they ended up giving their possessions over to the Dutch State.

The first Dutch expedition, known as Jacobo Mahu's Expedition, was organized by the East India Company and set sail from Rotterdam with five ships (1598). Once they were in the Strait, they conducted an excellent cartographic and hydrographic research in the area. After enduring weather inclemencies and strong tempests, the expedition went back to the Netherlands on a ship with sixteen men. The expedition had lasted for over 24 months. The

discovering of the "de Sebald" Is. (later on known as "Sebaldinas de Indias" or "Sebaldes") by Sebald de Weert, captain of the ship (24/1/1600), was an important event. They are the present Islas Malvinas. On the other hand, they sighted canoeist Indians. It is highly probable that they were Yamanas.

Olivier Van Noort's expedition, organized in Rotterdam, set off with four ships and 248 men (1598). After countless and even unusual vicissitudes, he became the first Dutch circumnavigator and the fourth in the world when he arrived in the port of Amsterdam three years after his departure. In 1602, Van Noort's and Jacobo Mahu's logbooks were printed and gave to the naval world a huge amount of new knowledge as they had thirty drawings. The quadrons of the Strait, which were probably reserved as an "strategic weapon", were not included.

The fifth voyage around the world was done by another Dutch. Joris van Spilberg set off from Zeeland on 8th August 1614 with six vessels and, after crossing the Pacific via the Strait of Magellan, he devoted himself to privateering along Chilean and Peruvian coasts. In two years and almost eleven months' time, he went back to Flanders (1/7/1617) having lost four ships.

A New Passage (1616)

The most outstanding of the Flemish voyages was Schouten's and Le Maire's expedition that was aimed at looking for another passage to the East Indies. They founded the Austral Seas Dutch Company and set sail from Texel on 14th June 1615 with two vessels. On 24th January 1616 they found themselves navigating in the waters of Tierra del Fuego discovering new lands.

They christened the eastern lands after Staten Land (Dutch States Land) and the western after Mauritius Land (Mauritius' Land or Country, nowadays Peninsula Mitre) and the waters between them Le Maire Strait. They were sure that through it they could enter the South Seas, thus finding another via of communication other than the Strait.

Among other names, they christened Cape Hoorn (several times modified till the present Cape Horn) —in memory of their natal town— as they thought it was a Cape, but in fact it was an island.

They went on sailing in the Pacific toward Java. They were caught there because the story they told about the fact that they had not sailed through the Strait of Magellan was not believed. The navigation there was destined

for the East India Company. Jacobo Le Maire died. Schouten arrived imprisoned two years after the departure (24/1/1617), thus completing the sixth voyage around the world.

The news spread all around Europe quickly. Immediately, the Crown of the Iberian Peninsula (Spain and Portugal) decides to send an expedition to check the existence of the "New Strait" and, if possible, to take possession of the lands.

So the Nodal brothers (Bartolomé García de and Gonzalo de, Galician from Pontevedra) were given two caravels, eighty men, several Pilots (two of them from the Netherlands), and Le Maire's and Schouten's Logbooks.

They set sail on the caravels *Nuestra Señora del Buen Suceso* and *Nuestra Señora de Antocha*, chosen because this kind of vessels are more maneuverable than others. At that time, navigators such as Christopher Columbus claimed that "they were fitter for discovering voyages" —in fact, they were light and easily maneuverable and cheap as they were small. They set sail from Lisbon on 27th September 1618 and at the end of January 1619 they were navigating Le Maire Strait to complete the first circumnavigation around Tierra del Fuego in March, when they sailed out again for the Atlantic. They arrived in the Iberian Peninsula on 9th July 1619.

Among the relevant facts to be highlighted is the discovery and christening of Bahía de Buen Suceso, on Le Maire strait, where they sighted land to wait for better weather conditions. Waiting for this, they got in touch with Fuegian natives; apparently, they belonged to the "Hausb" group.

Exploration voyages go on one after the other. Some just approach Tierra del Fuego, others sail around looking for new lands. But the fact is that in 1624 a great Flemish fleet with eleven ships and 1,637 men arrives in the archipelago. It is Nassau's Navy, organized by the General States of the Netherlands, the East India Company, and the President of the Netherlands, Stadholder Mauritius, Prince of Orange and Earl of Nassau.

Jacques L'Hermite commanded the fleet whose objective was to conquer Peru to go on weakening Spain's power.

On arriving at Cape Horn and assaulted by storms, the fleet finds shelter entering a large bay they call Nassau. Once there, the vice-admiral of the fleet, Schapenham, explores the coast in the tender *Windhond* and gets in touch with the Yamanas. This first contact made them famous as anthropophagi because thus they were described in the expedition's

account. Although this statement could never be checked, what is true is that in the first meeting seventeen sailors died. Also thanks to this first encounter, we have the first descriptions of their vessels and the way in which they were built. Because of their shape, they were described as gondolas and so draftsmen using their imaginative power showed the world images of anthropophagi human beings sailing naked in Venetian gondolas in an icy region.

The result of those five days that the fleet stayed in Nassau Bay was the first description of the Yamana people, their canoe, and their way of life published later on in 1629 together with the logbook.

They went on with their course to the Pacific and, after devastating Peru (Arica, El Callao, Pisco, etc.) getting a very good booty, they went on to Nueva España to cross to Java and go back to Holland after almost three years of navigation (Texel, 9/7/1626). This was the seventh voyage around the Earth.

Upheaval in the Iberian Peninsula (1643)

After a period of some years, when the Flemish entertained themselves on the Brazilian coasts—and stopped attacking the Pacific coasts—they estimated it convenient to take part in the Pacific (1642) taking advantage of the Spaniard vulnerability. For this purpose, they organized together with the Governor of Brazil, Prince John Mauritius of Nassau, and the East India Company. Although the aim of the expedition was to conquer—with the idea of setting up factories in the Chilean coast—it failed to do so. Anyway, this obliged the Spaniard to scatter more and more.

Hendrick Brouwer was in charge of the navy which set off from Pernambuco (January, 1643), where he completed the fleet summing up 350 marines, two vessels, three frigates, and a yacht. There were 1,100 men in all. The fleet met again at Valentín bay (nowadays Buen Suceso) on Le Maire strait. At that moment, the yacht *Dolphyn* could see the whole north coast of Tierra de los Estados noticing that it was an island no larger than 10 miles. Some days later, he circumnavigates the island for the first time. Once the whole fleet was assembled, they set sail for Chilóé I. sailing east of Tierra de los Estados—a new passage had been discovered. It was no longer necessary to sail through the Strait of Magellan or Le Maire's. There was an alternative.

They went on sailing up to Valdivia but, after a series of drawbacks and difficulties for getting provisions and many losses (because of death or desertions), they sailed back to Per-

nambuco via Cape Horn.

Both the Spaniard Monarch and the Supreme Pontiff were overwhelmed by the Brazil-based Dutch performance. They could practically take over the colonies in the South Seas (Río de la Plata, Chile and Peru), apart from the anti Catholic campaign they carried on handing out pamphlets in Spanish urging the indigenous people and the Creoles to set themselves free.

Corsairs, Pirates, Filibusters and Buccaneers

Spain had obtained—by signing special treaties with France and England—the prohibition of navigating in its Austral seas as from the Tordesillas line. The Netherlands eluded this situation. Anyway, by the middle of the century they had to put an end to their expeditions because of the war against England and France.

In 1600, the "East Indian Company" was founded in London for the spices trade that was controlled by Spain and Portugal. But the Dutch appeared immediately after the creation of the East India Company (1602) and got maritime commerce under their power. With just one million inhabitants, they dominated the sea settling down colonies and factories in every continent—the 17th century was their golden age. Many other nations imitated the Dutch and set up several companies.

In 1635, the "Compagnie des Isles D'Amérique" was set up in France with the aid of buccaneers and filibusters that occupied part of the Guayanas and islands such as Martinique, Tortuga, María Galante, Guadalupe, Tobago, Grenada, etc.

Later on, the "Compagnie des Indes Orientales" (1664)—operating in the Pacific—appeared, and the "Compagnie des Le Mer du

Les Mystères de l'Océan



Sea lion.

Sur" (1698) was granted the exploitation of the Austral seas and their islands. These companies were engaged in smuggling —among other things— in Spanish waters and they were based at the famous Saint Maló port (France).

But even Denmark and Scotland organized their own Company, but they worked in the Caribbean waters without a meaningful success. All of these companies used —to a higher or lesser extent— the services of sailors that sometimes could be pirates or corsairs. Buying letters of Marque or thanks to a Royal Letters patent, they became corsairs turning out to be legal if they attacked the ships of enemy nations. The same happened with the filibusters and buccaneers that usually became corsairs.

They operated especially in Central America because of the important traffic of Spanish ships and many promising settlements. Provided that expeditions in the Pacific were carried out —by the Panama isthmus— some of them took the risk to sail the Austral seas and doubled Cape Horn. During their adventurous voyage, many of them made discoveries and conducted explorations and described in their logbooks the sea birds fauna, cetacea, amphibia, and areas of our coasts and even the Antarctic continent.

The English Return (1699)

After having disappeared from the stage for some years, they sail back in the Austral seas after the Breda Treaty, which ended the war among England, Holland, and France. England sends John Narbrough in 1699 with the mission of exploring and, if possible, settling down in some port south off Buenos Aires and of getting in touch with the natives apart from attempting trade with the south of Chile.

Narbrough sets sail on two vessels with a Spanish man (Carlos Enrique Clerk, who was a kind of British spy who knew South American coasts) as part of the crew. In February 1670, they take symbolic possession of Port Desire (Puerto Deseado), in the name of His Majesty Carlos II. Meanwhile, they wait for a second ship with logistic support that never arrives because its captain has decided to go back to England. They winter in the area and cultivate onions, carrots, and turnips and also get provisions of penguin and sealion meat and over 100,000 penguin eggs.

They sail through the Strait of Magellan and arrive in Valdivia sailing along the coast. As the situation with the Spanish gets worse, they come back and sight land at Puerto Deseado and following the route to England. Although the Spanish ambassador protested for this voyage —because they did not have the King's permission and were sailing in forbidden waters—, the experience resulted in an broadening of the scientific knowledge of the area, charts (maps) of the Patagonia and of the Strait of Magellan.

An example of an accidental geographic discovery is the case of the English sailor Anthony La Roche who, in April 1675, saw land that is supposed to have been the South Georgias or the Malvinas while he was being dragged by a heavy storm after doubling Cape Horn.

On many occasions, these excellent sailors and great adventurers became explorers, naturalists, and scientists thus anticipating the scientific explorers of the 18th century. This is the case of the English pirate Bartolomé Sharp who, after sailing with Peter Harris, John Coxon, and Richard Sawskins (famous filibusters of the time), parted from them and sailing by the Chilean coasts got to the 60° of South latitude finding icebergs (1681). Nobody had ever navigated at those high latitudes.

William Dampier became famous for his scientific skills, apart from the fact that he had a filibuster background from the different campaigns with Coxon and Sharp. Then he joined John Cook and set sail in August 1683 with Edward Davis and Ambrose Cowley with the intention of blocking trade in the South Seas. They rounded Cape Horn and joined the pirate John Eaton. The last one went on to Oceania taking Dampier and arriving to London in 1686. Meanwhile, Edward Davis joined captain Swan and they established their operations between Juan Fernández archipelago and Galápagos Islands where they built the shelter of the "Hermanos de la Costa" that pirates and corsairs used. Misfortune went on for several

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years and this situation led W. Dampier to make many observations in South America, Australia, Philippines, and all coasts he passed by in general (Moluccas, China, Sumatra, Malacca, etc.). These works were published and, when he dropped out his life as a pirate, he was sent as an officer to explore Australia (1699).

It is the English John Strong who—navigating to the south in 1690—finds Islas Malvinas. He sails through San Carlos channel, which he christens after Falkland strait. Therefore, the English extend the name to the rest of the islands.

His voyage went on via the Strait of Magellan after being rejected in Valdivia—even when he showed his corsair patent against France—and sailed to Ecuador where he took two ships. Having few men, he decided to go back through the Strait to England, where he arrived in 1691.

A Century of Great Changes Begins (1700-1746):

Multiple french voyages, some English and only one Dutch take place. French voyages started long before it was officially disclosed—excellent sailors set sail from Saint Maló and were devoted to the smuggling trade or to piracy. There was a great expedition that set off from La Rochelle commanded by Juan Bautista De Gennes with seven ships of the king in July 1695. Its warlike and corsair aim demonstrates once more that the Austral seas are not for everybody. In fact, the expedition resulted in a failure—the fleet scattered—in April 1697 back in La Rochelle port. This shows how difficult the navigation in the Strait of Magellan was for this kind of vessels.

Smuggling in both directions was tolerated if it was carried on by Spain allies and, although it was forbidden in 1712, it went on until 1726. In fact, it went on because French ships were registered in Cadiz and devoted to trade in the south seas till past the middle of the century. They took manufactured products such as textile ink, sugar, gold, silver, and even tea, silk, and spices to America on ships coming back from the east.

Many sailors and ships set off from French ports, for example Jacques Gouin de Beauchesne's fleet, which set sail from La Rochelle in 1698 and arrived in Guayaquil sailing through the Strait of Magellan. He went back to La Rochelle in 1701 via Cape Horn having discovered the island that nowadays is named after him and having sighted land in Islas Malvinas.

In order to have a general notion of this voyages, let us consider these data from the Norwegian historian Dahlgreen—between 1700 and 1726, 162 ships set off from French ports; twenty-eight of them never came back; between 1713 and 1714, thirty-five ships set sail. Every voyage was different. Many circumnavigated the world and others contented themselves with trading their cargo in the first port they could touch. But there was a constant—the route via Cape Horn was being increasingly used.

"Trade" with registered ships starts in 1727. French ships that sighted land in Cadiz and were sold to some Spanish assembler (partner) were called like that. They went on sailing with a Spanish flag. Apparently, there were few of them. Some authors list six in the period between 1726 and 1746. But others extend this period up to 1786 and include very many extra ships.

In this same period, there were just five English navigators' expeditions (1700-1746). They were scientific: Halley's (1698-1700); William Dampier's (1704-1705), who circumnavigated the world again catching preys and trading; corsair Woodes Rogers' (1708-1711), whose pilot was the veteran William Dampier, who was completing his third voyage around the world as a corsair; and Woodes Rogers, who ends up as governor of the Bahamas; John Clipperton and George Shelvoeke's (1718-1712) who devastated the Pacific coasts back to England via China quarrelling between them. The fifth one was Lord Anson's, between 1740 and 1743.

This expedition set sail with seven ships and two thousand men but, from the very beginning, it was followed by a Spanish fleet in charge of Admiral José Pizarro. This last one was delayed at Cape Horn, situation that enabled Anson to move freely. He devoted to catch preys and to fix his fleet. He then continued his voyage crossing the Pacific and, on arriving in England, he gave an excellent report to the Admiralty, which was useful for its future strategy in the Austral seas. Anson suggested the setting up of a post for supplies before rounding Cape Horn and the exploration of the Patagonian coast and Tierra del Fuego.

For the Netherlands, reality in this new century was quite different. From 1664 on—when the English take New Amsterdam (nowadays Manhattan)—, they start to lose colonies. This was followed by the wars they were involved in until the end of the century. In 1702, William III, the stadholder, disappeared and policy changed completely trying to keep away from the European conflicts. On the other hand, all the nations with the capacity to do it tried to have a fleet of their own for trade.

In that context, the East India Company organized Jacobo Roggewein's expedition (1721-1722). The fundamental requisite for trade in the Austral seas (Spanish possessions) and in Indonesia was to sail through the South Sea doubling Cape Horn and not through the Strait of Magellan, which was reserved to the East India Company.

He set sail with three vessels and, after sailing through Le Maire Strait and rounding Cape Horn and meeting in Juan Fernández I., he went on to the West discovering Rapa-Nui I. (Easter I., "Paaschen Eiland" or "Oster Eiland") on 6th April 1722, Jesus Christ's resurrection day. This island had been discovered by Edward Davis in 1686, but he had had no contact with the natives. In the logbooks there is a long description of them and of the strange "maoi."

The first contact with the Europeans resulted in the death of some natives. They visited the Pallisen archipelago exploring islands and then went on to Indonesia. When sighting land in Batavia, the governor imprisoned Roggewein, auctioned off the shipping, placed an embargo on the remaining ships, and hands were distributed among the vessels at port.

The reason for all this was that they had not respected navigation routes. The same had happened a century ago to Le Maire and Schouten. Although the West India Company won the trial against the other, this was the last enterprise organized by it.

What about Spain?

The Spanish expeditions during this period—apart from the ones organized from the Iberian Peninsula—set sail from Peru and Buenos Aires. From Peru and via sea, the following expeditions set off: Pastene's (1544), Ulloa's (1553-1554), Ladrillero's (1557-1558), and Antonio de Vea's and Pacual de Iriarte's. By 1580, Buenos Aires is founded for the second time.

The Spanish decline and its War of Succession prevented the operations in the Captaincy of Chile and in Buenos Aires, so they had to wait for more promising times. In 1742, Buenos Aires government receives the royal letters patent to convert the indians that might be inhabiting the "Strait."

The Crown insists several times and, in 1745, sends three categorical orders.

The frigate *San Antonio* gets ready and sets sail from Montevideo to the "Strait" in 1746 to discover some ignored English, Flemish, or French settlement and to try to set up a Jesuitic settlement in Patagonia. D. Joaquín de Olivares y Centeno, Spanish lieutenant, was in charge of the vessels that transported three Jesuits. They sailed along the coast and they almost reached Cabo Virgenes doing research along the coasts and at the harbors in Deseado, Gallegos, Santa Cruz, San Julián, etc. Both the search for natives as well as the search for places fit for missions were futile. What is more, they came back from Patagonia disappointed and they came to the conclusion that the best place was Port Desire.

Other maritime expeditions followed this one which, leaving from Buenos Aires sailed down to San Julián and Port Desire, but they never reached Tierra del Fuego.

There were many merchant ships that rounding Cape Horn sailed from Callao to Spain. A few of them sighted land in the River Plate but none of them was engaged in exploring except for some islands and rocks they descried by



Cachalot or sperm whale.

chance. For example, the merchant ship *Aurora* caught sight of the islands named after it in 1762. These islands were also described by the *San Miguel* (1769), then again by the *Aurora* (1774) and the *Dolores* and the *Princesa* in the same year (1790).

Only one out of all these Spanish merchant ships stayed in Tierra del Fuego for long, but with no exploratory objectives. This ship was the *Purísima Concepción* which, sailing from Montevideo to Callao, luffed on 10th January 1765. The place is near Caleta Falsa (called Consolación port) in Península Mitre. The wreckers built there a small schooner 16-m-over-all length out of the ship and went back to Buenos Aires in 23 days' time. Although the schooner was small, it was named after a pompous name, the *Nuestra Real Capitana San Joseph y las Animas*, and known as *Buen Suceso*. In her hold, 193 wreckers traveled so tightly close that four of them died out of suffocation.

During the time they stayed at Consolación port, they got in touch with the natives (it is highly probable that they were Haush), who approached friendly. A proof of this is that, when the wreckers embarked to return to Buenos Aires, "...it was on the natives shoulders because they volunteered to do so as a sign of friendship and affection, so there is no doubt that it would be quite easy to tame them..." according to a sailor's account. He thought that it was an excellent place to set up a colony.

In all those voyages and throughout a long time, we can see that there was a constant—the area was a danger difficult to survive and every-

body tried to get through as quickly as possible undergoing tempests to arrive in lands with inexhaustible riches (either the eastern spices or the gold and silver from Peru) and a milder climate.

Expeditions from the River Plate: Royal Concern for the Territories South off the River Plate

But because of this wreck, Carlos III thought it necessary to settle down a village in Tierra del Fuego. So he ordered the Governor of Buenos Aires to inspect the Strait of Magellan and the Land down to Cape Horn and to catechize the docile natives found by the wreckers of the *Purísima Concepción*.

Then, a little brig of 12 m of over-all length, the *San Francisco de Paula*, and two vessels for burden were built. In this way, they could take care of the "conservation and development of Islas Malvinas, the mouth of the Strait of Magellan, and Tierra del Fuego," according to the governor of Buenos Aires.

Don Manuel Pando put to sea for the south on 19th January 1768 in charge of the brig. The aim was to found a colony-port in the area of the shipwreck of the *Purísima Concepción*. For this purpose, there was a group made up of a sergeant, six infantry soldiers, four Dominican friars, and the crew of the sailing-ship.

They sighted land at San Sebastián bay, where they got in touch with the natives (Onas-Shellkman) and visited their dwellings and gave them jingle bells and other baubles as presents. They set off from this area with the idea of sighting land at Consolación port, but bad weather prevented this and, after calling at Malvinas, they sailed on bound for Buenos Aires.

At the same time (January 1768), Captain Perler in charge of the *Andaluz* sailed along the Patagonian coast, the mouth of the Strait, and reached Cabo Virgenes sailing back to Montevideo.

Pando is ordered to leave port again, so the same year he does with the brig and the schooner *San Rafael*. They arrived in the mouth of the Strait after having sighted land at Port Desire and, given bad weather conditions, they returned to the River Plate.

An expedition commanded by Lieutenant Don Francisco Gil y Lemos (December 1768) with the frigate *Santa Rosa* and two support ships that was assigned to recognize Malvinas and then the Strait was not that successful. Storms were so many and so violent that the aim could not be fulfilled although it sighted land on Malvinas and at Port Desire.



Cochalot (Le Mond de la Mer).

Other voyages from Buenos Aires followed Pilot Goicochea's (1770-1771), Pilot Alejo Berlinguero's, who apparently navigated along the eastern coast of Tierra del Fuego (1771). But none of these expeditions got in touch with regional inhabitants. They just underwent tempests and quickly returned to the River Plate.

From these expeditions on, he decided to organize others in order to colonize Patagonia, especially after seeing the English policy in Egmont port and in the Malvinas. As from 1778, maritime expeditions were followed by the foundation of several settlements and fortifications which, as years went by, became the present ports of Deseado, Viedma, Río Negro, etc.

Owing to the increasing presence of foreign ships to fish and catch amphibia and/or cetacea (especially by the "South Sea Company"), the Spanish government set up the Royal Maritime Fishing Company. The idea was to take advantage of the abundant number of cetacea, amphibia, and codfish so that the colonization were effective and offered support to the settlement of new colonists in those isolated places with the profits. On the other hand, this would mark an effective presence in the Austral seas thus caring for the sovereignty that corresponded to the Spanish both in the sea and land. The Government of Malvinas —apart from Carmen de Patagones— was the southernmost lookout post.

Although the fleet and the financial condition of Spain were declining, Carlos III ordered an exploration of the Strait of Magellan and Cape Horn with the aim of identifying the safest route to the Pacific. On the other hand, they had to make sea-lanes and carry on hydrographic tasks. So the frigate *Santa María de la Cabeza* left Cadiz port on 8th October 1785 commanded by captain D. Antonio de Córdova y Lasso. This expedition provided real data —without fantasies— about the natives of the Strait and the

surrounding area. The expedition came back without having completed the work, which went on in 1788 by another expedition commanded by Córdova with the packet boats *Santa Casilda* and *Santa Eulalia*. These two were the first scientific Spanish expeditions and they were fitted with important equipment (navigation equipment got in England), specialized staff, and they were completely devoted to that purpose. The objective of the campaign was to study the region.

Bougainville (1763, 1764 and 1766)

French maritime scientific expeditions start officially under Louis Antoine Bougainville. The first one sets sail from Saint Maló port on 15th September 1763 with the frigate *L'Aigle*, and the corvette *Le Sphinx*. It touches land at Malvinas and, on the eastern side, founds Saint Louis port (at Anunciación bay) taking possession of the islands in the name of Luis XV. This voyage is followed by another on 6th October 1764 and Bougainville returns to Malvinas on the *L'Aigle* with settlers and different utensils for the colony in Saint Louis.

Then he puts to sea for the Strait of Magellan where he looks for the necessary wood for the colony in Malvinas. It is on this occasion when he sees John Byron's fleet that, on 23rd January 1765, founds port and fort Egmont in west Malvina taking possession in the name of King George III. Byron sails the Strait of Magellan with the vessels *Dolphin* and *Tamar* and, on entering the Pacific, he discovers many islands. After doubling Cape of Good Hope, he heads for England thus completing another voyage around the world.

In 1776, Bougainville comes back to Malvinas on the frigate *Boudeuse* with the aim of recovering them for the Spanish Crown. Scientists specialized in botany, astronomy, and naturalists are on board. The Spanish frigates *Liebre* and *Esmeralda* join the *L'Etolie* and

navigate in convoy until they reach Louis port on 1st April 1767, when the ceremony of the restitution of the archipelago takes place. The name of the port changes for Soledad and the first Spanish governor, Ruiz Puente, settles down until 1773.

Toward the end of the year, Bougainville arrives at the Strait of Magellan and begins to penetrate it among storms and unfavorable winds. Meanwhile, scientists make all kinds of observations. They get in touch with the natives—both Fuegian and continental—, describe their canoes, costumes, way of life, etc. In fifty-two days' time, he crosses the strait and in an exploration voyage he goes on up to Tahiti. There, they make innumerable astronomical observations, study the Polynesian vessels, the customs of these societies, gather an important herbarium, zoological samples; especially discovering and exploring a great deal of islands and atolls. After two years and four months, they reach Saint Maló port. It was an important scientific voyage that gave France data for its maritime, political, and economic expansion. Besides, it contributed to universal science.

Carteret's, Wallis' and James Cook's English Voyages

Although Carteret and Wallis left port together from England a few days after Byron's arrival, they practically sailed on their own. Wallis was given Byron's ship—the *Dolphin*. On the contrary, Carteret was given an old and heavy corvette. The fleet was made up of three ships that set sail from Plymouth on 22nd September 1776 and fixed Port Famine as a meeting point in the Strait of Magellan.

They met there and, after repairs and replenishing, they set sail without fixing a new meeting point. After a thousand vicissitudes and

with his ship absolutely destroyed, Carteret finished his voyage around the world without meeting Wallis again.

As regards Wallis, he sighted land in Tahiti where he got to know "queen Oberea" and got provisions. The natives were hostile bothering him all time. So he demonstrated his power by using his cannon firing against canoes and the beach. He also sent several saboteurs to destroy all canoes.

From that moment on, the Tahitians behaved more submissively and supplied the ship with provisions in exchange for baubles. After doubling Cape of Good Hope, the expedition arrived in England after a voyage of about 630 days.

James Cook (1768-1773)

He was an excellent sailor who not only made geographic discoveries but also made accurate observations about how to face the worst of marine diseases—scurvy.

He set sail from Plymouth on 28th October 1768 on a scientific mission to the Austral seas on board of the 370-ton *Endeavour*. Botanists, naturalists, draftsmen, a surgeon, and a doctor also traveled in the crew. In January 1769, they reached port for the first time in Fuegian land at Bahía Buen Suceso when navigating through Le Maire. Botanists enjoyed themselves gathering samples of celery, watercress; described the Austral birch (*Notofagus*), and were astonished at the variety of flowers and plants different from the European's and at the abundance of huge algae that were named *Fucus Giganteus*. They also got in touch with the natives and made many observations about their customs, clothes, diet, etc.

They sailed along Tierra del Fuego for thirty days drawing the following conclusion: the most safe route is via Cape Horn. In voyages from the Atlantic to the Pacific (East - West), and according to the sea and wind, the sailor had to chose between Le Maire strait and sailing by the east of Isla de los Estados. The voyage went for Polynesia where his stay became of great importance.

The second voyage started on 13th July 1773, when setting off from Plymouth on the *Resolution* accompanied by the *Adventure* under the orders of Captain Tobias Furneaux. He headed east and crossed the Antarctic polar circle several times finding icebergs over 100 high meters. He explored the South Pacific and foresaw the existence of the Antarctic Continent. He arrived in Tierra del Fuego by the west and decided to explore it. He visited the islands and different geographical acci-



Mouton albatross (Le Mond de la Mer).

dents that surround the western entrance to the Strait of Magellan and took down notes of everything, even islets and rocks.

He found the natives (the ones Bougainville called *pecherais*) of whom he commented: "...they were rich only in seal skin which they hunted with arrows, harpoons or sticks (...) from their miserable shelters they transported fire to their canoes..." etc.

Furneaux also explored Nassau Bay and, after inspecting the false Cape Horn, headed for the real one of which he said: "... It is the southernmost extreme of a group of islands, of several sizes, which lay in front of Nassau Bay, and..." (sic).

He went on towards Buen Suceso bay where he was supposed to join the *Adventure* and in waters infested with whales he visited and studied Isla de los Estados, apart from surrounding islands such as Observatorio which is described as full of "...seals, sea wolves, fur seals, and sealions," (sic).

On 16th January, they visited the South Georgias christening islands and islets that had no name after the officers of the ship (Pickersgill, Clerke, etc.). He discovered the Sandwich del Sur Islands (South Thule) and went back to England two years and a half after his departure. Out of the 118 members of the crew, only one fell ill. Cook's antiscorbutic diet was absolutely successful. It was mainly based on getting meat, vegetables, and fresh water provisions as many times as possible as well as on the ingestion of citric fruits.

In this voyage, Cook rejects definitively the possibility of the existence of an Austral continent although he foresees the possible existence of an Antarctic continent covered with ice even in summer time.

Spanish Expedition of the Italian Malaspina (1789)

This expedition was planned to carry on scientific and astronomic research that could be applied to the development of trade and navigation making sea-lanes more accurate. The age of discoveries had already finished and the possibility of finding new territories and unknown riches was remote, except for some island or human group of little importance.

On 30th July 1789, the corvettes *Atrevida* and *Descubierta*, commanded by Don Alejandro Malaspina, left from Cadiz. Although this expedition was very famous and is regarded as one of the best organized by Spain —with scientists and all kinds of equipment—, they did very little in Tierra del Fuego. In Puerto Deseado, they did stay and conducted an excellent research and, in Malvinas, they sighted land near port Egmont. Later on, they went to Tierra del Fuego where they sailed through the mouth of Le Maire strait and visited the north side of Isla de los Estados. They reached the 60° of south latitude and rounded Cape Horn heading for Chiloé.

In 1793, on their way back from Asia, they visited Tierra del Fuego again. But they did not contribute to the knowledge of the archipelago, except for the fact that they were in Valentin and Buen Suceso bays —in the eastern ex-



Mutton albatross (Les Mysteres de L'Ocean).



Cormorant (Les Mysteres de L'Ocean).

treme of Tierra del Fuego—apart from having seen smoke in the distance. This does not lessen the merit of the important work carried out in drawing over seventy navigation charts, making new courses, and gathering important botanical, pictorial, mineralogical, and zoological collections. They also studied the customs of the populations they visited, their languages, and made many other observations of different kinds (better trade routes, protection of convoys, etc.).

Unfortunately, after over a five-year's expedition—and though Malaspina proved a great sailor—he was not that great in politics. He ended up imprisoned and all the amazing material obtained was destined to sealed drawers, many of which were lost and others opened towards the end of the late 19th century.

Simultaneously with Malaspina's voyage and, because of his advice, the viceroy Loreto sends to Tierra del Fuego the corvette *San Pío* in charge of Lieutenant Elizalde and the brigantine *Nuestra Señora del Carmen* (15-12-1790), in charge of pilot De la Peña. Once they arrived at Buen Suceso, lieutenant Elizalde commanded a coastal study of the eastern extreme of the island. With all speed they traveled along Buen Suceso cape, Valentín and Aguirre bays—in the last one they found natives—arriving at San Pío cape in front of Isla Nueva. Bad weather made it difficult for the vessels to return. They had to go back to the Río de la Plata after a brief stay in Puerto Soledad.

These were the last Spanish men in Fuegian waters. At the same time, whalers from the USA, England, and the Scandinavian Peninsula hunted around the Fuegian archipelago. Many of these ships doubled Cape Horn to go on whale hunting in Pacific waters.



The Operations of The Royal Maritime Fishing Company

Spain was a pioneer in the art of fishing and hunting of amphibia and whales, but it started to lose territory even importing whalebone, sperm, and dry codfish. With an extended maritime littoral, both in the Iberian Peninsula and in its overseas territories, Spain had to encourage the industry that had developed the art of navigation and the nautical knowledge both by officers and by the seamanship. But the measures taken increased only a little the activity in the main ports of Spain, and the result in America was also poor.

The interest in developing the activity in the new world was not merely to reactivate the industry or to supply food, but to develop a political and strategic plan. The riches of the Austral Seas—precisely the pinnipedia of its coasts and islands— attracted many nations which were enemies of Spain. This was the origin of the fear of settlements in Patagonia—as it had happened in Malvinas—that Spain saw as a near possibility. On the other hand, ships that approached not only were engaged in hunting and fishing but they also tried to sell European products. To round it off, they tried to smuggle in both ways.

Therefore, a Royal Ordinance instituted The Royal Maritime Fishing Company (1789) with this precise intention: "In the fishing field I wish the hunting of whales, dry and lean fish to be promoted in distant seas and coasts such as Africa's, Campeche's and in Buenos Aires and in the surroundings of the Straits of Maire and Magellan. There is abundance of whales all along the Patagonian coast and those of the provinces of the Río de la Plata that English, French, and other nations (...) Fishing in remote regions not only increases navigation but also increases the

knowledge and experience about their risks, the discovery of courses and coasts, and the agility and skill of the maneuvers of large ships, which neither happens nor is achieved with the whole fishing in our contiguous coasts," (article 188 of the "Reserved Instruction for the State Council" worked out by the Earl of Floridablanca and endorsed by the King in 1787). As we can see, the intentions were various and, to fishing in itself, col-

There he took the first hydrographic measures and made meteorological observations.

**Phillip Parker King, Pringles Stokes,
Robert Fitz Roy, and Murray**

On 22nd May 1826, an important expedition set sail from Plymouth and established Famine Port (in the Strait of Magellan) as its operations base. Their mission was to study all the Austral part of the American continent, from the Río de la Plata to Chiloe Island in the Pacific.

Commander Phillip Parker King was in charge of the corvette *Adventure*. Meanwhile, the frigate *Beagle* was commanded by Pringles Stoke who had the hardest part of the campaign and ended up committing suicide.

The first stage of the expedition was destined to the study of the Strait, after which it came back to Montevideo in 1827. The second stage consisted of an inspection of the Chilean coast from the strait up to Chiloe that was carried on in March 1828. For this mission the schooner *Adelaida* joined in. The inspection was in charge of Pringles Stokes with the *Beagle*, which came back to Port Famine in July having underwent a number of storms and setbacks. In the meantime, Captain Parker King stayed at the base carrying on short expeditions. Stokes' nerves must have been destroyed when he went back as he shot himself dead.

When the fleet arrives in Montevideo, officer Robert Fitz Roy is named Captain of the *Beagle* and Skyring overtakes the command of the *Adelaida*. In April 1829, they started with the third campaign. Parker King headed for Isla de los Estados on the *Adventure* and from there to Cape Horn, where he left provisions for Foster and observed the Wollaston islands and then sailed for Chiloe to meet Fitz Roy again.

During that same period, the *Beagle* explored the western region of the Strait of Magellan and then went to Chiloe where some reparations were done. The ship left port for the south with the aim of carrying on studies from Pilar cape to Cape Horn and especially in the area of Nassau bay and Hoste island. In that voyage, master Murray discovered the south-east branch of Beagle canal ("...a canal that runs to the west..."). From Orange bay, Murray recognized the strait named after him (Murray Channel) and penetrated Beagle canal sailing to Gable island. The exploration went on for the islands L'Hermite, Diego Ramirez, Barnevelt, and anchored on Lennox. From that place, master Murray penetrated the Beagle channel visiting the bays Valentín,

Aguirre, and Slogget; Buen Suceso Cape, and then he visited Navarino island coast to the south coming back to Murray channel and, afterward, to the *Beagle*.

For the first time, a scientific and tidy study had been carried on. On the other hand, the meeting with the native Yamanas was daily and this made it possible to study their customs and behavior thoroughly. When master Murray explored the channel named after him not only described the area geographically but also observed the following: "...great numbers of natives near the narrow passage and upward of a hundred canoes were seen in one day, each containing from two to six people..." On this voyages, there were different alternatives such as Jemmy Button's, a young native given that nickname, who was exchanged by buttons. A girl was christened Fuegia Basket because the canoe on which she was sailing was basket-like, and in the memory of a boat stolen by the Yamanas a third native was christened Boat Memory. York Minster was thus named in reference to the two peaks crag in Waterman island named by James Cook.

Reconnaissance navigations went on along the eastern coast of Tierra del Fuego up to San Sebastián bay because they were looking for the presumed channel that several sailors had assured existed. After reaching Montevideo, they arrived in Plymouth on 14th October 1830 carrying a lot of cartographic material and four natives from Tierra del Fuego. Fitz Roy's idea was to take them to England to educate them and send them back to their native land so that they transmitted what they had learnt to their countrymen.

The second expedition started at the end of 1831 (December, 27th) after long negotiations before the Admiralty, in the first place to make it a reality and, later on, to get the required materials for the ships given. So the *Beagle* was repaired and with most of the former crew they set sail with the mission of doing research on the Patagonian coast and on the Tierra del Fuego channels.

Fitz Roy intended to come back to his land with the natives, except for Boat Memory who had died of smallpox. Among the luggage traveled the catechist Richard Matthews, who intended to stay to preach among the Fuegian, and the naturalist Charles Darwin.

They celebrated the Christmas of 1832 in Cape Horn, after doing research along the Patagonian coasts and ports and enduring hard storms—in which they almost lost the ship—, arrived in Woolya (Ulaia or Wulaia), the native land of Jemmy Button. The three natives and

Les Mystères de l'Océan



the catechist Richard Matthews disembarked there. Fitz Roy and his men set up a series of constructions leaving materials for plowing and all kinds of supplies.

They went on exploring in the south-east branch of the Beagle Channel. On coming back and approaching Woolya, they bumped into many natives wearing European clothes. They immediately looked for priest Mattheus and embarked with all their possessions. During the few days the priest was alone, hundreds of Yamanas surrounded him and took most of the presents that had been given to Fuegia, Jemmy Button, and York Minster on leaving England. They returned to Montevideo and went on with the works they had started on the Argentine coast.

In December 1833, they set off again for the south with another ship—the schooner *Adventure* (ex *Unicorn*, formerly owned by Lord Cochrane)—, apart from the vessel *Beagle*. After doing research in the Strait of Magellan, they reach Port Famine and sight land at San Sebastián bay to try to find the non-existent union between the two oceans. In March 1834, they arrived at Woolya to find that the Fuegians brought from England had adopted their previous way of life. They went on exploring and studying till June 1834, when they reached England coming from Port Famine.

During the two campaigns, they had carried on the most important exploration work up to that moment. They got thousands of data that made it possible to locate islands, channels, and ports. They were in touch with the Fuegian and Charles Darwin's observations on flora and fauna in the south of South America were important. Unfortunately, he sentenced the Yamanas by referring to them as "...the most miserable and despicable creatures I have ever seen nowhere else..." The impression he got from them was ominous as he wrote "...men in their original savagery," and many years later the naturalist wrote about the Fuegian saying "...the lowest state of perfecting in the whole world." Although at the end of his life he retracted himself, the Fuegians' fate had already been set.

Europeans Stay in the Austral Area

Almost at the same time when the Beagle Channel was discovered (by Fitz Roy 1831-36), or just a few years later, several important events for the Austral area took place. On the one hand, the English usurped Islas Malvinas (1833). On the other hand, the American Palmer (1829) with his Antarctic discoveries promoted the explorations in the unknown continent; Chile settled down in the Strait of Magellan (Fuerte Bulnes, 1843); gold was dis-

covered in California (1848); Australia and its colonization (1851) increased considerably as well as navigation south off Cape Horn; steamers started to use the strait and the competition between steamers and sails broke out.

The south of Tierra del Fuego was visited by sealion hunters and expeditions and drew the attention of Anglican missionaries (South American Missionary Society), who made a first attempt to settle down in 1836 to try to "civilize" the Yamanas.

The Chilean were interested in the north of Isla Grande de Tierra del Fuego and carried on their first expedition in 1879 (Gente Grande - Porvenir); and some years later gold-diggers (Julio Popper in San Sebastián) and the Salesian missionaries (1886) with their attempt to "civilize" the natives Onas/Shekman and Alacaluf followed. In 1884, the Argentine Navy arrived in Ushuaia bay and Isla de los Estados and took possession of the area. Until then, only one Argentine had visited those places sailing in Cape Horn and the Strait of Magellan Strait—he was Don Luis Piedra Buena.

Luis Piedra Buena and the Austral Extreme

This brave sailor, sealion hunter, whaler and then army man/soldier learnt to navigate in the Austral seas from captain Smiley. In 1853, he found the corpses of the companions of the missionary Allen Gardiner in Puerto Español. By 1859, Piedra Buena owned his own ship, the *Nancy* (later on christened *Espora*, 1865). A ship for sealion hunting, which went on sailing under the Argentine flag.

He fitted the ship with two small cannons to protect it from other sealion hunters who claimed the hunting area of the Argentine south as theirs and also to defend himself from the wrecker beachcombers. The south was abandoned and depended on its own fortune. There were abundant pirates and all kinds of fortune hunters.

So, without intending it, Piedra Buena starts to recover the Argentine sovereignty in the South Atlantic. Knowing the area because of his activity as sealion hunter, whaler and penguin hunter, he knew how to sail in the area and he built shelters for possible wreckers. One of these shelters was on Isla de los Estados, the other on the Strait of Magellan—both of them to mark the Argentine position in the place.

He worked in the establishment on Pavón island, on Isla de los Estados, in Malvinas and in Punta Arenas—town where he bought a general store.

In gratitude for his work, the government entitles him with "Ad Honores Honorary Captain of the Navy" (1864) and Isla de los Estados in property (1868), where he set up penguins and sealions establishments. In 1869, he tried to settle down a colony at San Gregorio bay, on the Strait of Magellan, but the government in Buenos Aires failed to send what they had promised and Piedra Buena's plans failed and this part of the strait corresponding to the Argentine was definitively lost. At that time, Argentina was at war with Paraguay and the government was not that interested in the "desert southern lands." For president Domingo F. Sarmiento, the Strait of Magellan and the Austral extreme did not exist. In fact, he preferred them to belong to Chile.

Piedra Buena's presence on the archipelago is famous for the phrase he left written in Cape Horn: "Here is the end of the Argentine Republic dominions. On Isla de los Estados, Port Cook, wreckers are helped. Nancy. 1863. Cap. Luis Piedra Buena." On a copper sheet, he painted the Argentine flag and fixed it on a rock.

He introduced goats on Isla de los Estados (1873)—which can be seen nowadays in the western part of the island—so that wreckers could find food. It is highly probable that this was derived from his own experience. This was the year when he lost his *Espora* in De las Nutrias port and built the *Luisito* cutter out of the remains (March 1873). With this little 11-meters-long vessel he engaged in sealion hunting in the area. Anyway, he went on rescuing wreckers such as *Dr. Hansen's*, *Pactolus*, *Eagle's*. Two years later, he sold the *Luisito* and bought the schooner *Santa Cruz*.

In 1876, he joined the Navy and worked as an expert in subjects regarding the south and took part in several expeditions—Bove's, for example. He died of cirrhosis at the age of 50.

His descendants kept the island for some years, but then asked the government to buy it. The English were always interested in this place. In 1881, they offered Piedra Buena 10,000 pounds sterling for the island. As he declined, they offered him the same sum for half the land. Without his intervention, it is highly probable that the south Argentine frontier were nowadays quite different.

The Arrival of the "South Atlantic Expeditionary Division"

In 1883, President Julio A. Roca decided to send a division to the south to settle down maritime prefectures to show the national sovereignty and to help in navigation and the rescuing of wreckers.

The fleet—somewhat heterogeneous—was made up of seven ships. The corvette *Paraná* was chosen as flagship. The transport *Villarino*, the dispatch boat *Comodoro Py*, the small boat *Cape Horn*, and the cutters *Bahia Blanca*, *Patagones*, and *Santa Cruz* escorted it. Commodore Augusto Lasserre was in charge and the fleet reached port in San Juan de Salvamento in April 1884. In fact, the first vessels to arrive were the corvette *Paraná*, the *Villarino* and the *Comodoro Py* because they were steamers. The rest lagged behind.

As soon as they arrived, they started with the building of the lighthouse and the plant for the maritime subprefecture, which would be in charge of the lighthouse, and the rescue post.

In September, they put to sea for Ushuaia bay arriving on the 28th. Lucas Bridges saw them arrive and described the event as follows: "...we could not believe our eyes when we saw four ships, which were obviously destined to our port, arriving in the Beagle channel. Three of them were steamers and one carried a sailing cutter in tow [the *Paraná*, the *Villarino*, the *Comodoro Py*, and the *Patagones*]. A great tumult aroused in our quiet little village, as such a sight had never been experienced; the excited indigenous people gathered around my father and Lawrence asking them what kind of threat would that bring..."

Ushuaia

Why was Ushuaia chosen? It must have been Lasserre's own decision or some oral secret instruction. The place is away from the typical sea-lane to Cape Horn. The reason might have been the presence of English missionaries that, on the one hand, encouraged the human settlement because they had "civilized" the Fuegian and, on the other hand, might have influenced the authorities to fear a foreign settlement in a national territory. Priest T. Bridges was invited to haul down the three-colored English flag with the white cross of the mission and to hoist the Argentine pavilion and he did not object this order.

In order to avoid bothering the activity of the mission, the subprefecture post settled down in front of it in a little bay known as "Alakushwa-

ia" (steamer duck bay). The name Ushuaia also derives from the Yamana language and according to Lucas Bridges' book *Uttermost Part of the Earth* it means: "interior port facing west."

A room for the office and another for the chief; a house with rooms for the adjutant, sergeant major, and shipyard workers; a warehouse and a large shed for the seamen were built. This was the primitive nucleus that gave birth to the town of Ushuaia. Houses were made of wood with a

channeled metal sheet roof and with paper insulation inside. This architectural style remained for many years and even today some of these houses may be found.

On 12th October 1884, the official ceremony of the subprefecture inauguration took place. Thomas Bridges



was invited as well as the rest of the members of the mission and their families. From then on, every October 12th, the Day of Ushuaia is celebrated. In 1885, a national decree names this town capital of the new Territory. At the beginning, Ushuaia station depended on San Juan de Salvamento's, situated on Isla de los Estados.

Some days later, the squadron set sail for an exploratory expedition to get familiar with the Fuegian channels. The missionaries Bridges and Lawrence were the pilots.

Soon afterwards, all the ships came back to Buenos Aires leaving the *Comodoro Py* as the station ship which joined Ushuaia with San Juan de Salvamento.

The first Argentine to stay in the place, in charge of the station, was Luis Figue. Some time later, he set up a store in Ushuaia called "El Primer Argentino" (1888). He also imported animals to set up a cattle establishment and a sawmill. Always enterprising, he inaugurated the first small mussels packing plant but he was not lucky (1890). For this purpose, he got the first allowance in Argentina to set up a shellfish establishment. The area authorized for this exploitation was the Beagle channel between Lapataia and Harberton. The decree was signed by President Julio A. Roca.

At that time, there was a debate about the choice of Ushuaia as the Capital of Tierra del Fuego. The possibility of moving it to the north side of the island was considered. The reason for this place to be chosen depended on the advice of

frigate lieutenant Félix María Paz, the first authority of the island (1885 - 1890) who, after a short visit around the rest of the archipelago (5 days), came back to Buenos Aires and decided the site for the government. He was probably influenced by the Anglican missionaries who practically did not know the north of the archipelago. Other places thought to be in a convenient location were: Buen Suceso bay (on Le Maire strait) and the mouth of the river Río Grande.

In 1886, Thomas Bridges decided to retire from his missionary activity and settled down in the surroundings of Gable island where he set up the first cattle establishment in Tierra del Fuego. As time went by, he opened a general store becoming one of the main suppliers in Ushuaia for gold-diggers, other establishments, and ships looking for fresh meat.

Progress went on. Among the first important events, we can mention the inauguration of the Escuela Nacional N° 1 ("Domingo Faustino Sarmiento") and of the post office (1890). The government opened a road from Ushuaia to Lapataia, where a sawmill that later belonged to the prison was set up. The settling down of the prison encouraged the development of the village. At that time, Ushuaia had about 300 settlers (including natives). Most of them were single and sixty out of them belonged to the Government and the Police. Then came the pier for the port, the Navy bases and various private enterprises. But let us see what the southernmost town in the world looked like according to Nordenskjöld in May 1896: "... The Capital of the southern extreme is an irregular number of barracks. The most beautiful ones are the government house, a large red building

flanked by two large wings, and the governor's room, a little white one-story house, with a poor appearance, but furnished with an extraordinary luxury and elegance at these latitudes."

"The rest of the houses are made of wood, covered with zinc sheets, many of them with little neat gardens at the front. A rather low house is the school. At the moment, it is empty. The preceptor was destined here some years ago, but as he considered that the number of students is not high enough for him to stay, he remained in Buenos Aires."

"Nowadays the establishment has been turned into a hotel (...) The inhabitants of Ushuaia are civil servants and traders. Heading them is the governor (...) At this moment, most of them are engaged in the selling of liquors and there is a café with a billiards room where the inhabitants meet. These meetings are the only local entertainment."

"The most important event in the life of people of Ushuaia is the arrival of a ship. Every month, one arrives bringing news and provisions. Without these provisions, inhabitants could starve to death. (...) the national party (...) was celebrated with the characteristic enthusiasm of the people who have no chance of having fun. The whole village was decorated..."

"At sunset, there were fireworks and once the last petard exploded, the whole society of Ushuaia assembled for a full dress dinner at the governor's. In the evening, a group of indigenous people performed a warlike dance..." This was the description by the remarkable explorer and, thanks to it, we can imagine how the village and its way of life were.

By that time, Tierra del Fuego had 477 inhabitants in all. There were 203 Europeans



Rescue station San Juan de Salvamento erected before Ushuaia's foundation.



San Juan de Salvamento lighthouse, inaugurated on 25 May 1884.

(nineteen of them were women) and 100 natives in Ushuaia. The rest was scattered all over the bays and establishments.

Communications were only via sea and depended on a Naval Transport ship that once a month—sometimes it was rather delayed—joined Buenos Aires to the several ports in Patagonia and the Fuegian archipelago. As time went by, some settlers bought vessels that made it possible to finish with the absolute isolation they lived in.

There were cases, such as that of the expeditionaries of the *Belgica*, in which they took carrier-pigeons bought in Punta Arenas. With them on board, they ventured to Antarctica or explored channels and islands. This means of communication failed. More than one pigeon was led away by the wind.

The isolation of Ushuaia—imposed by the cordillera that surrounds it—eventually finishes with the opening of the Garibaldi pass (1936). Through it, run the mail, the telegraph-line and, later on, the telephone. Waters are no more the link with Río Grande. First travelers by plane (it took two days from Buenos Aires) landed on Río Grande to get to the head of Fagnano lake by truck and cross the mountains on horse back. It was not until 1956 that the first private car ran in this area.

Together with the opening of the route through the cordillera, several roads were built. In different directions, these tried to run the whole province. Complementary routes appeared and, at this moment, a route that is intended to run along the Beagle channel to the Atlantic is being built. There are many difficulties because there are areas of rock, apart from

deep peat mosses and marshes where filling is practically impossible.

The demographic growth of Ushuaia was slow and variable. The important initial impulse was originated in the "prison" and its commercial activity and then the maritime government and the setting up of naval bases (1943). Ushuaia experimented periods of a sudden demographic growth as well as of exodus of its inhabitants. In 1914, the census indicated 1,558 inhabitants in Ushuaia: 1,324 of them were men and 639 out of them were Argentine and 478 Spanish. In 1921, Ushuaia had 800 inhabitants living in 202 wooden houses. Many of these changes are related with different business ventures that attracted many people but failed. If not, when the business was over it was followed by an emigration and the remainder of permanent residents slowly increased.

An example of this phenomena is the contingent of Spanish people who arrived in 1913 to settle down a sardines packing factory or the first important contingent of Italians (619) who were brought in 1948 to build houses.

Trying to encourage the economic growth of the island and counteracting the effects of Punta Arenas, this territory was declared duty free (1956 - Free from taxes). Then, in 1970, a new customs region was opened and, in 1972, Act 19.640 was sanctioned to promote the industrial development by taxes exemptions and customs regulations, apart from special credits very convenient for the petitioner. All these measures caused an economic prosperity and a sudden demographic growth. Workers coming from different parts of Argentina and bordering countries were looking for a job in the



San Juan de Salvamento. The Steamer 'Golondrino' at the subprefecture.

companies that quickly settled down in the famous "large sheds" (*galpones*) and which were ready to leave as soon as the exemptions that benefited them came to an end. So the importation of goods was promoted and the development of industrial activities of assembling and fitting. But activities that are naturally related to the area such as tourism, which developed out of its own importance and thanks to the efforts of a few visionaries, were not promoted.

For decades, life in Ushuaia was supported by the Government in Buenos Aires and taxes exemptions of which some dirty business took advantage that nowadays are on trial (Large Sheds and The Customs 1990, and others). We can see in census such as the one of 1960 that marked 3,453 inhabitants in Ushuaia; 1966's 4,470. In 1976, the number reached 17,277 inhabitants in the whole of the Argentine Tierra del Fuego, 7,171 of which corresponded to Ushuaia and 8,786 to Río Grande. The

number of men was historically higher; in this last case there were 10,073 men and 4,470 women. The industrial promotion went on encouraging immigration. The following census in the Argentine Tierra del Fuego registered 27,214 inhabitants (1980), 69,408 (1989) and it is estimated that there were 69,323 by 1991. This drop reflects the little activity of the subsidized companies and the consequent risk of a social uproar if an economic system on frail foundations goes on.

Even the Albatros hotels (Ushuaia), Petrel inn (lake Escondido), Kaiken inn (lake Fagnano), Alakush (in Lapataia, later on set on fire), and Cabo San Pablo inn were built by the Government of Tierra del Fuego.

Having in mind a clear geopolitical objective, an attempt was made to encourage the local economic development without seeing the genuine potentiality of the place—tourism and the rational exploitation of the natural resources.



The frigate 'Belgica.'

Features Peculiar to the Climate and the Sea in the Region



Whaling.

Climate

The region is divided into two climatic and atmospheric zones corresponding to its relief.

In the area of the cordillera, bad weather is almost constant. There is abundant rainfall and the sky is always cloudy. The Pampean region (NNE) has a drier and colder atmosphere and a clearer sky. Wind is stronger and temperatures are unstable.

It is mainly a maritime climate. There are few extremes in the temperature of the water, which is quite steady throughout the year. Neither very cold in winter, nor too warm in summer. In similar latitudes in the Northern Hemisphere, the situation is quite different. In the case of New York or Hamburg, for example, summers are warm and winters severe.

It can be claimed that climate here is, in general, quite varied. There is a Fuegian saying that reflects this situation very well—"In a single day the four seasons can be present." It is true that a rainy and cloudy morning may become a sunny day and, after a little while, a snowy squall can make us remember where we are. All this just throughout a morning.

Temperatures

Let us see average temperatures and their extremes. In the north-east region, the average temperature is about 10° C and its extremes of 27° C and -16° C. In the cordilleran region—at sea level—the annual average is about 5° C and its extremes of 29° C and -21° C.

The coldest months are July and August. Missioner Bridges said that temperature dropped a lot between June and September, but in the west damp regions it rarely freezes.

In the Pampean zone things are quite different. There, it is normal to see large areas of frozen land. Rainfall is limited as well as snow accumulation.

Precipitations

In the northern extreme of the region, annual rainfall is of about 280 mm and, toward the south, it increases and in the central part on the Beagle Channel—which can be considered to be relatively dry—it is of 550 mm. To the west, it rises up to about 2,000 and the same happens toward the eastern extreme where rainfall is of 612 mm (Isla de los Estados and Península Mitre, eastern extreme of Tierra del Fuego).

Precipitations include snow, rain and hail. Fallen snow varies from place to place. It is estimated that, above 1,000 m, 10 meters of snow fall annually (Darwin Cordillera), and below 500 meters snow only remains in winter. In Tierra Mayor Valley, for example, there is snow usually between May and October and there can be a two-meter accumulation.

Daylight

Summer days are very long and the visitor is surprised at having dinner in the sunlight. Owing to the inclination of the Earth, a day may last for 17 hours and 30 minutes; but daylight is present until after midnight and there are only 3 or 4 hours of darkness. During winter, daylight lasts only 7 hours.

Winds

Westerly winds prevail (75%) in this region. They blow constantly with almost no interruption. The strongest blow in the western part. In channels, winds blow in the direction of their axis and increase in intensity, especially the ones E-W orientated.

The most windy period goes from September to March. In September, tempests are frequent and violent. Till the end of summer, fresh gales and hurricane-like winds blow at intervals of no more than 4 days. Passing low pressure centers bring them.

In April, as the sun leaves for the north, atmospheric movements are less intense and not so frequent.

Calm weather, mild, and even warm winds come from the north during May and June. Snowfall as well as calm and fog are characteristic of July. During the age of tall ships, this situation was a death trap for many of them, which were caught by strong currents and ended their lives against rocks, islands, or the coast.

Cloudiness

Unfortunately, clear nights without clouds are followed by cloudy days. Sometimes, it is clear when the sun rises and, soon afterwards, it is absolutely cloudy and then at night stars are visible again.

In the Fuegian steppe region, things are quite different—as it is drier, the sky is clearer.

Williwaws

Specifically, only squalls in the mountains should be called like this, but this name is also applied to cloudbursts or stormy squalls.

When sailing, it is very difficult to identify them as all of them call for a lot of work and concentration to keep the ship under control.

In harbors, small bays, channels, straits, or islands with high mountains, they occur frequently. They come down the mountain or run through the valleys making a great noise—a mixture of a mass of branches, the whistle of the wind against the rocks, and the ship itself together with a heavy downpour or hail which produces deep storm clouds. Sometimes you do not know if it is rain water because water spouts bring foam and pulverized water from the surface of the sea.

These squalls are short. Anyway, they may be extremely violent. Minor vessels like boats or small dragnets may be driven by the wind to finally disappear.

Storms

Storms are to be found (90%) in the north and SSE sectors. Usually, in the Beagle channel, they come from the east.

The percentage of storms is higher on the ocean compared to that on the channels with winds over 45 knots (80 Km/h). According to statistics, this region is practically the most stormy place in the world—this is in the surroundings of Cape Horn (between 55° and 60° South, and 70° and 75° West). Hundreds of ships vanished without leaving traces, as if swallowed by marine monsters.

A somber sky is usually seen when wind is going to blow. Clouds show torn edges. Another signal of bad weather is a uniform grey sky with a continuous but not abundant rain. If it begins in the NW, then it usually moves to the SW with more intensity.

It can last just 12 hours or 3 or 4 days, when it starts to lessen until it calms down completely. Although storms do not bring lightnings or thunders, they do bring—in general—a lot of hail.

Strait of Magellan

Although part of this region is out of our work, we still think it is of interest to learn about some of its characteristics. The strait should be considered in two parts—the western and the eastern regions. The latter has to do directly with the Fuegian archipelago and its features are those typical of the Fuegian or Patagonian steppe.

The western sector is characterized for being in a cordilleran area and for belonging to one of the regions with the highest levels of rainfall in the world. At the entrance of the strait, on the Pacific, rainfall reaches 6,000 mm annually (6 meters); in the eastern region it drops to 250 mm (0.25 meters) on the Atlantic mouth; and in Punta Arenas, it is of 430 mm (0.43 meters), similar to Santiago.

In the western region, depressions (low pressure centers) stay frequently all through the year and they generate a violent and constant bad weather.

Average summer temperature is of 12° C and in winter of 2° C.

A phenomenon that every tourist will be able to find in the eastern part of the strait is the mirage. During calm days, with a pleasant temperature and a transparent atmosphere, low lands and things on the water surface usually appear to be head down, elevated, and deformed.

The Sea: Temperatures, Currents, and Tides

Tierra del Fuego is surrounded by waters that, due to different reasons, were always feared by sailors and simple passengers or tourists. This is because in this sea several factors join simultaneously.

One of them—which everybody asks about—is temperature. Nobody can imagine himself swimming in this water, but the question springs all the same. Perhaps thinking about having to take a forced bath when falling into the sea or for fear of shipwrecking. Let alone in a storm. This is simple: temperature on the surface is about 5-7° C according to the area. It drops toward Antarctica. Extreme temperatures may drop to 3° C and rise to 16° C. It is cold enough to cause a shock to anybody falling into the waters and not being ready to face these conditions. Death is produced by a heart and respiratory failure. In case the person is physically fit to bear such a shock, he/she can stay in the sea for a period ranging from 15 to 45 minutes. It depends on costume and training, apart from the loss of heat. In this last case, death is produced because of the loss of body heat. A person that has remained in these

waters needs to have a bath with very hot water, drink hot liquids, and rest so as to recover his body heat. More time is needed to recover heat than to lose it. In general, everybody thinks that a person can remain alive for three minutes. Although there are people who can bear less time, there are others that can endure longer. This, without considering those who are used to this temperature.

Freezing in these waters only occurs in the Antarctic continent and, in Tierra del Fuego, in enclosed bays with abundant affluence of fresh water from plentiful rivers.

As this is a cold sea, the level of salinity is low as dissolution is poor. For the same reason, the floatable capacity is poorer.

In general, the bottom is deep. In other words, the bottom is deep enough to be impossible to see it. This gives waters their dark color. Adding the poor sunlight, we get a sea of an almost black dark-blue.

In the Atlantic area, the waters near the coast are less deep, but visibility is quite poor because of the regular movement of sediments produced by currents.

The most ample tides are in the eastern coast and decrease from north to south. In San Sebastián bay, there is a difference between tides of 6.6 meters; in Thetis Bay the amplitude is of 2.5 meters.

Currents may be divided into sea currents and those produced by the great Austral Pacific current. The latter runs from west to east and splits into two when crashing against the south extreme of the continent (its axis being the 50° South parallel). The branch that runs to the north is the famous Humboldt current that covers the coasts of Chile and Peru and then diverts towards the Polynesia. This current is responsible for the peculiar climate in this part of the continent; the abundant rainfall in the



south opposes to the dryness in the north producing large desert extensions on the coast. There are areas where there are no rainfalls for many years (e.g. Trujillo, Huanchaco, or Nazca in Peru).

The second branch runs around Isla Grande of Tierra del Fuego and is called Cape Horn current. Passing between this cape and Diego Ramírez islands changes to the north east toward Le Maire Strait and Isla de los Estados. This current then becomes the Malvinas'. Cape Horn current characterizes for splitting the Antarctic current of the South Pacific that goes on to the South Atlantic. The speed of this current is directly related to the intensity of the wind that ranges from 0.5 to 1.5 knots.

The tide swell that comes from the Pacific to the east runs around Cape Horn and then passes between the Malvinas and the continent. It penetrates all Tierra del Fuego channels that are connected to the sea. In the Beagle Channel, something particular happens. On the one hand, it penetrates from west to east but, in the eastern mouth, it penetrates from east to west thus crashing into the other in the Mackinlay passage (Gable island, practically in front of Port Williams).

In Le Maire strait the rising tide runs from north to south and can range between 2 and 6 knots depending on the place, either the center or the proximity of some of the capes. The ebb tide runs in the contrary direction and begins an hour after high tide.

On Isla de los Estados tides run along the northern and southern coasts with great intensity. Rising tide comes from east to west hitting against Cape Horn current thus producing an important reflux effect (ebb tide).

Along the Atlantic coast of Tierra del Fuego, the current runs North-West to the Strait of Magellan at a speed of 1 to 3 knots. Ebb tide is contrary, but it is less intense.

Given the intensity of tides and sea currents, when strong winds blow (the ordinary ones in the area) in the opposite direction, waves that crash one into the other in all directions are produced. This causes the sea to be chaotic and dangerous for small and medium vessels. Apart from these conditions, large swells from the Pacific enter through Cape Horn and generally tend to form shoals because of the important depressions in the depths.

So tempests are usually really heavy. Which, added to the poor visibility and the many islands and islets, make a real challenge for navigators —especially for sailing boats.

Being quite particular, tides and currents in the Strait of Magellan are spelled out in the corresponding chapter.

Icebergs

Icebergs are quite rare in the surroundings of Cape Horn and the rest of the archipelago. Apparently, apart from the temperate climate of the region, the reason lies in the fact that the oceanic current runs to the east.

They are abundant in the southern Atlantic and they have also been found near Isla de los Estados, Malvinas islands, Idelfonso islands and up to Cabo Corrientes in their voyage to the north.

Icebergs originated from detachments of glaciers or ice barriers. In the second case, an iceberg may be made up of continental ice (of glacial origin) or of marine ice. The latter is formed when temperatures are below -1.9°C as the salinity of seawaters is of 35 ‰. For this ice to be formed, calm waters, i.e. lack of strong sea currents and surf, are necessary. This formation is favored by the presence of icebergs that make the water even colder. There is an ample classification for icebergs as they may be found in a wide variety of shapes. The most common ones are ice barriers and icefloes both in icefields or wandering.

The size of icebergs may be colossal, of over 100 meters high and 95 meters long and 75 m wide. Besides, during mild winters in Antarctica, large quantities of small icebergs cover areas of 100-300 miles turning navigation dangerous.

Fuegian Channels

In Fuegian channels, there are small icebergs in bays where glaciers fall into the sea creating an unusual landscape. These icebergs have different characteristics and there are three well differentiated types: ices with a lot of air that have one third or one quarter of their total volume above the surface of the water; we also find the most common ones that, having a specific weight of 0.89, jut out of the water between one eighth and one seventh of their total mass; in the last place, we find the most dangerous ones for navigation, the *gruñones* (grouchies), which practically do not emerge and are dark green, almost black, and transparent. They are of very hard ice compressed for centuries and bear no water; they usually crackle as they are exposed to the sun. These icebergs are also found in the Antarctic sea.

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The Route of Sunk Ships



The 'Logos' near Snipe Island, 1988.

There are several key routes and passages all over the world where ships necessarily meet. Up to the 19th century, they were the natural passages that enabled sailing around the Earth. We are speaking about Cape of Good Hope, Cape of Storms and, the most feared known as "The Cape" with capitals, the stormy Cape Horn. As time went by, man tried to shorten routes and make them less risky to sail, so the Suez and the Panama Canals appeared. The first objective was achieved by far, but the second is still latent, not because of weather factors but because of political problems with constant war threats.

The routes that doubled South America had variants; all of them worth examining. The first sailing ships that tried to reach the Pacific sailed through the Strait of Magellan but, after Jacob Schouten's and Le Maire's discovery, verified by the Nodal brothers (1619), captains found it safer to double Cape Horn. With no coasts under the lee, scudding a storm opposite Cape Horn was faster and easier than in the Strait of Magellan.

This situation remained unchanged until the appearance of the steamer. The first steamer crossed the Atlantic in 1819. Many years of technical innovations would pass by as from this first crossing up to the moment the steamer was really in use. The first steamers in passing the Strait of Magellan were the *Peru* and the *Chile* (1840) that belonged to a company from London.

The Strait regained importance and Chile understood this fact while Buenos Aires was

immersed in continual civil wars. The Chilean government took possession of the Strait of Magellan founding Fuerte Bulnes in 1843. In that same year the *Phaeton*, a French steamer frigate, and the whaler *Fleury*, also French, visited the place. In 1846, an English warship, the *Salamandre*, arrived and his commander pointed out that it was convenient to establish trade relationships with the colony on Malvinas. The islands could provide cattle and the strait, wood.

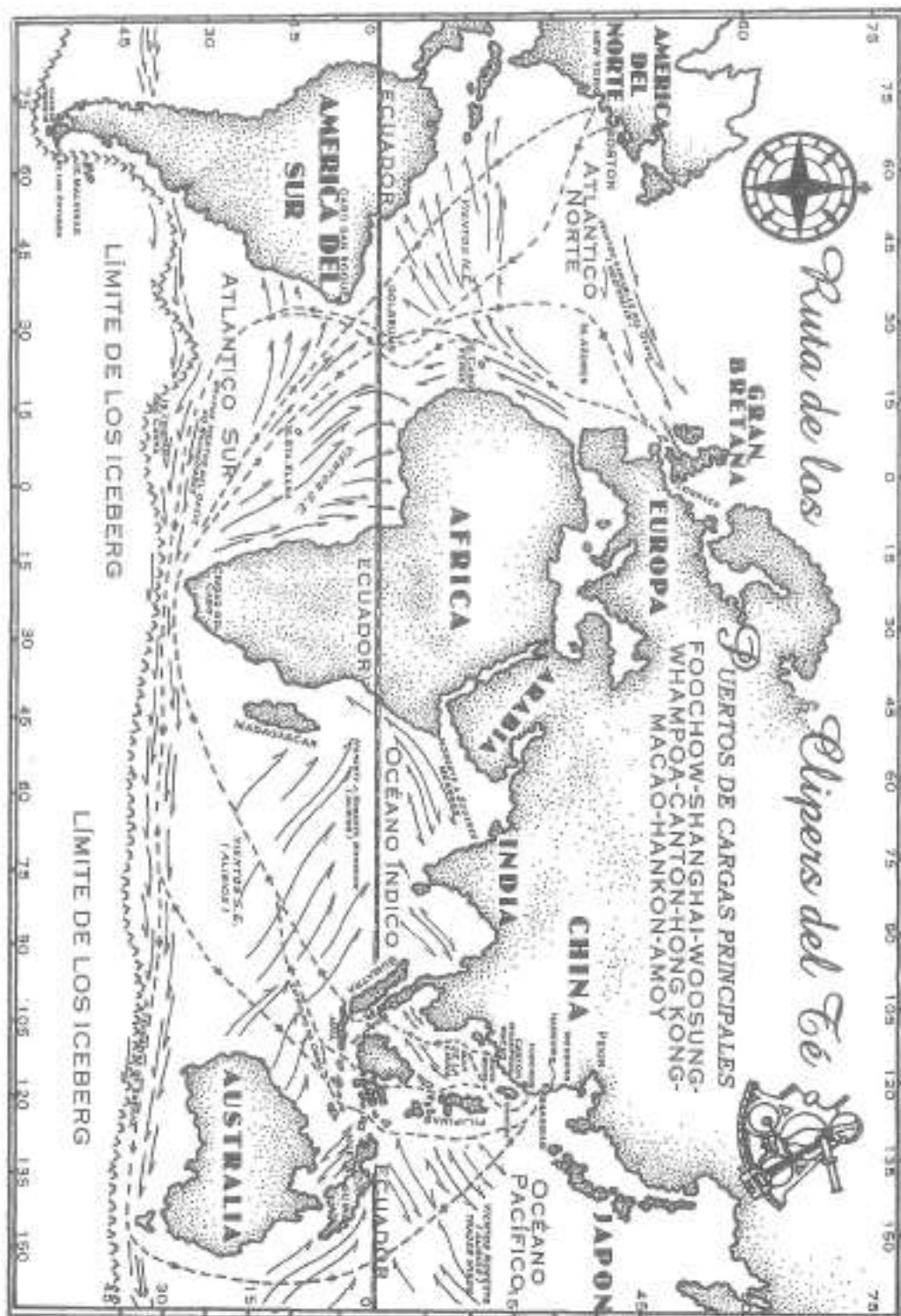
In 1849, the settlement is moved to a milder place and Sandy Point (Punta Arenas), situated to the east, is chosen. In December that same year, José de los Santos Mardones founds the village.

The Argentine government's protests claiming that they were in Argentine territory—since the natural boundary was the cordillera—were practically useless.

Clippers and the New Navigation Routes

By this time, composite ships—i.e., made of wood with an iron framing—were already sailing and were immediately followed by hulls completely made of steel and rivets.

The age of navigation was starting. On the one hand, the swift sailing clippers and, on the other, the steamers trying to replace the former. The discovery of gold in California (U.S.A.) promoted a great migration of colonists as, even though men went ahead on their own, their families followed some time later. There were several routes. Crossing the States could



Under sail from London to Shanghai. Distance: 15,700 miles.
 New York - Shanghai: around 13,300 miles.
 Shanghai - London. Steam route: around 13,000 miles.
 SW monsoon. It blows from eastern Africa to eastern Philippines from May to September.

NE monsoon. It blows from October to May in the same region.
 NW monsoon. It blows from January to March from northeastern Madagascar to northern Australia.
 Trade winds fluctuate slightly in the area of equatorial calms (doldrums) from the Equator, in February, up to 15° North in August.

take five months and they could lose their heads. Another possibility was to cross the Mexican territory, or go down to Panama and cross the isthmus to embark toward the north.

The option considered to be the safest and most popular was to embark and sail via the south of South America either through the Strait of Magellan or doubling Cape Horn. There is a very interesting narrative (see

Appendix 1) in which a passenger of a brig tells us about the experience of crossing the Strait of Magellan in 1849, during the heyday of the Californian gold rush. This brig took six months and a half to sail from the east to the west coast.

The trip doubling Cape Horn could take between one hundred and two hundred days from New York to San Francisco.

Companies published posters in which they advertised about the time it took them to cover this route. It was an actual race among quite similar ships—the famous clippers.

The crossing of Cape Horn was in fact the way which goes from 50° of South latitude in the Atlantic Ocean to 50° South in the Pacific. That is to say, from Santa Cruz river in Argentina (or Malvinas islands parallel) up to 50° S in the Pacific, which coincides with the southern extreme of Wellington Is. (Torres del Paine, Chile).

The record of six days for this part of the voyage belongs to the clipper *Young America*; the *Flying Fish* did it in seven days, the same as the clippers *Flying Cloud* and the *Robin Hood*. The *Flying Dutchman* (twice), the *Herald of the Morning*, the *Stag Hound* and the *Sword Fish* took eight. The following are registered with nine days—the *Mary L. Sutton*, the *Sovereign of the Seas*, and the *Great Republic*. The *Atlanta*, the *Golden City*, the *Hornet*, the *Typhoon*, the *Whistler*, the *Sweepstakes*, and the *Snap Dragon* (bark) follow with ten days. This list is long and, from this information, we can come to the following conclusions: they were outstanding ships and these marks were only possible with favorable conditions—quite rare in the area.

In less than 110 days, one hundred and thirty voyages took place. Three ships share the same record of 89 days—the *Flying Cloud*, from New York to San Francisco in 1851; again the *Flying Cloud*, from New York to San Francisco in 1854; and the *Andrew Jackson*, also from New York to the Golden Gate in 1860. Let us imagine the advertising stir the *Flying Cloud* and her shipowners arose.

There were also extremely slow voyages such as the *Arthur's* that took 200 days from New York to the Golden Gate (1851); the *Cornwalls'* of 204 days; and the *Henry Allen's* with 225 days; all of them during the same year.

The largest ship (in terms of burden capacity) was the *Great Republic* which took nine days to sail from 50° South in the Atlantic and 50° South in the Pacific.

There were other records such as the *Eduard Sewall's* that sailed past 50° South in the Atlantic on 7 March 1914 to cross 50° South in the Pacific on 12 May (sixty seven days later). This is a clear instance of what bad weather, or rather, adverse weather can do.

In 1849, the first year of the gold rush in California, eight hundred ships doubled Cape Horn and crossed the Pacific sailing north up to the eastern coast of the United States of America. They entered the San Francisco bay between two high barren headlands. This formation was known all over the world as the Golden Gate and, today, the famous suspension bridge of San Francisco—which is being reinforced for earthquakes—is named after it.

Then came the discovery of gold in Australia. Immigrants who arrived in New York after a short trip of thirty days from northern Europe found large posters encouraging them to look for gold in California or Australia or for a job on the western coast of the States. Ships set sail every day, most of them via the route of Cape Horn, until combined ships (steam and sails) started to advertise their safety and speed.

Trade with Japan and China is ever-frequent and, in a short time, it becomes intensive. In order to provide steamers with coal, hundreds of clippers are sent to establish depots.

A true communication war breaks out. With the inauguration of the railway (1870) that crosses the United States of America, voyages via Cape Horn plummet. But almost at the same time, nickel trade from New Caledonia starts and it has to sail through Cape Horn. On the other hand, trying to



The 'Monte Cervantes' at Les Eclaireurs Lighthouse, Bahía de Ushuaia (January 1930).

make distances shorter, the Suez Canal is opened, but trade with nitrate from Peru also begins. The world is boiling with trade and transport (and communication) go through the Great Cape Hornier.

Strange though it seems, atomic bomb included, these ships went on sailing up to after World War II. There was even a famous German corsair that acted during World War I with a sailing ship. He was Count Felix Von Luckner—he not only caught sailing vessels but he also got a good number of steamer preys. It was during the two wars, and especially WWII, that most of the last cargo sailing ships sunk.

A special case was the *Pamir*, owned by the company "Laeisz", whose main feature was that all of its ships had names beginning with P. This tall ship went on sailing as a carrier until the "Carrie" hurricane made her disappear near the Azores on 22 September 1957. There are outstanding films of this ship doubling Cape Horn shot in the 1930s. She usually visited the port of Buenos Aires; of course, she was towed.

But let us go back to Tierra del Fuego and the Strait of Magellan. Now steamers and combined ships no longer had to stand off-and-on and the Strait of Magellan was far safer and there was shelter from huge waves; but ships required large amounts of coal. They needed so much that, if they loaded the complete amount required to sail round America, they had no space for cargo. This is how Sandy Point became more and more important for southern navigation. In fact, it became the center of this activity, while Ushuaia (founded in 1884) received two or three ships per month toward the end of the 19th C, Punta Arenas received two a day with a peak of three a day in 1910.

With the opening of the Panama Canal in 1914 (Chile bet this would never happen), the restless activity of Punta Arenas dropped and, in 1920, only three ships entered per month. During the steam age, the austral route was still the preferred one by tall ships; both propulsion systems coexisted for over sixty years. In fact, the canal killed both routes and, at the same time, rescue companies.

Rescue Companies

In order to understand the notion of "Finis Terra" better, it is important to complete the image of the south. If we consider the publications of the journalist Roberto J. Payró (1898), we can see that the following steamer companies were based at Punta Arenas—"Pacific Steam Navigation Company," "Lloyd Norte

Aleman," "Messageries Maritimes," "Kosmos" (from Hamburg), and "Charles Reunis," apart from an Italian one and another American, which he does not name. As regards rescue companies, he mentions four—the one owned by Braun and Blanchard, with four ships; Kurtz's and Wahlen's, with two; Menendez's, with two steamers; and the Corporation, which builds one.

Why so many rescue companies? Simple—they were engaged in rescuing vessels in trouble in the area on the basis of *respondetia* (no aid no pay); i.e., they worked for a percentage between the seventy and the eighty per cent of the net products rescued. Apart from the said work, they were also engaged in coastal navigation and, chartered by the government, they provided support to farming settlements.

Back to Roberto Payró's description, the journalist says about Punta Arenas, "...cutters, schooners, two and three-masted pilot's boats from twenty-five to two hundred tons and more abound in the port, and they carry the Chilean flag with almost no exception; these ships do all sorts of works, from plain freight, to expeditions for seal hunting or for gold digging on Tierra del Fuego; and whatever they do, they contribute to promote and foster the colony..."

How Did They Work?

To begin with, they had to rescue the survivors that, on many occasions, apart from the misfortune of wrecking at those latitudes, run the risk of being killed by pirates that were in the business of plundering wrecked vessels. All the members of the rescue enterprise came out well-off as, apart from the percentage agreed with the captain or the shipowner, the men also agreed another percentage among them. This activity was so particular that a new term still in use was born—wrecking.

But, why did they sink and where? Did all of them sink at Cape Horn? In fact, when we refer to Cape Horn we mean the whole area, not only the famous island but also the whole archipelago that surrounds it and even Isla Grande de Tierra del Fuego, included by navigators. Then, when somebody says, "it was lost in the area," he may be referring to—the Strait of Magellan, the Beagle Channel, the Cape itself, Peninsula Mitre, or the "mysterious" Isla de los Estados.

Some sunk while sailing because, in general, a heavy storm filled them with water and made them founder so quickly that it was exceptional that somebody could survive. This kind of shipwreck left no visible signals as these vessels sunk in deep waters.

There was a famous case in the 19th century: twelve traders that set sail together from Chile to the Atlantic sunk during the same storm the same day and there were no survivors. None of them could defeat the "Cape."

In general, ships were lost in the Strait of Magellan as a result of tacking back and forth in a risky maneuver or of luffing against the coast or a rock. But there were not so many cases.

Beagle Channel

The Beagle Channel became famous for its treacherous rocks in the middle surrounded by 90 meters depth which caused many ships to sink. But there were not so many accidents in this channel. It is reasonable, as Fitz Roy discovered it in 1833 and it was not until 1882 that ships began to sail through it.

The most famous vessels sunk here are: the *Monte Cervantes*, the *Sarmiento*, and the *Logos* (1985)—the most recent case. The *Monte Cervantes* was part of a rehearsal of high class tourism on a large scale. It was chartered by the Hamburg Company of South America and left the port of Buenos Aires on 15 January 1930 with 1,200 passengers and 300 hands. It arrived in Ushuaia on January 21 having touched Puerto Madryn and Punta Arenas. After visiting the little town, she was ready to set off at noon. It crashed into one of the rocks at Les Eclaireurs islet just 7 miles away from the port. The precise cause was never known. It started to sink quickly and, because of the condition of the waters at that moment, all lifeboats were driven to the nearest estancia (sort of cattle ranch): "Remolino." Later on, they were taken to Ushuaia by all the ships in port. The wreckers were lodged in quarters, houses, and anywhere else because the population doubled with them. There were no victims, except for one. Following the old nautical tradition, the captain disappeared in the chilly waters of the Beagle. Many years past till it was decided to move the 150 meters long damaged ship to try to put it afloat again. All the vessels in Ushuaia took part and the tugboat *St. Christopher* (nowadays beached in the bay, visible for everybody), which arrived from Buenos Aires in 1953 chartered by the Salvamar company. In the tugging operation, the hull turned round again and sunk 90 meters down.

Again, there were new protests and charges. Today, Les Eclaireurs Lighthouse marks the place where the accident took place.

Remolino, one of the first estancias of Tierra del Fuego, was founded in the late 19th century

by the missionary Lawrence. In his land, the last Yamanas of the region used to gather looking for understanding and protection. Near the pier, a ship covered with oxide appears: It is the *Sarmiento* that, on 1 April 1912, sailing to Buenos Aires, with load and passengers, touched Lawrence's stones (named after the missionary) in front of the estancia and quickly propped up. Her cabins and holds being flooded. The pilot could change the course and luffed on the coast.

After spending the night at the estancia, the 82 wreckers set off on lifeboats to Ushuaia, which is 5 miles away. Besides, as the channel waves are dangerous for boats, they were towed by a motor boat until the *Frigate A.R.A. Sarmiento*, which was sailing in on instruction voyage in the area, took them to port. Nowadays, there is a large buoy on the Lawrence's stones that warns navigators about the risk. Besides, it reminds us of the accident. The school-ship *Logos* could verify this.

It is the most recent of the shipwrecks. It took place near Snipe island on 4 January 1988, few minutes after the Chilean pilot disembarked giving the ship the course to be followed which, apparently, had not been fully accepted by the captain. These stones—together with a little bank represent a great danger for navigation in the eastern mouth of the canal—are now somewhat buoyed by the *Logos*.

Bove was the protagonist of the oldest shipwreck registered, which happened at Slogget Bay and was commented on by Thomas Bridges when he rescued his son from the accident. It took place in 1883, when the *Golden West (San José)*—that belonged to the fleet of the Austral Argentine Expedition—run ashore in a sudden storm.

At Valentín Bay, almost in the Eastern extreme of Tierra del Fuego, china bowls, smoking pipes, and several remains such as the fragment of a mast, copper covering of a ship, stamps for fabric, etc., have been found in consecutive expeditions, some by the Museum of the End of the World and others by private undertakings. The reasons for these elements to be found here may be several: the main one, maybe, is that this bay is the most exposed to the hurricane-like southerly winds that, from Cape Horn or Antarctica, arrive here with great violence.

Neither the names nor the causes of this shipwreck are known, but indigenous archaeological deposits have been found in the same places where survivors stayed. Fantasy makes us fly: Did they live together? When? What happened to them? Questions that, maybe, we

will never be able to answer. And what about the ships mentioned: Didn't the captain of the *Monte Cervantes* know those stones—visible in daylight—, did he? Why is that he did not order to change the course? Didn't the captain of the *Sarmiento* know the stones that all sailors in the area avoid and which usually emerge causing a quite particular groundswell? There is no answer for these questions as in these cases we cannot talk about lack of skill. What happened?

Isla de los Estados and Le Maire Strait

It can be said that one of the worst places in the region is the treacherous Le Maire strait, the surroundings of Isla de los Estados and the southeastern sector of Isla Grande de Tierra

del Fuego, known as Peninsula Mitre, especially the area that faces the Atlantic.

With many shipwrecks, causes are quite different from those in the Beagle Channel, Cape Horn, and the Strait of Magellan.

The only characteristic shared by both places is that, being treacherous, they become a trap—sometimes fatal—for those astonished sailors that had to face a storm or sudden calms associated with fast currents that drew the ships against the islands.

Isla de los Estados is characterized for being cloudy practically all the time. Clouds are trapped among hills making the island disappear on the horizon. In the surroundings, and especially on the northern side, the coast projects long ledges and is surrounded by rocks,



Pictou Island. Cattle establishment that belonged to Thomas Bridges.



Isla Navarino map (1911). Divide and leasing of land. Most belongs to neighbors of Ushuaia.

islets, and some important islands; all of which are very low and difficult to see in a dark night or in the fog during typical calms.

To make matters worse, there is a strong current in areas such as Cabo San Diego (Península Mitre) that runs up to 4 knots. In calm, usual in the area, ships were washed ashore against rocks or long ledges.

Tidal ranges are important and go up to six meters. When charts were deficient, this made many ships touch without meaning it.

Península Mitre

The south-eastern area of Isla Grande de Tierra del Fuego is known as Península Mitre, and many accidents took place on its Atlantic coast. Galleons, caravels, and even frigates sailing in the tea or manure routes were involved. Except for some exceptions, the causes are ignored. The most famous are the *Purisi-*

ma Concepción (1765) and the *Duchess of Albany* (1893), both wrecked near Policarpo cove.

The first case is one of the enigmas of austral navigation. Everybody talks about it and, what's more, its survivors built a 16-meter-long schooner so that they could arrive in Buenos Aires on board of it. The wreckers settled down at a harbor they called Consolación (it is supposed to be the present Caleta Falsa). They built the schooner with the remains of the galleon. They stayed three months with the natives and they lived almost in the same way. Unbelievably, they transported in their holds 193 wreckers and left the load of "wealth" that they carried from the "Callao" in this place and there is no news about it. Given sea conditions, the Captain decided to cover all the places where the water could enter and, according to the chronicles of the time, four men died of suffocation

The Frigate 'Presidente Sarmiento' launching a torpedo at Ushuaia bay.



The Steamer 'Sarmiento' sunk opposite Estancia Ramolino, Beagle Channel (1912).

Un recuerdo de su estadía en
el Sud. de tu primo
Alejandro
10 de 1914

Fragata Escuela Presidente Sarmiento



The Frigate 'Sarmiento' drying sails at Gallo Nuevo. Superb view of the ship with her sails set.



Perspective: midshipmen on the Sarmiento's jib boom net.



Work assignment. Scenes of life on board.



Training on torpedo handling. Scene on board.



Launching a torpedo.



Beating about. Handling the rudder.



Working the capstan. Weighing anchor.



Seamen taking a snap on deck.



View of the wake of Midshipman Augusto del Campo, who died aboard on a trip.



Tug 'St. Christopher,' Ushuaia bay (1955).

because of the stacking. In the surroundings of this cove, two cannons of that period and a figurehead (without face) that might have belonged to the galleon were found. But the exact place of the accident remains unknown.

The *Duchess of Albany's* is one of the few shipwrecks about which there is plenty of information. It is an iron hull built in 1884 by the shipyard T. Royden & Sons from Liverpool for the W. & R. Wright Company in the same city. She was 253,00 feet long; 40,3 feet wide and had a 23 feet draft. Her load displacement was 1,793 tons and she had two decks, three masts, and bowsprit. She was one of the many traders built in that period, a mixture of a clipper with a frigate which is an instance of a perfect construction with perfect water lines. The clinching and planking work in the sheets is excellent as well as its strength which, day after day, endures the dashing of the sea.

Her wreckage took place on a winter night in 1893 (July, 13) according to what Captain Greve of the frigate *Aconcagua* informed in 1897. He saw a sailing boat that had ran aground and was abandoned in the area and he commented that "it was black, its masts and yards were almost entire; its masts were light chestnut and the deck extremities white." Later on he says: "On the beach, in front of the vessel, some spoils of army tents made of canvas could be seen."

But, which were the causes of the accident? It is almost impossible to know the answer accurately, and several hypothesis are valid. One of them—somewhat evilly-disposed—says that she ran aground on purpose to get the money of the insurance policy. The large number of frigates and clippers luffed against the coast in the last decade of the 19th century attracts attention. Exactly when the engine made sails obsolete.

What we *do* know is that the ship arrived at the coast with poor visibility. Some authors claim that it was at daybreak (4 a.m.) and that the wind was blowing between 20 and 25 knots.

During winter, daylight at those latitudes scarcely lasts for over seven hours (the sun rises at 9.30 and sets at 16.30).

Everything suggests that it arrived at high tide and, perhaps it approached the coast too much to look for protection to cast anchor, or it may be that the poor visibility, the lack of wind, and the current could have driven them to a trap that would turn out to be their last landfall. The largest anchor was thrown and the chain loosened. What happened after this? Nobody knows. But the rest of the anchors are still on board with all their chains. What did Captain John Williams decide? Why didn't he cast the other anchor if the anchor had started to drag? Which were the exact weather conditions? Few people got to know the truth. Only the hull and conjectures remain till today.

The whole crew survived. There was just one missing member who, according to certain accounts, decided to stay to live with the Onas. The rest were rescued by the steamer *Amadeo*, chartered for that purpose from Punta Arenas, and another group sailed on a pair of boats to the subprefecture at Thetis Bay.

According to our own inquiries, the English frigate *Glenmore* crashed into San Vicente and her remains can be seen at low tide, completely destroyed by the dashing of the waves. This happened in 1888 and her crew went to Thetis Bay, situated a few miles away from the place.

The *Cordova* sunk at Le Maire strait and its crew also sailed to the subprefecture at Thetis Bay on 26 July 1888. The *Colorado* wrecked against Cape San Vicente on 5 July 1887. The whole crew was saved and arrived at Thetis Bay.

The number of shipwrecks in the same area and its high frequency of occurrence draw attention. Was this just fortuitous or was this a good place to get rid of ships?

The last ship lost in the area was the *Desdemona*. It is stranded exactly at San Pablo Cape with its double bottom perforated. The acci-

dent took place in September 1885, on a trip from Ushuaia to Río Grande. She was made run aground by its captain, Germán G. Prillwitz, with the intention of putting it afloat again later on. He did it because with only one engine he could not enter in port Río Grande and, as a tempest coming from the south west had been announced, he was looking for a cove to cast anchor during the tempest. Unfortunately, it touched the shoal of Cape San Pablo and started to sink. That simple, if we do not take into account the macabre intentions that its owners apparently had; apart from the conspiracy that the Captain suffered and the fact that it had been practically lost in Río Grande on a previous voyage.

An ancient malediction belonging to naval traditions says: In the Last Judgement, those who dared to defy the "Cape" will not be able to be freed from their icy graves. Anyway, during the second half of the 19th century over 200 sailing ships did it yearly, and only five per cent of them wrecked.

In some years, the challengers resulted brutally damaged such as during the summer of 1906/1907 when, in the surroundings of Cape San Vicente, twelve ships sunk and, between 1887 and 1888, three important English frigates were ruined in the same place.

A Wrecker in that Region

What did a wrecker had to face at Península Mitre? In the first place, it was the land of the native Onas and Haush. Any of the two peoples could react in the same way: either

they helped or attacked the wreckers. But apart from the misfortune of being a wrecker, the only possibility to survive meant to wander through isolated places with a hard climate and a land almost impossible to travel by with burden. The wind, constant from the NW, blows from 20 to 35 knots with squalls at intervals. Advancing against the wind is quite difficult and it is advisable to walk along the beach at low tide. The coast is high and it is necessary to climb up and down cliffs in order to avoid the dangerous parts on the coast (capes with huge rocks). On the other hand, it is necessary to be careful with the rising tide as it is possible to get trapped by it at the base of the cliff.

Off the beach, the coastal line has abundant peat and, approaching Thetis Bay, it is even more frequent to find. Low woods make it nearly impossible to walk with some burden, but they provide plenty of firewood. There are also plentiful rivers such as: Leticia, Policarpo, Bueno, and Irigoyen; it is convenient to ford them at low tide.

There is food: algao, scum, and different crustacean can be eaten at low tide. There is also wild celery, and guanacos were abundant a century ago. Nowadays there is cattle and some guanacos. Cold is constant, but thermal registers are not that low. Next to a fire, one can get warm quickly. There is plenty of fresh water, but it is important to see if the spring comes from a dam built by a beaver. At that time, there were no beavers. If water is brownish, it is because of peat.



Schooner 'La Blanca,' Beagle Channel, part of Ushuaia. She stayed at the trade wharf.

Of course, these are the conditions in summer. In winter the soil is half frozen and snow falls usually even in summer.

It is interesting to read the accounts of a logbook of that time, although they are written in a telegraphic way. Shipwreck in the surroundings of Policarpo Cove of the sealing ship owned by Mr. Brisbane and Mr. Bray in 1830, contained in the book *Narrative of the Surveying Voyages of His Majesty's Ships Adventure and Beagle, Between the Years 1826 and 1836, Describing their Examination of the Southern Shores of South America and the Beagle's Circumnavigation of the Globe, Volume II, Patagonia*, by Robert Fitz Roy.

Feb. 23^d [1830]. Employed saving things from the wreck: six Indians came to us. 24th. Twenty-five Indians came, with their women and children. 25th. Another visit from natives: men, women, and children. 26th. Indians began to be very troublesome. 27th. Forty Indians came to us, all armed with bows, arrows, and slings, without women or children. Some of our people employed in building a shallop out of the wreck. 28th. More Indians, with twelve strong women and eighteen children: but unarmed on this day. March 1st. More Indian visitors. 2^d. Fifty-one natives, armed. To the 9th the crew continued to build their shallop, and were almost daily visited by natives, whom two-thirds of the party were obliged to watch with arms in their hands. On the 21st sixty-one natives visited them (these Indians always went away before dusk). (...) 29th. Much troubled every day by natives, who tried to steal our tools; and hard pressed by hunger. No supper (this was their principal meal; as during the day, while the Indians were about, they had no time to cook or eat) the last three days. (...) April 8th. A large party of Indians, who were plaguing us, quarreled among themselves, and had a severe fight. 9th. Our last remainder of provisions finished. 15th. Employed caulking the shallop's deck, and getting limpets from the rocks. N.B. Almost starving. 17th. Not being troubled to-day by natives, and the sea being smooth, went out in a little boat which we had saved, and caught eleven skate. After this day several fish were caught at times, which, with shell-fish, afforded a scanty subsistence; but before this time they had been reduced to eating hide, and half putrid blubber, which they got by barter from the Indians.

(...) 22^d. Launched the shallop, or rather, hauled her down at low water, and let her float. 24th. Indians more troublesome than ever; obliged to fire at them repeatedly. 27th. Almost starved, eating bullock's hide. 30th. Nothing to

eat but bullock's hide and berries. Could not get the shallop over the reef because of a heavy surf.

May 1st. Got out to sea; found the shallop leak very much: nothing to eat but hide. (...) 5th. Made Cape Meredith (in the Falklands), but could not get near for want of wind. 6th. Two men gave out (could work no longer) for want of food: they had gone six days with but one pound of hide. 7th. A heavy gale; the shallop under bare poles, and almost sinking; sea making a clear breach over her; men quite worn out by constant pumping and baling, and by want of food: we had a very hard job to keep her from sinking: at dusk saw land through the rain and spray, half a mile to leeward; showed the head of the jib, and bore away right before the wind for the nearest part; saw a cove, ran into it, and anchored. Killed numbers of geese; thanked God for our safety. 11th. Many of our men ill from the sudden change. 17th. Went ashore in Pleasant Harbour; saw a great number of cattle; the dog caught two of them, and held them for us to kill [R. F's note: Seized them by the lip. He was a large, strong animal, between a bull-dog and a mastiff]. 30th of May. Anchored in Port Louis, landed, and hauled the shallop ashore in high-water." (See shipwrecks in Peninsula Mitre for further details.)

A severe climate, the sea, storms, hunger, cold, wet all the time, natives, getting smaller to avoid sinking, a discouraging panorama. They were not the only ones to survive building another vessel and putting again to sea. A life of actual seamen.

We are grateful to the following for their invaluable help: The National Maritime Museum of Greenwich; the Argentine Navy, who made it possible the field work; the Museum of



Saturdays were devoted to personal hygiene and the washing.

the End of the World; and the Naval Museum of Paris.

Health Aboard in the Early 800s

During the early times of navigation, most deaths aboard were due to accidents and diseases. On the ships of the Spanish Navy, the surgeon was no more than a plain bone-fixer who knew where to amputate a leg or an arm and how to stop hemorrhages. He was more like a butcher that cuts up than a surgeon.

As regards diseases, if on land they were already a mystery, on board, it was even worse. It took centuries to know the cause of scurvy and how to fight against it. James Cook, who never had a man with scurvy, kept lime juice a State secret as he used it to defeated this illness. This was a key factor for discovery voyages and one of his major findings. Besides, Cook sailed around the Antarctic continent and verified that there was no link with another continent.

In order to understand this era better, we are going to resort to the analysis carried out by Rodolfo R. Poletti Formoso about the *Beagle's* expedition to the south extreme of America between 1826 and 1830.

In this voyage, each ship had a "Surgeon" and an "Assistant surgeon" among the hands of the crew.

Let us think that a fracture, either simple or compound, could end up in amputation. The "Royal College of Surgeons" had been opened in 1745 and it had succeeded in separating surgeons from barber surgeons.

Aboard the *Beagle* traveled assistant Bynoe, who filled the position for five years of campaign.

Scurvy

Let us follow with the analysis by Captain Rodolfo R. Poletti of Fitz Roy's book *Narrative of the Surveying Voyages of His Majesty's Ships Adventure and Beagle Describing their Examination of the Southern Shores of South America and the Beagle's Circumnavigation of the Globe*. This disease, known in the past as the "sea pest" stems from a deficiency of vitamin C (ascorbic acid) in the system as a consequence of a diet poor in it. Scurvy devastated the *Adventure's* crew (Captain King's) and, to a lesser extent (thanks to an efficient preventive care), the *Beagle's*, commanded by Stokes.

In 1720, a physician called Kramer wrote, "... if fresh vegetables can be obtained, if oranges, lemons, or their pulp or juice are available and doses of 3 to 4 ounces of juice (85 to 110 g)

are given, there is no need of nothing else to cure this dreadful disease."

In 1804, the Admiralty made it compulsory the daily provision of a ration of lime juice (*Citrus aurantifolia*) for each hand of the ships of the Royal Navy; little by little, this calamity was definitely defeated.

In several texts of the 800s, we can see how, with great ignorance, the causes of scurvy were listed and, sometimes, the real motives were outlined but they did not know how to account for them. They also explained the symptoms and the proper treatment.

"Its cause is a deficient assimilation, whichever the environment and the conditions in which it develops, or stacking associated with a persistence of disassimilation under the influence of continuous work." They also assured that "It has no specific cause and it is not contagious. Cold dampness is its main predisposing cause; [...] because of this, it appears suddenly after great tempests in the open sea [...] Voluntary or forced laziness; working in excess, moral depression, homesickness are complementary causes [...]. Most people think that the lack of fresh vegetables is practically the only cause of this disease, both on land and at sea."

Symptoms, "...toward the first month of navigation the whole crew suffers from an unusual laziness; the characteristic yellow complexion [...]. Soon after this, the ones with these looks [...] stay in bed, with an extraordinary laxity, invincible prostration, [...] teeth fall; then joint pains come, insufferable [...] hemorrhages of one or the other mucosae that may cause death [...] ulcers that spread quickly; hair recedes, [...] there is often moral depression, despair, homesickness, suicidal tendencies, deep sorrow, aversion to food."



Personal hygiene.

Treatment, "... it will be hygienic in most cases: a good diet, fresh air, exercise, passing from a cold and wet temperature to a warm and dry [...], external local application should also be used, the bitter ones and the antiscorbutic particularly (gentian and quinine). It is advisable to consume all fresh vegetables, especially potatoes, acid fruits, lemon, or lime juice, whose use is prescribed by regulations in England and France."

It is worth transcribing the following "heroic" treatment, as Don Poletti calls it. It was used during the long and troubled cruise of Hipólito Bouchard on the frigate *La Argentina* (1817); after a voyage from Madagascar to New Island, in Java, "Scurvy invaded all crews and devastated those lives devoted to such a noble cause. There were days when we counted eighty-four patients; over half of them were buried in those waters. After eight days staying on the island, the disease did not weaken; it was then when the surgeon of the expedition was ordered to use the extraordinary proceeding of burying the ill alive in pits four feet deep covering them with soil up to the neck." The only thing Bouchard mentions about the outcome of such a treatment is that "the ones who were in a serious condition died after an hour of being in that position, and the rest recovered; the operation being repeated over and over again." (From *Campañas Navales de la República Argentina*, Vol. II.)

Captain King mentions that, "... as species of wild celery (...) would be very useful as antiscorbutic" (Vol. I). "The severity of weather brought a most disagreeable accompaniment. Scurvy appeared, and increased (...) The monotony of their occupations, the chilling and gloomy appearance of the country, and the severity of the climate, all tended to increase the number of the sick, as well as the unfavourable symptoms of their disease." (Vol. I)

"Our sick-list, particularly of cases of scurvy, increased so much during this damp, trying weather, that I determined upon sending the *Adelaide* to the northward, to procure a supply of fresh meat from the Patagonians." (Vol. I)

Among the cares he took: "... fresh provisions, bread baked on board, pickles, cranberries, large quantities of wild celery, preserved meats and soups; the decks were kept well-aired, dry, and warm, but all to no purpose." (Vol. I)

In fact, some days later he states: "... three new cases of scurvy appeared, one being the assistant-surgeon, which increased our sick-list to fourteen."

King was confident that, with fresh guanaco meat, "... our sick, at least those affected by scurvy, would recover (...) ... but all to no purpose, the list increases..." (Vol. I). However, he later assures that "the timely supply of guanaco meat had certainly checked the scurvy, for we had no new cases added to the number of the sick, new amounting to twenty." (Vol. I, p. 186)



A hand's berth on a clipper.

On arriving in Montevideo, he is helped by a Juanico "...who supplied us plentifully with bitter (Seville) oranges, we might have been much distressed. The free use, however, of this fruit alone caused a rapid change in the health of those affected by scurvy, and in less than a week every man was at his duty." (Vol. I)

"Monday 7th April [1829]. Several of our men were employed in gathering cranberries, and preserving them for future use; they are anti-scorbutic, as well as wild celery, much of which has been used with our guanaco soup." (Vol. I, p. 214)

Captain Stokes comments "... fortunately (mussels and clams), we found an abundance and they proved useful in removing symptoms of scurvy." (Vol. I, p. 181)

Nervous Disorders

As we will see, officers and also hands used to suffer from depression and nervous disorders. This happened to two members of the crew under Luis Piedra Buena when he wrecked and with Magellan's stay in San Julián, when several sailors threw themselves overboard.

In this particular case, Don Poletti analyses what happened to Captain Stokes, whose fate was to commit suicide in a place near Puerto Hambre (Port Famine), on the Strait.

The Admiralty had assigned this Captain specially difficult missions because of their duration and the hostile environment in which they took place. On returning from the exhausting campaign to the western mouth of the

Strait of Magellan, he immediately goes to fetch the wreckers of the sealer *Prince of Saxe-Cobourg*. The sight of that "shattered schooner and with large openings," his own difficulties, and the penuries suffered by the rescued must have hurt his spirit deeply. The true hardships of the Second Campaign sailing up the rough Chilean western coast with almost seventy per cent of the crew sick "...and in the worst weather conditions," sealed his tragic fate. As Captain King says, apparently informed by Lieutenant Skyring, on leaving Port Otway, "Captain Stokes now began to show symptoms of a malady, (sic.) that had evidently been brought on by the dreadful state of anxiety he had gone through during the survey of the Gulf of Peñas. He shut himself up in his cabin, becoming quite listless, and inattentive to what was going on; and after entering the Strait of Magalhaens, on his return to Port Famine, he delayed at several places without any apparent reason." (Vol. I)

King meets him on the *Beagle* and finds him "... very ill, and in low spirits. He expressed himself much distressed by the hardships of the officers and crew under him had suffered; and I was alarmed at the desponding tone of his conversation." (Vol. I). After this conversation, King says: "...suspicions arose in my mind that all was not quite right with him (Vol.I). King goes on: "...and it was owing to a hint given to me, (sic.) that I desired Mr. Tarn [*Adventure's* surgeon] to communicate with Mr. Bynoe [*Beagle's* surgeon], and report to me wether Cap-



Typical captain's cabin on corvettes and clippers.



Washday on Saturdays.

tain Stokes' health was sufficiently restored to enable him to commence another cruise (sic.)"

After examining Stokes, both physicians were preparing a report "... which was, as I afterwards found, very unfavourable..." King gets to know that Stokes, "... in a momentary fit of despondency, had shot himself." (Vol. I).

He died twelve days after this, on 12 August 1828, and "His remains were interred at our burial-ground, with the honours due to his rank." (Vol. I)

In fact, it was not usual for a captain to commit suicide. It is true that the suffered from nervous disorders of different kinds that, at this distance, are difficult to determine; such is the case of the disease suffered by Captain Blight of the *Bounty*.

Diseases Derived from Wet and Cold Weather

Captain Stokes writes: "The health of the ship's company had been seriously affected, particularly with pulmone complaints, catarrhal, and rheumatic affections." (Vol. I, p. 181). In chaos, "... I ordered some canvas to be given to each man for a frock and trousers, to be painted

at the first opportunity, as a protection against rain and spray." (Vol. I, p. 179). This measure was imitated by Fitz Roy some years later, as we mention below. Responding to a request by Fitz Roy, the surgeon on board informs that "...in consequence of great exposure to a long-continued succession of incessant heavy rain, accompanied by strong gales, the health of the ship's company had been seriously affected." (Vol. I, p. 180). As a result, the *Beagle* winters for fourteen days. As Stokes puts it: "I ordered the yards and topmasts to be struck, and the ship covered over with sails. Precaution was used to prevent the people from being subjected to frequent exposure..." (Vol. I, p. 181).

As for the *Adventure* and the *Beagle*, King says: "... the *Beagle* was not so sickly; but, during the last cruise, upwards of forty cases, principally pulmonic, had occurred, and several were not yet recovered." (Vol. I, p. 186).

Fitz Roy adopted special measures to prevent the high percentage of sick men Stokes had had. In Volume I (p. 221), he writes: "During the wet weather of these regions, we derived great benefit from awning, painted for this purpose, while refitting at Rio de Janeiro and Maldonado: they kept the lower, and a great part of the upper deck, quite dry even in heavy rain." Below, he insists: "Each man had his clothes covered with canvas, or duck, well painted; and instead of hat, every one had a 'south-wester' (like a coal-heaver's cap)" (Vol. I, p. 222). This is a sort of hat used in former times by the navy, which has a wing and a back part that covers the nape making water run along the cape or the coat (made waterproof with wax or paint).

He then points out: "Each officer and man, when detached from the *Beagle* during a night, carried a blanket, or large poncho (sewed up, and with a drawing-string, like a large bag), in which they slept, and found much comfort and warmth" (Volume I, p. 223). In his last phrases about the Expedition, Fitz Roy admits an alarming percentage of sick men: "During the last part of our stay at Christmas Cove and up to the moment, our sick-list had been long; this is why I desired to be in a sheltered place for men to recover. The main maladies have been colds and rheumatism from chilly wind and dampness. This has been the only time, from the setting off of the *Beagle* from Rio de Janeiro, that the sick-list has not been worrying."

Other Diseases

Stokes records that "During the last few days he [sergeant I. M. Lindsay] had suffered from inflammation of the bowels, which brought his existence to a close" (Vol. I, p. 176). Mr.

Skyring puts down that "...we unfortunately lost Mr. Alexander Millar, as a consequence of a serious bowels inflammation that made him pass away only three days later."

On meeting the *Beagle*, Mr. King has news about "...the death of Lieutenant Robert H. Sholl, after an illness of ten days" (Vol. I, p. 121).

Skyring records "I have been down in bed since early January suffering from a stubborn and tiresome malady." Robert Fitz Roy attributes it to "...strain and the fact that he has been sitting drawing charts for too long." As many ailments, it was attributed to the only visible explanation that could be found.

Nutrition

This relevant point was faced by Robert Fitz Roy from a very practical point of view, and he obviously knew about the properties of fresh food. So he prioritized the hunting and catching of fish and other food nature provided. Anyway, he took other measures that nowadays nobody would object to; for instance, he decided to ration although there was no urgent necessity. On two occasions, he rationed his crew: "... salt provisions were entirely withheld from the crew for three days, and instead of them, preserved meat, shell-fish, and a large pig, brought from Monte Video, were substituted (...). My reason for entirely stopping the use of salt-meat, for a few days, was the belief that, at least, two or three days' change of diet is necessary to cause any real alteration in the system; and that it is better to give fresh

provisions for three days in succession, and salt-meat during the remainder of three weeks, than to give fresh-meat at three separate intervals in the same period." (Volume I, p. 221).

One day "... he rationed everybody to a 2/3 ration... [as cutting down the ration seemed to be better now that everybody was healthy and in high spirits and that they could get also fish and birds] than doing it later when we might be in another situation."

A singular detail is that Fitz Roy ordered to keep a "Hunting journal" to record what was hunted, the hunter, and who the preys were assigned to.

It is worth mentioning that, before the 800s, nutrition on board was very deficient and was based on the famous "hardtack." Ships carried cattle, hens, and any live animal they could transport. This was not the case with voyages around the south of the continent given that storms and cold made animals die one after the other. Between the late 700s and the early 800s, explorers had become used to reducing the consumption of salted meat and replacing it for penguin, sea lion or any other meat. If they were not sure, at least they guessed that it was necessary to refit with fresh food.

The English Pilot of the late 800s suggested that seamen should make land at San Juan de Salvamento to collect water, wild celery, and to replenish with meat from penguin and sea lion hunting; the said handbook even informs that, if one makes land in October, it is possible to collect penguin eggs.

Translator's note: Some of the quotations from the book on the voyages of the *Adventure* and the *Beagle* have been translated from Spanish as the original edition in English was not available.

Cape Horn



First image of Cape Horn (1618). Naked Indians on canoes and tropical landscapes were pictured.

The Mythical Cape Horn is deservedly famous among all sailors around the world. Many ships disappeared without leaving traces in this tempestuous and icy sea at the End of the Earth.

In fact, it is an island (Horn I.) and its original name was Hoorn Caap. It was thus christened (January 1616) in memory of the port from where the Dutch expedition under Schouten and Le Maire set sail. They had put to sea looking for a passage that made it possible to reach the East Indies without doubling Cape of Good Hope (South Africa) and avoiding sailing the Strait of Magellan that was reserved to the Dutch Company of the East Indies, which had the trade monopoly with the East.

In the town of Hoorn, Le Maire and Schouten founded the shipping company Magellan or Austral Company—best known as “Gold Searcher” Company—and they set sail aboard two vessels in search of another passage. The hooker *Hoorn* set on fire at port Deseado while it was being careened, and they arrived in Indonesia on the *Eendracht (Concord)*. They were caught there because, at first, authorities did not accept the fact that they had discovered another navigable via.

In fact, they engaged in this enterprise because they had the idea that they could be successful. Both Spain and the Netherlands

knew that Drake had navigated the South Seas south of Tierra del Fuego and from East to West. Besides, Spanish pilots claimed that there was another passage. But it was only after this voyage that it was thought for the first time that Tierra del Fuego was an island and not part of an Austral continent.

From then on, the Cape became the greatest of the challenges for all sail navigators and one of the most feared places for all those who have to sail through its meridian.

Steamers managed to skirt Cape Horn. They sailed the Strait of Magellan to make land in Punta Arenas (Sandy Point). Tallships—who still lacked engines—went on doubling Cape Horn in whichever conditions prevailed at the moment.

It is precisely this what made the Cape difficult and dangerous to double. Weather in this part of the world is virtually unpredictable.

There are expert navigators of tall ships, such as Guido Seidel, who claim that most accidents occurred as from the navigation boom that started in 1849 due to the fact that novice seamen were unscrupulously hired or recruited. In 1851, for instance, only six out of fifty-six hands aboard the clipper *Challenge* were experienced. Officers had to keep control of the situation with weapons and the experienced

ones tried to teach others as soon as possible in order to be safer.

The boom in intercontinental trade, migration, and gold rushes were among the causes. The flourishing demand for holds and tickets promoted the recruitment of any man that passed by a port. The situation got worse with steamers attracting skilled labor. As a consequence, in case of storm, most men on board did not know how to weather the situation.

Aspect

Horn I. is the southernmost of the Hermite islands. Its soil is made up of hard peat and granite layers that make it possible arrive at the crag after which the cape is named. Vegetation is abundant and, in the south extreme, there is a 425 meter-high crag which falls to the sea like a steep dark cliff.

Next to the island, black rocks and craggy islets emerge and, near them, reefs make us think about the existence of other mountainous peaks near the surface that must have caused many ships to sink during the typical storms of the area.

The "Monumental Lighthouse Horn Island" is staffed with personnel from the Chilean Navy and, on the eastern side, there is a couple of piers for boats and areas to cast anchor, but a previous allowance is needed in order to sight land.

Navigation to Horn Island

From Ushuaia, sailing ships with four or more passengers set sail to cross the Horn meridian. They can be hired right in Ushuaia, but it is advisable to do it in advance through their agents in Buenos Aires or Europe.

After setting off from Ushuaia, they sight land in Puerto Williams—Navarino I. in Chile—where they get all the papers. As they are Chilean interior waters, an allowance has to be asked for and taxes have to be paid. Chilean Navy ships which take provisions for their bases in Horn archipelago also set off from Puerto Williams. In 1993, for example, the ship *Castor* charged 40 dollar per day and per capita; but departures are irregular and not previously arranged.

The region has a well-deserved bleak reputation. The waves strike against the rocks while the icy wind blows from Antarctica. This island is the first obstacle in its race to the north. Calms are also frequent and during them sailing ships and other vessels approach the island to visit it.

There is a buoy at the Horn anchorage place where ships moor. It is in a small bay with abundant algae, at the foot of a cliff, very near the post.

Visit to Horn Island: The post and Its Monuments

Above the cliff, there is a path built with wooden boards which is a few centimeters detached from the ground. It is useful because, without it, it would be very difficult to walk around this island. The ground is completely covered with "peat," so it is difficult to walk without stumbling, getting muddy, or burying in mud up to the knees.

A path leads to the post and another to a monument, which is not clearly understood at first sight. It is the famous albatross that has been placed there. With an ultra-modern con-



Working at the mainsail in calm. The set of sails was replaced by a heavier one before reaching Cape Horn; later they were changed again.



Catching an albatross at Cape Horn.

ception, it was designed so that the strong wind of the region cannot destroy it. It represents the bird that, according to the legend, is the reincarnation of the ancient sailors and pilots that lost their lives in this desolate region.

Before getting to it, we find two marble columns with astonishing sayings. One of them reads:

"Cape Horn Monument: In memory of the seamen from all nations who lost their lives fighting against the elements in the tempestuous Chilean austral sea. - Erected thanks to the initiative of the Chilean section of Cape Horn Captains, Cap Horniers, on the occasion of the fifth Centenary of the Discovery of America. - Designed by the national sculptor Mr. José Ballse. - Financed by maritime institutions and personal funds and carried out by the Chilean Navy. - Solemnly inaugurated on 5th December 1992. With the attendance of the Commander in Chief of the Chilean Navy, Government Authorities, and members of the international confraternity of the captains of Cape Horn - Cap Horniers."

At the base of the monument itself, there are allegoric plaques and courses to all destinations (Argentina is not included) and plaques of **Australian and Netherlander Cap Horniers**.

Near the post, another monument set up by "Cap Horniers" reads: "*Au nom de L Amicale Internationale des Capitaines Au Long Course 'Cap-Horniers' en souvenir de tous nos passages de Ce Cap. Cap Horn, nov. 1989,*" in memory of those navigators of the "Long Course" who, in long routes to China, Australia or Europe had to face the "Cape" whatever the conditions were.

The Monumental Lighthouse (1902) is situated next to the Navigators' Chapel and next to the helicopter runway. The chapel, with its navigators' virgin, draws attention and makes us think about how small man is compared to the magnificent nature.

Inside the post, on the walls, there are souvenirs of ships, expeditions and navigators. The ceremony goes on with the signing of the book where visits are registered; and books, passports, notebooks, and writing papers are stamped with the famous seal of Cape Horn.

Hours go by quickly while admiring the views such as the "famous teeth or claws" in the Deceit I. or the remains of ships at the base of cliffs. Only the noise of the sea and the wind make us understand that we are in the largest of the sanctuaries of navigators of all ages.

When one of the giant Albatross that inhabit the place flies touching lightly the constructions or the waters, Sara Vial's verses —engraved in marble— make the visitors shiver:

*I am the Albatross Waiting for You
At the End of the World
I am the Forgotten Soul of Dead Sailors
Those who Sailed Through Cape Horn
From all Oceans in the World,
But they Have Not Died
In The Furious Waves,
In My Wings they Fly today
To The Eternity.
In The Last Crevice
Of Antarctic Winds.*

December 1992

Shipwrecks Around Cape Horn

There is not an exact list of the wrecks that took place from the moment the Dutch expedition doubled the Cape for the first time in 1616. All that is available are somewhat fragmentary research works. Below, the ships that were lost South of Cape Horn throughout the 19th C are listed. Professor María Cristina Morandi, from the Servicio de Hidrografía Naval de la Armada Argentina (Naval Hydrographic Service, Argentine Navy), carried out the compilation. For seamen of the 19th C, the surroundings of Cape Horn started as from 50° South. The present work considers the shipwrecks that took place south of the Beagle Channel. The lack of records is due to be fact that this area was not inhabited until short ago. By the time the place was inhabited, the route via Cape Horn had fallen into disuse. Information comes from other vessels, survivors, or is inferred from the lack of news from ships and their crews.

Constitucion or Uribe: Chilean ship that disappeared in a tempest in October 1815. No survivors.

San Telmo: Spanish ship lost in September 1819. On September 2, it was descried by the transport *Mariana*. The *San Telmo's* rudder, cutwater, and major yard were damaged. She disappeared with 622 people on board.

O'Higgins: Chilean frigate sold to the government of Buenos Aires in 1826. It sunk with the 506 people that were aboard.

Perseverancia: Spanish frigate sunk in 1852; the wreckers were rescued by the American frigate *Zenobia*.

Robert Surcouf: French bark abandoned in a tempest in June 1853.

Affghan: American frigate sunk in October or November 1853. The British frigate *Directa* picked up the wreckers.

Manchester: American frigate ruined on 8-8-1854. Two of the wreckers were found by the Argentine brigantine *Meteoro* on 25 May 1855.



Hornos Island. «Cap Horniers» monument.



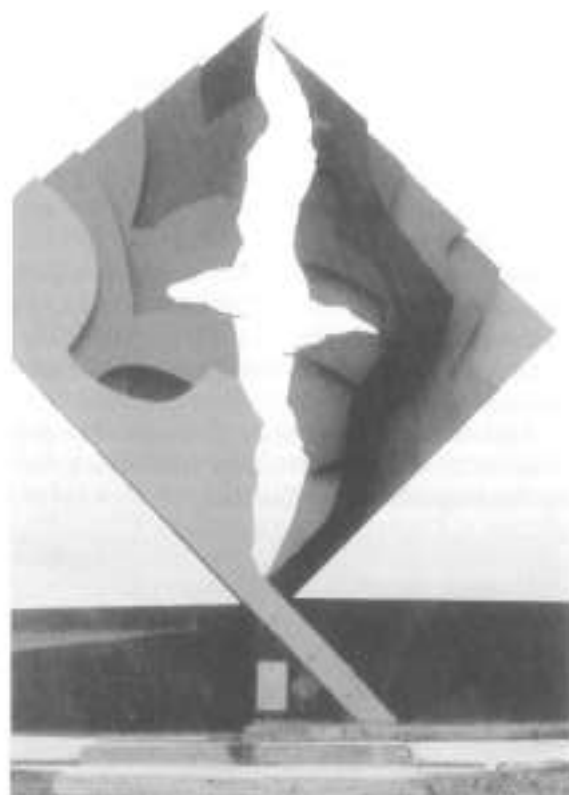
The author coming out of the chapel at Cape Horn.

Condance of Liverpool: Abandoned on 28 November 1855 amid a tempest. Her crew was rescued by the English ship *Haydee*.

John Gilpin: This clipper run against an iceberg in January 1858 and sunk away. Her crew and passengers were rescued by the English ship *Herefordshire*.

Benhard: Danish brigantine sunk on 11-28-1858. Crew saved by the English ship *Esperance*.

Ritterschaft: Wrecked in October 1858.



Monument to the albatross.

Vision: It was abandoned on 1 November 1858 for being absolutely ruined by tempests.

Autumnus: She set on fire and sunk on 27 July 1861. All wreckers saved.

Cubana: She sunk in August 1862; no casualties.

Reporter: American frigate that sunk away in 1862. Thirty-two hands out of thirty-six died.

Siam: French frigate that disappeared in October 1862.

Olesen: Lost in April 1863.

Ship set on fire: Sighted by the Hamburger frigate *Albertina* on 6 August 1863. Her name could not be seen, then she sunk.

Blue Jacket: Set on fire and sunk in March 1864.

Aracan: French frigate which crashed into the English frigate *Ada* on 4 August 1864 and sunk. The whole crew was rescued.

Franck Pearce: American vessel that sunk in 1864. Two of the wreckers were rescued by the English ship *Charles Lambert*.

Lady Prudhoe: British vessel sunk in 1864; no casualties.

Heather Bell: Disappeared in September 1865.

Simon Goble: English vessel that crashed into the American frigate *Union* and sunk immediately after. October or November 1866.

A. Wilson: English frigate sunk in June 1867.

Astral: American frigate that crashed into an island near Cape Horn on 21 August 1867.

Wallasea: British frigate abandoned by its crew in the middle of a tempest and rescued by the Italian bark *E. Granelli*.

E. Granelli: Italian vessel which, after helping the *Wallasea*, sunk. Members of the two crews died.

Dreanought: American frigate which wrecked on 4 July 1868. The crew was picked up seventeen days after by a Norwegian vessel.

Grassendale: English frigate which disappeared in August 1869.

Japon: American frigate that set on fire and sunk on 26 August 1870. Her crew was saved by the English vessel *Cecilia*.

James W. Elwell: English vessel that set on fire when rounding Cape Horn. It was abandoned and its captain, a sailor, and a woman succeeded in arriving in Punta Arenas. The nine remaining people died.

Reserve: French frigate which, in the middle of a tempest, was helped by a Norwegian ship that picked up part of the crew. The captain, the first officer, and four sailors stayed on board to try to save the ship and disappeared on 5 October 1872.

Lola: Nicaraguan frigate sunk in May 1875.

Eugenia: German bark sunk on 21 October 1875.

Le Baron: English ship set on fire and abandoned on 6 January 1876.

Patmos: American vessel that set on fire in January 1876. Its crew was rescued by the British vessel *Pasithea*.

United States: American ship which set on fire and disappeared on 17 December 1876.

San Rafael: English ship set on fire in 1877.

Champion of the Sea: Clipper sunk in 1877.

P. R. Hazeltin: American frigate lost in the Wollaston in February 1878.

Annie Richmond: English barque last seen at high sea bound for Cape Horn, May 1878. Everybody missing. Apparently, this is not the *Anne Richmond* from which Commander Don Luis Piedra Buena picked up wreckers on the shores of Golfo Nuevo (Chubut, 42° 30' South) on 5 October 1877. He left them in Chubut and then picked them up to take them to Buenos Aires on the schooner *Santa Cruz*. The Brit-



The sailing boat 'Callas' opposite Cape Horn.

ish Queen presented him with binoculars with an acknowledgement plate.

Wasdale: Wrecked in June 1878.

Delaware: English vessel set on fire on 26 December 1881 and abandoned.

Roseneath: English ship wrecked on 12 May 1882. Her captain, aboard a boat, was rescued by a German steamer. The rest reached the coast and were killed by the Indians.

Oracle: English frigate wrecked against an island near the Cape on 7 March 1883.

Oberon II: She set on fire opposite the Cape and disappeared in 1883.

Parsifal: Lost in front of the Cape in 1886.

Artist: English bark that set on fire on 3 November 1887.

Malborough: English bark of 1,191 tons. Sailing from New Zealand and bound from Great Britain, she was lost with a cargo of gold, meat and wool in 1890. She belonged to the Shaw, Savill/Albion Company.

Oliva Branche: English frigate wrecked on 11 August 1891.

Wamphlay: English frigate wrecked on 19 October 1891. One of the members of the crew disappeared.

Marta Lopez (1891): She wrecked in Sloggett bay. Chartered from Punta Arenas, she was to call the various mining and cattle settlements. She dragged anchor because of a south-eastern storm and ended up on the beach. Due to an unskilled maneuver, the lifeboat went under the keel and Captain Knaakb and ten hands died.

Amy: Danish vessel wrecked in August 1894.

Bron Carlo: Italian vessel that run against the English *Condor* in September or August 1895. She sunk and her sixteen hands died.

Bankville: English vessel sunk in April 1896.

Comandante: English frigate wrecked in May 1896.

Drumuir: (12-6-1914). Three-masted English vessel caught and sunk during WWI. After the victory in Coronel battle over British Admiral Graddock's squadron, Admiral Von Spee knows the enemy is perfectly aware of his position. Therefore, he decides to double Cape Horn and venture toward Malvinas in order to make an attempt to destroy coal depots and broadcasting facilities. During this operation, he catches the *Drumuir* on 2 December 1914. The English vessel was carrying 3,000 tons of coal, which the battle cruisers *Scharnhorst* and *Gneisenau* were in need of. With the caught vessel, they head for a bay on Picton island (Banner Cove) where the cargo was transferred. On December 6, they sink the English vessel in front of the island.

These days Admiral Von Spee decided to waste marked a turning point in the war. Instead of heading strait for Malvinas and confronting the reduced British fleet, he let cruisers *Invencible* and *Inflexible*—both with liquid fuel—and others arrive in time.

Therefore, the fate of practically the whole of Admiral Von Spee's fleet was sealed as the English fleet surrounded it.

Oldembug: 1926. German vessel wrecked in the surroundings of Cape Horn when losing her masts in a storm.

Pinass: 1929. German vessel lost in the surroundings of Cape Horn.

In most cases, fires were caused by the self-combustion produced by the coal cargo. On this list, those ships which wrecked either near Isla de los Estados or in Tierra del Fuego are not included (Publisher's note; this work is complemented by the map "Naufragios del Cabo de Hornos, Isla de los Estados y Península Mitre," issued by Zagier & Urruty Publications).



Cape Horn; chapel and lighthouse.

Don Luis Piedra Buena and Isla de los Estados



Don Luis Piedra Buena.

A lot has been written about Don Luis Piedra Buena and I think that for any reader keen on subjects related to the Austral seas or the south of Patagonia his name is well known. He sailed a lot in the region and became the first Argentine in exercising the sovereign rights in the South Atlantic, Isla de los Estados, and Santa Cruz. He occupied them pacifically and set up his establishments.

After a brief biostatment, we will transcribe literally part of his journal as regards the wreckage in Bahía de las Nutrias—that we have identified as corresponding with the present Franklin bay. The works conducted by the Maritime Museum of Ushuaia will also be expounded.

As for the cutter *Luisito* and its drawings, these were studied by experts in the design and building of vessels (Don Manuel Campos and Horacio Ezcurra). Later, the studies were presented to several museums of the United States and Europe to hear their opinion. They contributed with further information and the main conclusion, that of the experts from New York (where Luis Piedra Buena studied and sailed), is included.

Some Biodata

Miguel Luis Piedra Buena was born in Carmen de Patagones on 24 August 1833; his parents were Miguel Jerónimo and Vicenta Sabina Rodríguez. Apparently, his taste for nautical activities must have started when he was still very young since, when he was just 9, he embarked as a cabin boy on pilot's boat commanded by Mr. Lemon in 1842. Although the final destination was New York, he disembarked in Buenos Aires due to the mistreatment to the crew from the part of the captain.

With the help of a friend of this family, captain James Harris, he graduates from primary school and goes on getting familiar with navigation. Back in Carmen de Patagones, he builds a small cutter on which he sails along the river. Again, he embarks as cabin boy on the *John E. Davinson*, which belongs to captain William Horton, "consul" Smiley.

This moment marks the beginning of the career of the cabin boy Miguel Luis Piedra Buena as seaman. He will become an expert in the hunting of sealions and whales in the rough Austral sea. This takes him to sail around Malvinas islands, the Fuegian archipelago and

even the Antarctic Peninsula. It is in these waters that he toughens up and is promoted in rank.

Thus, he became the protagonist of events such as the attempt to rescue the Anglican missionaries that, finally, died in Español harbor (Aguirre bay) and, with a whaler, he rescues fourteen wreckers on Isla de los Estados.

His Studies in the United States

Captain Smiley helps him to enter a nautical school in New York in which he studies until he gets a pilot degree. Parallel to these studies, he learns carpentry, foundry, and becomes sailmaker in the workshops that surround the school. There, the fast cutters that patrolled the coasts of the eastern region of the United States were built. These vessels were also used by smugglers and the mail service. They had the advantage of being the fastest sail vessels of that time and they were very seaworthy and easily handled requiring a minimum crew to be steered.

During his stay in New York, Piedra Buena embarks on a schooner (the *Merrimac*) which, commanded by captain Smiley, will sail around the Gulf of Mexico, Cuba, Haiti, Puerto Rico, and the eastern coast of the States. He arrives back in Buenos Aires three years later (1858) as the first officer of the brig *Nancy*, owned by "consul" Smiley.

His Activity as "Sealer"

Back in Buenos Aires, he takes over the command of the schooner *Manuelita*, also owned by his friend Smiley and resumes navigation in the southern seas in search for sealions. The following year, 1859, he goes on with his work along the Patagonic coast, Islas Malvinas, Isla de los Estados, and Tierra del Fuego. On one occasion, he sails up the river Santa Cruz and on Pavón island (he named it) and installs a mast with the Argentine flag.

As commander of the *Nancy*—on which he mounted three cannons—he went on sailing in the South Atlantic and, without intending it, we became a natural defender of the Argentine sovereignty. With the building of a brigantine he intended to defend himself from other "sealers" who combined their activities with "racking"—the plundering of wrecked ships—and, on many opportunities, of survivor. We can

regard them practically as pirates. According to his own version, these men based their activities both on Malvinas and in Punta Arenas.

By saving wreckers, hunting sealions, defending himself and expelling other foreign "sealers," he started to take possession of the Austral Sea on behalf of Argentina. Day after day, he acquired this position through deeds such as the setting up of a hut on Pavón island (1859), later another in Cook harbor (Isla de los Estados, 1862) for possible wreckers and as shelter for his men engaged in the hunting of penguins and sealions. In 1863, he left a message on Horn Island saying: "Here is the limit of the domains of the Argentine Republic. On Isla de los Estados (Puerto Cook) wreckers are helped. Captain Luis Piedra Buena. Nancy 1863." It is also said that he hoisted an Argentine flag made of copper sheets on an iron mast.

Luis Piedra Buena and the National Sovereignty

Piedra Buena also gets acquainted with cacique Casimiro Bigúa and they become friends. The seaman shows Bigúa how the Chilean were taking advantage of him to hoist their flag in his *toldertas* [Indian camp] and, in this way, penetrate the Argentine territory and set a precedent by a de facto occupation. This was done in exchange for provisions and some position in the army.

After meeting president Bartolomé Mitre, Casimiro Bigúa—who later on would become the cacique of all the "Tehuelche" people—and in exchange for a post (lieutenant colonel, in 1864) and provisions for his people, he returns to San Gregorio with Luis Piedra Buena. He comes back with the title of "General Cacique of San Gregorio," place where the Argentine government planned to establish a colony, and everything is organized to receive wood and implements to build houses. The idea was to occupy the place with the cacique's people and thus stop the Chilean advance. Unfortunately, materials never arrived, partly because of the



El Carmen toward 1879 (according to Commander S. Albarraçin).

negligent attitude of the national government (change of administration) and, later on, because of the war against Paraguay (1867).

As he received no salary, Piedra Buena—named Honorary Commander of the Navy by B. Mitre—had to take up his activity and purchased the brig *Carlitos* that, chartered from the Malvinas islands to Montevideo, sunk with the cargo shipped. This, added to other economic setbacks such as the confiscation of a copper load by an English war ship, make him fetch the *Nancy*, now renamed *Espora*, to engage completely in sealion hunting. For his operations he also used the *Julia*, a small vessel of about 20 tons.

In August 1867, he hired G.H. Gardiner to explore (at his expenses) the river Santa Cruz up to its source (sending the journal and sketches to the national government); and, in 1868, he virtually founds a colony in "Las Salinas," on the south banks of the river Santa Cruz.

Isla de los Estados

As an skilled seaman, Piedra Buena knew that he could have some accident in those latitudes any moment as charts were not enough and incomplete, so he had to guide himself with the sketches of his own surveys. This is the reason why he not only took care in building huts and leaving messages indicating where to find help but also in leaving provisions that, in many cases, were goats. So, on each of his voyages to Isla de los Estados, he used to take



Family group.

some animals and, nowadays, thousands of them are found there.

In October 1868, he asks and obtains from the national government the property of Isla de los Estados. Law 269 establishes: "Navy captain Don Luis Piedra Buena is granted the property of the island named del Estado, situated in Cape Horn, in the

Eastern extreme of Cabo San Diego, and three leagues wide EN on the river Santa Cruz, and four, or whatever length, Isla Pavón being included in the mentioned three leagues, as well as the small adjacent islands and the populated salt mines." (The State buys this land from Piedra Buenas' inheritors on 19 March 1912 through Law N° 8940, 34 years later.)

At this stage of his life (and of events), Don Luis Piedra Buena devotes much of his time to the defense of sovereignty. His business voyages constantly mingle with the rescuing of wreckers and acts that replevy Argentine sovereignty.

The situation between the two countries (Argentina and Chile) is such that he is called to Buenos Aires to counsel the Congress and later, in 1878, he enters the naval roll as lieutenant colonel of the Navy but with the salary of a sergeant major. He went on actively engaged in activities related to the Argentine Sea, training officers, carrying out expeditions, and advising the national government on subjects related to Patagonia and Tierra del Fuego until he died in 1883. (In 1882, he was the military chief of the expedition of the Instituto Geográfico Argentino/Argentine Geographic Institute, whose scientific head was Giacomo



Constructions at Las Salinas.



House on Isla Pavón (1868).

Bove, then he devoted himself to plan the expedition of the South Atlantic Expeditionary Division, but he died before it started.)

But, back in 1868, the period we are interested in up to 1873, when he loses the *Espora* on Isla de los Estados. Luis Piedra Buena decides to settle down in Punta Arenas and opens a general store where he sells nautical articles. At that time, the town was constantly developing but this stopped with the opening of the Panamá canal in 1915. Anyway, he goes on "sealing" and decides to establish a factory to extract oil from penguins on Isla de los Estados. For this purpose, he takes several of his men and leaves them on the island. One of them is G. H. Gardiner, who left a juicy journal about his long stay on the island, which we have transcribed in the book *Isla de los Estados y el Faro del Fin del Mundo*, issued by Zagier & Urruty Publications.

Below, we reproduce the journal Don Luis wrote during his wreckage on Isla de los Estados. He relates how he went on sailing, sealing, and rescuing wreckers with his cutter *Luisito*.

Luis Piedra Buena and His Wreckage on Isla de los Estados (1873)

(This journal is a copy from the original transcribed by Cándido Eyroa, who was a friend



Present restoration of Don Luis' house on Isla Pavón.



Comander Cándido E. Eyroa.

of Luis Piedra Buena, his first biographer and was close to his family as well.) It is worth mentioning that many of the existing versions of Piedra Buena's journal have been "completed" by authors that changed facts and added fantasies of their own and came to inaccurate conclusions.

From the very beginning of his account, Luis Piedra Buena plainly demonstrates that he was both a good navigator and a good carpenter. As he needed an extra boat to work, he decided to build one while he was sailing from Punta Arenas to his "Island." Other seamen would rather read a book or find shelter for their sickness in their cabins.

Voyage from Punta Arenas to Isla del Estado

Today, February 12th, we set sail with W. fresh breeze and anchored at Chabunco, where I had my tacho [sort of cauldron], which we took that same afternoon.

13th SE fresh breeze during the early hours. The weather cleared up at 12. We set off and anchored at San Gregorio with S strong breeze.

14th Today we were anchored at the same harbor with SW strong breeze.

15th I moved to anchor at the primera Angostura [First Narrow] to wait for José.

16th I beached the ship to fix her and, being still beached, José came carrying a sack of



Sea lion slaughtering on Isla de los Estados. Cape Colnett (1930/40).

beans, 2 *id.* hardtack, 1 of coffee, and an appreciated letter from the old lady. I answered the letter after work.

17th The ship is ready. We placed the rudder; she was steady and the bottom was clean, but unfortunately the barge left with SW strong breeze during the night. We put the ship afloat and we were ready to leave.

(He took advantage of the opportunity to clean the bottom of the *Espora*, former *Nancy* owned by Smiley "the consul"; apparently there was still some trouble with the rudderstock.)

18th (February) We set sail at 5 a.m. and José did so with the small launch. We greeted each other at 7.30. He sailed on for Gallegos with the new settlers in order to take possession of the mentioned port on behalf of the Chilean Government. And I went on sailing off Punta Posesión heading South bound for Isla del Estado to slaughter squabs for oil while building a boat as I had lost the other. I descried the Southern point of San Sebastian, 15 miles away, at 8. (Sealing vessels of the 1800s used to take some good carpentry equipment since minor vessels—boats, whalers, and barges or prams—were needed to work. These were usually lost while working in rookeries or unloading on beaches with breaking waters. Larger ships also used to carry spare disassembled vessels.)

19th Day broke at Punta San Isidro with little W wind. We started working on the barge at 5 a.m. At 2 p.m., wind cooled down from NNW, rather strong, and we had to stop working. At 5 p.m., we descried Isla del Estado but, seeing

that we would not arrive until the evening, I laid to opposite Cabo San Vicente. (Laying to implies maneuvering as needed, with sails and rudder, in order to try to keep stationary and not to move; it is a very usual procedure sailing boats use with bad weather or strong adverse wind or when one does not want to enter port because of poor visibility or because the place is unknown or because safety measures are not enough.)

20th When day broke, we were practically in the same site, but wind was not enough to cross the Strait because of the running current. We were delayed up to 12, when NW fresh breeze started to blow and we went on on our way to Crosley Bay. On entering it, wind calmed down and we had to anchor at high risk, but southerly wind favored me. We set off and anchored at Bahía de las Nutrias. We killed the poor kitten as we failed to see it under the barge we were building: poor Beta!

(He does not mention the risk of losing an anchor.)

The Oil Factory

21st We set sail (from Bahía de las Nutrias to the rookery; it is obvious that this was not near because he needed the *Espora*) with fresh breeze bound for the rookery, but breeze was so strong that it broke the foremast and we had to return to the harbor. We anchored at 12 at B. de las nutrias. In the afternoon, the barge we built sailed for land with four hands and she was washed at breaking waters. Fortunately, nothing happened.

22nd (February) We set sail again with NW wind; we were anxious to get to our destination because slaughter time is approaching. At 5 p.m., we found what I expected—the birds on land. With those millions of small animals great things could be done, but I cannot because of my situation. At 6, we went on land with the tacho and I left the men there.

23rd We went for land early, we cleaned the vat, and we put everything away. The cylinder had steam by 3 in the afternoon. 300 birds were killed and the vat was loaded at 7 and we came on board because she was not fastened. (In this area, ships usually anchor and are fastened on land either to a rock or a tree. Thus, the ship keeps her position and does not move with changing winds. On this opportunity, he goes aboard worried about the safety of the ship as she is not fastened, but he leaves the "vat" melting fat.)

24th Today we got the first trial vat with 250 birds. The boiling was so so. We unloaded it and we went to kill more birds. Later, we loaded it with 550.

25th We unloaded it, although they were not so done, they were so so. We loaded it with 600, half of them skinned and half with skin. We also used the pot in order to be able to work with both the cylinder and the vat. From my point of view, this worked well. There are many birds, but time is short. Only God and I know how much we suffer working.

26th In the morning, we had to fix the boat, fetch some firewood for the factory, water, etc. We went to the factory and boiling seemed to be all right. They did not take long in fetching me. We went aboard and we unwound the chain and we took the ship slightly out. The wind calmed down completely. Today we did practically nothing.

27th During the first hours of the day, we were engaged in entering the ship to the Bay to moor it, but as wind was so changing everything was in vain. Later, we left for the factory to assemble the press and get the paths ready to herd the birds. We killed 450. 200 gallons have been already obtained with the vat. The pot is ready and, as we cannot stay on land because the ship is not safe, we cannot go on. We have 1,200 skins ready.

28th A strong SW gale came at 5 in the morning. I had to let the cable end go and go inside. Although this bay is open and has no shelter for this wind, it has a sandy beach where one can beach in case of a misfortune, when outside wood would not be useful not even for matches. We were very well, but we could not fasten the ship properly because of bad weather and few people. During the night, wind calmed down.



Gregorio Ibáñez, the second to Don Luis Piedra Buena.

Loss of the Boat (SW Gale)

March, 1st At 4 a.m., wind changed and started to blow strongly from the N and it pushed us out and we had to anchor where we had left the anchor. While leaving, the rudder tiller was broken and it was fixed and the chain suspended. In the night, it was practically calm.

2nd At 5 a.m., SSW sea breeze started to blow and it went on until 2.30 p.m. (The aneroid 76-35. Clear weather with some hail squalls).

3rd I left Smith on land at 6 a.m. with difficulty as the sea was so rough to finish with the slaughtering and to do what I could. Weather, worse and worse, I could do nothing. We are a few and we cannot run the factory and the schooner.

4th Southerly strong breeze still blowing, and we cannot go to land to work.

5th Wind turned to NW, and I could disembark. We have very little firewood. I sent a boat to fetch more. When they were near, fresh breeze started to blow from the SW. Half an hour later, from the NW. The boat arrived. Firewood was being disembarked and when they were about to finish, the sea hit and sunk the boat with its three hands completely. There were no casualties; as I was on the beach, I immediately helped them with ropes. The boat sailed out and he could not manage to get hold of it. About half an

hour later, wind started to blow from the South. The boat going away. Strong breeze and rainy. The people soaked through.

6th I left early with three men on a leather boat I had for the river, as walking across the hills is very distressing because of height and the thick woods. We saw many birds that still could be caught, but people were discouraged thinking they were almost lost. At 10 we left on the boat for the river. I went aboard, we took oars and we left to look for the lost boat. It was at the spindrift, all shattered, NW wind. I waited on board until the sea calmed down a little bit and we went to look for it. As the boat was turned down on stones, there was nothing left but the bottom. As soon as we got aboard, I put it on the deck and started to fix it. The stones being quite sharp and the sea rough, I could not go to land.

7th The day broke with N wind, but it was so strong that it was impossible to leave on the boat. I engaged in putting people and oil in order. At sunset, we finished with the boat planking. Weather calmed down. Apparently, on land they are busy frying oil in the tacho. The vat has no fire. Wind is turning South.

The Wreckage

8th Today wind was variable and it turned all the compass round. Rainy, but moderate. We finished with the boat at 3 p.m. (They had rebuilt the boat lost on the rocks in two days' time.) We were about to launch it, when wind came from outside. The tacho goes on working during the day, but I think it will not be able to go on as weather is rainy and there is little firewood. We have not been able to moor along.

9th SW fresh breeze. The sea is rough at the factory dock. The factory has 500 birds, but it is not working because of lack of firewood. In the afternoon, we lowered the boat and left for the river to look for firewood. We took it on board as we could not take it to land. SW wind with heavy snow and hail squalls.

10th At midnight, wind started to blow violently. We put buoys to the anchors, and, at daybreak, it was as strong or even stronger. We noticed that the largest anchor had no stock and could no longer resist and only the small one was holding us and it always dragged a little. Fearing not being able to turn round, and the sea being so heavy, I decided to let the anchor go and strand the ship on the sandy beach, but unfortunately the ship laid to and strikes made her lose the oakum so that she sunk. The only thing we could do was to save supplies, which we took to land. Celestino came from the factory.

The following is a brief analysis-comment which is the result of the visit by the sailing boat *Callas*, owned by Jorge Trabuchi, in April '97: the *Espora* beaches on Bahía Las Nutrias, which is a bay open to SW winds. This is not Crossley bay as this one is completely sheltered from winds coming from that quadrant and is characterized for lacking interior coves, except for one which is exposed to northwesterly or northerly winds. The only one we have found with a sandy beach and exposed to the SW is Franklin bay. In fact, there are a few sandy beaches: Puerto Roca's, extensive and wide; in Bahía Flinders (open to the north) we find Caleta Baiud, low-gradient wide and short beaches; and Bahía Belgrano, extensive and wide with a large river, where there was part of a side of a rather large wooden ship; Crossley bay with a large beach at beacon Cap. Zaratiegui and many shipwrecks remains and short and narrow at beacon Tte. Palet. The rest are stony or have steep coasts. One more detail: the rookery is not in Crossley bay simply because there is no rookery there except for some islets where we do not think penguins could nestle given the fact that they are exposed to the sea.

Both in Crossley and Baiud, and especially in Franklin, there are many remains of wreckages. In the last one, there is even a river—with a sunk vessel around 8 meters long and very old—to which one can enter on a boat from the sea. This is the only river on the island which nowadays one can have access sailing a boat. Another important river is that of Puerto Roca, but a boat coming from the sea cannot enter.

The beach here is essential since the *Espora*, stranded on the beach, was considered to be lost only many days later. On the other hand, there has to be enough room to build a 11-meter long vessel and to settle down.

This leaves Isla Observatorio aside as it has no sandy beaches and it has a beach which goes up 20 meters (Braún Menéndez's and Ratto's view); let alone Hoppner, which has no sandy beach with a stream or river (Cap. Botta's version). Excerpts from the book *Isla de los Estados y el Faro del Fin del Mundo*, Zagier & Urruty Publications.

It is worth mentioning the fact that during this visit we had the feeling that this could be the place, but personally I was not certain. When we found the remains of a vessel, at low tide, we thought it was something small rather than the 20 meters long one we could see on other trips.

11th Today we started to put supplies in order. Weather had calmed down, but the sea was too rough to do something. I noticed that

the ship was not broken; she was just shaken by the hitting of the sea.

Trying to Get the Ship Out. A House is Built

12th *Smith is ill. We fetched the stuff that was on board. We took the chains out of the holds and we arranged the pumps to try to move the ship bow out on the following day. We left a chain on land. All buoys were all right.*

13th *In the morning, we went aboard. I caulked toward bow as much as I could. We tried with the pump, but it was useless; I had to give up. We placed rigs at the masts and we straightened her; but the rigs snapped during the night. Nevertheless, in the morning, she was straight.*

14th *We went on board in the morning and, as the ship was straight, we found it easy to tilt it on starboard. So I had the chance to half-caulker the left side but, everybody being at the pumps, we could do nothing but hold with all our strength; and seeing that we would not stand more than an hour. This is why I decided to put off the works. People think the ship is lost—I do not. Anyway, we are cutting knees for the vessel we intend to build. People is already worried.*

Another man fell ill today and we are just six left. D. Celestino, who was to file axes and cut knees, did neither of the two; so, out of the eight we are, only five were working.

15th *As the weather was so cruel and rainy, and everything being wet, mattresses and clothing. I started to build a little house for them not to fall ill any more. Today, it was dry but windy. W wind. At sunset, we finished with the roof and I put a piece of canvas on one side. Three of us slept in the hut.*

16th *We started with the house in the morning. A very rainy day. The aneroid was at 73°, the lowest we have seen for the time being. We could not work on the ship. Two men were sick, and I was not feeling well because of my illness, but I had to stay up all the same. I made the supplies to be brought to the house. A sack of hardtack got wet. In the afternoon, we placed the keel for the vessel. It was 33 feet long.*

Building a Cutter

17th *Day broke with a strong gale that prevented work. It rained and snowed. We engaged in making rag. We could cut the bow post. The vessel's scale was keel 33 feet long, beam 13, depth 5, stern 7, bow 8.*

18th *The aneroid went up to 74° today. The day is windy, but it is not raining. W wind. We placed the bow and stern posts in the keel and*

we put one knee up in the middle. The sick are barely better.

19th *Today, the aneroid stayed at 74°, and there is fresher W wind. Works on the vessel go on slowly. We only bolted six boards. We started to use the large saw but nobody was experienced at using it. The ship is ruined. When the water rises, she moves, but the difference between high and low tide is so little that I cannot neither caulker the visible joints nor place the hull below. I hope this moon goes away so that I can have another look at the bottom. Now a gale is blowing. It is 7 in the evening, clear W. wind. (It is interesting to see how he builds the cutter *Luisito* without giving up the idea of rescuing the schooner. It is obvious that he has not used timber from the schooner yet, but the one he took on board for repairs or buildings and timber from the woods; such as the knees.)*

20th *Day broke with freshening wind. It can be said that the ship was not damaged by the last storm. The sea has been calmer, but we cannot work because of tides and strong breeze.*

21st *Today the weather was so so. Fresh W breeze. I placed 14 boards; I would have placed more if I had somebody to help me. Two are ill, two are sawing boards, Celestino is not a regular worker; he only works from time to time and it seems that he is unwilling to work.*

22nd *The day broke fine, no wind. We worked all day long on the vessel up to 4.30 p.m., when it started to rain. The wood-work is slow. The saw is of no help because nobody knows how to use it. Therefore, boards are rather bent (they must be sawing them from a chock or main plank). The aneroid went up to 75° 80. Thermometer 42° F. (6° C).*

23rd *SW fresh breeze rainy and cloudy. The aneroid 75° 90. Today, we were working on the vessel, two shaping knees and four logging. (Obviously, they fetch timber for the cutter.) Thermometer 43° 52, aneroid 75° 85. The weather looks really bad.*

25th *South wind, force 8. Cloudy. Aneroid 76° 25. Thermometer 43° 2. Today, we worked on the vessel. It is impossible to do anything with the ship because of weather (he refers to the *Espora*). She is coming up on the bank, where I will be able to fix it easier if weather improves (he has not given up yet).*

26th *Today, the weather improved and we worked on the small vessel. We could not stay by the schooner.*

27th *We started to line. Another man fell ill, so Smith, who was rather bad, had to come to work and D. Celestino, who was not so ill. We are running out of supplies and we do not know which of the two vessels will be out first (he is*

still thinking of rescuing the schooner apart from building the cutter). We have to work because winter is approaching.

28th Weather is fine. We worked on the vessel.

29th Weather was fine at dawn and it stay like this up to 5 am, when it started to drizzle heavily. We stopped working. We lined more than half the vessel during these two days, Smith on one side and I on the other. The wind turned to SE.

Sunday, 30th Rainy NE fresh breeze. Aneroid 75° 10. Thermometer 44°. The schooner is quite higher and we can work on it, but the difficulty lies in the tar for large joints because the rag would come out. And the anchor as well, because we will not be able to take it out until the launch we are building is ready, which I think will be within 20 days if weather is fine. (He still has the fixed idea of saving the schooner—maybe he does not give up; he calls the cutter "launch" and he is going to use it to retrieve the anchoring. The term launch is and was used to name the sailing boats from southern Chile.)

31st Today we placed all the upper timber and planking. Being dry and without strong wind, the day favored us. We started to ready the wales. Celestino, lazy as usual. He thinks of his belly, and I think it would not be bad to divide hardtack and meat. We have got 6 barrels of meat, 3 sacks of hardtack, 4 of flour, about 60 pounds of sugar, 50 pounds of rice, 40 of coffee. They eat well and work very little. Aneroid 75° 60.

Penuries: April, Rain and Wind

April, 1st N rainy strong breeze. Thermometer 44. Aneroid 74° 25. We go on working on the launch. At 10, we stopped working because of bad weather and we started to open rag.

2nd We worked on the vessel. It was a fine but cold day. We managed to place 5 stays of the deck and we worked until sunset.

3rd Today, we worked on the vessel all day long, but not with enthusiasm although works went on well. The day, rainy. I worked until the evening. We still have enough supplies and the vessel is half ready. We opened a sack of hardtack today.

4th A rainy but not too windy day. We were busy in lining the deck of the vessel.

5th The day broke very windy and sand prevented us from working comfortably; still we worked until the evening. The aneroid was 74° 85 at 7 p.m. Thermometer 45° 5. NW wind and cloudy. We started to ration hardtack, i.e. one per person for each meal (food was rationed).

6th We worked on the vessel. It was a fine day and we went on until the evening.

7th We started to place the deck. We put half of it and half the hatchway of the chamber was covered. It rained in the morning and it cleared up in the afternoon.

8th Rainy day. We worked on the vessel. We also shared out some hardtack. Each one had 5 pounds. We will see how long it lasts.

9th The day broke beautifully with clear W wind. We cut the sail and we started to make it. We went on working on the vessel and we finished with the deck.

10th Weather was awful in the morning. We could work in the afternoon. I went aboard the schooner and I brought the rudder, which had a broken pintle. The schooner is always full of water so we cannot work on it.

11th Very strong Southerly breeze with rain and snow. We could not work on the vessel. I assembled the bellows to melt the rudder pintles.

12th The day broke with S strong breeze but less rainy. Dark and cold weather. After the storm, it seems as if the ship were higher. The people is not interested; they are busy building the vessel and not helping me in getting the schooner out, so I still do not know what shall I do (Luis Piedra Buena is still thinking of working on the schooner, although the rest is not).

13th Weather was fine this morning, but at 2 it was upset and it started to rain. We tilted the vessel to start with the bottom and with the caulking of the deck. Today we shared out more hardtack.

14th In the morning, weather was quite good but cloudy, we finished with the bottom on one side and we finished caulking the deck.

15th We started to fix the double bottom. It was a clear day with N strong breeze. We worked all day long and we caulked the first bottom.

16th Very strong S gale. Tonight, it took all planking and everything we had on the beach. Tide has been the largest I have ever seen.

17th We started to gather everything we had lost. Violent Southern wind and raining very heavily. The schooner is higher, but we could not get on board.

18th Southern breeze was rather strong today with rain and snow squalls. We only worked for a while in the morning. With this weather, the aneroid ranges from 75° 5 to 76°. The sea works against the schooner, but not strongly.

19th Weather in the morning was still heavy, but it calmed down in the afternoon and I could go on board at half-tide to take some planks to finish with the vessel we are building—I noticed nothing outstanding on the ship. We took some planks and as it was at flood half-tide we

had to go back to land because tide rises and ebbs through the joints, which are all open, as outside. Hardtack was shared out and meat was handed over. (At this point, it is very clear that the planks were on the *Espora* and that they were not part of the schooner.)

The *Espora* Is Abandoned. Getting the Cutter Ready

21st Day broke with N freshening wind. The sea ebbed. We went on board to shackle off the chain that was preventing the ship to head for the sea, and I saw that a plank on the left side had loosened and that several of them on the right were not nailed. We loaded the boats with planks and brought them to land. A heavy rain started at 10, but still we worked late. The ship? —I don't know. We have nothing to fix it properly and the weather prevents us from doing so and we have no supplies for the job. The ship is old and the fastening does not stand. (He is starting to give up, but the *Espora* is still complete, i.e., up to the moment it has not been broken up to build the *Luisito* although they were taking planks from it; it might be the double sheathing or simply wood they usually took to build barrels, a boat, a shelter or even to repair the schooner.)

22nd Today, we tilted the vessel on the other side, and everything was ready. NW fresh breeze, a little bit rainy. We worked all day long.

23rd The day broke with N fresh breeze, and we went to the factory for planks. We brought about 15 planks. The factory looks in ruins, the roof is on the pan. The oil moved because of the awful storm.

24th We finished fixing the outside first sheathing and we caulked it. It was a fine day, W clear wind.

25th SW strong and clear breeze. We planked the side and put the keelson. I started to mould the rudder pintle. The aneroid dropped to 73° 30. Thermometer 43°. It rained from 12 to 3 p.m. (He even made the rudder hinges without using the schooner's.)

26th SW wind and rainy. We worked a little.

27th SW fresh breeze. We've just planked and caulked everything we have fixed. Three ducks were killed. The weather turned rainy.

28th SW freshening wind. I was molding the rudder pintles. We worked on the vessel putting hatways and the keelson. The weather, awful and snowy.

29th Strong S wind with a lot of snow in the morning; it cleared up in the afternoon. We finished caulking the whole vessel. We also started to lie the chamber floor. The mold for the pintles is not good because the ground was

bad. We did not go on because there were no more planks.

30th N fresh breeze. I ordered the boat to bring planks, the mast and the rigging, while I was fixing the rudder and pintles. So I think the vessel is ready today. (Now, they did go for the yards and mast of the schooner.)

May, 1st Fresh NE breeze. They went aboard, they brought ropes and some other stuff we needed and we lay the chamber floor. Rainy day.

2nd W fresh breeze and a fine day. I fixed the rudder and they fixed the rigging and the mast.

3rd It rained all day long. I made the floor and we fixed the mast to fasten the chain and the poles to throw it to the water. It is completely ready.

Indiscipline

4th The day started with very bad weather, N freshening wind. We brought an anchor for the vessel. The people is naughty finding fault in which they would not know how to do, both because of bad weather and their skills. I always go on working without getting mad at them as they are those people who think they know more than others and they haven't got the slightest. When one tells them to do something, they want to do otherwise. In the evening, they do and undo everything (commenting) and, in the morning, they wait in bed for the coffee escaping from work. Some want to do something; others, otherwise, and time goes by. Don Celestino threatened with setting the vessel on fire because he was not working doing what he wanted to. I told him what he had to do, but he soon gave up, so we are only two working steadily.

5th Today, we started by trying to launch the vessel, but she had not the masts I had ordered; besides, they did not tie the fall to the firm stone but to a grapnel in sand without securing it. Carlos started to say that everything was in the wrong place and that he was going to chop the vessel up with an axe. Finally, I made him shut up and he went to fetch the poles with the rest. I ordered Celestino to make the pump. When I came back, he had made only a stove. We stopped working because the water was rising and it was snowing heavily. SW gale.

The Launching

6th N wind. We took the launch to the shore. As the sand is so soft, we could not take it further out. (Soft sand beach.)

7th N fresh breeze. We took it a little bit further. Six of us slept on board.

8th S very strong breeze with snow and rain. We could not work. The 8 of us slept on board.

9th *The same wind as yesterday, very cold. The anchors dragged, still we made them work, and when we were in the best, the rigging snapped and water started to rise. The beach is very long and the sand is soft, so we have to work a lot. (This description suggests the beach of Franklin bay; we have to bare in mind that it took them four days to take the cutter to a place where it could float using riggings and poles. This makes one think of a beach with little gradient, such as Franklin's or that of Baiud cove.)*

10th *N wind. The day was fine at first. The people are always arguing and disagreeing among them. Carlos and Celestino had a row and if we had not been there, they would have fought. Carlos said that Celestino was not helping and that he would go on the boat like the rest and that we were in a dangerous place, and Celestino replied that he was not working on the boat because he had to prepare bread. Finally, we calmed them down. We put the boat to water and I sent him to the factory to fetch the meat. Today, we also took the vessel a little further out up to a point we thought it would swim with high tide.*

11th *At daybreak, the day was fine and it went on until the evening. With the afternoon tide, the vessel could swim and we went out further. Carlos is behaving like the boss. This morning, he shattered the berth of one of the others. I don't know if he wants to run a riot; he is always threatening them.*

12th *It was another fine day. We fixed the mast. Carlos always getting into trouble with everybody.*

13th *W fresh breeze. The sails were bent and two packs of zinc and the pump were brought, because it made a little water; this was boarded in the afternoon.*

14th *Another fine day. In the morning, the tank, supplies, water, and firewood were taken on board. A strong SW gale with snow and hail blew during the night.*

15th *We went on land, we gathered more firewood and we brought some stuff, but the weather was awful. The schooner is completely useless, the bow has broken and it is all open. (The *Espora* is lost for ever.)*

16th *Bad weather goes on. We started to boil on board today.*

17th *It rained and snowed heavily all day long—we could do nothing. SW fresh breeze.*

18th *Day broke with snow squalls. SE fresh breeze. We got ready and, at 12, we left our poor *Espora* all shattered.*

19th *At dawn, we were opposite Policarpo. E fresh breeze. (It took them 19 hours to reach*

Policarpo; 30 miles from Crossley Bay or 37 from Franklin Bay, but sailing through the Le Maire.)

20th *We were opposite Orozco at 12. Heavy rain squalls, NE fresh breeze.*

21st *E breeze almost calm. We advanced very little.*

22nd *SE fresh breeze. We arrived at Bahía San Sebastián with very dark weather, and I anchored at Cabo Espíritu Santo in the evening.*

23rd *We set sail at 3.30 am. At 11, we saw a steamer sail past. SW very light wind.*

27th *We arrived in Punta Arenas and I found what I care most—my family, my good children and, at that moment, I completely forgot everything. Thanks God.*

There are some data missing so we cannot say exactly which was the place. Open to the SW and with sand, we only have Franklin. Rookeries may be those of Roca port, where there used to be a very large King penguins colony, which had been exploited by Luis Piedra Buena's employees some years before (see G. H. Gardiner, 1869). There might have been sealions in Crossley, but in fact he exploits them on the southern side of the island in Puerto Back (opposite San Juan de Salvamento).

But beyond the exact place, what he had to do and undergo with his men is unbelievable. Leaving aside aspects such as war and naval strategy, I think there is no seamen as great as Piedra Buena in the Southern Hemisphere.

"Callas" Expedition to Isla de los Estados (1997)

To complete the works that the Maritime Museum of Ushuaia was already conducting on Isla de los Estados, at the San Juan de Salvamento Lighthouse, and port Cook (in both places a Survey of the Historic and Human Infrastructure was carried out) and as part of an agreement with the Argentine Navy and the Museum of the End of the World, we decided to sail along the coast of the island to detect remains of shipwrecks. In fact, the idea was to determine which places were the most suitable for a makeshift shipyard and the place where the schooner *Espora* may have been lost; as usual, guided by Luis Piedra Buena's journal.

Throughout April 1997, we went on a short expedition to Isla de los Estados with the aim of making a trip all along the northern coast of the island, Observatorio island and as much as we could of the southern side, which was limited to Franklin bay.

The sailingship *Callas*, a 14-meter long ketch (designed by Roberto Hossman) was our

means of transport. Apart from being very strong and maneuverable, she enabled us a better comparison of speed and situations that Don Luis Piedra Buena might have had to face. From the navigation bridge of a dispatch boat, everything is different; a small sailingboat has access to places that a ship could never dream of. We took a rubber boat with its engine, diving equipment and everything necessary to walk all along the coast and explore every brook and river.

The expedition was made up of Jorge Luis Trabuchi, "Captain and Owner" of the *Callas*, Gabriel Asbi, cameraman; Daniel Kuntschik, diver and navigator; Darío Urruty, a bit of everything; Adrián "Osito" Giménez Hutton, photographer and journalist (carrying the flag of the Explorer Club); Aníbal Moya, Prefecture officer; and the one who signs the present work.

The observations included in this part of the book result from this trip. The account of the voyage was published by the magazine *Barcos* and is included in a book on sportive austral navigation.

The Wreckage of Don Luis Piedra Buena's Schooner

For many years everybody asked themselves where that famous wreckage could have taken place. The place was on Isla de los Estados, at "Bahía de las Nutrias," according to the terminology used by Don Luis Piedra Buena in his diary. But the point is that nothing definite would come out and, if it did, how could we assert that *that* was the site?

The truth is that some historians such as Braun Menendez and Ratto located the event on Observatorio island, others at Crossley bay, port Hoppner, Flinders bay and many others.

I personally tended to think that it was Crossley bay, but even when there were many remains of wreckages there was no one in particular that could point to the schooner *Espora*.

There *were* remains of what could have been a shelter or a house, or the famous factory, as Piedra Buena used to call it. In that place, he stored the skins of seals he hunted in the southern part of the island which, after being prepared, he took to Punta Arenas to be sold.

Anyway, we could not be sure of this. In April 1997, when sailing past Franklin bay aboard the *Callas*, owned by Jorge Trabuchi, we found the skeleton of a vessel at the mouth of a river. According to the measures I took, it was no longer than eight meters. But it was old. As tide was not low, we could see neither the keel, nor

the stern-post, nor the real size of the frames at the knees, nor the long planks—partly buried in the sand—that we eventually found in November 1998.

At first sight, it appeared to correspond to the size of a cutter (eleven meters) and not to a schooner. To me, it could be a (Chiloé launch) or a fishing vessel of the sort. Nobody could picture that it was the schooner *Espora*, except using one's imagination. There were no visible signs in this wreckage that pointed to that. Anyway, it was possible and (it gave you the impression that it could be).

The place was quite close to Don Luis Piedrabuena's description, but we had no other traces. I started to cherish the idea that it was a favorable place for a wreckage and I commented on this with Daniel Kuntschik, Darío Urruty and Adrián Giménez Hutton. But we had to find something more convincing than a simple feeling and some pieces of timber that would never lead to identify the ship they had belonged to. I was still for Crossley bay but, after coming back a couple of times, I left this option aside definitively.

I was lucky to come back to different areas on the island—thanks to the Naval Base of Ushuaia—and, traveling about other places, I started to be suspicious. This feeling grew when I heard the version by Carlos Dipilato, who had been to Franklin bay early in 1998 and gave me an idea of the size of those planks. I also took into account the opinion of Lieutenant José Urrutia who have been referring to them as the *Espora* since the time when speedboats used to visit the area. Still, this was nothing but a suspicion and we lacked definite clues.

It was during that time, on my way to port Cook, when I found out that taking both Don Luis' diary and the original versions of voyagers' accounts, it was possible to find many things. For instance, Luis Vernet's establishment—while he was Governor of Islas Malvinas—in Año Nuevo bay; the famous lake of the prisoners mutinied in 1902 and oh surprise!, tools and ammunition and... hidden in... (I keep the place for myself because plundering is unavoidable).

The Expedition

The major trouble was the time that the research in this place could take us, so we started to get ready for a non-conventional expedition. We would disembark there and, after about seven days, we had to try to evacuate. This task was by no means easy: the bay is completely exposed to the southwest and it is

not in the least convenient to stay at anchor there. The sea comes in with all its force and the place is very treacherous both for sailing vessels and ships. We had to arrive and set up a camp.

Once this idea was communicated to the Area Naval Austral, Rear admiral Don Héctor J. Alvarez studied the project and gave us all the support needed. This was an ambitious expedition. First, we would survey the island. Besides, Doctor Adrián Schiavini (biologist) and "Princess" Silvia Gighi from Natural Resources would come with us to do some research on rockhopper penguins colonies of which very little was known.

As we already knew, everything around Don Piedra Buena is closely linked to sealions and penguins. Let us remember that he was engaged in sealing as from the time he had started to sail.

The party was completed with two cameramen from the TV program *Caminos Patagónicos* (Enrique Porreti and Walter Ibáñez) and a botanist, Fernando Biganzoli, sent by the Instituto Darwiniano [Darwinian Institute] with the idea of collecting some plants to prepare a room at the Maritime Museum. Luis Mack, contributor to the Museum, also joined the expedition.

Then, on November 21, we left the bay of Ushuaia astern aboard the dispatch boat *ARA Francisco de Gurruchaga*, commanded by Gustavo Castillo. First mate José Miguel Urrutia made his best for the various missions of the party could be fulfilled and his attitude was immediately reflected on all officers and the rest of the crew.

Bahía Franklin

We cast anchor at this bay at nine in the morning on November 22 with a strong north-west wind. With wind from that sector, the exterior bay is quite protected and there is practically no breaking water on the beach to disembark. On two dinghies, it took us two times to take all the material on land avoiding soaking.

It was a perfect sunny day with northerly wind and a slightly cool temperature. We looked for a place to set up the tents and found a lowland with vegetation right at the sand limit about three hundred meters from where we disembarked.

Soon after arriving, northeasterly wind increased to a strong gale and we could verify that, even when the bay mouth faces southwest, this wind enters with a tremendous force. It blows against the hill that closes the bay to

the south and wind gets boxed in with an unusual force (venturi effect) blowing through the bay to the east where it is divided into two ravines and then decompressed.

This was the first explanation to the reason why, with northern wind, Luis Piedra Buena had to get out —i.e. he was thrown out. But there were more surprises in store: while we were preparing some lunch, Adrián went deep into the woods and came back with a bottle that, at first sight, appeared to date from 1800s and it could contain *ginebra* (sort of liquor) or gin. (This was confirmed: it was the sort of gin that used to be sold at the end of the 19th C. in almost every port. Let us remember that Don Luis always carried some alcohol to palliate cold. The bottle itself has the trademark and both the base and the neck are welded, so it is a typical three-piece bottle.)

A Shelter and a Shipyard

Just a glance was enough to realize that it was a shelter built, at least, over a hundred years. This involuntary finding would be studied later on. But the good thing about it was that elements related to Piedra Buena's accounts started to turn up.

The physical aspect of the place agreed on the whole. On the one hand, we verified that northern wind could cause a wreckage and, on the other hand, we found a shelter like the one Piedra Buena comments on in his journal at about a hundred meters from the remains of the vessel.

Once we examined the shelter, we found many elements for ships ranging from ring-bolts and warp holder to tighteners. Besides, there were pipes and corrugated sheets for the roof, which are the same and come from the



The Dispatch ARA 'Sobral' and a smooth disembarkation (February 1999).



The author with the Espora's remains:
Caleta Lacroix (Bahía de las Nutrias?),
Bahía Franklin.



Bahía Franklin. Two
chain «rolls» tied to
the rocks. The mark
highlights the
remains of the
Espora's wreck.



Taking a walk
around Caleta
Lacroix (or is it
Bahía de las
Nutrias?).

same place than those he used for the roof of the shelter he raised in port Cook (port Vancouver, in fact). That was the famous shelter announced with a sign he left in Cape Horn: "Wreckers are helped in port Cook."

We also found zinc sheets for the ship's bottoms (external sheathing used to protect the vessel against shipworms, *Teredo navalis*). We also found a series of various elements and a firebox beside the shelter which contained sealion bones and other smaller ones we could not identify.

It becomes obvious that Don Luis decided to stay in the woods next to a stream. He dug out in the slope forming an even and horizontal surface with some logs where sheets rested. Just like he relates in his journal, one side must have been of canvas (it is possible to guess that it was oilcloth) since we found—the same as at the San Juan de Salvamento lighthouse—a log with many nails and cloth remains.

Then, we could verify that in the woods there is practically no wind. To cap it all, we stayed there during the stormy days in late November 1998. Later on, we got to know that Tierra del Fuego had been in state of emergency thrashed by winds that reached up to 180km/h with hail, rain, sleet and all the worst possible.

In these circumstances, we experienced ourselves the inclemencies of the place and realized how far high tide could reach and how powerful breaking waves are. Thanks to this, we could find two possible sites for the shipyard where Don Luis and his men built the cutter *Luisito*.

These sites are quite close to the shelter and in an even area on the beach. And we could confirm that the sea does not reach even during the most violent southwestern tempest and the

highest tide. One of them is 80 meters long by 40 wide and completely available, and the one closer to the shoal is of about 28 m long by 15 wide. In that place we found—semiburied in sand—many pieces of sawed planks.

There is a third possible place right opposite the wreckage remains which is 45 meters long and between 10 and 15 meters wide. We should make it clear that "the schooner" is about 20 meters away from the present breaking waters line even with storm conditions as we have already commented. On the other hand, the following finding stunned us.

Knees and Firewood Forest: Goats Shelter

On climbing the hill from the shelter, we found a "pisadero de cabras": it is a place where wild goats gather to stay for the night, a sort of open yard. In fact, we came across several of these places and, on our daily walks around the area, we saw many goat herds. Some were made up of seven or nine animals, but there were others of twenty and even one of around forty. There were male goats with large horns and long beards. Females were followed by their one or two-year-old kids (that were a temptation to send to the pot.)

These goats made us remember Don Luis again: he was the one who introduced them into the island. In his journal we can read that he used to bring goats on the hoof on each trip and he either freed them or left one of his men to herd them. Therefore, nowadays they wander in the western sector of the island. They have not crossed to the eastern sector and it is highly probable that this is due to the high hills in the center of the island, near port Parry.

There are many who are for killing these



The «pelado» Luis Mac at Don Luis Piedra Buena's depot-shelter. Metal sheets, turnbuckles, bolts, saw frames, bottles, and other remains were found (November 1998).

goats or taking them away from the island because their introduction changes the environment. But the interesting thing about this is that they adapted to the place and became acclimatized. Maybe the solution would be to take a group to another place since they are completely adapted.

The situation with deer is the same. In 1973, the National Parks Service introduced a group of eight deer that had become acclimatized in Ushuaia. This group was thought not to have survived. Anyway, now several other groups can be found—we have counted about forty specimens. The odd thing about this is that they may appear anywhere and it is not rare to see them in penguin rookeries.

On the hillside and about a hundred meters from Don Luis' shelter, we found a shocking surprise: a wood of twisted thick-trunk trees, i.e. species of over eighty years or even more. Each one had at least one knee and it was possible to get three or four different angles from some of them. We not only found these trees but also the stumps of those which were cut down by Don Luis' men. In his journal, there are several comments on these knees he obtained from the wood and this clearly shows that he had no intention of dismantling his beloved schooner. What is more, he constantly tried to put her afloat and he only gave up when they were about to finish with the *Luisito* and a storm broke the sheathing on one side. The beaching had turned into a wreck.

In a word, it was a knees "paradise" and any expert on building with wood knows that the most difficult part is to obtain these pieces with a natural curve suitable to be adapted to the type of vessel to be built.

Puzzling Out

Closer to the bay extreme, we found the firewood forest also with stumps. This forest was the one used to keep the penguins *tocho* (cauldron) boiling (i.e., melting fat). It is interesting to note how the woods renew by stripes and how the trees pulled down by the wind let new shoots develop into trees thanks to the shelter from wind. These woods are excellent to obtain firewood, and at Franklin bay they are found on both sides.

We climbed up hill Monte Guerrero (307 m)—which Piedra Buena considered difficult—and then walked down to point

Frola heading for the penguin rookery. But this seaman used to send his men by boat. Actually, this is the right thing to do because going on foot took us about two hours and we arrived exhausted. On the contrary, on a boat, this takes no longer than fifteen or twenty minutes.

These penguin rookeries of the species known as rockhopper may be as high as 250 meters above sea level. There is tussock as on Malvinas. Before this finding, it was thought that those colonies were the largest, but according to what we saw on Isla de los Estados they may be as large or larger than that of Malvinas. To



Detail of the hawse. The erosion corresponds with the passing of the chain.



Detail of one of the bottles found. Note the glass seams.



Carlos Dipilato with a hawse at Bahía Franklin, Coleta Lacroix (Bahía de las Nutrias, February 1999).

sum up, a lot of work for Adrián Schiavini and Silvia Gigli.

Don Luis wrote in his journal "birds are ready." In March, apart from adults, the ones born that year were large enough to be sent to the oil cauldron. (From the journal, 2-22: "...we have found what I expected, the birds on land. With these millions of animals a great thing could be done...")

According to the logbook by Lieutenant Dario Sarachaga, the cutter *Bahía Blanca's* commander, from the expedition under Don Augusto Lasserre (1884), he collected a thousand king penguin eggs and a hundred sealion skins in this bay. We found neither king penguins nor sealions. Obviously, sealers exploitation was so important that, despite of the hunting prohibition, the island has not re-populated yet.

Chain and Anchor

At this point, we realized that the whole of the celebrated seaman's account completely agrees with the place. But there was an important aspect left: Doctor Anne Chapman, Carlos Dipilato and Adrián Schiavini have commented on their seeing a chain on a previous trip.

I looked for it hardly, but I could not find anything. So I went back to Piedra Buena's journal. Standing on what must have been the bow frame of the schooner, I looked to the coast past the breaking water and reread what he wrote:

"(March,) 12^a We took the chains out of the hold and put the pumps so that the following day we tried to move the vessel bow out. We placed a chain outside. All the buoys were all right..."

"(May,) 5^a Today we begun by trying to launch the vessel, but she locked the masts I had ordered, besides they did not tie the fall to the firm stone but to a hedge in the sand, not securing..."

If the shipyard had been in the place we thought it was as well as the schooner's remains, the stones must have been the only visible ones about 35 meters away. It was there where the chain or the kedge or both must have been. We came to this conclusion considering the angle of elevation in particular, and the fixed point to drag the cutter with a rig. On the other hand, Don Luis is sure to have taken the whole chain out in order to lighten the *Espora*.

With the help of a small shovel and around five cm down, a series of links belonging to a wonderfully worked chain started to appear—it had a stud and there was a scarcely legible brand, which is being studied in the United States.

It was a chain roll. Obviously, the reconstruction of the stage had been completed. Why did that chain remain there?—simple: its size and weight are not suitable for the cutter *Luisito*.

Condorees and Albatross

There are not many elements that may lead to the identification of the few remains of the wreckage, but its surroundings and the journal of the best seafarer that Argentina has ever had agree in such a way that there are practically no doubts left.

Anyway, works will continue—the study of the wood is the next step. We will also go back to go on surveying the place that we found to be the most beautiful on the island.



Is this the wood from which Don Luis obtained knees? Stumps and tree remains (with missing parts) were found.

While walking south toward Cánepa bay across the hills, a couple of condors accompanied us gliding above the cape. Of course, there were also Magellanic and striated caracaras. But the unusual thing was to see albatross and petrels very close to condors as if everyone were watching their territories.

The lagoons and rivers below, among thick *lenga* (*High Deciduous beech*) woods, invited exploration. Every now and then, deer appeared before our eyes—we walked past their shelters very close to watering places and, if possible, we used their paths. There were some stretches that were like avenues, which made walking without any difficulty possible.

We used goats paths to climb up and down hill—all this in an unbelievable setting since both flora and geography in this place are quite different from those in the rest of the island.

It is highly probable that we were the first to walk around here—except for Don Luis—since we have never found any description or photographs of the place, except for the areas that we had already covered in several other trips.

The seaside presents very many surprises such as the remains of a massive stranding of pilot dolphins, the remains of the "factory" (which was also found according to what Daniel Kunstchik had assumed), more photographs of the remains of the "schooner" have been taken. Her parts were measured and their position determined by General Position System (GPS). We know where every thing is and we hope everything remains this way for a long time. We do not want the place to become attractive for those who like harvesting historic "souvenirs."

Tierra del Fuego's Governor, José Estabillo, signed a decree which sets restrictions to visit the island. Controls will be difficult to put into practice, but at least this is a step in trying to protect its frail ecosystem, its historic remains. This, as well as time, will also contribute to the recovery of the island from the exploitation suffered. One wishes this place is kept for the fu-

ture as a sample of what Tierra del Fuego used to be like.

Scientific visits will continue. There is a lot to be done about rockhopper penguins, which will be in charge of Adrián "Bicho" (Bug) Schiavini. As far as possible, we will finish with the surveying of the human-historic infrastructure on the island with the help of the Naval Base of Ushuaia.

Back Home

Days went by and when the storm gave a rest, the dispatch boat *ARA Francisco de Gurruchaga* appeared in a calm morning. Alerted by radio, our stuff was practically ready. The first trip took place almost immediately, but half an hour after anchoring, a storm from the southwest broke with great violence.

We can say that this was something beyond wet. With three rubber boats—one worked as support—we proceeded to evacuate everything, even the garbage we had produced.

Unfortunately, a rib from the *Espora* made an opening to the bottom of the boat Adrian and I were aboard—it was the last one and it was pointless to let it go. Waves did the rest—there



Deer introduced in Bahía Franklin in 1976 (photo taken in 1999).



Goats introduced up to 1976 (photo taken in 1999). Nowadays, the environmental impact is under study.

was a hole at the bottom, which was quite interesting had we been sailing in the Caribbean and seeing colored little fish. But in this case, we had to challenge huge breaking waves—the petrol tank floating above the engine level and everybody clutched to the pontoons.

The support boat fetched some bags, buckets and other stuff we were losing. Looking at the dispatch boat's bridge, we saw her Commander (in the open and in the middle of the gale) constantly watching the coast and holding with the engine the inevitable anchor dragging.

On deck, the executive officer was giving orders to finish with the maneuver as quickly and safely as possible. So harness started to appear and, as we were taken out of the freezing waters, blankets and coffee welcomed us. They showed they know their business—the "packs" (us) arrived somewhat soaked, but safe and sound.

To have an idea of this farewell storm, consider the dispatch boat *ARA Gurruchaga*, fit for tugging at high sea, failed to give way against waves and wind.

Not being able to sail faster than one knot, the crossing of the Le Maire strait was almost impossible. And, opposite Veleros islet, it was decided that we should look for shelter in Bahía Buen Suceso.

Meanwhile, on the bridge, we (except for "Princess Kobachovsky," alias Silvia Gigli) commented on our findings and recalled how Piedra Buena used to dare sail these waters, wreck, and built a cutter with a few elements to recover financially from the loss of the schooner. Indefatigable, he sailed around the area for years rescuing wreckers in the meantime and establishing the Argentine sovereignty in a place which—not being for him—it would belong to some other owner now. The whole boat was attentive to the findings and we felt as if Don Luis were present there. Just in case, he had pulled our leg by showing us how a modern rubber boat may wreck and how he had to fight with sailboats with no engine to work on his island.

It is worth remembering that Isla de los Estados belonged to him and he used to run it as if it had been a ranch. But his sense of nationalism was above anything else. Bankrupt, he had the nerve to turn down an English offer to buy the whole or at least half of the island. The British were interested because Malvinas needed to obtain wood from the island.

Nowadays, and thanks to Telefónica's sponsorship, we are planning to build a cutter that

we hope will be quite similar to the *Luisito*. The works are carried out on the basis of a study by Manuel Campos, improved by Horacio Ezcurra and with the counseling of several maritime museums of the eastern coast of the United States. We believe our idea is quite close to the actual vessel.

We intend to build it for sailing in the Beagle Channel. This project includes the participation of students from ordinary and technical high schools who wish to sail just as Don Luis Piedra Buena used to.

Bahía de las Nutrias

The location of this harbor used by Don Luis Piedra Buena has always been a riddle. It appears on no charts. Unfortunately, old charts used by Don Luis have been lost or are kept in some file. But the truth is that it should coincide with the present Caleta Lacroix or with the Córdoba rocks.

It is known that sealers kept their "harvesting" places a secret. This was not the case with "factories," i.e., the place where they processed what they hunted. Thus, Don Luis mentions Crossley bay where he had a store and "factory." But he did not "harvest" furseals there. This took place in other coves and rocks on the southern side of the island.

What follows is a possible explanation to this—his men knew what the place was, but nobody else would be able to discover it, especially if it is true that there were millions of small animals that were the source of Piedra Buena's incomes. This is a hypothesis we hope to prove through further research and findings.

We are indebted to the support offered by the Argentine Navy; the libraries of the Centro Naval, Departamento de Investigaciones Históricas de la Armada, Servicio de Hidrografía; the End of the World Museum, and Telefónica de Argentina's sponsorship for the development of this research.

Luis Piedra Buena and Sealing on Isla de los Estados

In order to understand Luis Piedra Buena's activities, it is interesting to read the journal he wrote while sailing on the cutter *Luisito*.

After leaving the wreckers of the brig *Doctor Hansen* in Punta Arenas, Piedra Buena gathers a crew to look for his men on the 'Isla.' He had left them working in the production of oil from seal fat and in skin salting. In fact, he stayed working with them up to March 9, when they all came back because his men refused to go on 'harvesting birds' (penguins).

Through this account, we can understand how much he knew about his 'Isla.' I think there is nobody else who knows the island so deeply and can boast of having been to every cove or bay —either on the dangerous side (southern) or on the generally acknowledged as safe (northern). The truth is that the island was the source of his incomes and it could be compared to an industrial establishment.

In the first part, we can already see how the human side was always present at his cost and, to some extent, also to his creditors'. This is why he lost his store in Punta Arenas.

3rd January 1875 Today, at 1 p.m., we set sail with moderate SW breeze to look for my crew, with 5 men. Two guys and three Frenchmen, useless the latter as sailors, the two guys knew how to man the vessel, but the French were complete landmen and knew nothing but being seasick, eating, and sleeping. Having spent so much on new supplies, advances, bails, because of that men, I was deeply hurt and this service for mankind is highly expensive for me, having had to abandon all my tasks, taking bread away from my children and wife and not being able to fulfill my obligations to my creditors, all this for the sake of God.

4th We refitted with water and firewood, N breeze practically calm. In the afternoon, wind blew from W and we put to sea to anchor on Isla Isabel.

5th At 5 a. m., we set sail with W breeze and at 10 SW wind blew so strongly that we had to drift under bare poles and anchor at San Gregorio at 12. At 8.30 a Pacific steamer sailed past.

6th We departed with W cool breeze and cast anchor at the Espora's anchorage.

7th We sailed off with moderate SW breeze and we were opposite Cabo Espíritu Santo at 9 p.m. WSW moderate breeze.

8th We cast anchor on the outer side of Bahía San Sebastián, with SW breeze, at 6 a.m., and at 10 we set sail with mod. WSW breeze and fair weather.

9th At 6, we headed ESE off Cabo Penas and we were 15 miles WNW off Piedras Grandes point at 8 p.m. At 10, the point was SW by S (SO - S), so I brought round since the barometer was very low and, in the end, wind did not blow. On the 10th, At 1 a.m., I sailed on with moderate W breeze and at 10 that same day we were opposite Bahía Falsa, but the sea was so rough that I could not sail in and, besides, weather appeared to be very bad. Barometer at 73: at 6 p.m. moderate breeze and turned fair. We headed NE to Isla del Estado, the sun set

forecasting fair weather and the barometer did not rise, so we enjoyed a pleasant evening.

Isla de los Estados

10th It was calm in the morning up to 10, when moderate SW breeze started to blow and at 12 m. it turned S blowing a gale. There were two barks and two frigates in sight and all with reefed topsails. I put in Port Hopner and we made sure to find a good place. Weather was still rough.

11th We left Port Hopner with S breeze and at 2 p.m. we cast anchor at Crossley Bay. I disembarked immediately to look for my people. We made a fire opposite the factory, but they did not answer.

12th At 6 a.m. we set off for (...) Bay and at 12 we cast anchor. We took on water and firewood. At 8 p.m., we set sail for Bahía de las Nutrias and cast anchor at 9.45. (This may be Franklin Bay, given de six hours' sailing. This bay is highly exposed to southwestern winds, but it has huge beaches, a deep river, and several coves around.)

13th We disembarked, found the boat and started to fix and paint it, we also made oars because the ones she used to have had been taken. SW freshening wind, fair weather. Barometer 75.60.

14th At dawn, it was fair and it became cloudy at ten. We made three oars and brought the boat aboard. A S strong breeze started to blow with a lot of rain. Barometer 74.5 at 4 p.m.

15th Today at 5 a.m., we set sail for Crossley Bay, with mod. breeze, but at 8 in the morning SW wind started to blow so strongly that I had to run to port. Barometer 74.50 and rainy.

The Oil Factory

16th SW fresh breeze, we set sail at 6 a.m. with mod. NW breeze and rainy weather. The current was favorable so, by 4 in the afternoon, I had cast anchor at the factory [the same time it took us with a 14-meter sailboat from Franklin to Crossley; around 12 miles considering chopiness and the current, apart from the edges]. The people were at Till Cove [it may be Baiud, in Flinders Bay], everybody sound. John had traveled by land, there had been only one accident. One from the boat crew had fallen down the neighboring hill of over one thousand feet high and had hurt himself, this wretch does not know how was that he fell. He was unconscious until the following day, when he was found.

Mr. John handed over to me several notes of another ship that had set on fire on this Isla. English bark W.S. Johnson, 24th October 1874.

They asked the one who found them to make them be published as soon as possible, they were going to cross the Strait for San Vicente cape hoping to find some ship that picked them up. They were 13 people, two of them ladies. They have been two miles from us and neither have we had news of them nor did they see us. They have little hope of surviving because, according to the letters, the crossing is to be attempted on an open boat and then they will put themselves at risk because of the Fuegian indians.

17th Rainy bad weather. We were priming all the wood to fix the whaler.

18th Mod. NW breeze. We fixed the whaler and we took the rudder from the cutter Luisito to add keel to it, but weather came in and we could no longer work.

19th We beached the Luisito to add keel to it but weather came in and we could no longer work.

20th We tarred one side and the bottom. The people from the boat that was at Till Cove arrived.

21st We finished our work because the launch fell on the opposite side and, miraculously, it did not catch six or eight of us working below the bottom fixing the keel who, at that moment, were leaving for lunch. We put to sea and we cast anchor in SW Bay (Southwest Bay) at 7 in the afternoon (it may be that they set sail at 2 or 3 p.m. to arrive at the other bay at 7 p.m., regular timing from Crossley bay to Franklin bay). NW weather with very strong blasts. Barometer at 12 73.50.

Sealing. January to March

22nd Still anchored at SW Bay, rainy day, E fresh breeze. A seal was hunted in the morning. In the afternoon, weather turned even more rainy and worse.

23rd We left and cast anchor at Back Harbour at 5 p.m., SW fresh breeze.

24th Anchored at Back Harbour [situated in the south, behind San Juan de Salvamento] waiting for the right moment to leave for the rookery. At 11 in the morning, the barometer showed 74°, rainy, N wind force 5. At 3 in the afternoon, we left on two boats, a large one and a small one; the large one docked and the small I was aboard of did not since the sea was too choppy; the large one brought 4 furseals, the rookery had already been exploited by someone else. Water was covered with sealions.

25th N strong breeze and very rainy, we could do nothing at all. Only 6 skins were stowed, two sea lions and four furseals.

26th Today the barometer rose to 76° 10, the

day was better. 74 furseal skins and the fat were brought, all of them were stowed.

27th Today it broke rainy, NW fresh breeze. Barometer 75° 35. At 9, it started to blow rather strongly from the North. Ten furseals and a male sea lion were skinned. The whaler left for the rookery at 7.15 and came back at 12 with 9 furseals. We immediately put to sea and cast anchor at Julia Bay at 8 in the evening. It gave us shelter for the night. It offers shelter from all the winds except E, which rarely blows; entering is easy.

28th Today the boat fetched the salted skins. They brought 17 sea lions two furseals. We left Julia Bay for Puerto María la Negra with calm; we had to row. At 8 in the evening, we cast anchor.

29th We anchored the Luisito properly early in the morning and then we set off to kill. They brought 74 sea lion skins. We skinned today.

30th Rainy. Some skins were flinchados (sic.), I was assembling casks for the fat.

31st They went to the rookery and brought 75 sea lion skins.

February, 1st. Today they brought 9 skins. Fair weather.

2nd We set off to kill and brought 50 skins. NW fresh breeze bright weather.

3rd We left on the boats with Southern wind, rough sea, to see if there was another anchoring place to work the outside rookeries. We found a small [pequeña] bay that I named so. Then we killed 4 sealions.

4th The day broke rainy, with SE freshening wind. I sent the boats to a rookery at Puerto María la Negra. They brought 9 skins. (There was butchering.)

5th Southerly freshening wind, we set sail and cast anchor at Bahía Pequeña to be closer to the rookery.

6th Southern freshening wind during the first part, and it turned Northern in the afternoon. Rough sea.

7th NW fresh breeze. We set off on the boats to the rookery situated 3 miles away from the Luisito to take the skins.

8th We took the skins to land to take the fat out. Because of the Southerly strong breeze, we could not bring more than the ones we had taken the fat out, we had to leave the rest. A dry beans sack was opened today.

9th Southerly fresh breeze. In the afternoon, an American schooner entered the Bay where we were, but she immediately sailed out again. The sea always rough and we could not take the skins.

As we can see, this work is rather hard to be performed with boats and a small cutter as a

cargo vessel. If we calculate correctly, taking out the wages he had to pay, the profits he obtained were not high after a campaign of this sort. The outcome for 'factories' or large ships that were furnished with whalers was quite different. The American schooner is a good example of how attractive the place was due to its natural richness — seal hunting. This natural resource was considered to be inexhaustible — the same that happened with oil.

10th I have been fixing up my boat. S freshening wind.

11th We left Bahía Pequeña for Puerto María la Negra, as the barometer was so low, the whole day at 72° 40. NW wind, Bright.

12th We set sail with NW wind and rainy weather. The barometer stayed at 72° 50 until 10 a.m., when it started to rise up to 74° and the weather changed. A fresh Southerly breeze started to blow and the atmosphere turned fair, so the sea was very rough and we had to sail back to the previous harbor.

13th. The barometer is steady at 74°. Cloudy weather, SW fresh breeze, these conditions lasted overnight up to 4 on the 14th.

At this stage, the transport of skins and fat from the 'harvesting' place to the factory in Crossley Bay begins. Usually, the boat was anchored at night at some cove given the closeness of land and the lack of visibility.

14th We set off for the factory with EN fresh breeze at 7 in the morning. At 8, it was calm and no wind blew up to twelve when it came from the N.

15th We arrived at the factory at 7 in the morning. NW wind, fair weather. Barometer 75° 70.

16th We unshipped 275 sea lion skins and 10 barrels with fat. Fair weather.

17th I unloaded 31 fur seal skins. In the afternoon, we finished with the ballast and set sail with very little NW wind.

18th NNW strong breeze. I could not approach land till the evening, when we cast anchor at Bahía Julia at 11.30.

19th We entered Puerto María la Negra, people there had 200 skins more.

20th I started to load fat and skins for the factory.

21st I took 150 skins and a lot of fat aboard. Southerly strong breeze and very rainy.

22nd Awful weather. We took water aboard.

23rd We put to sea with fresh NW breeze at 7 in the morning and cast anchor at SW Bay because wind was practically calm.

24th We left rowing at 9 in the morning, we stood off-and-on up to 1 in the afternoon when tide changed and we could sail past the point.

SW freshening wind started to blow and we had to cast anchor in the same harbor.

25th SW strong breeze and sea running high. We could not set off.

26th W fresh breeze during the first part and NW freshening wind in the afternoon. We set sail at 2 p.m. with windward flood.

27th We entered Bahía de la Fábrica [Factory Bay] with NW fresh breeze.

28th We unloaded 150 skins and 8 kegs of sealion fat.

In this account, 'Bahía la Fábrica' refers to Crossley Bay. Piedra Buena used to take the skins and fat there to produce oil. The place is ideal for setting off to Falsa cove, where he made land to go on sailing for Punta Arenas. This place was chosen because it is practically outside the Le Maire strait, which has strong currents and choppiness. But it is obvious that Piedra Buena worked on the southern side of the island. Besides, he used Franklin bay as a key point to make land given the fact that his notes show that he used to enter wherever rocks let him to. Large vessels are not suitable for sailing in this area, unless they are very maneuverable and specially designed to beach. We can also see how several men can move it on land.

March, 1st We readied to set off with the rising tide and set sail at 4.30 p.m.

2nd We entered Puerto María la Negra at dawn. More difficulties. People with few supplies, weather getting ready for the equinox, the barometer at 72° 55, storm and NNW very strong breeze and rainy.

3rd We set sail with almost calm SW wind. We loaded 43 skins with fat and we were heading for the factory but wind did not let us. We cast anchor at Bahía Chica to leave one of the whalers and do the skinning.

4th NW fresh breeze. We put to sea but W wind set in almost calm and we had to cast anchor outside Puerto María la Negra.

5th We set sail and cast anchor at Franklin Bay.

6th We anchored at the factory in the morning and started to unship.

7th I set off early in the morning to leave the launch in the creek with the idea of enlarging it. As it was also birds season, half the people would work with them and the other half would work in the vessel, but they refused and demanded a percentage per day, which was more than the work was worth and I could not make it. I had to start loading to leave for the Colony of Punta Arenas to put an end to this, for things not to be worse, so that the business were over.

8th W fresh breeze. We were loading skins.
 9th SE fresh breeze. I loaded about 560 skins.
 We stopped to go and see the ones that remained
 at Till Cove as there was no room left on the
 launch. An amount of fat is left at Franklin Bay
 as well. Many of the skins at Till Cove were
 already spoiled.

Piedra Buena returned to Punta Arenas at
 the request of his staff; had it been for himself,
 he would have gone on working on his 'Isla.'
 Sailing back with just 560 sealion skins and
 around 300 barrels after two months working
 is no big deal. Even when it is true that he had
 left a lot of skins in different bays, we cannot
 assume that he was amassing a fortune.

The Works Go On at Bahía Franklin (February 1999)

The expedition in November was followed by
 another that set off on 22 February 1999. As
 part of the preparations for this new trip, we
 flew over Franklin bay and Setabense cape
 three times between December and February.
 The flights were in charge of the Arabs of the
 provincial government and the helicopters of
 the *Icebreaker Almirante Irizar*, to which
 we are really grateful.

The research in cabinets was starting to give
 results. Several contributors provided data from
 various books and publications. For instance,
 paragraphs as the following caught our atten-
 tion, "But there would also come a day when
 the sea played a dirty trick on Commander
 Piedrabuena also. This happened at Franklin
 Bay (Isla de los Estados) with the schooner
 'Espora,' manned by the bold seaman. A strong

storm washed his ship against the shore, where
 it came to pieces on the rocks. But Piedrabuena
 would not be discouraged. With the remains of
 this shailingship, he built the 'Luisito,' a twelve-
 ton cutter, which saved him and the 'Espora's'
 crew. Passage from *La Patagonia Argentina*,
 by Edelmiro A. Correa Falcón and Luis J.
 Klappenbach; Libro I, *Estudio Gráfico y*
Documental del Territorio Nacional de
Santa Cruz (p. 79); Talleres Kraft, 1923. This
 information was provided by Diana Alonso.
 These lines are clear by far: they take it for
 granted that the wreckage took place at Fran-
 klin bay without doubt; ¿where did the authors
 get the information from?

Surveying Caleta Lacroix

This time, we were taken to the place on
 board of the dispatch boat *A.R.A. Sobral*,
 whose Commander was Lieutenant Comm-
 ander Hugo Almada and his First Officer,
 Lieutenant Roberto Santo Pietro. The team was
 made up by divers Gustavo "Tato" Gowland
 and Carlos Dipilato, both from Recursos Naturales
 [Natural Resources]. Parallel to the works car-
 ried out by the Maritime Museum, Sheryl
 Macnie also took part to conduct a research on
 the beaching of twenty-one pilot whales (see
 Annex 3). Doctor Adrián Schiavini, together
 with Silvia Gigli and Andrea Raya Rey, all of
 them biologists, went on studying the colony of
 rockhopper penguins (see Annex 2).

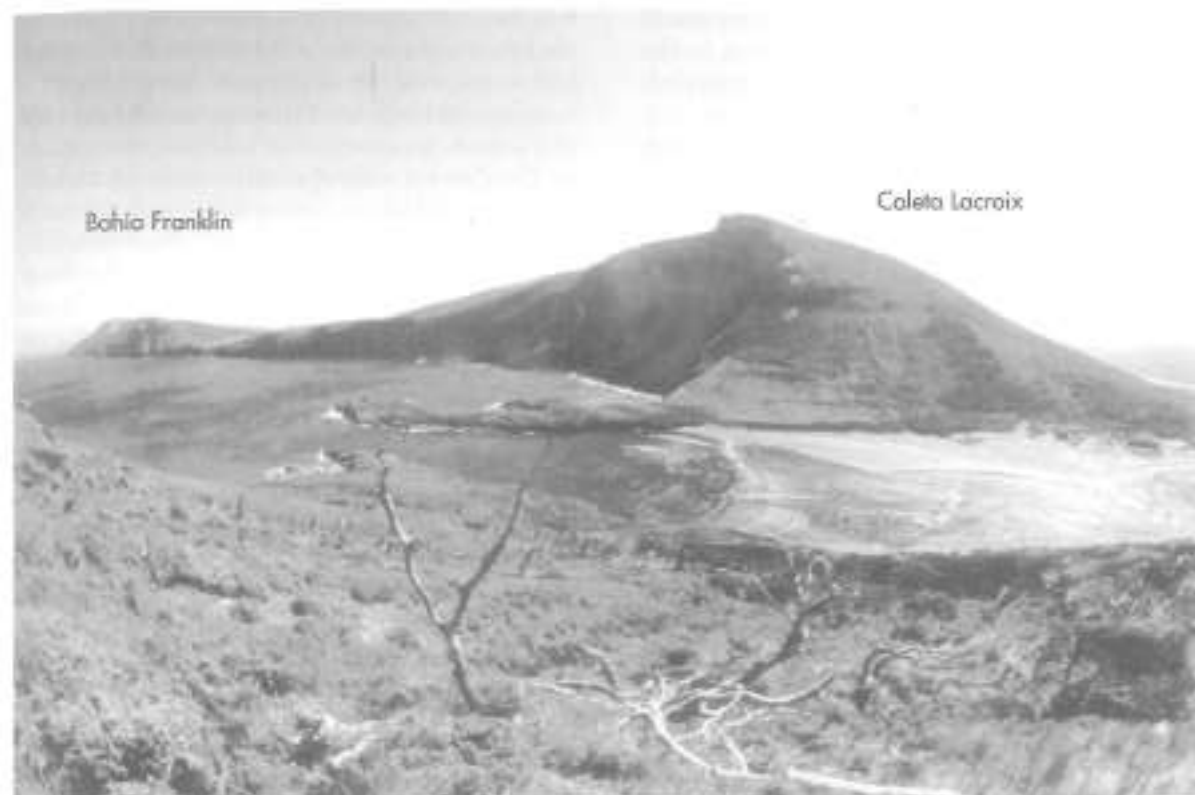
On this occasion, we set up our camp at the
 bottom of the bay in a small grove out of the
 reach of sand squalls. Anyway, this month was
 exceedingly pacific compared to November,
 when the violent wind had made us spend
 whole days sheltered in our tents.

It was in this place where we could see otters
 [*nutrias*]. Different people saw them on several
 occasions. This fact could explain the name
 Bahía de las Nutrias.

We could also see deer and hundreds of
 goats. We were surprised at not seen neither
 low branches nor shoot in the woods. A ques-
 tion immediately sprung to our minds: what do
 these deer and goats live on? Is there enough
 pasture for them to live or do they live on the
 shoots? The latter being the case, in hundreds
 of years we will have an old wood with little
 chance of renewal. But, in order to establish
 this, studies need to be carried out, which we
 will do in November '99. We estimate the deer
 population in about one hundred specimens,
 and that of goats in about one thousand. Let us
 remember that both mammals were introduced.
 Goats arrived with Don Luis in the 19th C. in
 order to have fresh meat when he stayed on the



The 'Cape Horn'. Luis Piedra Buena's last ship.



Bahia Franklin. Coleta Lacroix or Bahia de las Nutrias?

island for months engaged in hunting sealions and penguins. After his wreckage, he took several goats and set them free believing that they would be of great help for wreckers. Red deer were introduced in 1976 in an attempt to improve the fauna of the place. What should be done about them? They are completely adapted and, in the case of goats, we may even say that they are a different species from the one introduced. Move them? Where and what for? A dilemma that many would rather overlook. The more radical ones are for getting rid of them and thus give the island the possibility to recover with the passing of time.

This time, our aim was to go over all the places located such as the shelter-store, the wreckage, the beach and, if possible, we wanted to dive in the bay to see what we could find. The shelter-store turned out to be interesting since in that place we found many things scattered. There is a small grove that fell of this "store," in the future, an archaeological excavation should be conducted as below these trees one can see zinc sheets, lead, pipes, wires, and other elements.

To our surprise, we found a second roll of chains, just some 10 meters from the place we had found the other one. The sea had uncovered it and we could verify that these chains were tightly fixed to the stones, exactly as Don Luis wrote in his journal.

From this place, the divers set off with their dry suits to inspect the cove thoroughly from the breaking water up to the imaginary line that separates it from the bay. Although on the surface one could see the almost black water coming from the peat bog, about 20 centimeters down the water it was completely clear; given the different salinity levels, they take long to mix. Seven or ten meters down and with a sandy bottom, divers found nothing. We intended to find the grapnel, but it is highly probable that it is covered with sand. The same as the action of the sea uncovered the second roll of chains, it also covered with sand practically the whole keel and the ribs of the wreckage. It is highly probable that the sea has also covered the grapnel; if it was not recovered by some other vessel that made land in this harbor.

Carlos Dipilato found a hawse from the ship while walking up river towing the rubber boat. We could confirm that the erosion of the hawse was like the passing of the chain that we had found. The lead sheet applied to the hawse drew our attention. This procedure was used to make the wood last longer.

Timber and Other Remains

The works went on with the collecting of wood samples—small cuts to ribs, keel, sternpost, and sheathing. These samples were taken for analysis to try to determine the sort of

wood and its distribution area. Samples of fastening were also taken for analysis in the USA to check if they correspond with materials used in the middle of the 800s.

One of the things that caught our attention was that the rib we were sawing was completely dry at the center and that it was very hard. On seen the rings and the vein we suspected of a slow-growing tree, such as the oak. In the 800s, it was usual to use this wood for vessels that had to face hardships. Luckily, we were close to reality.

The result was successful by far since the wood analysis conducted by Doctor Maria Castro from the Conicet in Buenos Aires revealed that this ship was built with woods from the Northern Hemisphere, possibly at some shipyard or port in the North Sea or the Bay of Biscay. Most whaling and sealing ships used to come from this area at that time. Hard woods, expensive then, were used in building the ship. These were employed for vessels that had to endure a very hard treatment (such as in wars or whaling); this was not the case with cargo ships and/or clippers for which softer woods such as pine were used.

The presence of wood from North America may be pointing at the fact that the ship was repaired; which is highly probable given that the brigantine *Naney* was bought second-hand by Captain "Smiley" on the eastern coast of the U.S.A.

Let us see the other possibility —all wood comes from North America, given that the white oak is similar to its European counterpart and the Californian cypress similar to the Mediterranean's. The distinguishing wood is the red oak which is only American. Therefore, we are in front of a ship completely built on the coast of the United States, as several historians assert. If this were the case, we should not doubt that all evidence leads us to the *Espora*.

The only point for reflection is the use of cypress for one of the ribs. Is it a repair or a reinforcing? This rib is joined to another which is of white oak. Is it a supplement to reach the measure? Together, they would be wider than one foot as the others; but this remains unknown. We took the samples because it called our attention that they were joined; and we could notice that there were two different kinds of wood.

Despite the fact that we will never find a sing reading *Espora*, it is obvious that the data obtained agree with Don Luis Piedra Buena's descriptions and with the elements used at that time.

Another concordant detail is the manufacturing of the chain with link studs which clearly points to an English or American make. The

bottles found provide enough clues as to assume that they were made in the middle of the 800s, both because of the weldings at the top and the bottom and because of their shape. As regards this aspect, we analyze the way they were made as their exact manufacturing date cannot be determined; but we can set the epoch.

Encouraged by these results, we decided to inspect other places that Don Luis Piedra Buena used to visit before enlisting in the Argentine Navy. These sites are Puerto Roca, Bahía Crossley, Puerto Cook, and Vancouver.

Return

ARA Sobral dispatch boat arrived half a day before expected to fetch us as a storm was possibly approaching. Then, on the 25 at 3.15 p.m., we heard the *Sobral's* whistle. With a light drizzle in a gray day, we started dismantling the camp and, with the help of several men from the ship, including Omar Mandolini, General Coordinator of the Ministry of Education of the Provincial Government, we took all the stuff down to breaking water.

Of course, when we started to board, wind was already blowing over 30 knots and the pyramidal short-sea had a good shaking in store for us. We made the first trip on our boat but, as it was somewhat small, it was not advisable to repeat the operation unless it was absolutely essential.

One of the boats left one blade of the propeller stuck in the hard oak rib of the wreckage. This made the other boat help to replace the propeller. Obviously, Don Luis wanted us to suffer a little bit. The operation went on up to practically 8 p.m., when all the material and the people boarded. At this point of the day, we were amid a small storm and nobody could estimate how long it would last or if it was going to get worse. It is worth mentioning the performance of the whole team and, especially, of Lieutenant Rivolta, whom we made work a lot —he carried tents, diving equipment, and even boards of the wreckage; besides, he was in charge of the operation with the boats. With such a high sea, and given the strong wind, it was necessary to make three trips on two boats from the ship, apart from ours, while we had disembarked with only two boats in one trip.

Everything being already on board, the Commander decided to set off. The "shaking" (the veering around and the plunging, all in a disordered way) went on up to 10 p.m. when, already away from the choplines near the island, the wind died down all of a sudden and a calm *Le Maire* let us anchor at Buen Suceso near midnight. Incredibly enough, everything had dissi-

pated. Silvio Bocchicchio, with *La Nación*, was exceedingly excited taking down notes about everything and enjoying the great experience he had had the opportunity to take part in.

Bahía Crossley, Puerto Roca, and Puerto Cook (Vancouver, in fact)

As we had planned, on 16 April, we boarded the dispatch boat *ARA Sobral* again. This time, the team of the Maritime Museum was made up by Horacio García and Miguel Scipione. Darío Urruty, from *El Diario*, Ushuaian newspaper, accompanied us together with the Minister of Education, engineer Javier F. Álvarez y Tristán. On board, we met an Italian navigator, Giovanni Leone, who had lost the mast of his ship some weeks before and was now fixing it at the Naval Base. As he is correspondent of Italian nautical magazines, he wanted to take part in the expedition and visit the lighthouse of San Juan de Salvamento.

We engaged in studying the remains of the building at Crossley and collected wood samples, zinc sheets, and bottles to compare them with the ones obtained on Isla Pavón, Santa Cruz, and at the house of Gregorio Ibañez, Luis Piedra Buena's first officer (we are specially indebted to the researcher Eduardo Mendoza of Comandante Luis Piedra Buena for his contribution). We marked the surface that was worth an archaeological study; most probably, this was the location of the "factory."

The fastening samples agreed with what we had already found at Franklin bay. The remains of bottles agreed with the ones found on Isla Pavón, Puerto Roca, and "Eyroa's hut" in

Vancouver. This was not the case, up to the moment, with the ones found at Franklin bay.

At Puerto Roca, where Luis Piedra Buena left his men to slaughter a colony of King penguins, we set up a camp in a wood near the beach. We walked about the place and found two mouths of a plentiful river that prevented us from going to the woods. At both mouths, we found the remains of a precarious settlement. The one to the east, a shelter built with poles facing the sea. In the other, we found remains of bottles (similar to those of Crossley and Isla Pavón) and stumps that indicated the cutting



Puerto Roca. Bottles similar to those found on Isla Pavón. One of the two shelters found.



Bahía Crossley. Remains of a construction. Bottles were also found here (Horacio García and Miguel Scipione, from the Maritime Museum).

of trees; their rotten state made us assume that they were over one hundred years old.

We also located the place where the penguins colony could have been. Next time, we will try to determine the possible site of the factory and the main shelter with a thorough inspection, although it is known that when slaughtering was over, all constructions were removed, especially if good metal sheets and timber had been used. Being at Puerto Cook, we crossed to Vancouver bay where we had found the famous "Eyroa" hut in a wood in April 98. We crossed the isthmus Luis Piedra Buena's men and other "sealers" used to cross on their vessels to operate either on the southern or northern side of the island. Once in this place, we collected samples to compare them with the ones gathered at the different points where we conducted studies. The last news about visits we know come from a retired Rear-Admiral, Gustavo Padilla, who used to go there as a Midshipman to replenish food (1942). Don Marcos Oliva Day (father) saw this hut still standing in 1967. Nowadays, it is reduced to a group of woods and sheets scattered on the ground and among trees that, in growing, hid little by little the stumps that the old settlers left. The two small rooms that used to make up the shelter and the remains of the "straw" mattresses (tied with wire) are still noticeable. This was a shelter-store where they kept salt and utensils for sealion slaughtering.

Ushuaia, March 2, 1999.

Samples obtained at Franklin bay

1) Piece of wood of 10 cm x 8 cm from a rib. For wood analysis.

2) Idem of 8 cm x 8 cm from sternpost or stem (it is not known). For wood analysis.

3) Idem of 5 cm x 7 cm from keelson (it is supposed). For wood analysis.

Samples obtained from scattered remains on the beach and the wood

1) Piece of plank from the sheathing or skin (this is an assumption to be proved by the wood analysis) to study the "fastening." We intend to determine when was it built and what method was used. The idea is that this wood is studied at shipyards in Buenos Aires and at museums of the eastern coast of the U.S.A, especially those that have already cooperated with the Maritime Museum in the study of the *Luisito*.

2) Piece of rib with an iron peg.

3) Piece of corrugated sheet of 30 x 20 cm to compare it with sheets found in Vancouver and Punta Arenas. Found in the wood; it does not belong to the wreckage.

4) Piece of zinc or lead sheet of 20 cm x 20 cm found in the wood. To determine if it belongs to the sheathing or to the *tacho*.

5) 40 cm of rope. It was found in the wood. To try to determine if it is of nautical use.

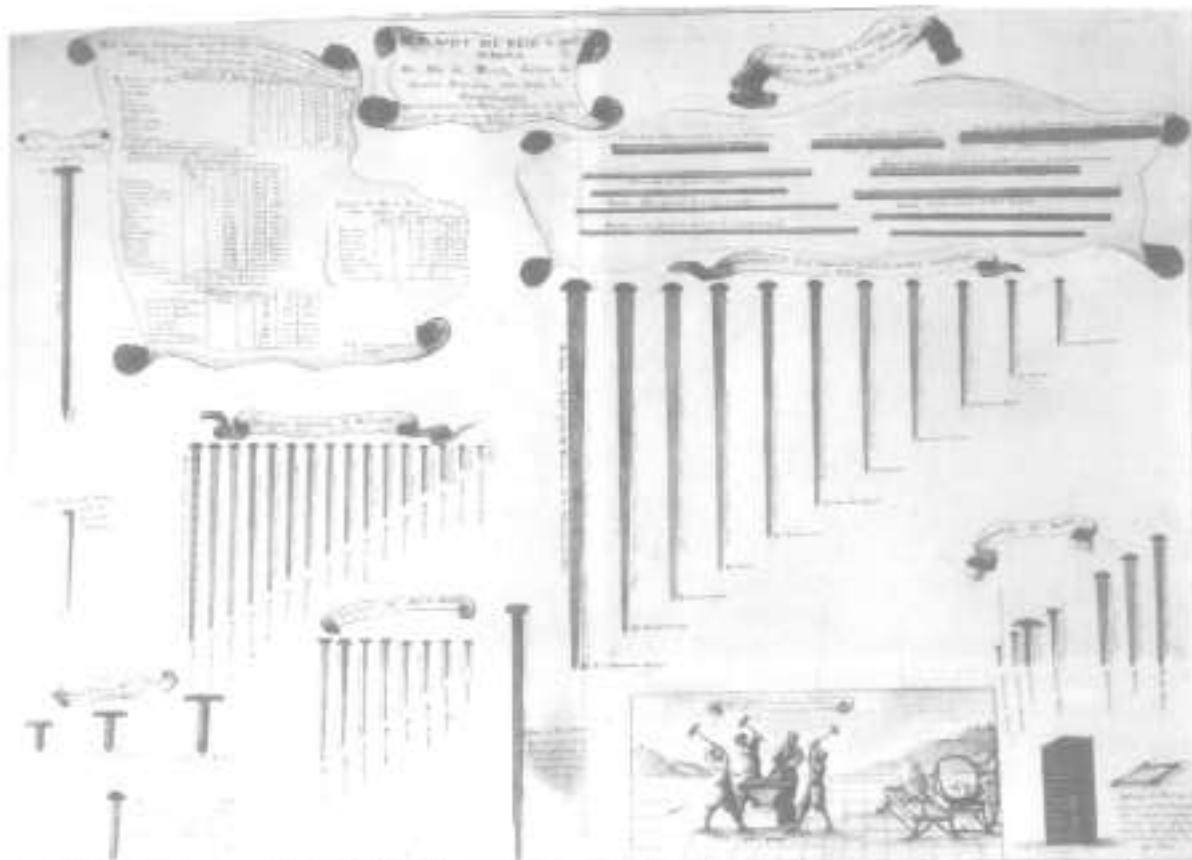
6) 30 cm of one-inch curved pipe. It was found in the wood.

These samples have been obtained for analysis and they are not of interest for exhibition at museums.

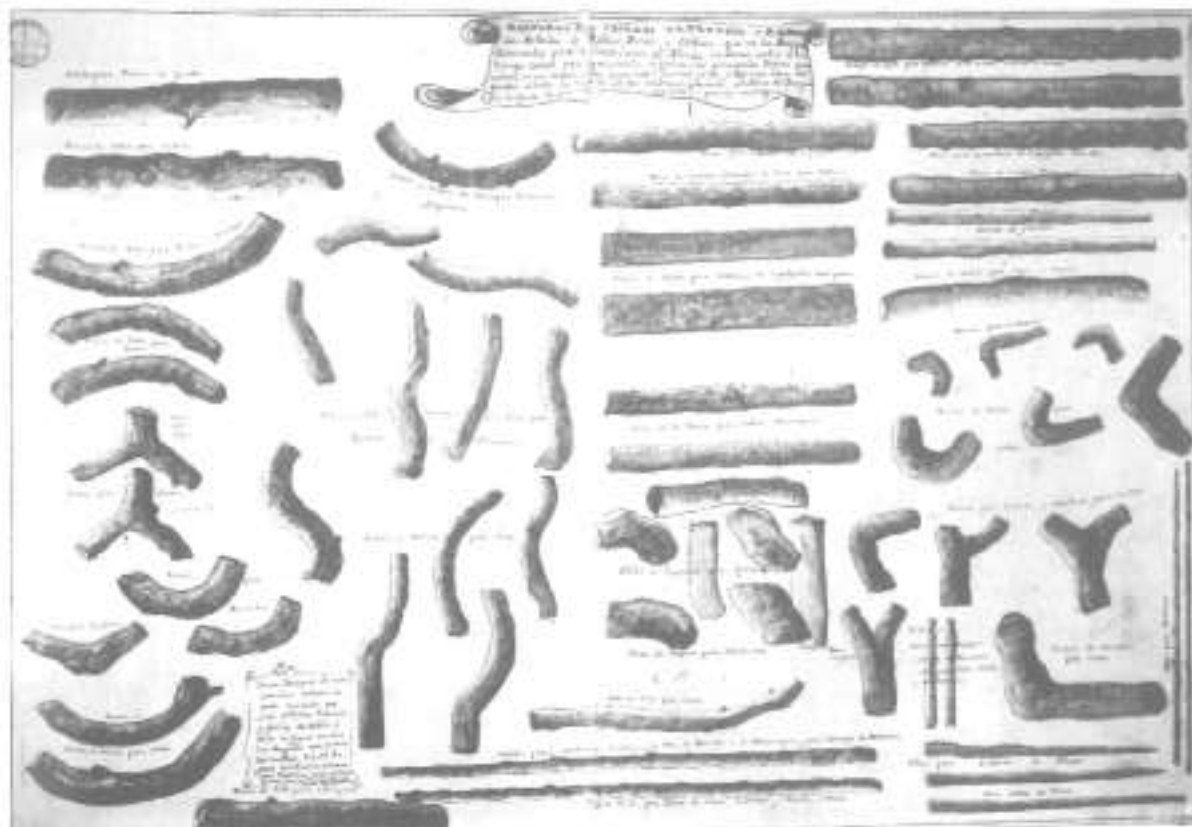
It is worth remembering that, if this is the *Espora*, a 30-meter long ship, these samples of a few centimeters represent less than a blood test.



Puerto Cook, Bahia Vancouver. Carlos Dipilato and the rests of "Eyroa's Hut" at the place described by Roberto J. Payró.



Madrid Naval Museum. Tables of shipbuilding elements according to the epoch. The remains make a temporal approach to shipbuilding techniques possible.



Natural knees from woods. Each one was used for the different parts of the ship (Madrid Naval Museum).



Post of the Argentine Navy at Buen Suceso.

Nautical Archaeology: An Anatomical Study of Wood Samples

Brigantine 'Espora': An Anatomical Study (by Castro, María Agueda¹ and Vairo, Carlos P.²)

Taking into account the historical chronology of the brigantine *Espora*, her background, and the current idea of recovering and revaluating her remains, nowadays kept at the Maritime Museum of Ushuaia (Tierra del Fuego, Argentina), an anatomical study focused on the identification of the botanical species used in building the ship was proposed. This research enabled the tracing of her background and the determination of the ship's origin.

Not any sort of timber is suitable for shipbuilding. Oak, teak, pine, walnut, larch, chestnut, beech, cedar, and fir are among the most used. Oak is one of the strongest and most lasting, and it is specially fit for building the keel, the stem, the sternpost, the keelson, the frame and, in general, every part that makes up the skeleton for the frames of the ship. Chestnut is very durable and usually employed in frames and beams. Elm wood is hard, flexible, and it endures the nailing of bolts and it is very used, for instance, in keels. Teak is highly valuable—it is used for frames, keels, and decks. Eastern cedar is long lasting—luxurious ships are usually planked with this material. Firs and beeches are used for spars and lateen yards. Coniferae in general are suitable

for spars that want long, straight, and smooth headrails.

The present study, added to the rich data available about this finding, intends to contribute with interesting data leading to verify the hypothesis "are these really the remains of the schooner *Espora*?"

It is worth pointing out that, whenever timber is studied, observations have to be carried out in a progressive fashion from the macro to the microscopic levels, i.e., with the naked eye first and then with magnifying glass or stereomicroscope, with light microscope (LM) and finally, if need be, with scanning and transmission electron microscopes. With stereomicroscope, only surfaces are observed. This makes the tridimensional view of samples possible, but restricted as regards the resolving power (up to 3 mm approximately). Therefore, for the observation of ultrastructural details, the scanning electron microscope (SEM) offering high levels as regards depth of field, magnification, and resolving power (60 Å), makes it possible to obtain high contrast tridimensional images.

Lastly, the light microscope is used to see small structures whose dimensions are inferior to the human eye's resolving power limit. Let

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us remember that a good microscope has a resolving power of about 0.2 mm.

After this brief introduction, it is worth mentioning that, wood samples from the different parts of the ship were processed at the Laboratorio de Anatomía Vegetal [Plant Anatomy Laboratory], Facultad de Ciencias Exactas y Naturales (Universidad de Buenos Aires), according to the conventional histological techniques (D' Amhrogio de Argüeso, 1986).

Besides, observations with stereomicroscope, light microscope (LM), and scanning electron microscope (SEM) were conducted. In all cases, the main anatomical features with diagnostic value used to identify the pieces were photographed.

Pieces or blocks of timber appropriately oriented were observed with stereomicroscope. Given the good preservation state of the material for the observation of microscopic features, cubes of 1.5 cm per side were obtained, previously oriented and then boiled in water for 1-2 minutes. Histological cross sections, radial longitudinal sections, and tangential longitudinal sections were cut with sliding microtome.

For observation with the LM Zeiss, 10 mm-thick slices were dipped into sodium hypochlorite, washed several times in water, colored with safranin solution diluted at 1% and lastly mounted on gelatin-glycerin.

In order to study them with SEM Philips 515, 10 mm-thick slices were dehydrated in an

alcohol ascendant series and coated with gold-palladium for their study.

The following samples were analyzed — Sample E1: sternpost point or small stem; Sample E2: plank outer skin with fastening; Sample E3: large frame; Sample E4: keelson, sternpost (or stem?); Sample E5: small plank; Sample E6: frame.

It is worth pointing out that all the mentioned samples are kept and registered at the Maritime Museum of Ushuaia (Tierra del Fuego, Argentina) and make up the collection of the *Espera's* remains.

Anatomical Study

The wood anatomical study made it possible to verify the presence of the following anatomical features with relevant diagnostic value for the identification of wood samples. Three groups of samples have been determined for the anatomical description.

Group I (Pl. I: A-C; Pl. II: A-D; Pl. III: A-C; Pl. V: A-G; Pl. VI: A-F; Pl. VIII: A-F): This group is made up of samples E1, E2, E3, and E5, which correspond to: sternpost point or small stem, plank outer skin with fastening, large frame, and small plank, respectively.

Wood anatomical description: Ring porosity. Earlywood pores numerous, arranged in



Extraction of samples.

several rows (2-4). Latewood pores very short in diameter and diagonally arranged. Rays present in 2 different sizes: wide and narrow. Apotracheal axial parenchyma diffuse and paratracheal axial parenchyma in one-cell thick tangential rows. Crystal axial parenchyma very frequent and in radial longitudinal sections arranged in vertical rows. Earlywood vessels from 300 to 500 μ m in diameter. Simple perforation plate and alternate bordered intervessel pits. Vessel-ray pits rather large, elliptical, and vertically elongated. Abundant tyloses.

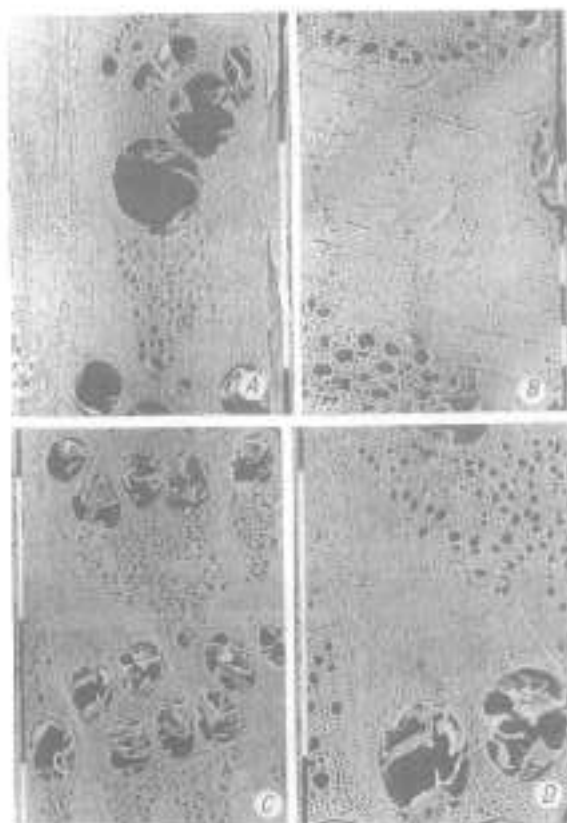


Plate I

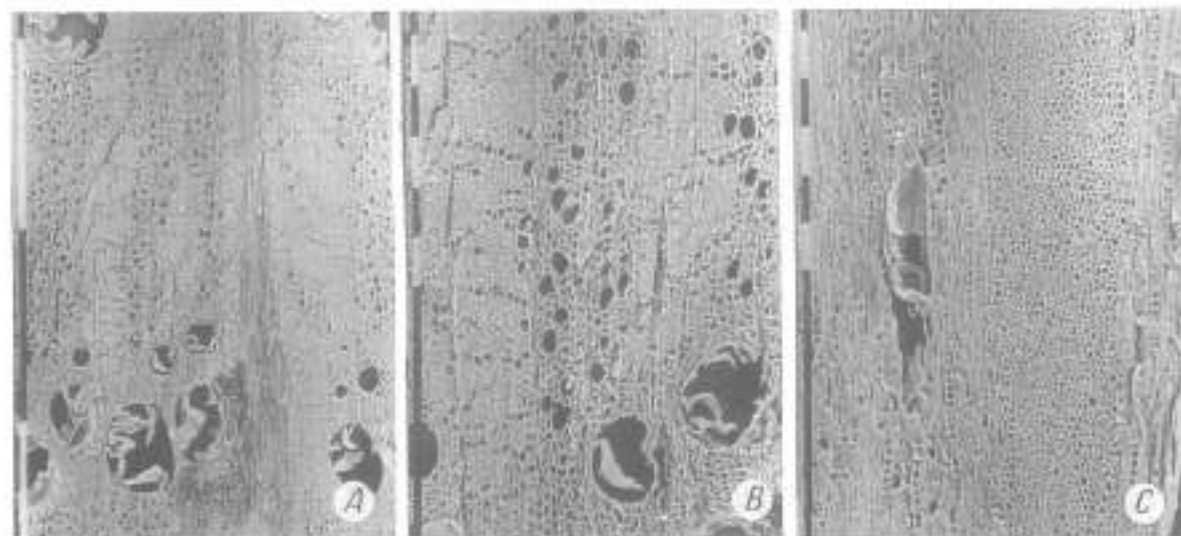


Plate II

Libriform fibres with very conspicuously thickened walls mainly present in latewood and/or between narrow vessel areas. Gelatinous fibres present. Vasicentric tracheids present.

Group II (Pl. IV: A-C; Pl. VII: A-B): Made up of sample E4 corresponding to keelson, sternpost (or stem?).

Wood anatomical description: Ring porosity, latewood pores less abundant and with dendritic arrangement pattern. Rays uniseriate lower than in Group I. Thinner-walled fibres. Small vessel-ray pits, variable in shape, from window-like to vertically elliptic, from horizontal to obliquely elongated. Vasicentric tracheids and crystalliferous cells present. The rest of the features agrees with those mentioned for Group I.

Group III (Pl. IX: A-E; Pl. X: A-F): sample E6 or frame.

Wood anatomical description: Distinct rings. Resinous canals wanting. Large bordered pits arranged on the radial walls of tracheids and fibre-tracheids in a series and very scattered at opposite ends in twos. Axial parenchyma in sparse tangential bands present. Rays uniseriate. Cross fields with 1-4 cupressoid pits. Radial tracheids absent.

As regards the anatomical features described, samples included in Groups I and II agree with *Quercus L (Fagaceae)*, whose vernacular name is oak. The *Quercus* genus (old Latin name for oaks) encompasses about 200 species native to the Northern Hemisphere. The species that may be related with the mentioned groups are the ones known under the vulgar names white oak and American red oak, respectively. The following species might be akin to Group I (samples E1, E2, E3, E5): *Q. miribekii Durieux (chene zeen)* distributed in

Europe; or *Q. alba* L. (white oak) and *Q. michauxii* Nutt. (swamp chestnut oak or basket oak), both within the group known as American white oaks distributed in North America. The said oak species are deciduous trees. Sample E6 that belongs to Group III is akin to *Taxodiaceae* and to *Cupressaceae*, closely related as regards their anatomical features. These could be represented by species known under the vulgar name cypress. The genus *Taxodium* Rich. (*Taxodiaceae*) and especially the species *T. mucronatum* Tenore (Mexican cypress), extremely longevous—in its native country there are specimens with trunks of about 1.2 m in diameter—, includes very large trees distributed on the mountains of Mexico at levels ranging from 1,400 to 2,300 m. On the other hand, for the genus *Cupressus* L. (*Cupressaceae*) the following species must be specially mentioned: *C. macrocarpa* Hartw. Ex Gord. (Monterrey cypress) distributed in North America encompassing Monterrey, California (USA);

and *C. sempervirens* L. (Mediterranean cypress) with very large specimens distributed in Greece, Asia Minor, Iran, Iraq, Syria, and in the west of the Mediterranean, where it has become naturalized.

Conclusion

The present study comes to the conclusion that sternpost point or small stem (E1), plank outer skin with fastening (E2), large frame (E3), and small plank (E5) are made of white oak. As for frame (E6), it is made of cypress. The wood anatomical study does not lead to distinguish if they are American or European species.

The keelson, sternpost (or stem?) (E4) has been made of American red oak: *Q. rubra* DuRoi. Therefore, samples were identified as wood belonging to species whose distribution encompasses North America, Europe, and/or the Mediterranean basin.

This results in two possible hypothesis:

I. The brigantine *Espera* might have been

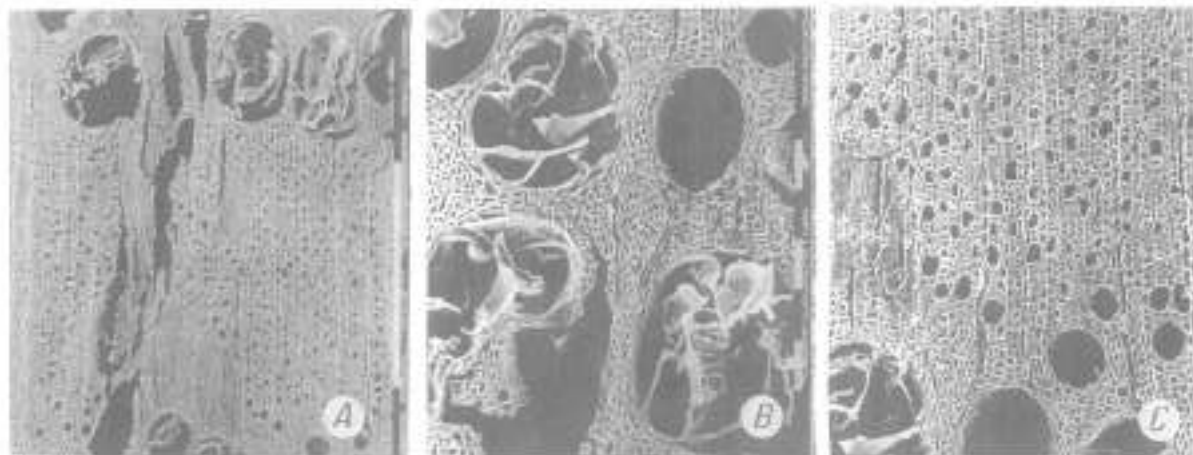


Plate III

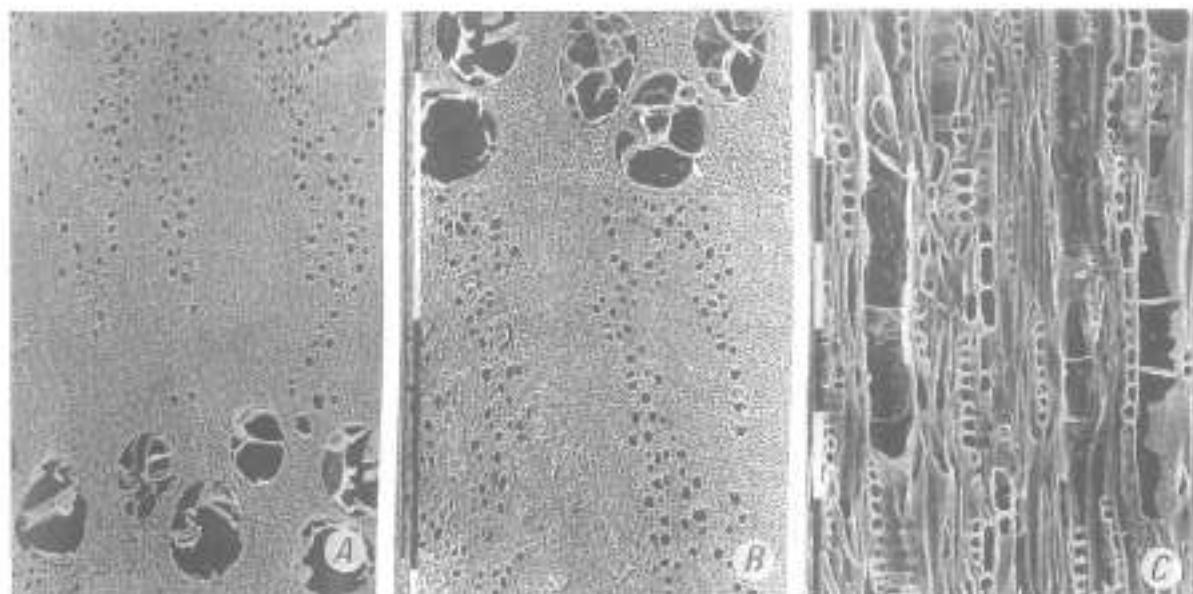


Plate IV

built in shipyards of the Eastern coast of the United States using planks from North America: American white oak (E1, E2, E3, E5); American red oak (E4), and Mexican cypress or Monterrey cypress (E6).

II. The ship might have been built in Europe, especially in northern shipyards (England, the Netherlands, France) with European white oak (E1, E2, E3, E5); American red oak (E4), and

Mediterranean cypress (E6). Within this hypothesis, the presence in E4 of American red oak, *Q. rubra*, an American wood, as part of the keelson, sternpost (or stem?), could be explained as the result of a partial fixing of the ship carried out in the area of North America or the Caribbean after a long voyage. An alternative to this hypothesis results from sample E6 as Monterrey or Mexican cypress; given this case, the

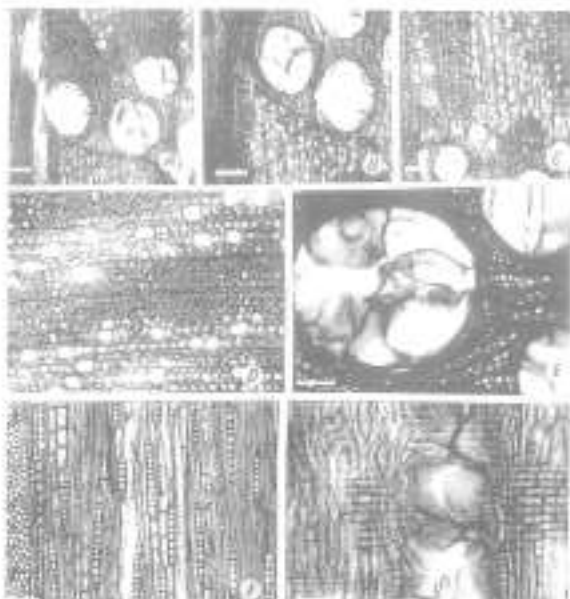


Plate V



Plate VII

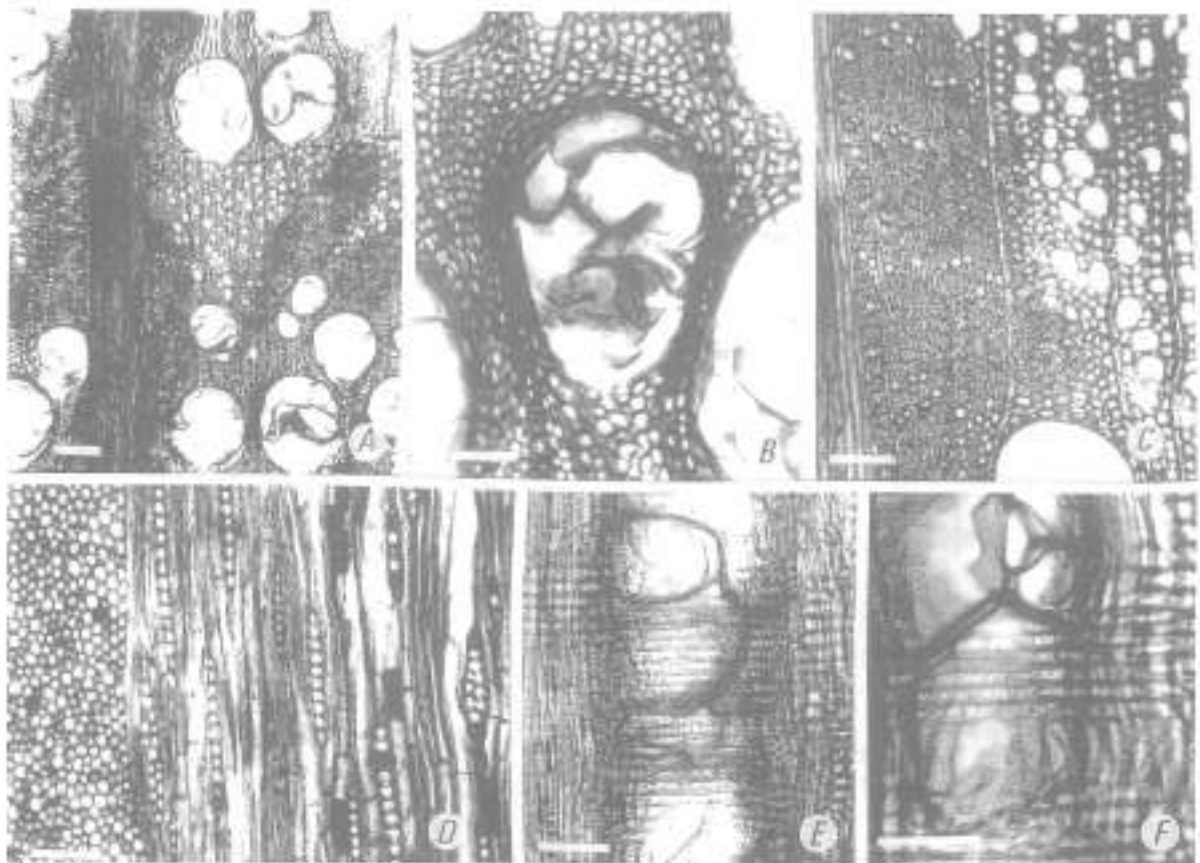


Plate VI

presence of American cypress would also be related to possible repairs.

According to Arnaldo Canclini (1998), H. R. Ratto attempts to reconstruct the measures of the ship *Naney*, which he considers to be 40 meters long, 5.40-m wide, 2.45-m depth, 1.40 draft, and with 220 tons displacement. He goes on, "she must have had the fine lines typical of the sailing ships at that time, lodgings for the captain and the crew below deck, all of these smelling of sealion and penguin fat rather than of tar. She might have been built in New York and Piedra Buena may have taken part in building her together with her American owner, W. H. Smiley (trade agent)." Let us remember that it was not until 1863 that this ship, owned by Piedra Buena, was renamed *Espora*.

This historical evidence, added to the fact that in the 19th C American shipyards used planks coming from its oak groves, would support the first hypothesis.

To sum up, the present anatomical study made the identification of wood possible and contributed with data that lead to the reconstruction of the nautical background of the ship through the interpretation of the possible maritime links with ports in the Caribbean and North America.

At present, research is being conducted in museums of the United States in order to obtain relevant historical data that back up cogently the hypothesis confirmed by the present work.

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Plates

Pl. I: A-C, Sample E1: sternpost point or small stem, with SEM-micrographs: A-B in cross section: A, ring porosity, general aspect; B, detail of latewood with axial parenchyma in 1-cell thick tangential rows; C, tangential longitudinal section: wide and narrow rays.

Pl. II: A-D, with SEM-micrographs: A-B, Sample E2: plank outer skin with fastening in cross section: general aspect and detail, respectively; C-D, Sample E5: small plank in cross section: general aspect and detail, respectively.

Pl. III: A-C, Sample E3: large frame, with SEM-micrographs in cross section: A, general aspect; B-C, details of early- and latewood, respectively.

Pl. IV: A-C, Sample E4: keelson, sternpost (or stem?), with SEM-micrographs: A-B in cross section; C, in tangential longitudinal section.

Pl. V: A-G, Sample E1: sternpost point or small stem, with LM-micrographs: A-E in cross section: A, ring porosity, general aspect; B, earlywood detail; C, D, latewood detail; E, tyloses in earlywood, detail; F, in tangential longitudinal section; G, in radial longitudinal section.

Pl. VI: A-F, Sample E2: plank outer skin with fastening, with LM-micrographs: A-C in cross section: A, ring porosity general aspect; B, earlywood detail; C, latewood detail; D, wide and narrow rays in tangential longitudinal section, in F, vessel-ray pits (detail).

Pl. VII: A-B, Sample E4: keelson, sternpost (or stem?), with LM-micrographs: A, in cross

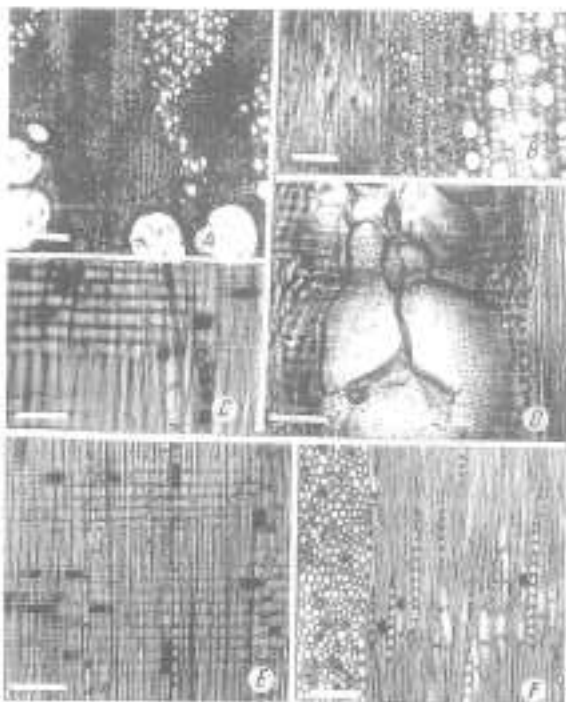


Plate VIII

section: ring porosity, fibers with thinner walls; B, in radial longitudinal section: vessel-ray pits (detail).

PL. VIII: A-F, Sample E5: small plank, with LM-micrographs: A-B, in cross section: A, general aspect; B, latewood detail; C-E in radial longitudinal section: C, crystals in axial parenchyma; D, vessel-ray pits (detail); E, rays detail; F, wide and narrow rays in tangential longitudinal section.

PL. IX: A-E, Sample E6: frame, with LM-micrographs: A-B, distinct rings and axial parenchyma in tangential rows, in cross section: general aspect and detail, respectively; C, in

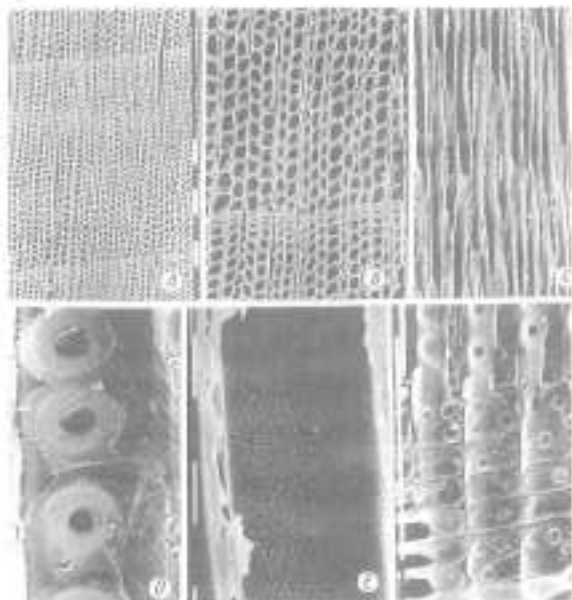


Plate X

tangential longitudinal section: most rays uniseriate; D-E, in radial longitudinal section: bordered pits scattered in a series and cupressoid cross fields.

PL. X: A-F, Sample E6: frame, with SEM-micrographs: A-B, in cross section; C, in tangential longitudinal section; D, bordered pits scattered in a series; E, warty layer in tracheids; F, cupressoid cross fields.

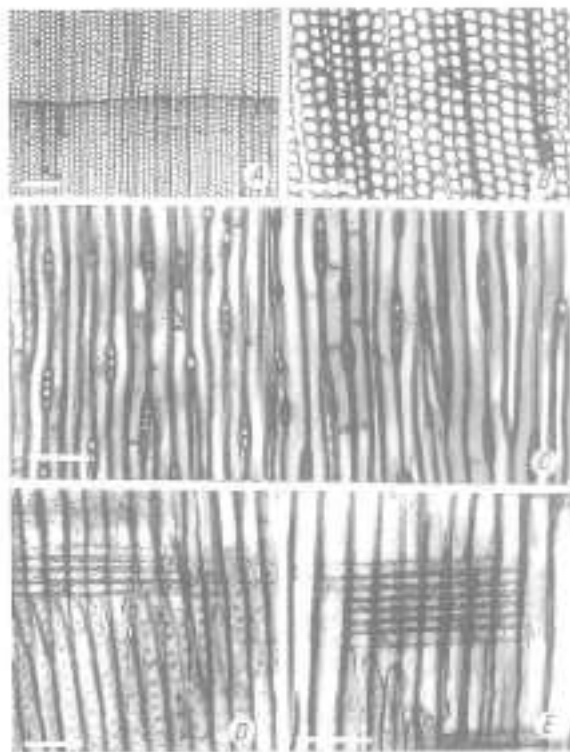


Plate IX

Natives



Yamanas on board of the Frigate 'A.R.A. Sarmiento' (1899).

Although the present work deals with the wreckages that started to take place when Europeans discovered the region, let us bare in mind that this area was already inhabited by navigators—of course, they were far more primitive. Generally speaking, we can say that they practically lived in the "Stone Age," according to the way ages are considered in Europe. But these natives interacted both with wreckers and with navigators. Some of their canoes even replaced lost sloops or boats from whaler fleets as in the case of Captain James Weddell. We will be dealing with some aspects that will approach us to them and to the region. "Indians," rescue stations, and lighthouses were viewed as resources to cope with wreckages.

Trying to Make the Area Safer

Several measures were taken in order to provide the area with more safety. As we have seen, although not in a good location, the Lighthouse at the End of the World on Isla de los Estados (*Staten Land*) was one of them. It quickly appeared in notices to mariners and it had great repercussions all over the world.

On the first map of Tierra del Fuego—charted by Julius Popper after his 1886 expedition—the lighthouse appears along with a warning stating that Indians to the south of San Sebastián bay are not hostile. Seamen were worried about this issue and Anglican missionaries (settled down in Wulaia, Ushuaia, and on Malvinas islands) provided the Indians they evangelized with a small sign that said they were not "cannibals." Many of these natives were responsible for saving countless lives, especially in the surroundings of Cape Horn.

The point is that, for many years, Europeans took it for granted that "Indians" from these latitudes were anthropophagic. Their "bad name" was originated when a great Flemish fleet made up of eleven vessels and 1,637 men arrived in the Fuegian archipelago in 1624. This was the Nassau Navy, which had been organized by the Dutch States-General, the East Indies Company and the President of the Netherlands, Stadholder Maurice, prince of Orange and count of Nassau. Jacques L'Hermite commanded the fleet that intended to conquer Peru to go on undermining the Spaniards.

On arriving in Cape Horn and overcome by storms, the fleet finds refuge and enters a large bay the seamen named after Nassau. There, Schapenham, vice-admiral of the fleet, explores the coast on the tender *Windhond* and gets into contact with the Yamanas. This first meeting was the one that gave them a bad name for anthropophagy because the narrations of the expedition described them as such. Although this assertion could never be proved, this first meeting put an end to the lives of seventeen seamen. We also owe to this early encounter the first description of the Yamanas' vessels and their building techniques. Because of shape, these were described as similar to gondolas and, taking this as a starting point, draftsmen pictured them showing the world images of some anthropophagic beings sailing naked in Venetian gondolas across an icy region.

The fleet stayed at Nassau Bay for only five days and this experience provided the first description of the Yamana people, their canoes, and their lifestyle. These impressions were published as part of the logbook in 1629. The expedition sailed back to Texel on 9 July 1626; a three-year voyage came to an end.

Seamen were really worried about the natives issue. References to it may be found in many writings, such as Doreteo de Mendoza's journal (16 February 1866). This soldier worked for Navy honorary Captain Don Luis Piedra Buena, on Isla Pavón, Santa Cruz. For many, this character was an undercover agent; for everybody, he was a complete enigma since he worked at Don Luis' store as a sort of shopkeeper and, at the same time, he was in charge of distributing the food "rations" that the Government of Buenos Aires sent for the natives of cacique Casimiro.

But let us consider his account: "...At 1 that same day I was in the Chilean colony [Author's note: Punta Arenas] at Captain Piedra Buena's. At that moment, the priest of this colony arrived to fetch me to his house as there was an Admiral of some steamers and an American war monitor that wanted to talk to me, so I went; and we hailed each other as soon as we met, the name of the Admiral I ignore. The first question he put to me was if the Tehuelche Indians ate people; so I answered that they did not eat people; secondly, he replied that in past times a ship had beached on their coasts and that the captain and the crew were his countrymen and that the Indians, instead of protecting them, set the ship on fire and then killed the captain and the whole crew and that he has had news that then the Indians ate them. At that point, the Admiral was mistaking the Tehu-

elche Indians for the Yamesgunas [Author's note: Yamanas] of *Tierra del Fuego*; which is true, that Yamesgunas Indians eat people; but the Argentine Tehuelche Indians of the Strait of Magellan and Santa Cruz port do not eat people and they protect the crews of the ships lost on their coasts, as I can attest; cacique Casimiro has saved crews of ships lost on his coasts on several occasions and has taken care of them as best as possible at the center of the Pampa and then he has led them to the Chilean colony of Sandy Point, Magallanes, where ships have been provided to embark them..."

As regards the activity of the Anglican Mission (SAMS, South America Missionary Society based at London and Islas Malvinas), we can say that it was the first to provide assistance to wreckers. Anglicans had settled down in the peninsula of Ushuaia in 1870 and they were so famous that for a long time, even after the setting up of the subprefectures and/or rescue stations—at San Juan de Salvamento and Ushuaia (1884); later the one at Buen Suceso that was then moved to Thetis Bay (1891)—, that news around the world credited the Anglicans with all the rescues and all the aid offered by subprefectures.

This situation gave rise to a letter sent to embassies and consulates in Buenos Aires and the publication in different countries of a "Notice to Mariners" that stated where seamen could find help. (Expediente N° T-2602/891, signed by General Don Julio Argentino Roca, who at that time was Minister of Interior, and dated 1 May 1891. This file was originated in the claims of Don Mario Cornero, Governor of the Territory.)

As we have seen in several wreckages, the "Indians" interacted with survivors. In some situations, the wreckers claimed that the natives were annoying, as it is shown in the narration of the *Purísima Concepción's* wreckage or in Mr. Brisbane's account. Anyway, there were also other cases of wreckers that stayed for some time with natives and some even stayed for good (see *Duchess of Albany*).

On many other occasions, it was these "savages" who reported wreckages to authorities or served as guides.

But let us draw our attention to the vessels the Europeans found in the region, which were wrongly studied or misinterpreted by the eternal ignorants of the sailing art who live with their backs turned on the sea. They considered the natives' vessels as a primitive product of relative value and not as the best instance of man's adaptation and adjustment to his envi-



Group of Yamanas. La Romanche Scientific Mission (ca. 1882).

ronment to meet his needs with the elements available, either tools or raw material.

The Yamana Bark Canoe

Nobody knows for sure when the last ones were seen. There is one in Punta Arenas, which dates from 1903 and came from Dawson island, but it belongs to the *Alakaluf* (halawwulup) group. Still, it is quite similar to the Yamanas'. There is also Clara Bridges' testimony, which mentions that some of these canoes appeared at the bay of Harberton estancia toward the first decade of the 20th century. At some point, they coexisted with dugouts and even with plank canoes. This advance was due to the introduction of steel tools by the Europeans.

It is not known why they used this sort of canoe and not another, but what it is known is that theirs was completely adapted to the environment. As regards the seaworthiness of these canoes, let us think that, apart from navigating along the Beagle Channel, they reached Cape Horn and Isla de los Estados crossing the feared Le Maire Strait. We think that they ventured that far because they wanted to see what *Chuanisin* (the land of abundance, as they called it) was about, but these voyages were not frequent. Every seaman longs for seeing what is beyond the land he sees or senses.

At Crossley bay, Doctor Anne Chapman found archaeological remains, but they were on the surface and they are not congenial with the typical settlements found in the rest of Tierra del Fuego. It could be said that a group arrived in this place by mistake taking advantage of tides in a calm day. We will never know if they were able to return to their departure place or if they died in the attempt.

According to data from accounts and ethno-history, during 1989 and 1990, I took part in a group that reproduced one of these canoes to test it in the water. The tools the natives used to strip bark off were basically knives made of valves or stones, and whalebones.

Materials used in the making of a canoe were the ones provided by the typical Fuegian woods that extend down practically to the sea. The bark is obtained from the evergreen beech (*Nothofagus betuloides*), the longitudinal ribs being of high deciduous beech and internal boughs—acting as frame—of Winter's bark (*Drymis winteri*). Carvel-built is the system used to make this canoe whose three large bark stripes that form the hull are sewn with whalebones or vegetal fiber. The canoe acquires its shape when the internal boughs (longitudinal and transversal) are placed. At first sight, there is no difference with a canoe made of a single bark. One of the tests conducted consisted in changing materials—we tried using high deciduous beech, but this failed as it cracks easily. We changed evergreen beech ribs for high deciduous beech ones to see how they broke due to lack of flexibility. We also tried using thin strips of sealion skin for joints and saw how they stretched with water letting the joints open. Obviously, natives had learnt about these results a long time ago. (See *Los Yamanas. Nuestra única tradición marítima autóctona Reconstrucción de una canoa de corteza en base a datos etno-históricos*, by Carlos Pedro Vairo, Zagier & Urruty Publications.)

The most difficult task is obtaining the bark needed for building and for possible future repairs. To strip the bark off from the tree, the



Yamana on a bark canoe (photo by La Romariche expedition, 1882-1883).

Yamanas waited for the sap to go up to the treetop in abundance. In this way, they could obtain large strips. They waited for spring and they could perform this operation up to February, but attempts are pointless during autumn and winter. Three or four men helped to make the cuts and strip the bark from a standing tree. For this purpose, they needed a thick straight sound tree (no injuries on the bark or diseases) of at least 8 m high with no boughs.

The Yamana man was helped by his family for the rest of the tasks. Women were mainly in charge of the joints and caulker of the vessel. Caulker was prepared with a mixture of clay, algae, moss, tallow, and dry grass. When we reached this stage in the building of our canoe, we got ready with different elements, even the famous *silastic* to which any sailor resorts for salvation, as we had doubts about Thomas Bridges' comments being true. We were surprised at the efficiency of the plaster invented by the Yamana. We even used it to fix small openings originated in the misuse of the canoe and in strandings on rocks, beaches, or shoals.

Navigation tests were excellent. We were surprised at the maneuverability, speed, and burden capacity. Being of small dimensions (3.40 m long), our canoe could carry two people that weighed over 155 kg. The size of this canoe was taken from a description by James Weddell who, in 1823, used one of these canoes to replace his lost boat.

The Yamanas, short and of a small built, moved on their canoes with their whole families. As we can read from the different quotations by authors of that time, canoes were not all of the same size as this depended both on the region in which they navigated and on the number of family members. Therefore, the authors mention smaller canoes for newly "wed" or childless couples.

Although the annual average temperature is of about 5° C (without important variations), children used to keep a fire at the center of the canoe. The purpose of carrying fire was other than keeping warm—they needed fire ready when disembarking in the new place chosen to erect a shelter or reuse an abandoned one. The man of the family stayed at the bow with his harpoons ready in case some prey appeared. He seldom rowed as this task was performed either by the woman or by the eldest daughter.

The canoe was built by the man, but he handed it over to the woman for her to be in charge of it. The case was such that, when they had to anchor due to the type of coast, the children carrying the fire disembarked first, followed by the man that had to build the shelter or go hunting. The woman carried the canoe to secure waters—usually among *cachi yuyos* (giant kelps) or rush—and returned swimming.

According to accounts and a few photographs dating from the late 1800s or early 1900s, they used a sail made of sealion skins and, apparently, from what is seen in the photos, sacks in disuse. These rare cases must be related to use for trips with favorable wind, which may be frequent depending on the course taken. Some accounts mention that the Yamanas simply held skins with their arms. The sail canoes photographed had a small mast with a yard (auric rigging), all this tied to the transversal crosspieces of the canoe or to holes made in the gunwale for dugouts. In all these cases, we can see that the Yamanas learnt from the European.

Many seamen praised the Yamanas as good seamen. Both Weddell and Thomas Bridges, who always sailed in the company of some outstanding Yamana sailor, included them in

their crews. Although it is thought that they were best wanted for their interpreting skills, several ships also included them as sailors. The first regatta organized by the Argentine Navy in the bay of Ushuaia in 1899 contributes with an interesting piece of information—all boats had at least one Yamana hand.

Naturalist Charles Darwin regarded these people as the meanest race of the human genre, thus condemning them to a fast extinction. Nowadays, apart from the memory of these excellent navigators and their canoes, there are only two or three descendants left in the reservation of Ukika, on Navarino Island, Chile.

It is worth remembering that this was not the only bark canoe used all over the world. To name but a few, there is the Canadian canoe made of birch bark and caulked with cedar resin or the Amazon one made out of a single piece of bark. Anyway, this is far different from the Australian's or the ones found on Salomon islands or in Madagascar. The Yamanas' was the only one used at sea and as the basis for the survival of these peoples. In building their canoe, they used methods employed for vessels—the bark was not a plain disposable shell.

Although they could get sealion skin, leather was not used because they had no resources to tan it (lack of tannin in local trees) and the temperature was too high compared to that of the Eskimos' environment. Contact with water makes skin stretch constantly until it opens. Tests were conducted to prove this.

On Chilean Tierra del Fuego, and especially in the area of Magallanes, a region neighboring Punta Arenas, we find the Alakaluf (*Halakwulup*) people, who also built bark canoes. Theirs are very similar to the previous ones. As regards dimensions, according to travelers' cites, they were larger. One of the reasons for this may be the fact that they sailed in calmer waters than those of Cape Horn or simply that the travelers recorded larger ones. Besides, we can see that the Alakaluf were influenced by other native seamen that inhabited further to the north on the Pacific coast. This coast is far more favorable for navigation and aquatic nomadic life given the lavishness of channels and islands with a great variety of marine fauna. On the contrary, the Atlantic coast has cliffs with beaches washed by the sea and a few places where to find natural shelter.

The 'Dalca'

South of Chiloé island, in Chile, there was a native group that inhabited the territory com-



Yamanas (La Romanche expedition, 1883).

prised of the Guaitécas islands, the Peninsula de Taitao and the Guayanecas islands; its south limit being the Golfo de las Penas. They were the Chonos.

They have been characterized as nomadic people whose living was mainly based on fishing, sealion hunting, and collecting of shellfish and marine algae. In some apt places, they cultivated some corn, potatoes, and barley.

At the arrival of the Europeans, population was estimated to be of 1,000 individuals. The Alakalufes lived (*Halakwulup* and/or *Kaweshar*) to the south of this territory. It is thought that they were culturally influenced by the Chonos, when the latter were moved by the Europeans. Being marine people, one of the most important elements for the development of their lives was the vessel. Theirs was known as the *dalca*, which was different from the Alakalufes' and Yamanas' in that it was built with planks. Still, it was similar in appearance because of its shape and because the planks were joined with vegetal fibers. This point coincides with the natural evolution of ship-

building before the use of wooden pegs later replaced by metal (Egyptian ships onward).

In the accounts of the first expeditionaries, wooden vessels were practically unknown in the Alacaluf region. As time went by, their presence augmented as the Chonos moved south.

The Vessel

The building technique for the *dalca* is very different to that used for making bark canoes. Although in appearance they may be similar, their building principles are completely different.

The most primitive ones were made up of three or five "sewn" planks. The wood was obtained from the larch, which is characterized for cracking longitudinally. So builders used to put "wedges" in the trunks and they obtained planks (timber-yielding by wedge) by hitting. These planks are exposed to water and then to fire to make them flexible and shape them at will.

Therefore, we can say that the southern limit of these canoes was with no doubt marked by the kind of tree available. Of course, it is also necessary to have a minimal knowledge but, for a seaman, this is just a matter of time. Not having the natural resource, it is impossible to build this sort of vessel.

Planks were joined with fibers obtained from canes that the natives crushed and twisted

until they got a sort of rope. They caulked with the leaves of a local plant (*fiaca* or *mepoa*) characterized for being viscous; caulker was covered with bark. This system, similar to the one used with bark canoes, lead many to compare both vessels. In fact, there is also an astonishing similarity with vessels built by Lapps. Fortunately, nobody thought of some analogy between both cultures up to the moment.

Apart from showing the evolutionary stage in naval building at the moment of the Europeans' arrival, the seam gave the *dalca* some qualities. For instance, she could be disassembled to cross isthmuses thus avoid venturing into open sea or long trips by water. Although there is no proof, it is believed that this seam gave the vessel a certain elasticity, which favored navigation in areas with a lot of surge (this should be tested, as it could change the present idea of the possibilities of navigation in the area and their scope).

The Jesuit Diego de Rosales described the building of these canoes in a book issued in 1674. On the one hand, his account agrees with what Miguel de Goizueta found in 1557. On the other hand, they are very similar to those kept at the Ethnographic Museum of Stockholm and at the museum of Göteborg. It was Professor Carl Skottsberg who took them there in 1910. The dimensions of this *dalca* are: 4.26 m long, 1 m wide, and 51 cm depth.

These measures are very different to the size suggested in Ercilla's narrations, where he mentions having seen a *dalca* carrying 15 oarsmen aboard. *Dalcas* of 10 meters length and even larger have also been mentioned. They were said to have a tail rudder and many pieces such as ribs, coaming, benches, and supports for two masts with their corresponding cordages.

Different navigators contribute with data of larger sizes, which demonstrates that there was not a fixed pattern for building these vessels. Each craftsman-seaman made canoes according to his skills and necessities such as the number of family members.

Where Were they Heading for?

It is impossible to infer how the *dalca* would have evolved without the "colonizers" intervention. Would necessity have impelled the building of larger vessels? For sure, it would. The natives had already added two planks to augment the freeboard. This increased the capacity and the possibility to navigate in more turbulent waters. What would have been the following stage?



1883: Yamanas on the scientific mission headed by the frigate 'La Romanche' at Cape Horn.



Yamanas. 'La Romanche,' 1882-83.

Strait of Magellan



The 'Amadeo' at San Gregorio.

Characteristics

The Strait of Magellan splits Tierra del Fuego from the rest of the continent and connects the waters of the Pacific to the waters of the Atlantic. It was formed in the Glacial Age, which is responsible for the channels and archipelagos that gave Tierra del Fuego its final appearance. The firm land of the western region of the strait is of igneous origin, with the presence of large granite masses.

The western mouth of the strait is marked by the capes Victoria and Pilar. The eastern mouth is marked by Punta Dúngenes and cape Espiritu Santo. It extends for about 310 miles. In order to describe it, we should split it into two sections that have different characteristics. The western section extends from its mouth to cape Froward and the eastern one from the latter to the Atlantic outlet.

The former section is narrow and NW-SE oriented; its coasts are steep, rocky, and desolate. The latter, except for the two narrow parts, is wide with low and woody coasts and inhabitable in general. In this region, at low tide, large sandy beaches ending in vertical ravines where the sea strikes at high tide are revealed.

Climate varies according to sections. In the western, bad weather with NW winds with a normal intensity between 20 and 35 knots that can reach 50 prevail and these conditions are not rare. There is abundant rainfall in the area (between 5 and 6 thousand millimeters per year) and there are squalls with winds surrounded by high coasts and channels. Average temperature ranges from 4°C to 12°C.

In the eastern region, having a plain orography, the cyclonic centers pass by without being trapped or stopped by the mountains. As moist was lost by relief rain in the first part, rainfall here is poor. Punta Arenas (Sandy Point) has an average rainfall of 430mm. Winds are usually strong and very strong from the WSW sector (over 50 knots). Although wind may blow constantly for some days, it usually starts to blow in the morning and reaches its maximum intensity between 2 and 4 p.m. to become calm at sunset. These winds blow between September and March and reach their maximum intensity in October and November.

Another usual phenomenon is the mirage—the coast may be seen inverted or doubled, the same as the rest of the Patagonian coast.

Tides and Currents

In the western sector there is a one-knot current to the south with the same orientation of the strait. It rises at high tide and with northerly winds. It also calms or disappears with the action of opposite winds. The tide coverage in this sector ranges from 1.20 m to 3 m maximum.

In the eastern sector, the flood current (high) starts three hours before the high and finishes three hours after. It runs from east to west helping navigation a lot; the best thing to do is to sail it as from the first narrowing (*Primera Angostura*). It can take a ship almost to Punta Arenas. It is advisable to keep the vessel in the center of the strait because in bays such as San Gregorio, or the shoals alter the direction and intensity of the tide. There are shoals that enter some miles in the strait such as the Orange, which extends for 5 miles.

Ebb tide is from west to east and there are two of them every 24 hours. The coverage of the tide varies from west to east, the mouth of the strait having the maximum coverage of about 11 meters at tides of medium syzygies. At the Second Narrowing (*Segunda Angostura*), the coverage is of 6 meters and in Punta Arenas it reaches only 2.

The speed of the current is high and it rises in the straits. In the Atlantic mouth, it develops a speed of 2-4 knots reaching 6 or 8 knots in the first narrowing and of 3-6 knots in the second.

It is a proven fact that nocturnal tides are always of a higher coverage than the diurnal. During ebb, the waters coming out of the strait do it in the SE direction; i.e. rounding the Atlantic coast of Tierra del Fuego.



A characteristic of the strait is the great deal of rocks scattered everywhere. Fortunately, they are visible as they are covered with gulfweed. If in the middle of algae, a clear area of water is seen, there is more shallow part of the rocks. You have to take into account that the current makes *cachiyuyos* to be displaced from the place where rocks are.

If sailing in the area is a challenge for modern navigators with their sound radars and echo sounders, and all the studies carried out, let's imagine—for instance—the exploit of men like Magallanes and Sebastián Elcano who, on arriving at the strait, cast anchor near Punta

Dúingenes. Here, there is a tide coverage of 11 meters and currents of 4-6 knots and strong winds. To make matters worse, we have to add the waves produced by the choppiness of the tide and the fact that nobody knows where you are and where you are heading for.

Shipwrecks and Accidents in the Strait of Magellan

The present work was carried out by the historian Mateo Martinic. It was partially extracted from another work by Captain Vidal Gormáz (*Naufragios Ocurridos en las Costas de Chile*, Santiago de Chile, 1901) and from Manuel Zorrilla's *Magallanes en 1925* (Punta Arenas, 1925) and completed by Martinic. Those interested in further details (crew, survivors, cargo, destination, rescue, etc.) about these wreckages may consult the books already mentioned. The one by Francisco Vidal Gormáz is also available in English. You can get them at Librería Regional (Bories 404, Punta Arenas, Chile), which belongs to Douglas Nazar Figueroa.



Punta Arenas roadstead, 1905. Almost one ship a day used to enter. The Panama Canal put an end to this in 1914.

YEAR	NAME	TYPE	TONNAGE	ENSIGN	PLACE
1526	<i>Sancti Spiritus</i>	Caravel	240	Spain	W coast Dúngenes
1540	<i>Nave Capitana?</i>	Nao		Spain	Primero Angostura
1578	<i>Marigold</i>	Vessel		Spain	Cabo Pilar
1584	<i>Trinidad</i>	Nao		Spain	W coast Dúngenes
1587	?	Brig		Spain	Pta. Sta. Brigida
1592	<i>Black Pinasse</i>	Pinnace		English	Thomas Cavendish's fleet?
1600	<i>Enrique Federico?</i>	Ship		The Netherlands	Eastern Sector
1615	?	Ship		The Netherlands	Punta Dúngenes
1619	<i>Burda?</i>	Nao		?	Cabo de las Virgenes
1676	?	Brig		Spain	Evangelista
1685	?	Ship		Pirate	?
1686	?	Nao		Spain?	?
1687	?	Ship?		English	?
1843	<i>Floury</i>	Brig		France	Cabo Providencia
1843	?	?		?	Cabo Providencia
1844	<i>Express</i>	Bark		U.S.A.	Bahia Menday
1846	<i>23 de Mayo</i>	Brig		France	Bahia Misericordia
1846	<i>Crowing</i>	Brig		England	Bahia San Juan-Pto. Bulnes
1850	<i>Prince Albert</i>	Brig		England	Bahia Sandy
1850	<i>Rodman</i>	Brig		U.S.A.	Isla Carlos III
1850	<i>Mawala</i>	Bark		England	?
1851	<i>Garonne</i>	Bark		France	Bahia Solano
1854	<i>North Carolina</i>	Frigate		U.S.A.	Roda David
1855	?	?		U.S.A. or England	East of St. Gregorio
1856	<i>Panama</i>	Steamer	270	England	Cabo Tamar
1856	<i>F. Bryde</i>	?		U.S.A.	?
1856	<i>Western Bride</i>	Frigate		England	Primero Angostura
1857	<i>Maria Isabel</i>	Steamer		Chile	Bahia Misericordia
1859	<i>Carlos Tupper</i>	Schooner		England	Abrá Sarriente
1859	<i>Seine</i>	Frigate		Chile	?
1859	<i>Anne Baker</i>	Steamer		England	Dirección B.-mouth Sta. Bárbara channel
1860	<i>Tornado</i>	Frigate		England	?
1860	<i>Lastara</i>	Bark		Chile	Bahia Posesión
1862	<i>Palcan</i>	Bark	?	England	Cabo Pilar?
1867	<i>J. G. Portales</i>	Bark	167	El Salvador	Agua Fresca
1869	<i>Santiago</i>	Steamer	1,619	England	Bahia Misericordia
1869	<i>Ripping Wave**</i>	Schooner	124	U.S.A.	Bahia Swallow
1869	<i>Shaffield</i>	Bark		England	Bahia Misericordia Cabo Pilares
1871	<i>Garonne</i>	Bark	317	Chile	Cabo Tamar
1872	<i>Golden Hylon</i>	Frigate		U.S.A.	Charles Is. - E. of T.D.F.
1872	<i>Valadora</i>	Sloop		Argentina	Isla Isabel
1873	<i>Océano Empress</i>	Frigate		England	Desolación
1874	<i>Landra</i>	Sloop		Chile	Central Fuegian coast
1874	<i>Margareth?</i>	Steam launch		Chile	Bahia Punta Arenas
1875	<i>Senator</i>	Bark	404	England	Cabo Valentin
1876	<i>Jean Armelle</i>	Bark	535	France	Punta Dúngenes
1876	<i>Sea Shell</i>	Schooner	42	Chile	Posesión
1876	<i>Georgia</i>	Steamer	1,937	U.S.A.	Punta Rocky
1877	<i>Denderah</i>	Steamer	988	Germany	Punta Baja
1877	<i>Anita**</i>	Schooner		Chile	Posesión
1877	<i>80 Yaloz**</i>	Steam launch	37	Chile	Bahia Punta Arenas
1877	<i>Luisito</i>	Paquet boat		Argentina	Bahia Punta Arenas
1877	<i>San Pedro**</i>	Schooner	63	Uruguay	Bahia Punta Arenas
1877	<i>Indomable</i>	Brig		England	35 miles from P. Arenas (Sandy Point)
1878	<i>Jessie Brown</i>	Schooner		England	Punta Rocky
1879	<i>Julieta</i>	Schooner		Argentina	Eastern part Strait of Magellan
1879	<i>Esther</i>	Sloop	35	Chile	Eastern part

YEAR	NAME	TYPE	TONNAGE	ENSIGN	PLACE
1879	<i>Sparrow Hawk</i>	Schooner	?	Chile	Agua fresca
1880	<i>Arturo Prat</i>	Steam launch	37	Chile	Bahia Punta Arenas
1881	<i>Los Amigos</i>	Steamer	?	Chile	Mouth Fitz-Roy channel
1881	<i>Dottrel</i>	gunboat	1,137	England	Bahia Punta Arenas
1881	<i>Wanderer</i>	Pilot's boat-sailer?		U.S.A.	Hope Harbour
1882	<i>Roseneath</i>	Bark	622	England	W. mouth Sta. Bárbara channel
1884	<i>Corallera</i>	Steamer	2,860	England	Cabo San Isidro
1884	<i>Artique</i>	Steamer	?	France	W. coast bet C. Virgenes and Cándor ravine
1885	<i>Ernesto</i>	Schooner	?	Chile	Posesión
1886	<i>Ville de Strasbourg</i>	Steamer	?	France	Cabo Virgenes
1886	<i>Rayo</i>	Cutter	?	Chile	?
1889	<i>Victoria</i>	Schooner	25	Chile	Strait mouth

1 - The sinking of the French steamer 'Ville de Strasbourg' took place in 1886. The German 'Cleopatra's' took place in 1891 while she was trying to enter the Strait of Magellan from the Atlantic. Both incidents gave rise to official claims for the setting up of a lighthouse, which is the one that is operating at present. The following is a reproduction of a note related to this at the files of the Ministerio de Relaciones Exteriores (Ministry of Foreign Affairs):

"Buenos Ayres, 16th November '91

"Monsieur Ministre:

"I am honored to let Your Excellency know that the Marquis of Salisbury has received a communication from the Lloyd's Board which declares that ships passing through the Strait of Magellan will enjoy great advantages if the Argentine Government sets up a good lighthouse at Cabo de las Virgenes as, two leagues away to the East, there is a reef very dangerous for navigation. The German steamer Cleopatra was lost last June, and the French steamer Ville de Strasbourg, in 1886, as they both run against the mentioned obstacle; apart from other ships that barely saved themselves from the same fate."

"The Marquis of Salisbury has charged me with forwarding this issue to the Argentine Government, and I have the honor to ask Your Excellency to make this known to the corresponding authorities; I hope there is a satisfactory result and Your Excellency benefits me with a reply so that I transmit it to H. M. Government as soon as possible."

"I avail myself of this opportunity, Monsieur Ministre, to renew to Your Excellency the assurances of my highest consideration"

F. Pakenham"

(Ministerio de Relaciones Exteriores. Año 1891. Caja 476. Leg. No. 20)



The clipper 'Ambassador' at San Gregorio.

YEAR	NAME	TYPE	TONNAGE	ENSIGN	PLACE
1889	<i>Colopazi</i>	Steamer	4,028	England	Port Rex
?	<i>Provencera</i>	Schooner	10	Chile	?
1889	<i>Vichuquen</i>	Steamer	?	France	Isla Providencia
1890	<i>Gulf of Aden</i>	Steamer	?	England	?
1890	<i>Naribel</i>	?	800?	?	?
1890	<i>Ysa</i>	Bark	?	?	Poseición
1890	<i>St. Mary</i>	?	?	England?	?
1890	<i>Virgilia</i>	Steamer	?	Germany	Cabo Pilar?
1891	?	Steamer		?	Cabo Tamar
1891	<i>Foaguino</i>	Schooner		Chile	Río Saco
1891	<i>Clapetra*</i>	Steamer		Germany	Cabo Virgenes
1892	<i>Artasia</i>	Steamer	1,803	Germany	Punta Baja
1892	<i>Paranabo</i>	Schooner	46	Malvinas	Bahía Monumento
1893	<i>Express</i>	Schooner	4,699	Chile	Bahía Inútil
1893	<i>Romero</i>	Steamer		?	?
1894	<i>Atlantique</i>	Steamer	1,917	France	Isla Magdalena
1894	<i>Hengist</i>	Bark	1,116	England	Punta Dúngenas
1895	<i>Conan</i>	Steamer	1,820	England	Bahía Snag
1895	<i>Copernicus</i>	Steamer	2,052	England	W. or S. Cabo Pílar
1897	<i>María Kasirca</i>	Cutter	35	Chile	Punta Carrera
1897	<i>Corocoro</i>	Steamer	4,500	U.S.A.	Punta Baja
1898	<i>Matoazu</i>	Bark		England	Cabo Pilar
1898	<i>Matoara</i>	Steamer	3,600	England	Cabo Pilar
1898	<i>Bivva</i>	Steamer	167	Chile	Punta Baja
1899	<i>Kirless</i>	Steamer	242	Chile	Punta Delgada
1899	<i>Huemul**</i>	Steamer		Chile	Crooked Reach
1899	<i>Albatros</i>	Steamer	341	Chile	Bahía Camarones
1899	<i>King Fisher</i>	Schooner	12	Chile	Bahía Punta Arenas
1900	<i>Bellaïsla</i>	Steamer	2,457	England	Banco Dirección
1900	<i>Zelo</i>	Schooner	12,398	Chile	Golfo Trinidad
1901	<i>Burdem</i>	Steamer		Chile	Isla Dawson
1901	<i>Cosmopolita</i>	Cutter		Chile	Bahía Punta Arenas
1902	<i>Lady Joyce**</i>	Steamer	2,406	England	Isla Isabel
1902	<i>Isis</i>	Steamer	?	?	?
1903	<i>Gloverriff</i>	Bark	468	England	Punta Baja
1903	<i>Two Borthers</i>	Cutter	10	Chile	Punta Baja
1903	<i>Vichuquén</i>	Steamer	27	Chile	Punta Delgada
1903	<i>Laurel Branch</i>	Steamer	2,140	England	Bahía Stewart
1904	<i>Anito</i>		10	Chile	Bahía Punta Arenas
1904	<i>Unión</i>	Cutter	8	Chile	Bahía Punta Arenas
1904	<i>Martha Gale</i>	Schooner	247	Chile	Punta Carrera
1904	<i>Britanic**</i>	Dredger		England	Punta York
1904	<i>Tymex**</i>	Steamer	2,160	England	Isla Carlos III
1904	<i>Albuera</i>	Steamer	2,260	England	Bahía Tuesday
1904	<i>Combal</i>	Steamer	3,190	England	Isla Seal
1904	<i>Abydos</i>	Steamer	1,956	Germany	Islotes Osorno
1905	<i>Hanriette</i>	Schooner	25	Chile	Cuarenta Días
1905	<i>F. M. Mursia**</i>	Schooner		England	Poseición
1906	<i>Olympion</i>	Steamer		U.S.A.	Cabo Poseición
1906	<i>Belle of Island**</i>	Steamer			Bahía Punta Arenas
1906	<i>Albey Holm**</i>	Steamer		England	Isla Marta
1906	<i>Hynford</i>	Steamer		England	Cabo Pilar
1907	<i>Capreno**</i>	Steamer		England	Primera Angostura
1907	<i>Ortega**</i>	Steamer	7,970	England	Bet. 1 st & 2 nd Narrows
1907	<i>Halzelbranch</i>	Steamer	2,633	England	Isla Desolación (Plata)
1908	<i>Tercio</i>	Bark	1,195	Norway	Punta Dúngenas
1908	<i>Gudny**</i>	Bark		Norway	Primera Angostura

YEAR	NAME	TYPE	TONNAGE	ENSIGN	PLACE
1909	<i>Oak Branch</i>	Steamer		England	Is. Westminster
1909	<i>Ulgard</i>	Steamer		Germany	Punta Bajo
1910	<i>Dalmira</i>	Steamer	2,210	England	Crooked Reach
1910	<i>Augusta**</i>	Steamer	1,716	Austria	Agua Fresca
1911	<i>Bologno**</i>	Steamer		England	Bajo Nuevo
1911	<i>Riel*</i>	Steamer		Germany	Punta York
1911	<i>Orsini**</i>	Steamer	53	Chile	Cabo San Isidro
1912	<i>Berengar**</i>	Steamer		Germany	Banco Punta Arenas
1912	<i>C. Exchange**</i>	Steamer		England	Punta Bajo
1912	<i>Alexandria**</i>	Steamer		Germany	Banco Punta Arenas
1912	<i>Sultan</i>	Schooner		Norway	Punta Delgada
1912	<i>Foxley</i>	Steamer		England	Cabo Upright
1913	<i>Wynrick</i>	Steamer		England	Cabo Pilar
1913	<i>River Clyde**</i>	Steamer		England	Fortescue
1914	<i>Andra</i>	Bark	1,114	Norway	San Gregorio
1914	<i>Chimo**</i>	Steamer		England	Segunda Angostura
1914	<i>Epsom</i>	Steamer		England	Arrecifes Georgio
1916	<i>P. Branch**</i>	Steamer		England	Opposite Punta Arenas
1916	<i>Tamar**</i>	Steamer	102	Chile	Opposite Punta Arenas
1918	<i>Melauro</i>	Tender		Chile	Punta Dóngones
1919	<i>Alfonso</i>	Steamer		Chile	Pto. San Miguel
1922	<i>Texas**</i>	Steamer		Denmark	Arrecifes Georgio
1929	<i>Martino</i>	Tugboat		Chile	Bahia Punta Arenas
1929	<i>Renato</i>	Cutter	50	Chile	Bahia Punta Arenas
1931	<i>Nueva Estrella</i>	Cutter		Chile	Cabo San Isidro
1931	<i>Antonio Diaz**</i>	Tugboat	10	Chile	Bahia Punta Arenas
1932	<i>Antártico</i>	Steamer	605	Chile	Bahia Punta Arenas
1932	<i>Adelaida</i>	Sailer-Poston		Chile	Bahia Punta Arenas
1933	<i>Northmoor**</i>	Steamer		England	Puerto Gallant
1934	<i>Gundvite</i>	Steamer		Yugoslavia	Puerto Bueno
1939	<i>Prudente de Moraes**</i>	Steamer		Brazil	Arrecifes Georgio
1940	<i>Maraloda</i>	Steamer		Chile	school Far Away Is.
1954	<i>Don Emilio</i>	Cutter		Chile	San Gregorio
1954	<i>Porvenir</i>	Steamer		Chile	Bahia Punta Arenas
1954	<i>Ester</i>	Cutter	12	Chile	Bahia Punta Arenas
1954	<i>Emilia**</i>	Cutter	10	Chile	Bahia Punta Arenas
1954	<i>Sonia**</i>	Cutter	16	Chile	Bahia Punta Arenas
1954	<i>Miguelito**</i>	Cutter	10	Chile	Bahia Punta Arenas
1954	<i>Sarita**</i>	Cutter	11	Chile	Bahia Punta Arenas
1954	<i>Coupoletta**</i>	Cutter	20	Chile	Bahia Punta Arenas

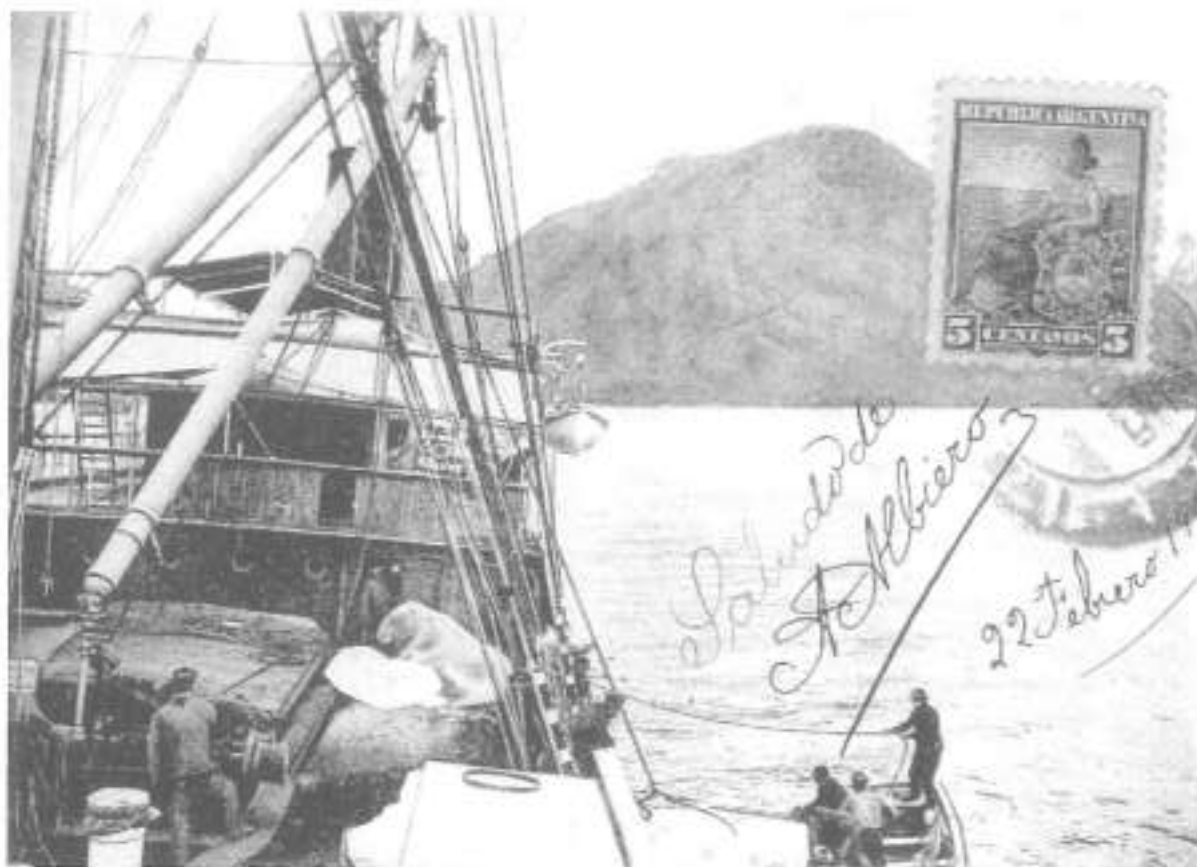


Puerto Harrison, Magallanes.

One of the many ports on the Strait in the late 1800s.

YEAR	NAME	TYPE	TONNAGE	ENSIGN	PLACE
1967	<i>Doña Francis</i>	Ship	40	Chile	Bahia Catalina
1968	<i>Gaviola</i>	Schooner	60	Chile	Opposite Gento Grande
1969	<i>San Gregorio</i>	Tugboat	63	Chile	Punta Delgado
1973	<i>Andalucia</i>	Sailer-pontoon		Chile	Costa Parvenir
1974	<i>Metala**</i>	Super oil-tankship	210,000	Netherlands	Boja Satélite
1975	<i>Antártica**</i>	Motorship	7,094	Chile	Boja Satélite
1975	<i>Goleta Teresa</i>	Schooner	7	Chile	Strait of Magellan coast
1975	<i>Astra Norte</i>	Scrap ship	6,458	Argentina	Cañal Concepción

** : Vessel recovered



Catching ice from drifting icebergs on the Strait of Magellan.



Punta Arenas (Sandy Point), 1905. Note the town and the over 20 ships at the roadstead. Ushuaia was barely starting with the Prison.



Wreckers disembarking from the 'Theben,' Canal Smith, Magallanes. The odysseys of reaching a village started.

As one can see, there are many quotation marks during the first years. Very little is known about these ships, except for comments found in chronicles by other navigators or as an isolated piece of information in history books. We suggest to consult José Perich's book. The present list was enlarged with the collaboration of Guido Seidel.

Nearby the Strait, there are wrecked ships that could be part of a list of wreckages along the coast of Santa Cruz. But there is one that is so visible for tourists that we cannot avoid mentioning. It is the clipper *Kently*, which set on fire opposite Río Gallegos in 1910 and was

washed ashore by a huge high-tide. She is an iron hull that can be visited —an excellent example of one of those ships which are in rather good conditions (the hull).

Another famous lighthouse. This lighthouse was in Don Luis Piedra Buena's plans for very many years. When he tried to settle down at San Gregorio bay, on the strait and in the place where the boundary with Chile was supposed to be, he already had the materials to build a beacon. Then, these materials ended up on Isla Pavón, Santa Cruz, since the attempt to set up the beacon at Cabo Virgenes (1868) lost the support of the National Government.

Shipwrecks on Isla de los Estados and in Mitre Peninsula¹



French Antarctic expedition under Dr. Charcot. The 'Pourquoi-Pas?' makes land on Isla Observatorio, where the lighthouse at the End of the World was situated. From this point, they left for terra incognita.

This compilation intends to be as detailed as possible, but there may be omissions. As you will see, most of these shipwrecks took place as from the building of the San Juan de Salvamento lighthouse and the setting up of the Rescue Station. Before that time, few wreckages appear in the records. There are several reasons for this, but we start by leaving out pirates turning lights on and off as it happens in Julio Verne's novel *The Lighthouse at the End of the World*. The last three decades of the 1800s were characterized by the boom of cargo navigation; of passenger service (from the East to the West coast of the United States and to Australia); of the building of the last great swift cargo sailing ships; and also by the setting up of the Rescue Station and Lighthouse in San Juan de Salvamento, and others in Bahía Thetis and Ushuaia, which made it possible to list the ships that sailed past the area and also to have news of shipwrecks.

Seamen trusted these facilities as they knew they could find help and a light to have a real reference to find their way in charts and even to check the chronometer aboard. They used the outer light to find their way and, for many of them, this was a lethal mistake. It was not until 1902 that the location of the lighthouse was changed and a new one was erected on Isla

Observatorio (declared a National Monument at the end of 1998). The Lighthouse in San Juan de Salvamento was abandoned and, in 1997, research about it started. The Maritime Museum engaged in the project in collaboration with the Museum of the End of the World and the Argentine Navy. A replica of the lighthouse was built in Ushuaia (at the Maritime Museum) and France donated a monument that was erected in the place where the lighthouse used to be situated. This destroyed any possibility to carry out archeological research. The monument was set up with the authorization of the Secretaría de Cultura de la Nación and the Comisión Nacional de Museos y Monumentos y Sitios Históricos, subservient to the Presidency.

Many think that these shipwrecks were deliberate with the idea of collecting the insurance money. They state that, given the supremacy of steamers over sailing ships, shipowners wanted to get ride of the latter. This is difficult to prove, especially when many of these ships had no insurance at all; this being the case of the *Dr. Hansen* and the *Brisbane*, among many others. This is why captains used to negotiate the recovery of the cargo with rescue companies at profitable percentages for "rackers."

¹ Notice: There is no shipwrecks inventory available; the following are just a few of them. The present work was carried out by Licentiate Carlos Pedro Vairo in collaboration with Professor Maria Cristina Morandi, from the Servicio de Hidrografía Naval de la Armada Argentina (Argentine Navy, Naval Hydrographic Service), and with Guillermo Cardozo.

At the National Maritime Museum of Greenwich, there is a research and information center (Maritime Information Centre) that may be consulted paying a fee.

This center has all the information about the ships sunk in this region and also about the ones lost or missing. This does not mean that they sunk in the area, but the last data available point at the region as the possible place of the accident. This information is taken from the ships' port clearance, where destination was recorded. On the other hand, according to the sort of ship, courses were more or less predetermined. There is also the information of those who saw these ships for the last time.

But the most important point about this is that there is plenty of information about the sunken ships as it is also possible to consult the Lloyd's Register. For Spanish ships, there are two good registers in Seville and in Madrid. We have consulted them, but to get information about other ships as there is no mention of shipwrecks on Isla de los Estados. In short, it is possible to get to know a lot of what happened, but not in detail. Apart from these registers, data included here was published by newspapers of the time.

Vayari: English barque. 1872. She wrecked in Punta Fallows (Isla de los Estados). The accident took place while sailing along the Le Maire Strait. The wreckers were rescued by another vessel and taken to Europe. There are no further details about the wreckage.

Espora: Argentine brigantine owned by Don Luis Piedra Buena. Former *Nancy*, owner by the sealer Smiley. 10th March 1873. The shipwreck took place on Isla de los Estados, in Franklin bay. In several campaigns, the Maritime Museum of Ushuaia studied the place with the help of the Area Naval Austral. In appendix 5, you will find a transcription of Luis Piedra Buena's journal and an account of the works carried out by the Maritime Museum of Ushuaia in Franklin bay.

Lotus: English barque. July, 1875. In ballast from Rio de Janeiro and bound for the roadstead of Callao, commanded by Captain Saint Jaha. In the morning of the 6th of July, she struck a rock at the mouth of Bahía de San Juan de Salvamento (Isla de los Estados); she sunk two days later. The crew boarded two boats; the former, manned by the Captain and seven sailors. Her fate is unknown. The latter was boarded by five sailors and was rescued by the *Antoniette*.

Albert Gallantin: English frigate. October, 1875. Transporting a coal load, it set on fire

on the high sea. It was abandoned by the crew opposite the northeastern coast of Isla de los Estados on 10th October 1875.

Prince Arthur: English barque. She run aground at the east point of Puerto Cook and was broken to pieces on the rocks on 24th February 1876. Commanded by Captain T. Nelson, she was a 544-register-tonnage vessel that carried coal. She was from Liverpool and bound for the town of Caldera. The owner and the crew saved themselves on the boats and were later rescued by the schooner *Sea Shell*.

Mercator: Belgian barque. October 1876. Captain H. Micholson of the pilot's boat *Luisa*, registered in Punta Arenas, informed the colony authorities that he had made contact with her on 24th October 1876. On his sealing voyage around the rocks and islets of Isla de los Estados, he had been attracted by a signal at the top of the wrecked ship. She was found abandoned. She wrecked on Isla de los Estados and records state that, later on, the Captain and seven men drowned while maneuvering.

Cosmopolit: English frigate. July, 1878. A 1,259-register-tonnage vessel, commanded by Captain J. H. Lyons and sailing from Rio de Janeiro to Callao. She wrecked in the night of 4th July 1878 at a ledge near Puerto Parry. The crew, made up of twenty-three men, saved themselves on board of a boat and headed for John Harbour (San Juan). This wreckage was known thanks to the Uruguayan sealing cutter *Rayo*. Wreckers were rescued by the English barque *Ryebale* and by the *Bacaban de Burdeos*. (See Appendix 9)

Juliet: August, 1878. A 1,243-freight-tonnage English barque. Sailing from London to San Francisco, California. During a calm, the current washed her against Cabo San Antonio and run aground on 1st August 1878. The twenty-seven wreckers were rescued by the German brig *Thetys*.

Pactolus: On 13 February 1882, when the *Cape Horn* was struggling on her four anchors in Roca harbor, a mile away from Puerto Cook, the Anglo-American vessel *Pactolus*, commanded by Captain W.L. Mc Lellan from Nova Scotia, came loose from her chains as was washed against the rocks which are the bottom of the Bay of Puerto Pactolus. From one moment to another, the vessel was shattered to pieces against the rocks. Giacomo Bove and Luis Piedra Buena, aboard the *Cabo de Hornos*, rescued the wreckers that had found shelter in Puerto Cook. The Captain, MacLellan, was lodged on board as he was ill and the rest of the crew stayed in the place with victuals until they were rescued on 18th February. The

Pactolus' master, William Tobey, was very well known in Liverpool¹.

Ana, from Genoa: From Genoa to Valparaíso. On a calm day, 20th January 1885, the current dragged her between Puerto Cook and Isla Año Nuevo. She was an 800-register-tonnage vessel with general cargo and fourteen hands. In the journal of Darío Saráchaga, commander of the *Bahía Blanca* cutter of the Argentine Navy, we can read: "... We returned to the 'Estados' on 25th January, arriving on 30th and in time to rescue the wreckers of the Italian vessel 'Ana,' lost on 28th between Puerto 'Cook' and 'Año Nuevo.' On 18th February, the 'Villarino' arrived and took the wreckers and I embarked the cutter with the crew I had gathered in 'Punta Arenas.'" Sailing from Punta Arenas to San Juan de Salvamento, he sees the wreckers and takes them to the rescue station. They stayed there until the *Villarino* took them to Punta Arenas.

River Ragan: Note: In other references, she appears as *River Tugón* and also as *River Lagan*. In all cases, the date and the place of the wreckage point at the same vessel.

The *River Ragan* was an English barque of 852 register tonnage and 1,250 tons of general cargo that had set sail from Glasgow and was bound for Valparaíso. Fog, a calm wind, and a calm sea made the vessel to be dragged toward one of the *Islas de Año Nuevo* on *Isla de los Estados*. The wreckage took place on 4th March 1885.

The commander of the Argentine cutter *Bahía Blanca* rescued the wreckers and took them to the Chilean colony of Punta Arenas in Magallanes. Local authorities took care of them offering lodging and means.

The armored ship H.M.S. *Triumph* embarked some of the wreckers and took them to the port of Coquimbo and made the rest to be taken to Europe by the following steamer bound for that continent. Seventeen members of the crew were rescued.

Bibliography: *La Australia Argentina*, by Roberto J. Payró. Tomo II, Bs. As., 1908. P. 366. *Nafragios ocurridos en las Costas Chilenas*, by Francisco Vidal Gormaz. Chile, 1901. P. 580.

Let us see the account of the Commander of the National cutter *Bahía Blanca*, Don Darío Saráchaga. He belonged to the División Expedicionaria del Atlántico Sur (South Atlantic Expeditionary Division) of Augusto Lasserre's Squadron, made up of the gunboat *Paraná* (flagship), the transports *Villarino* and *Co-*

modoro Py, the cutters *Patagones* and *Bahía Blanca*, and the corvette *Cabo de Hornos*.

It is interesting to read the accounts of the most relevant events in his logbook. While they were on land or anchored in the same place, they usually made notes mentioning the most important events or summarizing the whole period. Thus, we find a reference to this wreckage which, apparently, did not move Saráchaga.

"21st February 1885: We stayed anchored fixing the ship up to 8th March when four wreckers' boats arrived opposite (Forneaux) cape, reaching these the Subprefecture and their Captain Guillermo Mashood saying that, on the 6th, wind calmed opposite 'Islas de Año Nuevo' and currents washed the ship, the *River Ragan* vessel [sailing from England to Valparaíso] against the rocks west of this island [she was anchored at San Juan de Salvamento]."

"12th March: I rigged [the vessel] and set sail taking the wrecked captain to inspect the wreckage site. Two hours after putting to sea the wind went calm and we were dragged by currents to the tide rips, of cape San Juan up to 10 p.m., when a fresh NW wind started to blow dark sky and horizon; I lost a launch we were carrying at the stern. At 12 p.m., we descried the San Juan lighthouse and entered anchoring at 2 a.m."

"13th March: NW fresh gale and a towering sea, sky looks bad. We could not get out up to the 15th, when it improved and SE freshening breeze; sailing with one hand of reef, on arriving opposite 'Año Nuevo' it started to calm, staying in dead calm opposite the place where the ship had been lost. Currents dragged us to the mouth of Puerto Cook; with a W breeze, we anchored in this harbor at sunset."

"14th March: All along the coast, pieces of wood, spars, and cases which belonged to the vessel can be seen; most into pieces. On the 17th, we could reach the accident place and we only found a piece of the hull, from the bow up to the place where the mizzenmast was. The site where the ship was lost is a place where all winds rise a heavy sea and it is because of this cause that the ship has been destroyed so quickly."

"18th March: We called at several harbors on the island and we found 25 boxes of sherry, port, and 5 barrels of sweet wine, returning to San Juan on the 20th."

Mountaineer: From the Lloyd's Register of Shipping 1887-88: "Abandoned. Register number 70,910. Her captain was Mr. Doughty and it was an iron barque with British flag, 1,496

References: (1) *Sea Breezes* magazine (n° 77). Vol VIII. April 1926, p. 265. *Expedición Argentina a las Tierras y Mares de la República Argentina*, by Giacomo Bove. Bs. As., 1883. P. 31.

net tonnage and her measures in feet; length 245.3, beam 38.0, and a depth of 23.0. She was built in Sunderland by W. Doxford and Sons Ltd., 1875 and bought by G. N. Gardiner and Co. Registered in Liverpool¹⁷.

The *Lloyd's Weekly Shipping Index*, issue of the 24th December 1886, comments on the shipwreck and informs that the vessel set on fire at sea. The crew took the boats and found shelter on Isla de los Estados on 18th October. She was sailing from Hull to Wilmington (California).

Roberto Payró made a good account of this shipwreck since this took place right opposite San Juan de Salvamento. The people of the lighthouse and of the rescue station witnessed it at first hand.

III. Some time went by and there was practically no news about other shipwrecks until October 18th, 1886, when the English frigate *Mountaineer's* took place.

This ship, of 1886 register tonnage, loaded with 2,100 tons of coal, was sailing from Hull to Wilmington, California... There were twenty-five hands in the crew.

On 9th October, she rounded cape San Juan heading for the Pacific, and it was not until the 16th that, being situated opposite Cape Horn, fire on board was noticed. The Captain immediately ordered the people to go down to the hold to collect all the coal toward the center of the ship. The atmosphere was suffocating, and two of the sailors had to be rescued almost asphyxiated. So they dropped the task.

Changing his course of action, the Captain ordered the hatches to be hermetically shut in order to try to suffocate the fire. The fire went on growing. Hoses were assembled, they tried to flood the holds, but everything was in vain. The thick smoke that escaped through all the cracks was more and darker every time...

On that day the *Mountaineer* made contact with another English frigate, the *City of Athens*, whose captain invited the former's captain to go on sailing westward or to abandon the ship. The *City of Athens* would welcome the whole crew on board. But the *Mountaineer's* captain would rather follow his course to Isla de los Estados, and anchor at some of its harbors to try to save the ship.

On the 17th, being at 57 degrees 47 minutes south latitude and 69 degrees 40 minutes west longitude west of Greenwich, explosions started because of the gases accumulated in the hold, and it became urgent to leave the ship.

There were three vessels in sight, at about four or five miles away: signals were made, but they did not answer and followed their course...

On the 18th, at ten in the morning, the Isla de los Estados was sighted at around 25 miles away, and the vessel headed for Back Harbour, which is situated right south of San Juan de Salvamento.

Unfortunately, a thick fog suddenly set in and made it almost impossible to lay the ship, while danger increased with every minute, explosions were more dreadful every time, and through bow and stern hatches, which had been lifted, whirlwinds of fog and flames were getting out... It was impossible to stay any longer on board... It was three in the afternoon.

Boats were taken down, the whole crew boarded in order, and plying with spirit they arrived at Back Harbour, where they disembarked exhausted with fatigue, at half past five.

The captain could rescue nothing, neither his papers nor a sum of money he kept in his chamber, to which it was impossible to have access from the beginning.

Wreckers had only succeeded in taking provisions for two days, and had no news about the existence of the subprefecture of San Juan. But the captain had seen light in Punta Laserre, so he assumed that he would find a lighthouse there, and therefore decided to send, on the following day, a commission made up of the second pilot and seven sailors to cross the isthmus that separates both harbors. It was urgent to get provisions; otherwise, the 28 wreckers were sentenced to starve to death in the short term.

The commissioned men headed north as arriving hours later in front of the subprefecture, separated from it by the width of the bay. They made smoke signals and shot some times, and at three in the afternoon the people of the subprefecture came on a boat to pick them up.

The sailors stayed in San Juan, and the *Mountaineer's* second mate, with a man the subprefect assigned to accompany him, left to look for his mates, who immediately set off, except for four of them that, as they were ill, they had to be taken on a boat the following day.

Set on fire, the *Mountaineer*, dragged by the current, sailed past San Juan as a huge fire ship and run aground on the eastern coast of San Antonio, where her remains were found later on..."

From the Ministerio de Relaciones Exteriores (Ministry of Foreign Affairs), Sección Archivo. Diplomacia y Consular. Año 1887. Inglaterra. Caja 345- Legajo N° 6. Here we find the following note originally written in English:

"On 25 April 1887, H.M.S.'s legation gives thanks for the generosity and the good assistance offered to the group of wreckers and Captain J. R. Doughty from the 'Mountaineer,' especially to Captain José Fregueiro, head of the naval station at San Juan port, who lodged them from 21 to 26 November, and to Commander Federico Spurr, chief of the Argentine war ship 'Villarino,' who took them to Punta Arenas."

As we can see, although the humanitarian aid was great and sovereignty was truly defended, we had to resort to Punta Arenas. At that time, Ushuaia was little more than a small handful of houses meant to become a town even when it was already the capital of the National Territory. The "gold rush" was starting in those days. In Ushuaia, three general stores operated and the one at estancia Harberton would be opened in a short while. Founded by Thomas Bridges, it would try to get hold of the little gold "harvested" by miners in exchange for meat and other victuals.

Garnock: This English vessel wrecked on the northeastern island of Año Nuevo, in a calm day, on 26th May 1887. Of 700 register tonnage and with 1,015 tons of general cargo, she was sailing from London and bound for Victoria, on Vancouver Island. Sixteen wreckers were taken to Punta Arenas by the *Comodoro Py*.

References: *La Australia Argentina*, by R. J. Payró. Tomo II. Bs. As., 1908. *En la Isla del Fuego*, by J. E. Belza. Tomo I, p. 216. AGN (Archivo General de la Nación), Ministerio del Interior, 1887. Exp. 6586 and Exp. 6999.

Dunskeig: There is little information about the *Dunskeig*, who was sailing from London to San Francisco. With 2,400 tons of general cargo, she carried thirty men and one passenger. She sunk in Cabo San Antonio, on Isla de los Estados, on 23rd June 1887.

Seventeen people saved their lives. The passenger (James Johnston) was rescued by the cutter *Patagones*. The rest of the crew stayed in the place up to 19th August, when they were rescued together with the wreckers from the vessel *Colorado*, who had crossed the island on foot from Franklin bay. It was the Chilean steamer *Mercurio* the one which rescued the *Dunskeig's* and *Colorado's* survivors. They ate shellfish and cocoa. They were taken to Buenos Aires.

It is worth pointing out that the steamer *Mercurio* had been chartered by the Argentine government to take the *Magallanes'* wreckers, who were waiting in Puerto Deseado (province of Santa Cruz).

The English government gave a gold reward for commanders (*Mercurio's* Leonardo Ceosola and cutter *Patagones'* Macedonio Bustos) and gold medals for the rest of the officers and silver ones for the crews of the rescue boats. Each of the Fuegian natives who were on board of the cutter was given two pounds sterling. (Archivo General de la Nación, Ministerio del Interior, Exp. 6588 and 7000 and the Maritime Information Centre of the National Maritime Museum Greenwich.)

As regards these wreckages and those which took place in that same year, the head of the Subprefecture of San Juan de Salvamento on Isla de los Estados, Francisco G. Villarino, writes a summary of the events in the record of 1888 and forwards it to the Maritime Prefect.

Subprefect Francisco Villarino is the same that takes over in 1884 when he arrives with Don Augusto Lasserre's expedition. In his report, Villarino mentions the wreckages and the troubles that the subprefecture had to undergo because of them either because of the number of people they had to feed or because of the clothing they had to provide—since wreckers generally manage to save very little—and the necessary medical aid. They also had to face the eternal problem of the lack of communication since they had no appropriate vessel to sail for Río Gallegos, Punta Arenas, or Islas Malvinas. They needed a cutter or a steamer rather than the whalers they had to sail in port with a calm sea. Don Francisco G. Villarino wrote:

"On 25th May, the English vessel 'Garnock' wrecked on the island NE of Año Nuevo with 17 men of the crew including the Captain. They were lodged at the subprefecture and fed until 8th August when they were taken to Punta Arenas by the steamer 'Comodoro Py' that happened to sail by."

"On 24th June, the English Frigate 'Duskeigs' wrecked with 30 men in the crew and, on 28th that same month, another English vessel, the 'Colorado,' with 15 men; the latter, in Cabo San Vicente (Tierra del Fuego) and the former, in Cabo San Antonio (Isla de los Estados). As it is usually the case, the two crews met in Cabo San Antonio, where they stayed for 56 days unsheltered from the snow and the severe winter. Twenty men died, 'Duskeigs' Captain among them—some were washed and made to pieces by waves when trying to make land; others, died from cold and the national cutter 'Patagones' [sic.] commanded by Lieutenant Macedonio Bustos, having being taken to the Capital Federal by the mentioned steamer and given clothes and shoes by the signer with the clothes of the staff of the division under my command."

"Throughout the past year, the health of the staff of the division has been satisfactory despite of the fact that there was a complete lack of meat because of the 'Magallanes.'"

"This subprefecture had victuals to last up to June 30th —on May 25th, 17 wreckers were lodged and we had run out of victuals by August 22nd. The same happened later —until the arrival of the 'Alba' there was lack of meat for two months and a half."

"These difficulties, Sir, cannot be solved unless this division has a vessel fitted to go out to sea."

"There are two reasons why the ship *de la carrera* cannot provide meat —1. In order to buy it and make sure to get it, it is necessary for the chief of the division to be aboard the packet boat in order to buy and pay for the goods; 2. It is necessary to buy a number of animals for two months at the most since buying more means letting them die because of the lack of grass, on the one hand, and because the different climate tends to spoil the cattle in a short while to the extreme that it becomes absolutely useless for consumption."

"As regards this Sir, let me call Your Excellency's attention."

"It is not possible to keep a maritime division in the middle of the ocean far away from any center of resources without a vessel get them. Then, it is not possible for the head of that subprefecture to be responsible for the misfortunes that could take place due to the lack of food when he has no means to provide it."

"I must remind Your Excellency that the nearest port for supplies is 'Punta Arenas' or 'Malvinas', each of them 380 miles away; Río Gallegos is as far away as these other places. If one or two wreckages take place during the first days after the visit of the packet boat to that port, we are sure to have to maintain the crews saved for 4 to 5 months. I let myself remind Your Excellency of the desperate situation in which the chief of that division is being compelled to eat and make his subordinates eat sealion meat in order not to starve as it has already happened because of the loss of the transport 'Magallanes.'"

"All this, Sir, could be prevented with an appropriate vessel at the service of that division. Without this essential element, life is very hard there."

"Throughout the year, the lighthouse in charge of this division has worked regularly and I can assure, Your Excellency, that the services offered to navigation along these coasts are huge —no less than 250 ships are sighted and put down by the lighthouse guard on their way round Cabo San Juan for Cape Horn."

Glenmore: According to the information given by the Maritime Information Centre of the National Maritime Museum of Greenwich, the *Glenmore's* captain was Lawrence. She was a bark-rigged vessel with a steel hull of 125 net tons. Her measures in feet were: 190.0 x 31.4 x 18.6 and she was built in Dumbarton by A. McMillan & Co in 1876. Owned by W. Porter & Sons, she was registered in Liverpool. (From the Lloyd's Register of Shipping 1887-88.)

She was sailing in ballast from Montevideo to Talcahuano, when the currents made her crash against the rocks of Cabo San Vicente in the evening of 7th April 1888. Part of the crew rowed up to St. John's on Isla de los Estados. The rest, apparently around ten members of the crew, set off rowing a boat in open sea to meet a passing ship. They were not seen again.

Let us see the account of the great journalist Roberto J. Payró about this shipwreck, of which he obtained details during his stay at San Juan de Salvamento in 1899.

"...VII. On 11th April 1888, around midday, the lighthouse informed the subprefecture about a boat with sixteen men that was heading for the harbor."

"On arriving at the lighthouse, they tried to moor along, but this was impossible because of the ragged coast in which the breaking water is huge all the time and would destroy any vessel. The wretched crew of the boat yelled for water."

"As disembarking there is impracticable, they were told to enter the harbor with signals, which they did, resorting to their last remain of strength. In fact, when they reached the pier, it was necessary to carry many of them to land as they could not move, so exhausted they were."

"They were wreckers, part of the crew of the English vessel *Glenmore*, which had been lost in Tierra del Fuego, near cape San Vicente, about three miles and a half away, three days before. The captain, the two pilots and the three sailors of the vessel were on the boat. Their last supplies were five cans of two kilos of preserved meat, and not even a drop of water. During each of the previous days, they had shared only one of these cans, trying to make them last as long as possible."

"They arrived so languished and having suffered so much with dampness and cold that they could not speak, let alone walk. To make misfortune worse, a hole was ripped on one side. They fixed it as best as possible, but it made water, and as they had no buckets, they were obliged to bail it out with their hats and boots."

"The *Glenmore* transported steel rails, from Maryport to Montevideo, from where she set

sail in ballast for Talcahuano, on the 24th of March."

"Near Tierra del Fuego, wind changed suddenly, and it pushed her to the coast; the sea, being very rough, broke her to pieces immediately."

Seatollar: On 28th July 1890, between four and five in the morning, the *Seatollar* wrecked a mile West of Cabo Fournieux. English vessel of 558 register tonnage with iron hull. She was sailing from Glasgow to Valparaíso carrying general cargo.

Now let us see part of the account included in the book by Roberto J. Payró mentioned above: The vessel *Seatollar* had had to make land on Malvinas to repair some damage suffered in the voyage, putting to sea from there on 26th July 1890, sighting land, on starboard, on the 28th.

Apparently, sailing east, the Captain ordered to change course for the North, what made her steer strait for land on the steep cliffs of that coast. Anyway, it is still not clear why she was washed against the coast since she tried to reach clear waters, i.e. without obstacles. Sailing the area on a sailing ship (the ketch *Callas*, owned by Jorge Trabuchi, April 1997) we could see how the current drags a vessel to the coast producing huge waves which make one picture a thriller movie and there was no storm.

The wreckers account continues saying that "no sooner the first crash against the rock was felt, the captain ordered to lower a boat on portside, but a strong wash of the sea took it with the two pilots and seven sailors." This may have happened because of the tremendous waves that, as we have seen, are formed in this place.

"Captain William Jennings, running the risk of an almost certain death to save his ship and his people, threw himself to the water, carrying a rope with the aim of tying it on land and establishing a life line. The furious shoal of the sea took him and threw him into a wolves dent (sic.) and there he crashed against the rocks." (See Appendix 7)

The Survivors

According to the survivors' account, the ship was under water up to over the deck. Only the monkey forecandle could be seen at sea level. The sailors who saved their lives had succeeded in climbing the mizzenmast, where they stayed for some hours. From that position, they looked for a better place passing along the stays to the mainmast, in whose sails they slept.

After sleeping as they could, and via the same stays way, they passed to the foremast and then to the forecandle. After several attempts, the sailing ship *Silas Batties* managed to pass a rope's end on land to climb the steep cliff coast, which in that area is several meters above sea level.

Once the rope's end was tied, the apprentices pilot Charles Surnbank, the cook Hardy and sailors Clindinning and Brown—the only ones that survived—passed along it.

Batties and his mates headed for the subprefecture on foot. They arrived dying and half-naked.

During the shipwreck the following died: Captain Jennings, pilots Pooley and Bryden, apprentices G. S. Shell and J. Lumsden, carpenter Clark and sailors Docharty, Collie, Hullin and Juan Valenzuela (Chilean).

After the Wreckage

This is a very interesting shipwreck. It has been said that wreckers used to suffer twice: firstly for wrecking and, secondly, because of the treatment they usually received from "rackers," pirates and natives. If they were rescued, they had to stay in rescue stations compulsorily helping or joining, as sailors, the crew of some ship lacking manual labor.

When these wreckers were transported to Punta Arenas on the transport *Villarino*, they declared before the authorities about the mistreatment on the part of Major Villarino, head of the Subprefecture of San Juan de Salvamento in San Juan de Salvamento, and also on the part of the Commander of the transport *Villarino*, Don F. Moureffleir.

In their statements (see Appendix 7), they say that they were compelled to do hard works and that they were shackled and lodged in bad conditions. On the ship, they were also punished. To make matters worse, on 18th April the newspaper *Standard* publishes a telegram from Ottawa, Canada, in which the Canadian vessel *Maud S* informs that, in her voyage from Halifax to Bahía del Buen Suceso, she witnessed how the British wrecked sailors were obliged by the Argentine government to serve in a Rescue Station.

After several notes and inquires between Canada and Argentina, the statements appeared in the *Standard* were declared to be false. This was endorsed by Captain Nickiel of the *Maud S* who, down with typhoid fever at that moment, stated, before a reporter for the *Times*, the falseness of what had been published.

On 12th June 1891, the British government—after the inquires about the English sailors

imprisoned in Bahía Suceso— declares that the charges had no grounds and had stemmed from a misunderstanding.

An oral explanation was also required to the Ministerio de Guerra y Marina (Ministry of War and Navy) about the proceedings of the inquiry started because of the *Sea Toller* wreckers' action, on account of the difficulties to get in touch because of distance.

Around that time, the Argentine government, on the basis of the inquiries carried out and according to the statements of the people involved, declared that such accusations had no ground and informed about this to the respective legations.

New York: English frigate sailing from Swansea to San Francisco, California, carrying coal. On 20th April 1891, she wrecked because of a combination of a strong current, stormy sky, and calm in the western area of Año Nuevo islands, northern part of Isla de los Estados.

The forty wreckers were rescued on the 21st by the German vessel *Guttemberg*, which was sailing from Blyth, Scotland, to Valparaíso.

One of the wreckers died on board of the *Guttemberg*, the rest were left in San Juan de Salvamento due to the fact that the vessel was very short of supplies.

Technical data: she carried 2,750 tons of coal. Of 2,699 register tonnage, she was owned by the firm Edward Bates & Sons from Liverpool.

It had been built by Caird & Co. of Greenock in 1858 with an iron hull. Her measures were: length 328, beam 40.2 and depth 33.5 (in feet).

She had originally belonged to N.D.L. Steamer Sister to Bremen, bought by Bates & Sons around 1875 and improved. (*Sea Breezes* magazine, n° 162, Vol XVII, May 1933. *La Australia Argentina*, by Roberto J. Payró, Tomo II, Bs. As., 1908, P. 371.)

Crown of Italy: The English vessel *Crown of Italy* run aground among the ledges of Cabo San Diego, N.E. part of Tierra del Fuego, along the Le Maire Strait, on 23rd December 1891. She was registered in Liverpool and carried thirty-three people counting the crew and the passengers. She was bound for the Pacific (San Francisco) with general cargo.

Below, the account of Captain Wade, *Crown of Italy's* second mate, excerpted from a letter sent to Captain Spadaccini:

"The Christmas I remember most was one when, as second pilot of the vessel from Liverpool, the 'Crown of Italy,' we wrecked in Tierra del Fuego, on 23rd November 1891, at 8 in the evening. We boarded boats at 3 in the morning,

on Christmas eve, my boat and the captain's arriving at the lighthouse of Cabo San Juan.

We made it in the afternoon; I arrived some hours after the captain.

That was the first of the 83 days lost there, waiting for our rescue, which arrived with H.M.S. 'Cleopatra,' which took us to Puerto Stanley."

The frigate *Crown of Italy* and other *Crowens* belonged to the Robertson, Cruick-Sank & Co. firm of Liverpool.

On the basis of the different sources, the following sequence of events could be determined. The steamer *Golondrina*, of the Subprefecture of Isla de los Estados, was anchored in Bahía Thetis, around six miles away from San Diego, and saw the *Crown of Italy* when she had just steered straight for land. Apparently, the steamer did not dare take any measure to save the crew since the sea was rough.

Somebody from *Golondrina's* crew informed that, in the small hours, wrapped in the semi-darkness of the strait, another ship that apparently wanted to help the wreckers appeared, but this could not be confirmed.

Two days later, the *Golondrina* set sail from Thetis and sailed past the vessel, whose deck was still above water as well as a boat on the davits and with all sails set. The Subprefect Don Julio Figue was aboard with several sailors emptying the holds, taking advantage of the low tide.

Some passengers from the steamer *Ushuaia*, which entered in Puerto Cook on 19th March, went to Vancouver port in the South of the island by land crossing an isthmus of about 500 meters wide that separated the two bays. There they found inscriptions on pieces of timber from wreckages the sea had washed ashore.

"Ship lost in Le Maire Strait — 23rd December 1891 — Crown of Italy — Crew left 'Cook' for 'San Juan de Salvamento' — 27th January 1892 — Pray for them."

They actually arrived in San Juan, where the Argentine authorities lodged them until 12th March, when they were evacuated by the frigate *Cleopatra*, with the flag of mother ship of the H.M.S. squadron in the austral seas of America, commanded by Captain W. A. Long. This frigate had entered the port of San Juan by chance on 7th March and had found thirty-three wrecked countrymen to whom she left enough victuals for several days. Besides, she promised to rescue them after carrying out a study along the Beagle Channel up to Ushuaia. She returned to port on 9th March and set sail on 12th bound for Islas Malvinas, from where they were repatriated later on, according to their corresponding destinations.

On her return trip (to Puerto Argentino), the *Cleopatra* says that five of the wreckers were ill, maybe due to the fact that the lack of food had made them eat sealion dead whale meat.

One of the wreckers, the sickest, found his brother, who was aboard of the *Cleopatra*.

References: *Sea Breezes* magazine, VI, August 1924, pp. 273 & 274. *Algunos naufragios ocurridos en las costas chilenas* (1894), pp. 670, 671 & 672. *Sea Breezes* magazine, n° 58, Volume VI, September 1924, p. 304.

In Appendix 8, about the *Crown of Italy*, you will find the transcription of the acknowledgements received by the Ministry of Foreign Affairs.

References: Ministerio de Relaciones Exteriores y Culto, Archivo. Inglaterra: Diplomática y consular. Año 1892. Caja 505. Legajo n° 5.

Guy Mannerling: English vessel sailing from South Shields to Callao transporting coke and coal. She was lost in *Pengüin Rockery* in December 1892. Causes: fog, calm, and treacherous currents.

Louisa: The English cutter *Louisa*, with a 35 register tonnage and a crew of five men, wrecked while leaving San Juan on 1st February 1893. It was calm and the tide washed her on the coast and she sunk in 30 fathoms of water.

In *Tierra del Fuego*, Cortés had had to ask for J.B. Potter, Captain of the *Louisa*, owned by the Montt & Wallis firm and wrecked in early February 1893, to be apprehended (1). He was a 40-year-old blond man with a moustache who had washed gold on the coasts of the island. He was charged with taking the vessel which later wrecked and with having escaped with the whole of her load to Malvinas.

References: *La Australia Argentina*, by Roberto J. Payró. Bs. As., 1908. Tomo II, p. 371. (1) *En la Isla del Fuego*, by J. E. Belza. Tomo II, p. 113. Archivo General de la Nación, Ministerio del Interior. Año 1893. Exp. 4800.

Amy: The Danish frigate *Amy* (1,399 register tonnage) wrecked in the Western point of Bahía Crossley on 8th July 1894 while sailing in ballast from Santos to Iquique. A blizzard and a mistake in dead reckoning made her crash against the mentioned point. The captain and the nineteen men of the crew saved their lives.

She had put to sea in Southampton and, on her way to Iquique, she had to load a saltpeter cargo.

The transport *Villarino* of the Argentine government rescued the wreckers and took them to Buenos Aires¹.

Calcuta: English vessel heading for London with a manure cargo. Her hull was opened on the high seas and she was abandoned at 20 miles SE of Cabo San Juan on 17th September 1895.

Esmeralda: Barque with German flag. She had three masts and was sailing from Antwerp to Talcahuano with 1,400 tons of general cargo. She wrecked due to a mistake in dead reckoning, a cloudy sky, calm, and a current between Puerto Hoppner and Cabo San Antonio on 11th April 1897. The seventeen members of the crew managed to save themselves.

The captain of the *Esmeralda*, with the help of a boat of the Subprefecture of San Juan de Salvamento, tried to recover part of the cargo, but he could not round Cabo Colnett. On the following day, on 14th April, a swift sailer set sail with an assistant of the Subprefecture, Nicanor Fernández; the second boatswain, Isaac Jobisen; petty officer Morgan and five sailors together with the first pilot of the *Esmeralda*. Aboard the wreckers' lifelaunch, commanded by assistant Carlos Larrayán, were first boatswain Carlos Andreu and eight sailors and, as passengers, the *Esmeralda's* captain and second pilot.

In the morning of the 15th, it was rainy with NE freshening wind and a very rough sea. But, taking advantage of the low tide, they set off from the Subprefecture at 9.30—they had to row because there was head wind—and sailed until they were opposite the inlet La Nación. They hoisted sails and made for cape Fourneaux; the other boat left a quarter of an hour later.

The sea was steel very rough so, after embarking water in Fourneaux, they decided to sail off the coast and pass between the two large islands of Año Nuevo; the second boat did practically the same and then headed for Puerto Cook.

After leaving the islands behind, they arrived at Puerto Hoppner very quickly. The passing between these islands is always difficult because there is a strong current. They arrived in the afternoon and, on disembarking, they made a makeshift anchor ring with the kedge and a forty-fathom rope. Then, they made a fire and ate something. At sunset, the wind and the sea calmed down. Then, they went to sleep while waiting for the other boat.

References: (1) "Algunos naufragios ocurridos en las costas chilenas", by Francisco Vidal Gormaz (1901), p. 710. "La Australia Argentina", by Roberto J. Payró. Bs. As., 1908. Tomo II, p. 371.

The cold, the soaking, and the rats that infested the island made the night endless.

On the following day, and although the other boat had not arrived, they took advantage of the calm sea to board the *Esmeralda* and look for supplies as they had run out of them. By seven in the morning, they were sailing toward the vessel, which was three miles away tilted on port and swinging to a fro as if on an axis.

"While the pilot and one of the sailors were fetching the supplies needed from the pantry, fire was made in the kitchen; petty officer Morgan started to prepare the meal while we were taking down three sails to make tents for the camp and put them on the boat and on another we had managed to launch with all the Captain's and pilots' luggage, some supplies and preserves, liquor bottles, etc. In the chamber, water was up to our knees and in the pilots' cabin and in the pantry, both on port, it was over our waist..."

After having something to eat, they boarded the boats and sailed back to the camp. At that moment, the assistant's boat—with which they had lost contact—arrived. The wreckers said they had spent the night in Puerto Año Nuevo.

In the evening, with sails, trunks and branches, they built some tents that provided shelter from the continuous freezing rain.

Given the fact that the sea was very rough, it was impossible to approach the vessel on the 17th; on the 18th, the captain could recover all his papers, which were under lock and key.

On the following day, the 19th, paints, brushes, tackles, blocks, etc. could be recovered. On the 20th, things went worse: "In the rain, we went for the vessel from where we took some pieces of canvas, two barrels, dishes, and iron cups, and other various articles that little by little we were loading on the boats or piling on the deck for people; suddenly, a swell from the north came and started to break violently on the shore where the 'Esmeralda' was beset. I ordered to load as many things as possible in order to leave for the port immediately."

The *Esmeralda* started to creak, the deck split at the mouth of the main hatch, very near the mast, while the waves rose the bow: "... the mizzen and main trucks were approaching us threateningly. The main mast, made of iron, seemed to be about to collapse [...] we abandoned everything to run to the boats and go away from the vessel. But the sea was so rough that it took us almost an hour to leave the breaking water to head for Hoppner..."

Two days after abandoning the remains of the *Esmeralda*, they managed to arrive in

San Juan. "We had been working for nine days in the open air short of food and exposed every minute and we could not save nothing but a bunch of almost worthless things in spite of the good condition of the wrecked ship [...] with a small steamer, and in less than a fortnight, I am sure we would have saved all the cargo the same as that of many other ships that have not been rescued on the island..."

La Australia Argentina, by Roberto J. Payró. Tomo II. Bs. As., 1908. Pp. 372 to 375. *Guardacostas*, 100th Anniversary of the foundation of the Subprefecture on Isla de los Estados. *Argentina Austral*, by Adrién de Gerlachs. Tomo III *La Isla de los Estados y las Shetland del Sur* (a selection of texts, p. 513), 1929/68.

Eagle: English barque. The exact date of the shipwreck is unknown. She is known to be lost thanks to references. She wrecked at the western entrance of Bahía Crossley.

Capricorn: On 21st February 1888, Manuel Carreras' whaler, of the schooner *Juchetighiu* from Malvinas, found the English vessel *Capricorn* in the external anchoring place of San John (San Juan) port, which was in need of help because of the self-combustion of the coal cargo.

The vessel had lost her anchors and it was thanks to Manuel Carreras that she was taken to the bottom of the port, where she was tied to put the fire out. Carreras and Captain Ress, of the English vessel, agreed the following: Carreras would offer his schooner to transport the wrecked crew to Malvinas and he would be given a 45 per cent of the value of the goods rescued, including the vessel that had been raised and tied on land, if this was useful for service.

Says Giacomo Bove: "Piedrabuena and I ignored what had happened; we would have not allowed help to be sold in Argentine waters under such onerous agreement and we only got to know about it when I visited San John port. The second mate, from the *Capricorn*, who had stayed to watch the vessel abandoned by Captain Thomas and most of the crew, told me that the fire had broken out on board on the outskirts of Cape Horn and that as soon as this had happened, he had ordered to make for Malvinas."

"NE winds prevented the vessel from touching the islands so, with an actual repulsion on the part of the captain and the crew, the order to head for Isla de los Estados was given and carried out..."

Note: The account mentions Captain Ress in the first place and, below, the first or last name

Thomas is added; no more specific details have been discovered for the time being.

Bibliography: *Expedición Argentina a las Tierras y Mares Australes de la República Argentina*, by Giacomo Bove. P. 32. Under the guidance of the Instituto Geográfico Argentino, Bs. As., 1883.

Gulf of Aden: March 1889. The English steam liner sunk near Cabo Tres Montes on 19th March 1889. Only thirteen people out of the eighty on board saved their lives. The rest died in the sinking or were lost on the boats.

Fervaal: The transport *I^o de Mayo* of the Argentine Navy was bound for Puerto Cook (Isla de los Estados) when, on having seen smoke on the cliffs West of Cabo Fourneaux, she approached the shore. Then, she could see that there were wreckers asking for help.

Bad weather prevented her from stopping at that moment, but she made the wreckers know that they had been seen and went on sailing for the port. Soon after this, the vessel returned to the mentioned place and threw a boat ten meters away from the shore and, by means of a rope, one of the wreckers that were on land, suffering an intense cold with no tents and no shelter, managed to get on board.

The rescued man turned out to be the captain of the French frigate *Fervaal*, Bautista Dubedat, who had wrecked some days before with the crew under his command and run ashore in Bahía Falso Cook.

On the following morning, the transport approached up to some 1,500 m from the coast and, after a great effort, given the high-swellling sea and the strong breaking water on the shore ledges, they managed to embark the rest of the wreckers—who were in a pitiful condition because of cold and hunger—on two boats.

The wreckage: The ship had run against the coast due to a faulty rudder that prevented a good steering. Then, currents and a storm took her to the coast of Bahía Falso Cook, in whose ledges she struck in the small hours of the 31st July 1901 at 1 am.

The *Fervaal* was an iron frigate of 2,300 register tonnage built in Saint Nazaire in 1899. She had set sail from El Havre on 1st June carrying 3,600 tons of cement.

Two men of the crew died in the wreckage due to the intense cold. The Captain gave his thanks and also on behalf of his government for the help offered by the transport *I^o de Mayo* of the Argentine Navy, her commander, her second, her physician and the rest of the staff.

Bibliography: *Cabos Sueltos de Historia Patagónica*, by Carlos Borgialli, published by

Argentina Austral, Tomo III, 1929-68. P. 136 (1942).

Muncaster Castle: English frigate. She wrecked on the Año Nuevo islands on 20th May 1901. Some wreckers looked for shelter in Puerto Cook. The rest was rescued by officers of the Navy (Marine Corps.) assigned in the port.

This frigate had set sail from Port Falbot (Ireland) on 18th March bound for Iquique (Peru at that time). She was carrying coal. Commanded by Captain John Henderson, she took twenty-nine people in the crew. Everybody was saved. The ship and the cargo were lost.

Astree: The commander of the transport *Chaco* of the Argentine Navy, Lieutenant Juan I. Peñafiel, in a telegram from Puerto de Comodoro Rivadavia, dated on 12th November 1907, addressed to the Secretary of the Navy reports: "...I embarked 24 wreckers from the French frigate 'Astree' in Puerto Cook; this ship loaded with coal was sailing from Newcastle to Valparaíso and was abandoned by the crew between Cabo Fourneaux and Cabo San Juan on 8th October because of a fire that had broken in the load 8 days before and had not been able to stand neither the temperature on board nor the explosions and gases that gave off any longer."

"Four boats were used to abandon the vessel; two of them arrived in San Juan de Salvamento with the captain, the first and second pilots and ten sailors; a third boat run on the coast on her way to the lighthouse and eleven men disembarked."

"The fourth boat with six sailors, the clothes of the whole crew, and provisions could not reach land, so it is supposed that some sailing ship rescued them."

References: *Argentina Austral*, p. 136, 1942. *Cabos sueltos de Historia Patagónica*, by Carlos Borgialli.

Prussia: American barque. She wrecked on Isla de los Estados on 19th June 1907. Her crew was rescued by the little steamer *Oreste*, owned by Mr. Grandi.

Indore or Yndores: English vessel. She was sold to Eyre Evans, from Liverpool, in 1886. Wrecked on the coasts of Isla de los Estados while sailing from Hamburg to San Francisco on 23rd July 1907. Four members of the crew died; the rest was rescued by the *Oreste*, owned by Mr. Grandi. Built in 1885, her hull is made of iron. With 2,088 register tonnage, her measures in feet are: length 279; beam 40.7; depth 24.6.

Builder: Richardson, Duck, Stockton.

Note: In other reports, she is mentioned under the name of *Yndores*. As place and date agree, we consider her to be the same ship.

References: *Sea Breezes* magazine (1924).

Swanilda: Wrecked on 28th March 1910. Captain Alberto J. Paine. He was travelling with his wife on their honeymoon. The vessel struck the rocks of Isla Año Nueva. They both died and were buried in the cemetery of Puerto Cook.

Tekla: German ship. July 1911. She wrecked and was completely lost in the Le Maire Strait on 9th July 1911. Ten members of the crew died in the accident. The survivors were rescued by a steamer from Punta Arenas (Chile).

Yess: According to the reports of Captain Davies, the *Capricorn's* second, the *Yess* was lost on Islas de Año Nueva in 1880. She was a great iron vessel of 2,000 register tonnage and on her last voyage she was bound for Valparaíso, to where she was carrying coal and spirituous beverages.

References: *Expedición Argentina a las Tierras y Mares Australes de la República Argentina*, by Giacomo Bove, under the guidance of the Instituto Geográfico Argentino, Bs. As., p. 31.

Rescue: A ship stranded nine miles south of Cabo San Antonio, Isla de los Estados, in June 1878. The vessel carried timber; the crew's fate remains unknown.

Península Mitre, Atlantic Coast

Purísima Concepción: Spanish vessel which wrecked in Caleta Falsa in January 1756. The *San José de las Animas* was built to sail back to Buenos Aires. The place was named Puerto Consolación and it is the first shipyard of the region and here the first mass in Isla Grande de Tierra del Fuego was celebrated.

Apparently, she carried the money to pay to the Alto Perú army. A lot of stories have been told about this and even companies were established with the aim of rescuing the "treasure." The last one was *Pecios S.R.L.* that, headed by Javier Curra Donati, worked in the place up to July 1898.

It is thought that the wreckage site is on the out-

skirts of Caleta Falsa, near the river Policarpo. This story is full of mystery. The journal of the wreckage, which is transcribed in Appendix 4, is interesting to read. The historian Ratto took it from the original, which is kept in the Archivo General de Indias, in Seville.

We believe this is the first time this is published. Therefore, it has the value of the authentic and shows us, with no distortions, the life led by these wreckers who survived to tell their story.

Sealer vessel: Mr. Brisbane's and Mr. Bray's sealer ship wrecked in the surroundings of Caleta Policarpo (58° 30' S) in February 1830. The ship had been washed ashore by a northern storm while her crew was engaged in sea lion hunting in the surroundings of Caleta Policarpo. There were thirty armed hands. Mr. Brisbane had already wrecked on Georgiass and, with the remains of the shipwreck and the wood carried aboard for fixing or building whalers or launches, he built one that made it



Cement barrels at Puerto Donato, Península Mitre. A forlet or a yard?

possible for him to sail up to Montevideo with his mates. The only tools available were an adze and saws.

On that occasion, they also built a launch with the remains and, on May 1st, they could put to sea and to arrive —weakening— in Malvinas on May 7th. The account of the wreckage is under "A Wrecker in that Region."

Dr. Hansen: This German frigate wrecks in Caleta Falsa, Península Mitre, in October 1874. The crew is rescued by Don Luis Piedra Buena. During these operations, the cutter Luisito is left high and dry and, due to the waves, she starts to strike against the rocks. And she almost wrecked too. In Appendix 5, we transcribe Luis Piedra Buena's journal, where he explains how he rescued the wreckers. This account is enough to demonstrate that he was a man superior to his peers.

Duchess of Albany: English clipper. She wrecked near Caleta Policarpo due to fog, a calm, and treacherous currents on July 13th 1893 at 4 a.m. The place is about 300 meters SE of river Luz (latitude 54° 38' S, longitude 65° 37' West). This location was not determined with General Position System (GPS). (See Appendix 6 for further details from the studies carried out by Don Oscar Pablo Zanola).

Andrina: Four-masted vessel built by Oswalds Mordaun and Company in Southampton in 1886. She wrecked in Caleta Policarpo while

sailing south. She carried general cargo, cement in barrels, and prussic acid. She wrecked because of a strong NW wind while sailing from Antwerp to San Francisco in the summer of 1899.

The crew had to stay on board for some days until the weather improved and they could disembark on their boats. According to the account of one of the hands of the crew, waves of 50 feet high broke on the coast. They stayed there building a precarious shelter and recovering part of the cargo.

After nineteen years of abandonment and at the mercy of the sea, a rescue company managed to get her afloat. Anchors, ropes, and capstans were used to move it. They also took nitrate, which was sold at US\$ 40,000, from the holds. It is believed that they erected what is known as "fortín de puesto Donata" (Donata's post fortlet) using the cement in her holds, which had been hardened by seawater.

The motive to undertake such an operation was simple: during WWI, submarines used to send to the bottom more hulls than the ones that could be built. This vessel was taken to Punta Arenas, renamed under *Alejandrina*, and then tugged up to New York. She arrived with Chilean flag and was sold for one million dollars in the summer of 1919.



Península Mitre. La Barca beach.



This operation makes it clear how strong the hulls of these ships were.

Colorado: English vessel lost in Cabo San Vicente (Península Mitre) on 5th July 1887 at 8 p.m. She was sailing from Hull bound for Valparaíso with a coal cargo. The accident took place when she struck the ledge of the cape and entered Bahía Thetis.

She is a bark-rigged vessel with a combined hull (wooden and iron) and English flag. Built in Dumbarton, in 1865, by McMillan and Sons, she was bought by Donaldson Bros. and registered in Glasgow. She was of 526 net tons and her measures in feet were 152.8 x 28.1 x 17.5.

Thanks to the fact that the *Mercurio* rescued her, it is known that this vessel was abandoned the following day when her holds were flooded. The officers and the crew, fifteen men in all, crossed the Le Maire Strait on two boats trying to reach the lighthouse of San Juan. But they touched land in Franklin bay (southwest extreme of Isla de los Estados) on 29th July. The captain (James) and eight men started to cross the island on foot in an attempt to reach the lighthouse in point San Juan. They walked for seven days, but they did not arrive. The cook died during this trek. On 16th August, they arrived in Cabo San Antonio, where they stayed with the survivors of the Dunskeig until they were rescued on the 19th. They kept themselves alive thanks to the cocoa they had taken.

One of the *Colorado's* boats (the second) disappeared. It was commanded by first mate J. A. Spark and the crew was made up of Frank Runguist, Jan Werkamy, Peter Petersen, Peter Jansen, and T. Thompson. A black man, the steward, died.

Information provided by the Maritime Information Centre of the National Maritime Museum of Greenwich, London (SE10 9NF, UK) and

by the Archivo General de la Nación, Ministerio del Interior, Expedientes 6588 and 7000.

Córdova: The English vessel, sailing from Cardiff to Coquimbo, wrecked in Cabo San Diego (Bahía Thetis, Península Mitre) on 26th July 1888. She was dragged by a current in a calm day. The crew saved their lives: the captain and four hands stayed in Bahía Thetis; the rest looked for the lighthouse of San Juan de Salvamentos.

According to the *Lloyd's Register of Shipping*, her official register number was 45377. She was an iron-hulled English vessel. Built by Richardson, Dusk/Co. in Stockholm in 1862, she was bought by Parry Jones and Co. and registered in Liverpool. Master Jones was her captain. Her measures were: 521 net register tonnage; length 152.1 feet; beam 27.2 feet; and depth 17.7 feet.

The piece of news about her loss appeared in the *Lloyd's Weekly Shipping Index*, Friday Sept. 14, 1888.

Patagones: Argentine cutter that used to belong to the División Expedicionaria del Atlántico Sur (South Atlantic Expeditionary Division) and wrecked in Bahía Buen Suceso on the Le Maire Strait in 1892. Her remains can still be seen at the mouth of the river, south of the post (Belza II, p. 110). The government authorized her breaking up on 24th January 1893.

Glen Cairn or Glencaird: Is she a single vessel or two different ones? Accounts show data which disagrees as regards the number of survivors and their sex. This points to two different vessels. The proximity of the dates calls one's attention. But there is another fact—the mentioning of the post of Puerto Cook and a prisoners' escape when, in 1902, the Prison and the Subprefecture had been closed down.



Shipwreck remains at Bahía Thetis, Península Mitre.



Carlos Dipilato and shipwreck remains at Cabo San Vicente.

The following is part of the account of Lucas Bridges' experiences during his stay in estancia Viamonte, on the Atlantic coast of Tierra del Fuego (near Río Grande), in 1907.

"In late July 1907, I welcomed unexpected visitors in my shelter in the Onas' land. For almost 15 days, a strong northeastern wind blew accompanied by rain and, although it eventually died down, the Atlantic was still very rough and fog and rain persisted."

"One afternoon in Viamonte, soon after noon, the high figure of the Indian Chalsheet wrapped in skins appeared in the fog; two ragged white men followed him, one of them of an extraordinary appearance."

"They were wrecked sailors; their accent reveled their Irish ancestry and they were from Donegal Bay, a rugged coast where strong sailors are brought up."

"One of them produced papers that showed that he was the second pilot of a large ship, the 'Glen Cairn,' and his name was Nielson."

"He told me that the 'Glen Cairn' had lost her course owing to the long-lasting bad weather and struck on a reef near the Policarpo inlet, West of Cabo San Diego. The vessel managed to take herself out from the rocks, but she made a lot of water. The coast being in sight, the

captain headed NW until he anchored near Cabo San Pablo."

"They launched three of the boats, but one of them went down and two sailors got drowned. The rest—23 men, 2 women and the captain's 15-month little son—disembarked easily and were assisted by a group of Onas headed by our friend Halimink."

"Nielson's mate was in a very bad condition; Nielson himself had sore feet owing to such an strenuous walk."

"I decided to write to Punta Arenas asking for a rescue ship; I entrusted the message to an Ona to take it to Mc Inch in Río Grande; he would take it to the Chilean establishment in Porvenir and, from that place and across the Magellan Strait, to Punta Arenas."

"Provided everything went smoothly, the rescue ship could arrive at Río Grande in about ten days. The pilot was afraid that the captain, owing to their delay, decided to go on looking for help. Poorly fitted and with the rigors of winter, death was sure, so I decided to go after him."

"With three young Onas and a troop of tame horses and all the saddles I could gather, I set off in spite of the heavy rain."

"On the following day, rain had stopped and it was sunny when we arrived at the wreckers' camp."

"Captain Nichol was a vigorous man, with an brisk expression; he must have been at least 115 kilos; his wife was a beautiful little woman from Scotland. The other lady in the group was Mrs. Perry, the steward's wife."

"After deciding our return to Najmishk on the following morning, the Captain told me his story:

After abandoning the "Glen Cairn" on the boats, they had sailed along the coast heading NW, descrying woody rocky terrain and hills on the shore through the fog, finding it impossible to disembark due to the huge breaking waters. In that area, the rocky terrain advances into the waters in such a way that, in some places, the sea breaks about a mile away from the cliffs.

In the end, they saw a place where there was no breaking and the water seemed to be deeper and they could also see a smoke column that they interpreted as a signal (Halimink's).

After some moments of doubt they could reach a backwater where Halimink was waiting for them next to the fire he had made. He had had the brilliant idea of dressing himself in civilized clothes so that wreckers were not scared with his guanaco skin cloak and he had ordered the rest of the Indians to remain hid-



Península Mitre. Shelters made out of shipwrecks and hold lids. Timber from the Purísima Concepción?



den behind the rocks. They started to appear little by little so that nobody, especially women, were scared.

Some of the Indians had learnt Spanish (Halimink among them), but nobody could speak English, so they decided to send Nielson with a sailor and Chalshoat as a guide to find help.

In attracting them to the only place on the coast they could disembark and in taking them

under his protection, Halimink had undoubtedly saved their lives without thinking of any reward..."

Below, there is part of a telegram sent by the commander of the transport *Chaco* of the Argentine Navy, Lieutenant Juan I. Peffabet. Dated 12th November 1907, in the port of Comodoro Rivadavia and addressed to the Secretary of the Navy, the document relates the rescuing of wreckers.



Building for cauldrons to make oil.



Houses. Dinning- and bedrooms.



Bahía Thetis. Sea lion factory abandoned in 1940 with over 4,000 skins.

"In Puerto Cook, I embarked three wreckers from the English frigate 'Glencaird,' which was loaded with general cargo and was sailing from Newcastle to San Francisco, California. She run ashore on Isla de los Estados, in Margaret port; only the boatswain and two sailors saved their lives; the captain, two pilots and 28 hands died. These three wreckers were taken by a boat from the stationary of Puerto Cook after having stayed on the rocks for ten days. These wreckers, together with the French frigate *Astree's*, were lodged in Cook stationary until the arrival of this transport."

"These hands spent 40 days living on mussels until they were rescued by a boat from the military prison of Isla de los Estados, which was after some prisoners that had escaped."

Obscure Points

According to the first account, twenty-three men, two women, and the captain's son were saved; and two sailors died. This points to a total of twenty-eight hands. In the second, it is said that the captain, two pilots, and twenty-eight hands died; and it adds that only three men survived — a total of thirty-five people.

It could be thought that the captain abandons the vessel, assumes that two sailors are dead because he has no news from them and disembarks on Tierra del Fuego while two sailors and a boatswain stay on board of the *Glen Cairn* or *Glencaird* until she runs aground on Isla de los Estados. God knows what really happened.

The comment on the escape from Puerto Cook is very strange given that there were neither prisoners nor prison any longer there.

Bibliography: *El último confin de la Tierra*, by Lucas Bridges, pp. 472 to 475. Cap. XLVI (1947). *Cabos Suelos en la Historia Patagónica*, by Carlos Borgiallé, p. 136. Published by Argentina Austral (1942).

General Clarette or General de Charette: The three-masted *General de Charette* was launched from the shipyards of the Loire, in Nantes, on 5th May 1898. His owner was Monsieur León Guillón. This vessel was very similar to the *Mc Mahon*, which had been recently launched by the same shipyard. At that time, cargo ships—for some called frigates, clippers or barks—had specific building patterns. They could correspond to types A, B, or C. There were composite ships and just a few escaped from this sort of mass production, at least in each particular shipyard.

This vessel had a short life: the *General de Charette* had set sail from Swansea bound for San Francisco in July 1900. On 27th September, the *Shipping Gazette* received a telegram dated 26th informing that the vessel had touched a rock on the Le Maire Strait and wrecked. The second and a sailor had disappeared and the rest of the crew had disembarked in Punta Arenas.

The telegram was not completely precise: on September 2, Captain Henry Réhel was entering Le Maire Strait and waiting for favorable weather to head for Cape Horn, but the complete calm, on the one hand, and the strong currents, on the other, dragged the vessel toward Cabo Buen Suceso. Unfortunately, she touched the rocks of Cabo Buen Suceso (when leaving Le Maire Strait) with a blizzard, a blanket of storm clouds, and strong Western windblasts on 3rd September 1900 at 4.20 at daybreak.

On seen that the loss of the vessel was inevitable, the captain tried to save the crew by ordering them to embark a boat while provisions were boarded on the rest of the boats.

During this operation, and while he was trying to embark, second lieutenant M. Alfred Le Chauve was crushed by the boat and died. At the same time, a second boat was lost and sailor José Kerdrone was washed away from it. The sea broke the third boat: only a dinghy was left and the ship was turning uninhabitable...

After many efforts, they managed to reach land and set up a swifter (lifeline) by means of the only vessel rescued, which made it possible for twenty-four wreckers to be saved.

Of the provisions embarked on the boats, nothing could be recovered—only two suckling pigs and twenty-two hens. Neither victuals nor papers or valuables could be rescued. The vessel was abandoned and the crew decided to head for Punta Arenas.

Walk across Península Mitre

They set out through a wood covered with snow so they found themselves sunk in it up to their waists; they also got hurt and end up half-frozen. The lack of food made things worse. They decided to walk along the coast taking advantage of the low tide, and lived on shellfish and sea lion meat they could hunt by chance.

After a hard seven-day walk, they arrived in Bahía Thetis on 10th September and found lodging for the night in the abandoned houses of the Argentine Subprefecture.

On the following morning, they made for Cabo San Vicente, where they found a native who suggested that they should return to Thetis Bay. After giving him a letter and asking him to promise to hand it over on the coast, they returned to the bay.

The Rescue

In those days, the Chilean steamer *Elena* had cast anchor in Caleta Falsa, Península Mitre, on Tierra del Fuego. On the 11th, Captain J. Leoni, accompanied by accountant Tobias Adams and sailor H. Ovesgard, went on a short trip by land and penetrated the mountain to hunt, then they decided to head for Bahía Thetis. On their way, on 11th September at 7.30 in the afternoon, they saw the fire that was heating the wreckers.

On the 12th, the wreckers went to Caleta Falsa and were assisted on board of the steamer *Elena*. On the 14th, they put to sea for Punta Arenas.

The steamer had to call at Ushuaia. At that moment, the governor welcomed the wreckers and gave them some clothes and other basic commodities. On the 19th, at 2 in the morning, they anchored in Punta Arenas.

The French consular agent, Juan Blanchard, immediately took charge of the wreckers and gave them clothes and accommodation.

The following survived: Captain Henry Réhel, first mate Louis Joasson, second lieutenant Louis Pierre Chalimel, boatswain Marin Le Bars, shipkeeper Laurent Urvai, fitter León Gourdin, cook Oliver Coto, joiner Garrec Pierre, and sixteen sailors.

A telegram from Montevideo [Uruguay] reported that the wreckers had called out that port on 9th October aboard the English steamer

Oriosa bound for France. It also added that they were very grateful that the Chilean authorities had treated them well...

Technical Data

The *General de Charette* was a type A vessel; one of those built between 1897 and 1899. Her dimensions were: length 79.54 m; beam 12.26 m; notch 7.29 m; careening depth 6.942 m. These ships had a 3,100 tonnage, about 2,297 gross cargo tonnage and 1,731 net cargo tonnage, and were of the three-masted coffer type. The first one was launched on 5th April 1898 and the last one on 27th June 1899.

This had a set of sails surface of 2,631 square meters and a stay of 6.20 m.

Bibliography: *Tierra del Fuego*, by Juan Hilarión Lenzi (p. 235). *Les Derniers grands voiliers, Histoire des long courriers Nantes* from 1893 to 1931, by Louis Lacroix (pp. 382 and 383). *Naufragios ocurridos en las costas chilenas*, by Don Francisco Vidal Gormaz (1894), pp. 806, 807, and 808.

Sinking date: 3rd September 1900.

Place: Buen Suceso, Tierra del Fuego

General Claretie, in the book *Tierra del Fuego*, by Juan Hilarión Lenzi, P. 235.

General Claretie, in *Naufragios ocurridos en las costas chilenas*, by Don Francisco Vidal Gormaz; 1901; pp. 806, 807, and 808.

General de Charette, in the French book *Les derniers grands voiliers, Historie des long courriers Nantes*, from 1893 to 1931, by Louis Lacroix.

This last one offers the actual name of the ship and gives references of her sinking, apart from specific data about her building and launching. On the other hand, this book is the only French reference.

Torino: Argentine steamer that wrecked in Caleta Falsa in September 1900. She was owned by the Salesian order and was used for the missions of Río Grande, Isla Dawson, and Punta Arenas.

According to information provided by father Juan Tic, from Río Grande, she was built in Italy and was used as a cargo ship on the Po river.

Monseñor Fagnano bought it for sixty thousand pesos with the help of the shipowner, Don Máximo Gilli (from Turin and settled down in Magallanes) who, consequently, became a partner of the order.

Displacing 150 tons, she was fitted with two 45 HP engines. She arrived in Punta Arenas on 17 July 1894 with thirteen hands under the English Wilson. Apparently, the matriculate was changed in 1896.



Península Mitre. Monument to the Lost Seaman. This is all that remains of the iron clipper 'Duchess of Albany.' The remains are scattered in small pieces.

Transport Piedra Buena: Former motor gunboat *Paraná*. She was the flag-ship of the División Expedicionaria al Atlántico Sur [South Atlantic Expeditionary Division] under Colonel Don Augusto Lasserre. In October 1884, they arrived at the bay of Ushuaia after starting the lighthouse at San Juan de Salvamento on Isla de los Estados. This island was visited by seamen more frequently than the Beagle area. Once out of duty (1900), she was remodeled to serve as a transport and she did so for several years along the Patagonic shores. She was longed by everybody because she used to bring fresh victuals, newspapers, mail, medicines, and new settlers. At Caleta la Misión, near Río Grande, she touched the ledges on several occasions and, the last time, she wrecked there (1926). Built in England, her sister-ship was the corvette *Uruguay*, which had an outstanding performance in Antarctica, and nowadays is a museum ship anchored in Puerto Madero, Buenos Aires.

Her measures are: length 43.36 m; beam 7.63 m; depth 5.40 m; draft 3.5. Displacing 550 tons, she carried four 7-inch chasers on iron gun-carriages; one situated in front of the funnel, another behind it, and the other two on both sides on the moorings.

The coal hold could carry 90 tons. The 75 HP of her engine made her develop a top speed of 10 knots. She was purchased in 1873 by president Domingo Faustino Sarmiento.

Bahía de Buen Suceso

The first reporter to visit Ushuaia and the Beagle Channel down to Isla de los Estados made a brief comment worth reproducing. This journalist from Córdoba leaves Buenos Aires in

September 1891 on a trip with Governor Dr. Cornero. They travel on the same ship as a young man that belongs to a well-off family from Buenos Aires who has been sent to San Juan in punishment and for regeneration. Not intending it, he becomes one of the protagonists of *Mila* in the book *Novela del Mar*, by Olaescochea.

From the beginning, the author shows how difficult it is to arrive in the region. From Buenos Aires, he has to cross to Montevideo on board of the *Río Paraná* and, once there, he boards the transatlantic *Liguria*, which takes him to Punta Arenas. There, he has to wait for the National Transport *Ushuaia*. At that very moment, as Eyzaguirre relates, "Traders and villagers of Río Gallegos, Territorio de Santa Cruz, Ushuaia, and from all the Fuegian territory obtain supplies there [...] for the time being it is the compulsory capital of South Patagonia and Tierra del Fuego." A sad reality in those days.

This short narration gives us an idea of what was life like at the subprefecture in those remote regions. In April 1998, the Maritime Museum conducted a survey and found the foundations of the construction mentioned thanks to the fact that they are made of concrete. The plaque placed by the Museum of the End of the World and "Tata" Figue has disappeared.

"At Le Maire Strait"

"We set sail at 6 p.m. — shadows starting to surround Slogget, and the ocean died with a somber tint."

"Half an hour later, everything was in darkness, and the 'Ushuaia' went on sailing for le Maire Strait. At 2 in the morning of Thursday October 8th we were in front of Bahía Buen Suceso. The feared Strait was quiet. At daybreak, we entered the port, a beautiful bay surrounded by exceedingly high mountains covered from top to foot with the thick Fuegian woods."

"Buen Suceso" [Good Fortune] owes its name to the first Spanish vessel that arrived there; but this name has not the slightest influence on the conditions of the Bay. From the moment the Subprefecture was established, there has been only misfortune. With every trip of the 'Ushuaia' or the 'Villarino,' there is invariable bad news — people sick with typhoid, people starving to death, or misfortunes of different nature."

"The Subprefecture facilities are at the bottom of the Bay and, in all, they are:

Two large buildings on the beach;

The Subprefect's house, and the shipyard workers';

Four huts fixed with brass cleats, the rooms of some indian women 'endeared' with the crew;

Six or seven indians' huts, Onas to the South; a stronger and more beautiful race than the Yagana and the Alacalufe."

"This village has a nice view, but its beach is very rough, with dreadful breaking waters, — as all the south in the South and East of Tierra del Fuego. It may be said that it is like Slogget's beach in a smaller scale."

"Half an hour after weighing anchor, the launch of the Subprefecture with Subprefect Luis Figue, — old typesetter in former times in the workshops of our colleague 'The Standard' — moored along beside us."

"We found everybody sick with consumption. Sailors could hardly move the oars. With haggard and colorless faces, the hands of the launch seemed to be convalescent after a long and distressing disease."

"The Subprefect informed that they had been living on goat fat and meat — no hardtack, no sugar, without any of the food set in the budget — for the past three months."

"When sailors were left on their own, the first thing they asked the people on board of the 'Ushuaia' was hardtack."

"Hardtack! Hardtack!..." they exclaimed with an air of hungry beggars, weakening, — and the first hardtack that fell on the boat caused a fight."

"What a sad show! — the poor hands tripped up and knocked down among themselves to catch it, without hearing neither nothing nor nobody. They were blinded by starvation; they did not take time to think that that first one would not be the last... There were sailors that, after having eaten two or three hardtacks, still wanted more and offered up to one peso nacional for each."

"Maybe those reading this do not know that these Subprefectures are humanitarian establishments in charge not only of helping shipwrecks and collecting wreckers, but also of converting natives... And the employees themselves run the risk of starvation!"

"The victuals we carried were the ones set for July, August, and September... and the 'Ushuaia' was arriving at Buen Suceso on Thursday, 8th October [Author's note: this was in 1891], i.e., the sailors and employees had to 'eat backward,' according to the graphic and suitable expression of Lieutenant Surueta, Commander of the cutter 'Patagones' — cutter that we found there, stranded on the beach of high tides."



Carlos Dipilato working at the foundations of Luis Figue's house at Buen Suceso, near the outlet of the river at the southern end (April 1998).

"Buen Suceso! Arriving at Buen Suceso, soon and easily, was the main concern of those that, knowing the territory, were travelling on the 'Ushuaia.' Beccar, the commissioner; Cornero, the Governor; Captain Noguera were all thinking about the settlers of 'Buen Suceso.'"

"I hope we don't find them dead!, 'exclaimed one.

'No doubt they are in trouble,' said another, and all the ones that did not know neither the issue nor the careless administrative procedures, started to get interested in this 'Buen Suceso,' that the less vivid imagination pictured as a bad and unfortunate 'suceso' [event]."

"And they underwent these worries on each trip, reasons abounded... The 'Ushuaia,' when she does not bring back bad news, she brings at least—as it happened this time—four, five, or seven persons sick from... starvation, consumption, tuberculosis, etc."

In order to complete the picture of the subprefecture of Buen Suceso, and almost forty years later, in *Paralelo 55*, Víctor Juan Guillot, a political prisoner in 1931, relates:

"March, 31st:"

"I take advantage of the withdrawal of Holy Week to put some notes in order and let some impressions sink in. The freezing drizzle combined with the austral cold wind invite to a quiet task near the blazing stove. This work will be later used or not; but for me it has the merit of having soothed with its zeal the otherwise endless hours of stupid confinement. Time is like a pocket where one always has to keep something..."

"... We find doña Damiana Francia de Figue prostrated in bed. She has been there for over a month and cannot get up, this old lady with thick black eyebrows, white hair and dark eyes

of a peculiar energy, and a conspicuous down that casts a shadow her upper lip. On looking at her regular features that must have been beautiful, I remember the words of Eyzaguirre, who visited Buen Suceso in 1891, when Luis Figue—doña Damiana's husband—was Subprefect and Chief of the Rescue Station at that point of the coast of Lemaire: 'Subprefect Figue lives there with his wife, a kind lady who told us with complete naturalness that they had been eating horse meat for a month.'" (*Tierra del Fuego*, by José Manuel Eyzaguirre, 1897. Foreword by Julius Popper.)

"That kind lady who in 1891 eat horse meat without complaining is the valetudinarian old lady, still with nice features, around whose convalescent bed we are engrossed, listening to her; Ricardo Rojas, Crovara, Turano, and I"

"Since then, Damiana Francia has lived long—born in Buenos Aires, married in 1890 to Luis Figue, a young typographer trained at the workshops of 'The Standard,' owned by the Mulhall, enlisted in Laserre's expedition to use his knowledge of the English language, and Subprefect at Bahía Buen Suceso, until 1894, when retired, he settled down in Ushuaia and engaged in trade and rural life."

"With a exhausted voice, sometimes stopping to gather her recollections, the widow of don Luis Figue, a pioneer who amassed a fortune with his effort and who has contributed a lot to the development of Ushuaia, speaks to us. She speaks as if trying to remember, more than events themselves, narrations earlier than the events."

"I enjoy listening to her speaking. She expresses herself with the decorum of a patrician lady and she uses words and expressions unusual in this settlement where, the ones who

are not foreign, satisfy their intellectual needs with a poor lexis and lavish clichés. A lady, doña Damiana Figue is, as I said, also due to the ardent patriotism that, sometimes, encourages her reflections. Her eyes do sparkle when she remembers that, in 1884, Rear Admiral Laserra made the British flag be hauled down at La Misión in order to hoist the national flag! She is likely to be unaware of the fact that this Fuegian history is written story. She remembers and passes it down with the meticulous neatness of somebody who is in charge of keeping the annals of a preterit time!"

"Doña Damiana has no favorable opinion of La Misión or reverend Bridgea. As she sees it, all that had no other purpose than maintaining the possession of the land until the English leopard wanted to give a blow with his paw on this piece of land."

"This time it was not going to happen the same as with Malvinas," claims doña Damiana with unusual vigor. And you know what happened to us the Argentine in Malvinas."

"Her dark eyes give our faces inquisitive looks."

"Not even a turnip would he give free of charge," claims she. "He got angry with the one who uprooted a turnip without giving something for the Mission in exchange."

"Doña Damiana remembers the indians of the Mission, who were taught at a school in charge of a Mistress whose name she cannot remember. In her time —after 1895—, the natives already wore European clothes. The epoch of the half opened quillanges [fur blankets] has gone by..."

"Doña Damiana remembers when the British gunboat 'Garnier' anchored at Buen Suceso in order to make some inquiries about the supposed mistreatment of a few English sailors hired at the Rescue Station. How could she forget? On her way back from the 'Garnier,' the boat on which Subprefect Figue was sailing wrecked and some hands drowned. Figue was rescued at the beach, already stiff, declared a corpse by everybody; nevertheless, he reacted after a few hours thanks to the energetic treatment he received. Mrs. Figue thinks that many drowned people would be saved if they received an appropriate treatment."

"We leave doña Damiana abandoned to her recollections. In the adjoining room, the wife of don Luis Figue's (son) prepares a cup of tea for us. Rojas leaves the bedroom first, I follow him; on passing through the door, the old lady sits up and gives them a farewell with these words:

"Do not forget, Sirs, about this piece of Argentine land!"

"A patriot, doña Damiana. She has that fervent patriotism of someone who has had, humbly but bravely, to build a country with her own hands facing a hostile nature and the apathy of men. Hers is that deeply pure, candid patriotism that has not suffered delusion. Final faith before the coming mysterious time of death."

"One feature of that character. The fortune left by don Luis Figue —friend of don José Menéndez— was almost completely lost in unfortunate businesses. The grandchildren of the pioneer are poor; poor his mate will die. Their son, Luis, the only survivor of the five children of the couple, scarcely owns land on Isla Navarino. Chilean authorities disapprove of an Argentine owning such a vast stretch of land in a territory under their sovereignty, which is so close to the Argentine coast. On several occasions, he was suggested that he should become Chilean; this is practically a requirement to keep his land, whose titles he steel lacks because it used to be under public domain."

"Figue's son hesitates between a living for his children and the love for his native land. And, for the time being, he will not haul down the flag as that old lady of dark ardent eyes had begged from her dying bed:

"Son, do not abandon your Argentine nationality while I am alive. After my death..."

"In transcribing my notes I have lived through the rough past time, when life in Ushuaia required a plain and daily heroism. The heroism of living here. And of being happy here, in the wretched little village, lost like a rag on the beach covered with gravel, among the gelid 'never used sea,' the lone mountain, and the deep and dumb forest. Times past. Only these four longing old men who, while basting their remembrances, cast a sideways fearful look that observe the shadow of the Implacable that approaches..."

Shipwrecks on Islas Malvinas



Puerto Argentino, on the Malvinas Is.

Historical Outline

Without any intention of arguing about sovereignty, reality shows that the Malvinas Islands are connected to the Fuegian archipelago since the age of the discoveries and the subsequent colonization. I am not only referring to the Isla Grande of Tierra del Fuego, but to Isla de los Estados (Staten Land), the Magellan Strait and, of course, to the Antarctic Peninsula, and the surrounding islands as well.

As it was commented in the section about the discovery of the Strait of Magellan, it is thought that it was this first expedition the one that described these islands for the first time. In fact, this was known from the vessel that decided to return deserting from the fleet—the *Incógnita*. What is known for sure is that, in the fabulous document *Islario General* (General Map of Islands), they are situated quite precisely. This publication dates from 1541 and was issued by Alonso de Santa Cruz, so these islands are by no means a British discovery. Many other navigators described them and they were named *Sebalquinas*, after the Dutch Sebald de Weert.

According to a Papal Bull (Alexander VI, in 143) and to the Treaty of Tordesillas, subscribed a year later, this archipelago belongs to Spain, even when the English never paid to much attention to treaties in general.

The French were the first to occupy them and this happened in 1764 (5th April) when the fort—Fort Saint Louis—was officially inaugurated by Louis Antoine de Bougainville's expedition. These islands were called *Malouines*,

in homage to the intrepid navigators from St. Maló. Nerville G. de Bougainville (the commander of the expedition's cousin) stayed in Port Luis as the governor of a small colony of 27 people. Some of them were Canadian and there was a boy and five women. They also took domestic animals.

The English, headed by John Byron, settled down in Port Egmont (Trinidad or Saunders I.) in January of 1765. In the name of King George III of England, he took possession of the port and of all the nearby islands christening them "Falklands Islands." The following year, John Macbride set up a fortification.

When the Spaniard re-claimed, the French handed over their colony in 1767. Bougainville was compensated for his expenditures and his government recognized the Spanish sovereignty.

In April 1767, the first Spanish governor Don Felipe Ruiz Puente assumes for five years. Later on (1770), the English were expelled by a Spanish naval division. But because of a treaty they were accepted back in Port Egmont (*puerto de la Cruzada*) in 1771 and until 1774, when they abandoned the port.

From then on and up to 1811, twenty Spanish governors and thirty-two administrations passed. They occupied both ports and it is estimated that the population was of about 600 people by the beginning of the 19th century. Most of them were Spaniards.

On 13th February 1811, the last Spanish governor left and, thanks to the claims he put forward for the money they owe him, today we

know that the position of the Malvinas was considered as a ship. Viceroy Sobremonte resolved that this should be paid as "a ship sailing and all the staff in that destiny, as depending on the same ship..." there was a reward that was paid during navigation plus the corresponding complement according to the seas or areas.

Given the situation of the Argentine Revolution (1810) and the battles against Spain (the crossing of the Andes, the defense of the north east, the terrestrial and naval war with Montevideo, and civil wars), it was not until 1820 that the blue and white flag was hoisted on the Malvinas by the American corsair David Jewett that was serving the government of Buenos Aires.

He did this in the presence of many American and English sealers that informed about this to their governments so the event was published in the *Gazette of Salem (USA)* and in *El Redactor de Cádiz*. It is estimated that there were about 40-50 sealing ships including frigates, cutters, and schooners.

During this period of abandonment, buildings started to deteriorate and sealers and whalers were the few inhabitants of the place, apart from the typical wreckers. Equine, bovine, and hog cattle increased in number, although it was hunted by the occasional inhabitants. On the other hand, wild animals could always be hunted, especially the autochthonous "Malvinas Goose."

Several Argentine vessels used to arrive in Malvinas such as the *Espíritu Santo*, The schooner *Rafaela*, the *San José y Animas*, the *Neptuno*, etc.

In 1823, the merchant Jorge Pacheco presents to the Government of Buenos Aires a request to exploit the Malvinas Islands. He owned a salting house in Pedriel and, in association with Luis Vernet (32 years old), he wanted to exploit bovine and equine cattle, and sealions from Malvinas that were at the mercy of "foreigners." In exchange, they had to rebuild the prison for the Government. They signed an agreement with the English Robert Schofield for him to engage in hunting and slaughtering for which he bought two vessels.

Pablo Araguay was sent to control the exploitation. He was also the Commander of Isla Soledad. Emilio Vernet—Luis' brother—went with him. The enterprise was a complete failure: all ships and all the capital invested were lost (1824).

In 1825, Luis Vernet (a German residing in Buenos Aires) decided to go on with the exploitation personally. For this purpose, he went on

a series of voyages and as a conclusion he presented to the government a report about the possibilities in Malvinas, Isla de los Estados, San Gregorio Bay in the Strait of Magellan, and the islands near Cape Horn.

From 1826, when Vernet arrived in Port Luis (ex port Soledad), there was a register of ship entrances. In 1826, 9 ships entered (as from July); 22 vessels in 1827; 11 in 1828; 16 ships in 1829 (9 of them sealers); 23 in 1830 (14 of them were sealers). Most of them belonged to American and British sealers, except for some Argentine and other merchants.

Vernet's leasing was similar to Pacheco's and consisted of all the vacant plots of Soledad island. Ten square leagues were reserved in the San Carlos strait and Isla de los Estados, once deducted the ones granted to Pacheco. They had the obligation to settle down a colony. The following year (1829), Vernet was named Political Military Commander with jurisdiction up to Cape Horn.

After exploring and drawing a sketch of Isla de los Estados (1826), he set up a sealions factory in port Hoppner (1828) and a sawmill. Then, he built two cabins in port Cook (1829) and another in Flinders bay. The exploitation and development of the colony in Malvinas was successful and the estimated population was of about 160 people.

In 1831, Vernet embargoed the American schooner *Harriet* for uncontrolled amphibian hunting. The American government sent the war corvette *Lexington* with the mission of attacking port Luis to destroy the colony. This happened in January of 1832. Apart from this, fishing and hunting were banned not only to Vernet but also to any Argentine.

The Government of Buenos Aires sent artillery Captain D. Esteban J. Mestivier (September 1832) to take charge of the situation in Puerto Luis. He was given 20 soldiers, 5 sergeant majors, and 11 women with their children. The schooner *Sarandí* was headed by lieutenant colonel D. José María Pinedo, who transported them with provisions and various household goods. The schooner carried 57 men with a small infantry troop included.

The idea was to restore order and defend the colony started by Luis Vernet from possible attacks. Vernet's men staying in the island went on with the exploitation. They were Indians and gauchos that, together with the overseer Juan Simón, went on slaughtering animals.

The *Sarandí* set sail on an inspection voyage to the Strait of Magellan and—San Gregorio left an inscription about the Argentine

sovereignty in the place—to Isla de los Estados and Isla Nueva. On his voyage, he took out some sealers from the area. On returning to Malvinas, he found that a revolt had put an end to the order imposed by Mestivier, who was also killed. Pinedo arrested the rebels and was getting ready to set sail for Buenos Aires when, on 1st January 1833, the war corvette *Clio* of the British fleet arrived to a destroyed Port Egmont and hoisted its flag.

Pinedo protested vigorously but, according to his declaration, he decided not to fight, as many of his men were English. Besides, the power of the *Clio* was three times theirs. On 3rd January, after appointing Juan Simón (Vernet's overseer) Provisional Governor of Malvinas, he returned to Buenos Aires. On his arrival, the corresponding court-martial took place (Pinedo, who had not been able to resist, and the rebels were brought to justice) and claims were forwarded to England.

Meanwhile, Vernet's exploitation was going bankrupt. Gauchos and "Charrúa" natives deported by the governor of Montevideo were in disagreement because they were not paid and they foresaw a gloomy future.

Although Pinedo delegated the government to Simón, Captain J.J. Onslow of the British Royal Navy had the actual power. A few days later, the *Clio* set sail from Malvinas (14th January) and another Vernet's man, the Scottish William Dickson, was assigned to hoist the flag and wait for other British vessels. During 1833, the islands were headless and just 26 people lived there. Brisbane arrived as Vernet's manager and Fitz Roy's *Beagle* visited the islands.

When Fitz Roy visited the Malvinas, he got a bad impression. He had already visited the islands on a expedition with the *Beagle* and, apart from being surprised at the change of flag, he commented: "...instead of a lively little village that I expected to find I just found some stone huts partially ruined, a few isolated peat thatched huts; two or three shabby boats... and few human beings with a miserable appearance." He also described Vernet's gauchos when they were idle in Port Louis: "...they fought with a long knife hurting each other seriously. Loose poncho, slouch hat, long

hair, dark complexion and indian eyes, they turn out to be guys fit for the pencil of an artist rather than for the quiet home of an industrious colonist..." Besides, he commented his surprise at their sleeping in the open air on their riding gear.

In August that same year, two gauchos and five indians commanded by the gaucho Antonio Rivero headed another revolt killing Brisbane, Juan Simón, Dickson, and other companions. For several years, they went on plundering and threatening the survivors.

On 7th January 1834, the English vessel *Challenger* arrived. His captain set Rivero's prisoners free and Lieutenant Henry Smith was left in charge of the garrison with six soldiers. When he left, there was a series of skirmishes with gauchos and indians till they succeeded in imprisoning Rivero, who was taken to Rio de Janeiro on the *Beagle*. At that time, scattered colonists and English soldiers that remained on the islands were no more

than 40 in what had been a promising Argentine colony. From then on, the islands are ruled by the British. The following governor was John Tissen (1839-1841). In 1834, a company that started to work in the islands was founded on a leased land of 6,000 hectares and brought the first 18 British colonists.

From then on—except for a short period during the Malvinas war in 1982—the islands remained under British government despite the constant Argentine remonstrances. This is a situation similar to that of the Rock of Gibraltar.

Shipwrecks

Although the present work is mainly concerned with the area of Cape Horn, Península Mitre and Isla de los Estados, we do not want to leave aside Islas Malvinas (and the two hundred islets that surround them), which are part of the Province of Tierra del Fuego. On the other hand, leaving political and legitimate sovereignty issues aside, Islas Malvinas are part of the Mar Argentino (Argentine Sea) influenced by Cape Horn and the Drake Passage.

The hurricane winds and the strong storms originated in Antarctica or in the South Pacific reach them. In navigation routes of the era of

Puerto Argentino. Clipper abandoned in the port.



tall ships, these islands played a very important role given the fact that many of the ships damaged by the strong tempests of Cape Horn sailed back to Malvinas or found shelter on their coasts. They were either repaired or abandoned there.

Shipyards took advantage of this situation and an important repair could cost even the same as a new ship. The necessary wood was brought from the Northern Hemisphere or bought at Thomas Bridges' Estancia, Harberton, or also in Punta Arenas, or it was literally taken from Isla de los Estados.

Many ships were abandoned in Puerto Argentino. These were turned into pontoons for coal storage. Several of these hulls were sold during the First World War and then as hulls to re-assemble floating museums.

One of the main problems after storms was the self-combustion of coal and wool. There are instances of ships that burnt slowly for years; others were abandoned thinking that they were going to sink and they can be seen now in Puerto Argentino (former Stanley) or other ports. There were also ships sold with fire in their interior which was kept under control by means of regular pumping, but the fire could not be completely put out. Others preferred to sink the ship on purpose in shallow waters to put the fire out and then try to save it by pumping.

But, the same as it happens in the rest of the region, there are very few records dating from before the 19th c. Most wreckages took place after the discovery of gold in California and with the increase of communications with Australia. At this point, it is worth making clear that navigation from England to Australia was via Cape of Good Hope, and Cape Horn or "Cape Stiff" was only ventured on the way back. On the contrary, clippers leaving from the eastern coast of the United States did not follow this route.

In the chapter dealing with Isla de los Estados, there are accounts about abandoned ships, but the case of the *Blue Jacket* was quite singular. Abandoned in front of Malvinas, it was saved and led to Puerto Argentino (former Stanley). A year worth mentioning is 1905 as one hundred and thirty sailing ships, including barks and frigates, faced Cape Horn and most of them were rejected by heavy storms. Out of one hundred and thirty (sixty-two were British, thirty-four were French, twenty-seven were German, four were Italian, and the rest were Norwegian and Finnish; and there was a Danish one), only fifty-two reached their destinations after three months; four were recorded as

wrecked; twenty-two sailed back to Malvinas, Montevideo, or Buenos Aires to be repaired and went back to the battle. Fifty-two of them are considered to be missing.

Sealers' and Wreckers' Narrations

The Malvinas islands were visited by English and American sealers on their trips across the austral seas. Seamen such as James Weddell, Sir James Clark Ross, William Smith, Nathaniel Palmer, and many others ventured Georgias and South Shetlands and in their logbooks they wrote down not only their daily navigation but also what they had caught and the survey of coasts and islets they visited.

Among these seamen, we can mention Captain Charles H. Barnard. Knowing Malvinas very well, he had forwarded an ambitious project to the shipowners of the brig *Nanina* in 1812. This plan involved a two year's stay in different points hunting sealions. While men wintered on land, the ship would sail back with the cargo and then back to fetch them and load the rest of the products obtained during its absence. For this purpose, supplies and food in a large amount would be taken apart from a 19-ton vessel that workers would use during the brig's absence.

They found the frigate *Hope* and they learnt that the United States, from where they were, were in war with Great Britain.

In April 1813, while they were hunting sealions, they could see smoke on the horizon. They went to see what it was about and found the forty-four survivors of the frigate *Isabella* on Anguila island.

Captain Brokks was not in the group—he had left for Montevideo to ask for help together with Lieutenant Loudon and four sailors on 22nd February; they arrived in the said port on 31st March. An open boat sailing from Malvinas to Montevideo—an actual feat. It is worth pointing out that this sealer brig was carrying a 19-ton disassembled vessel. These captains were able to assemble a cutter or a whaler with the minimum elements.

Captain Charles Barnard agreed with the wreckers that he would take them to the continent in two groups. On the whaler (*La Nueva Nanina*), he embarked a group of women and children and he headed for the brig. Then, masts and yards were fit in order to set sail. Usually, that these riggings were taken out if the ship was not sailing for some time. When everything was almost ready, he and four men went hunting geese, ducks, and wild swine in order to have fresh food. But when he returned to the ship, it had disappeared. The English had taken the ship with American flag.

And thus they became wreckers and started a life of survival with the small boat (they no longer had the whaler). They sailed the San Carlos strait, but they found it impossible to reach Aguila island since the boat was very small. Then, Barnard organized everyday life waiting for somebody to rescue them. But on 10th October, the four sailors escaped with the boat taking with them everything ranging from the elements to make fire to the dog that was so useful for hunting swine and geese.

Not despairing, he kept the fire, built a shelter and put a mast to make signals. He spent his time making clothes with furseal until December, when his four mates turned up with the dog and the boat. They were all forgiven and the wreckers' community was reestablished. The sailors told Barnard that they had reached Aguila island and that they had found out that the *Nanina* had been there and rescued the rest of the wreckers of the *Isabella* and that they had left messages accounting for their behavior because they feared that the captain sold them as slaves.

As Samuel Ansen's behavior was still negative, the captain decided to leave him on his own on the coast of Cisne island on 29th September to return for him in February.

By that time, he was ready to spend the winter of 1814 on the island. In November, the *Indispensible* (Captain William Buckle) and the *Asp* (Captain John Kenny) appeared. Therefore, they got to know that the *Nanina* had reached London (via Rio de Janeiro) and that she had been regarded as a prisoner on the basis of the war. But nobody had remembered about them.

On board of the *Indispensible*, sailing in front of Peru, Captain Charles Barnard thought that there were many months ahead until he arrived in his country. Then, again with his dog, his boat and two sailors, he left the ship and reached Pisco. From that place, the group set for Callao and then for Lima. The American consul helped them with clothes and tried to take them to the United States.

While embarked on the *Eliza*, a fishing vessel, Barnard decided to stay on land for some time. The *Milwood* appeared to replenish her water supply and, on having news about the ship sailing for Canton to later return to the United States, he embarked leaving a note for the *Eliza*. After changing to the *Trumbull*, he arrived in his country on 24th October 1816. No more no less than four years and seven months since he had left at the age of 31. But as soon as he arrived, he visited the shipowners he worked for and suggested them

to go out "sealing." Then, we found him again (late in 1820) on the South Shetland Islands. The fleet was made up of the brig *José María*, the schooner *Henry* and the brigs *Aurora* and *Charity*; the last one at his command. There were also fleets from Salem, Stonington, Nantucket, and Boston. The English fleets should also be added to these.

All of them took Livingston island as their base and it was there where serious problems took place since Captain Barnard realized that eighty of his seal skins were missing and the other captains also complained about the same. Assembled in court-martial, they decided to give the English a lesson. Commanding a whaler with one hundred and twenty men, Barnard headed for the English camp but he found nobody (26th January 1821).

In his account, we find another point of interest—the auction of a wreckage that took place in Antarctica. Captain Clark had lost his ship, the *Clothier*, on Isla Greenwich. Therefore, the remains were put up at auction on 1st February and a quite high price was paid as there were many captains.

The small book published by Charles Barnard really shows us the seaworthy training of these sealers and their expertise to survive.

The following list of ships was published in the *Boletín del Centro Naval* (number 762). We have been allowed to reproduce it and it is basically a transcript. Some details have been added as well as the account of the *Isabella's* wreckers. The original publication is titled *Perdidos y desaparecidos... entorno a Malvinas 1813/1982* by Captain Juan José P. Devalla.

North of Isla Soledad

Amantine: French stay schooner of 360 ton with a cargo of wine and silk; she was lost in Cabo Frenel on 21st August 1851.

Denmark: British frigate. It was abandoned in April 1856 while sinking after a long struggle against heavy storms. Her crew—17 hands—were rescued by the tugboat *HMS Topaze* and taken to Port Stanley.

Avona: Lost in Hut Point during 1882.

Nenai Straits: 907-ton British bark. She set on fire with a cargo of coal in waters of Salvador on 13th November 1884.

Carlton: 766-ton British brig. She wrecked in Carysfort on 4th August 1885.

Concordia: German brig. Wrecked in Limpet Creek on 17th August 1891.

Dennis Brundit: 465-ton British bark with wooden hull. Built in Runcorn in 1856. She arrived seriously damaged in Port Stanley in

1879. She was restored and went on sailing until she sunk in the waters of Salvador, near Bahía del Este, after she had taken ground near Centre Island, in the morning of the 20th of July 1892.

Thetis: 305-ton brig. Acquired by the Falkland Islands Company, she was lost leaving no traces when she was sailing along the coast of Isla Soledad in December 1901.

Allen Gardiner: She was the third ship under this name. She was lost in Cabo Alto (Bougainville) in 1902.

Sixtus: 1,707-ton Danish bark with iron hull, former *Swanmore*, that wrecked at Punta Voluntario on 27th August 1905.

Gaver Noren: Norwegian whale factory. She ran aground at Bahía Vaca in 1921.

HMS Atlantic Conveyor: British container-carrier ship reached by an Exocet missile from the Argentine Naval Aviation at some 100 miles northeast of Puerto Argentino. She set on fire and sunk on 30th May 1982. She was carrying important spare parts for planes, combat equipment for the English army, 75 per cent of the "Chinook" helicopters, a squad of Wessex helicopters, and tents for four thousand men.

East of Isla Soledad

Urante: French corvette of a scientific expedition. She crashed against the rocks by the same name situated East of Punta Voluntario; eventually, she was beached on the beach at Punta Aguila, near Bahía de la Anunciación, in 1820.

Magellen: French whaler. She wrecked in Caleta Johnson, Bahía de la Anunciación, around 1830.

Margaret: 615-ton British schooner. She had been sailing for six months and twenty-two days since her departure from Liverpool bound for Valparaíso; she was carrying coal and cannon bullets by mistake. Two months before, she had made an attempt at doubling Cape Horn. When the captain had lost all hope, and as the ship needed repairing because it was making water, he headed for Port Stanley where he arrived on 11th August 1850. An examination determined that she should be off duty. She stayed afloat at Port Stanley for some years working as lighter.

Levenside: 273-ton British brig. Lost at Billy Rocks, east of Cabo San Felipe, on 26th August 1852.

Capricorn: 350-ton Welsh schooner built in Swansea, Wales, in 1829. At the end of 1851, she set sail from Swansea with a coal cargo. Sailing for the western coast of South America, she arrived in Cape Horn on February 1852

with a strong gale. In that situation, fire was discovered in the cargo; then, the captain sailed under the lee for Isla de los Estados. On arriving, he found that the fire had caught the whole cargo and he understood that the only way to put it out was sinking the ship in shallow waters. After succeeding, using drain pumps, he managed to put the vessel afloat. The important damage caused by the storm in Cape Horn, the fire, and the sinking made the captain head for Islas Malvinas, hoping to fix the ship, but the result of the survey was adverse and it was decided that she should be off duty.

Bought by the Dean brothers as a lighter and cargo storage, she stayed afloat in Port Stanley for many years. In 1942, she was dragged to a place in that port where she is still beached.

Actaeon: 561-ton Canadian corvette built in Miramichi, New Brunswick, in 1838. She was sailing from Liverpool to San Francisco with coal. She was seriously damaged when, after having sailed for 154 days, she ventured to double Cape Horn. She sailed back to Port Stanley on 27th January 1853 to be repaired. She showed the effects of destruction—several openings on deck that gave rise to an unfavorable survey report. The castle part is still practically intact in spite of the fact that it split up at the middle deck. Nowadays, she is used as breakwater and the *Charles Cooper* is moored there.

Snowsquall: American clipper commanded by Captain L. Dillingham. In a voyage from New York (NY) and bound for San Francisco. After 59 days of navigation, and on venturing Cape Horn, she was washed against the coast in the Le Maire strait, which caused serious damage in some strakes of the hull and in the rudder. The ship had been built by Alfred Buttler in Cabo Elizabeth (USA) in 1851 for Charles R. Green from New York and arrived at Port Stanley on 2nd March 1854. All that remains of this ship is the section of the castle, which shows delicate bow lines, which was typical of American clippers.

Ortona: 243-ton American barge loaded with logs. She set on fire on the surroundings of Puerto Williams on 5th April 1855.

Blanche: Rescued at Isla de los Estados and later beached near Kidney Island at the mouth of Bahía de la Anunciación in 1856.

Egeria. 1,066-ton Canadian bark with wooden hull built in Quebec in 1858. She was on a trip from London, England, to El Callao, Peru, loaded with cement and coal. After 95 days, she started to make water in Cape Horn and was completely damaged. Later, she was used as a pontoon.

Russel: American clipper. She crashed into the Billy Rocks at 51° 40' 08" of South Latitude, Longitude 57° 41' 05" W, at the entrance of Puerto Williams. She was found at Berkeley Sound, Bahía de la Anunciación, in September 1859.

William Shand: 432-ton schooner built in Greenock, Scotland, in 1839. She set sail from Liverpool bound for Valparaíso, Chile, with a coal cargo. After a 95 days' voyage, she arrived at Port Stanley on 1st February 1859 and stayed there for fifteen days. On 16th April, she returned to Port Stanley after enduring tremendous storms in Cape Horn; she was finally put off duty and used as a pontoon.

Alexander: 269-ton British barge lost at Stays Beating, up Puerto Williams. She reached the beaches of Mangeary Point (Punta Celebroña) on 5th September 1860.

Adeline: Prussian bark with a cargo of sugar boxes. She wrecked at Isla del Este, near Puerto Fitz Roy on 4th October 1863.

Kirkhill: 1,432-ton British brig with iron hull. She wrecked on running against the Wolf Rocks, on the eastern coast of Isla Soledad on 4th October 1863.

Charles Cooper: American corvette with wooden hull, 977 ton, and 50 m of over-all-length. She was built at Black Rock, Connecticut, in 1856. Her wreckage took place while sailing from Liverpool to Melbourne (Australia) with a coal cargo. She had important leakages in the hull and she needed repairs. She entered Port Stanley on 25th September 1866, was surveyed and, as repairing it was expensive, the vessel was sold in the place.

She was the last packet boat in sailing from South Street, New York. She had started sailing for the Leyton & Hurlbut Line of Antwerp Packets.

In 1968, she was acquired by the South Street Seaport Museum of New York to be taken to this city and become part of the cast of ships afloat on exhibit at Pier 16.

J. P. Smith: British bark with wooden hull registered at Liverpool, commanded by Captain J. Owens. She set sail from Coquimbo, Chile, bound for England carrying manganese in bulk. In October 1866, she arrived at Islas Malvinas making water. She was put off duty and used as afloat hull until 1936, when she split up.

Jhelum: British schooner with wooden hull, 428 ton, 37.5 m length, 8.25 m beam, built in Liverpool in 1849 by Stecle shipyard. She had the typical lines of a vessel of eastern India, with a rustic and blunt bow. She was brig-rigged. Large ebony planks were used for her

and the underwater body was covered with copper plates. She started a long voyage from El Callao, Peru, to Dunkerke, France, in July 1870. She was overloaded, so she had difficulty in doubling Cape Horn. She arrived in Port Stanley when she was about to sink, on 18th August that same year. The crew refused to go back sailing because of this. After a survey, she was put off duty. The captain of the last voyage was Mr. Beagholm, and his owner Widdcome & Bell.

City of Amoy: British barge with wooden hull, 994 ton. She wrecked in Broad Day Light near Punta Celebroña on 8th September 1872.

Fleetwing: Brig with wooden hull, 242 ton, 32.65 m length, 7.65 beam. She was built by Jones at Portmadoc, Wales, in 1874. The Falkland Islands Company purchased it for use as a pontoon in Port Stanley and as coal depot. Nowadays, she is beached.

Maggie Eliot: 799-ton schooner. Sailing from Halifax, Nova Scotia, Canada, she ran aground at the exterior rocks in Cabo San Felipe, east of Fresinet peninsula, on 10th September 1875.

Fortunato: Wrecked at the entrance of Bahía de la Anunciación in 1876.

Christine: 481-ton German schooner lost at the Wolf Rocks, near Puerto Harriet, on 18th October 1879.

Vicar of Bray: Corvette with hull made of English oak, 281 ton, 37 m length, built in Whitehaven, England, in 1841. She is considered to be the last survivor of the great fleet of the gold rush of 1849 and was navigating for San Francisco, California. She arrived in Malvinas in 1880. Now, she is the head of the breakwater in Goose Green at 51° 50' 08" South Latitude and W Longitude, in the Western extreme of the Seno Choiseul. The engraving of her tonnage register is still visible on a beam. The authorities of the Maritime Museum of San Francisco have visited her and conducted surveys for her to be included in their cast.

Leon Crespo: British brig with wooden hull, 696 ton, that set on fire at Port Williams, Fresinet peninsula, in January 1882.

C. A. Belaya: British barge. She wrecked near Volunteer Point [Punta Voluntario], east of Fresinet peninsula, on 16th September 1882.

Nimrod: 90-ton German schooner. She arrived in Port Stanley extremely damaged in 1882. She was repaired and used for coastal trade until she was destroyed in 1948.

Result: Local ketch sunk in Puerto Enriqueta in 1886.

Sidney Dacres: British bark with wooden hull, 1,309 ton, lost in Billy Rocks at the en-

trance of Puerto Williams on 28th September 1886. In this last port, she waited five months for masts to be sent from England. Once they were fixed, she set sail again—tugged with ropes passed through the hawses—from Port Stanley, but she was damaged and split up.

John R. Kelly: 2,364-ton American frigate. She wrecked at Kelly Rock, Puerto Williams, Fresinet peninsula, on 15th May 1889.

The President of the United States awarded three dwellers of Port Stanley gold medals for their bravery in rescuing the wrecked ship.

Berta: Bark with iron hull loaded with cedar logs. She wrecked in Puerto Marc, near Islote Dirección, east of Isla Soledad, in 1892.

City of Philadelphia: 1,384-ton American frigate completely lost with her crew when violently running against the Billy Rocks in the night of 14th May 1896. The launch *Sissie*, which was the most powerful steamer at that time in Port Stanley, turned out to be unable to help the frigate.

Garland: Formerly British 587-ton Chilean corvette. She took ground at the rocky place of Seno Choiseul at 51° 54' of South Latitude, 58° 45' W Longitude. She was put off duty in Port Stanley in 1900.

Fair Rosamund: Local 78-ton schooner. She wrecked in Punta Aguda, south of Isla Bougainville, in April 1904.

Lafonia: 90-ton schooner, former *George Holt*, built in Liverpool in 1892 as a ship for pilots. She arrived in Islas Malvinas in 1905 to be used by the Falkland Islands Company. She sunk in Puerto Argentino in 1905 after running against the floating pier.

Hornet: Coastal schooner owned by the Falkland Islands Company. She wrecked SW of Holm Creek in waters of Salvador in May 1905.

Helene Blum: 2,767-ton French bark completely lost at Seal Rocks, east of San Felipe cape, Fresinet peninsula, on 26th May 1908.

Wavertree: 2,118-ton British frigate with iron hull. She started her long life in Southampton in 1885; she was launched by the shipyards of Oswald Mordaunt & Co on 12th December under the name of *Southgate*. Purchased by Chadwick & Pritchard of Liverpool, she was sold to Leyland Brothers. It sailed all the routes, especially along the western coast of America, via Cape Horn, where a storm damaged her seriously and unmasted the main mast and, because of this, she was helped on 24th December 1910 and dragged by the tugboat *Sanson* to Puerto Argentino. On 25th November 1968, she was bought by the South Street Seaport Museum of New York (NY) after being struc-

turally repaired at the Arsenal Naval Buenos Aires. In June 1970, she was tugged up to New York by the Dutch tugboat *Titan*. Nowadays, she is at Pier 16, Fulton Street.

Oravia: Steamer owned by the Compañía de Navegación del Pacífico. She hit against the ridges of the Billy Rocks and wrecked near San Felipe Cape during the stormy night of 12th November 1912. All passengers were rescued and helped by the tugboats *Sanson* and *Plym*, with the aid of the launches *Gout* and *Pen-guin*.

Sanson: Tugboat. She arrived in Islas Malvinas to serve on 2nd July 1900. She was built by Earles & Co. in Hull (England) in 1888. She is 30 m length, 5.50 beam; she had a triple-expansion steam engine. She served in Port Stanley for many years and took part in the rescuing of the *Wavertree* frigate when she was unmasted in Cape Horn in 1910. She also collected the passengers and the crew of the *Oravia* in 1912. Her hull is still in Puerto Argentino.

Lady Elizabeth: British iron bark of 1,208 ton, 68 m length, 10.6 m beam; built in Sunderland, England, in 1879. She arrived in Port Stanley on 13th March 1913, with planks and elements for construction, from Vancouver and bound for Bahía Delegoa. She ran against the Rocas Uranic, south-east of Punta Voluntario (Volunteer Point); expensive repairs were carried out. Nowadays, she is beached on Caleta Whalebone on the coasts of Puerto Argentino.

Fennia: Four-masted bark with iron hull of 3,112 ton, 95.15 m length, 13.75 m beam. She had a long and ample bow deck that was used as lodgings and classroom for fifty Finnish midshipmen.

She was built in Le Havre, France, in 1902. Named the *Champigny*, she sailed with French flag until 1921; then she passed to the Finnish organization Aktiebolaget Frinska Skolkeppsrederiet, Helsingfors, to navigate training midshipmen during her voyages with cargo. But on 3rd May 1927, she was seriously damaged by a hurricane with WSW force-7 winds, when she was at Cape Horn. In the afternoon of that day, she was practically dismantled, so it was decided to sail back to Islas Malvinas; she arrived in Puerto Argentino tugged six days later. She served as storage for the Falkland Islands Company. During WWII, she was used to lodge German prisoners and boarders. She stayed there until 1967; she was finally tugged to San Francisco to be restored.

Proecis: 304-ton Norwegian brig with wooden hull. She arrived at Islas Malvinas dam-

aged; she was put off duty and used as lighter until she split up in 1929.

Plym: Tugboat built in Plymouth (England) in 1903 by the firm Willoubghy Bros. She had a length of 15.25 m, a beam of 3.10 m, and an engine that enabled her to reach 8 knots. In 1929, she was turned into a lighter until 1930, when she took ground on the beach of the NE extreme of Puerto Argentino.

Rosa Baker: American whaler from New Bedford. She arrived in Islas Malvinas making water in 1900. For many years, she was used as lighter until she split in 1936.

Great Britain: She was launched in Bristol (England) in 1843. With 3,280 ton, 87.75 m length, and iron hull; designed by Isambard Kingdom Brunel to be a liner in the North Atlantic. She was the largest ship built at that time. Among other advances, she was the first screw-propelled transatlantic with watertight bulkhead, double bottom, and a balanced rudder. She navigated the route of the North Atlantic for almost a decade. In 1852, after a thorough survey and changes, she was put in the England-Australia route up to 1876, when she was put off duty. In 1882, she changed for new propelling engines and went back to route to Australia as a more important ship with another advance—she was frigate-rigged. In 1886, she arrived in Port Stanley after having been seriously damaged on doubling Cape Horn.

Then, she was purchased to store wool, grains, and coal. During World War I, she supplied fuel for British cruisers that took part in the Malvinas battle. On 12th April 1937, she was beached and abandoned in Caleta Sparrow. Later, she was put afloat and placed on a raft to be tugged to England. She arrived in Bristol on 22nd June 1970. She spent eighty-four years on Islas Malvinas.

Afterglow: Steamer. She arrived in Islas Malvinas in early 1920 as a patrol ship armed to protect the Fur Seal Rockeries east of Cabo San Felipe, Fresinet peninsula. In 1930, she was renamed after *Port Richard* and she took part in WWII as *HMS Afterglow*. Her hull is still beached east of Puerto Argentino.

Golden Chance: Steamer of 25.5 m length, 5.80 m beam, launched in Lowestoft on the western coast of England. It was built at the shipyards owned by John Chambers Ltd. After forty-five years, in 1949, she arrived in Islas Malvinas purchased by the Colonial Development Corporation to work for the South Atlantic Sealing Company that was based in Puerto Albermarle, SE of Isla Gran Malvina. The company was a failure and it stopped

operating in late 1952. Her hull is beached in the eastern extreme of Puerto Argentino.

Roy Duc: Former whaler built in 1911. It was purchased by the Falkland Islands Company. In 1950, she was put off duty and sunk by the fire of the artillery of the *HMS Bigbury Bay* in the surroundings of Wolf Rock.

Guendolin: 108-ton schooner. Built in Gasport (Canada) in 1870 by Camper & Nicholsons as a yacht. She arrived in Islas Malvinas in 1906 and it was used by the Falkland Islands Company for local coastal navigation. In 1920, it was turned into a pontoon. In 1966, she sunk in the bay of Puerto Argentino.

Philomel: Fishing one-engine ship. She arrived in Islas Malvinas in 1948 to serve as mail, passenger transport, medical care, and cargo among islands. Later, she was sold and re-named *Malvinas*. She set on fire in 1967. The hull is in the north of Puerto Argentino bay.

Yehuín: 800-ton seagoing tug, 43.6 m length, 10 m beam, owned by the Río Grande-based oil company Bidas. She took part in the Malvinas war in 1982. She succeeded in eluding the blockade and reaching Puerto Argentino on 10th April and took part in various missions. Once the war was over, the English kept it for themselves.

PNA Islas Malvinas: Revenue cruiser of the Prefectura Naval Argentina (Argentine Naval Prefecture) built by the Blohm und Voss shipyard, Hamburg, West Germany in 1978, with a displacement of 64.77 ton, 27 m length, 5.30 m beam, with a Browning 12.7 mm machine gun installed. She set sail from the port of Buenos Aires on 6th April 1982 and, after some technical stops, arrived at Islas Malvinas, dodged the British blockade, and reached Puerto Argentino on 13th April. She took part in several missions, was fired by English planes and damaged so that she could no longer serve. When the war was over, she was kept under British control.

PNA Río Iguazú: Similar to the *Islas Malvinas* revenue cruiser, she sailed in consort to Puerto Argentino. She served for rescues, military personnel transport, supply, and guide for trade ships at the entrance channel of Puerto Argentino because the waters were mined. On one of her missions, she had to sail to Pradera del Ganso, near Darwin. When crossing the Seno Choiseul, she was attacked by Sea Harrier airplanes and she ran aground and sunk; before this, the crew had repelled the attack by shooting down one of the enemy's aircrafts. During this action, Jorge Benítez, first mate and the one who operated the ma-

chine-gun, died and was replaced by Petty Officer 1st Class José Ibáñez, responsible for the well-aimed shoots.

HMS Arrow: British antisubmarine frigate, 3,250 ton of displacement, 117 m length, 12.7 m beam. Operating from July 1976; she was damaged during an attack by Dagger aircraft of the Fuerza Aérea Argentina [Argentine Air Force], opposite Puerto Argentino on 1st May 1982.

HMS Glasgow: British destroyer of 4,100 ton, 125 m length, 14 m beam. In service since 1978, she was slightly damaged during an attack by Argentine aircraft Skyhawk of the FAA [Fuerza Aérea Argentina] opposite Puerto Argentino. On 12th May 1982, she was reached by a one-thousand pounds bomb, but the bomb did not blow up until it was away.

HMS Galahad: British disembark ship of 5,550 ton. She was fairly damaged by bombs of one thousand pounds that did not explode in Bahía San Carlos in May 1982. Later, on 8th June, she was seriously damaged by the attack of Skyhawk planes of the FAA at Bluff Cove, Fitz Roy (Bahía Agradable). Eventually, she was dismantled.

HMS Sir Tristan: Auxiliary of the Royal English Fleet of 5,550 ton, 131 m length, 19 m beam. In commission as from 14th September 1967, she was seriously damaged by the firing of Skyhawk planes of the FAA on 8th June 1982. She was put aside and used as a blockship.

HMS Glamorgan: British destroyer of 6,200 ton. Length 159 m, beam 16.5 m. She was slightly damaged during an attack of Dagger planes of the FAA opposite Puerto Argentino on 1st May 1982. Later, she was reached by an Exocet missile launched from land on 12th June 1982 opposite Puerto Argentino. The mount was operated under the responsibility of Frigate Captain Julio Marcelo Pérez and Frigate Lieutenants IM Edgardo Rodríguez and Mario Abadal.

South of Isla Soledad

Isabella: 130-ton British schooner. Back from Australia and bound for London, she wrecked on Isla Aguila, southwest of Isla Soledad in 1813. Before being rescued, the survivors lived on the island for some months.

Robert Fulton: American frigate sailing from New York to San Francisco. She was lost at the same level as Isla Bougainville on 11th August 1849. A boat with the first mate and the crew rowed up to Port Stanley to ask for help.

Courier: 400-ton American corvette sailing from San Francisco to New York. She wrecked

in Bull Point, south of the entrance to the bay under the same name on 1st April 1854.

Atlanta: Completely lost on Isla de los Leones Marinos on 23rd November 1857. The crew was rescued and transported to Port Stanley.

Sra Ranger: 600-ton American clipper. After sailing for sixty days from Liverpool to San Francisco, she sunk on Islas Ruggles in March 1860.

Horatio: 460-ton schooner registered in Hamburg, Germany. Forty days after setting sail from Valparaíso, with a cargo of copper in bulk, bound for Swansea, Wales, she wrecked in Bull Point, south of the entrance to the bay under the same name, on 19th June 1860. Captain Holin, the first-mate, and six hands drowned.

Colonsay: 596-ton British schooner commanded by Captain Mc Allistair. Sailing from El Callao to England, she violently run against Isla del Aguila in the small hours on 14th August 1860. She was completely destroyed, but the captain, his wife, and the crew were saved in a very difficult situation.

La Santiago: 366-ton Argentine schooner commanded by Captain Pedro Bascuati. Sailing from Iquique, Chile, and bound for Marseille, France, after thirty-six days of navigation, loaded with nitrite, she wrecked on Isla Jorge, southwest of Isla Soledad, on 31st May 1866. Aboard boats, the crew headed for Port Stanley.

Malvern: British bark; she set on fire when she was anchored on Isla de los Leones Marinos on 13th October 1868. The crew embarked on the boats and rowed until reaching Port Stanley.

Vampyr: Prussian brig lost in Low Bay, north of Adventure Sound, in December 1870.

Little Edeith: 570-ton British wooden schooner. She was lost when sailing from El Callao to Hamburg, north of Punta Aguda, Isla de Bougainville, at 52° 03' of South Latitude, 58° 35' of W Longitude, on 19th July 1871.

Neptune: British bark. She wrecked on Islas Kelp on 11th April 1873; the whole crew was lost.

Sea Greal: 164-ton brig. Sailing from Dartmouth, England, she was lost in Bahía Ruggles in September 1874.

Admiral Fitz Roy: British bark that set on fire near Cape Horn in October 1874. The crew was rescued by the brig *Fairy* and disembarked in Port Stanley in the occasion that the ones from the bark *Moss Trooper* also did.

Moss Trooper: British bark with wooden hull. Sailing from London to Valparaíso, she set on fire and was abandoned on 20th October 1874.

The crew was rescued by the brig *Fairy* and disembarked, six days later, in Port Stanley.

Graigie Lea: British schooner with iron hull sailing from Malden Islands, Polynesia, bound for England with a manure cargo. She wrecked completely in Punta Toro, east of the Rada de Punta Toro [roadstead], in December 1879.

David Law: Bark with iron hull registered in Glasgow, Scotland. Sailing from San Francisco, with a coal cargo, she was completely lost at the breaking waters of Islas de Elephant Cays in September 1880.

G. F. Haendel: German bark loaded with coal and gun powder for cannons sailing from Bremenhaven (Germany) and bound for Honolulu (Hawaiian Islands). She caught fire south of Islas Malvinas and set on fire in the surroundings of Puerto Williams in November 1880. She also transported a statue of King Kamehameha, whose reign in Hawaii started in 1793 and lasted until his death in 1819. He entered history as the best and most progressive monarch the archipelago has ever had. On 20th August 1818, he signed an agreement and a peace treaty between the kingdom of Kameha and the Provincias del Río de la Plata through which he acknowledged the independence of our country. An Argentine seaman, Captain Hipólito Bouchard, was the first to achieve this diplomatic success.

Kilmoden: British bark with wooden hull commanded by Captain Naile. Sailing from San Francisco with a coal cargo, she was abandoned when she set on fire south of Islas Malvinas in June 1881. The crew was rescued by the bark *Penrith*.

Star of Brunswick: British brig. She wrecked in Bull Point, south of the bay under the same name, on 31st May 1882. Five hands drowned.

Rotamahana: 1,560-ton British frigate with iron hull. Sailing from Liverpool to Wilmington (USA), loaded with coal and salt, she wrecked during a blizzard on the breakwaters of Islas de Elephant Cays, southwest of Isla Soledad, on 14th August 1884.

Luigia S: Italian bark that, sailing from Genoa to Valparaíso, with general cargo including marble statues, wrecked on the Islas Ruggles, near Bahía Libertad, on 4th September 1885.

Pertshire: British barque with iron hull. Sailing from Portland, Oregon (USA), to England with a cargo of flour and tins of preserved salmon, she was lost on the Islas Blind, Canal de Aguila, south of Isla Soledad, on 28th October 1885.

Star of Scotia: 1,000-ton bark with iron hull. She sunk in Bull Point, south of the entrance to the bay under the same name, on 27th June 1887.

Saint Mary: 1,940-ton American frigate. She wrecked during her inaugural voyage in Whale Point, south of Rada Agradable, on 10th August 1891. She was carrying general cargo. Captain Carver considered himself guilty and committed suicide.

Viscount: 1,271-ton British frigate. She wrecked on Isla de los Leones Marinos on 10th March 1892. Seven hands drowned; the rest were rescued in very difficult conditions by the ketch *Result* and for this the Chamber of Commerce gave three inhabitants of the Islas Malvinas a medal for their "effort and bravery."

Estrella: Local schooner, former American sealer, lost in Seal Cove, 52° 12' of South Latitude, 58° 38' of West Longitude, during the winter of 1902.

Cassard: 1,707-ton French frigate with iron-hull. She set sail from Sidney, Australia, bound for Cardiff, England, carrying wheat. She wrecked in Driftwood Point in June 1906.

Attie I.M: Sealer from Nova Scotia lost on Isla Maria in July 1911.

Liepsigg, Numberg, Gneisenau, and Scharmhorst: Warships of the German Fleet commanded by vice admiral Maximilian Von Spee that were sunk south east of Islas Malvinas during the great battle against the British Fleet on 8th December 1914. Two German coal ships, the *Baden* and the *Santa Isabel*, were sunk off Rada Agradable, south of Puerto Fitz Roy.

Belville: Iron bark beached in Puerto Flores, southwest of Isla Soledad, in 1936.

Former **Tween B Paloma:** Local schooner lost between Islas Trite and Matley, near the access to Bahía Baja, in 1948.

Indiana: Local sloop lost on Isla de los Leones Marinos in December 1949.

Narwal 1: Argentine deep-sea fishing ship of 72 m of length, 11 m beam. While she was exploring at 66 miles south of Islas Malvinas, she was attacked by British helicopters and later sunk on 9th May 1982. The wreckers were rescued by helicopters of the *HMS Invencible* that kept them as prisoners.

HMS Sheffield: 4,100-ton British destroyer, length 125 m, beam 14 m. In commission as from 16th February 1975, she was reached by an Exocet missile fired from an Argentine Super Etendard naval airplane when she was 100 miles south of Puerto Argentino. The missile did not explode, but it started an unchecked

fire and the ship had to be abandoned. She sunk on 10th May 1982.

Estrecho de San Carlos Area

Pierre Lovit: French ship lost in the Estrecho de San Carlos in 1833.

Helen A. Miller: 510-ton American schooner with wooden hull. She wrecked near Puerto San Carlos, under the same name of the strait, in 1859.

Coquimbana: British brig lost on the Tysen Islands, in the Estrecho de San Carlos, in 1869.

Princess: 464-ton British schooner. Loaded with iron ingots, she sunk in Port Sussex, near Grantham Sound, Estrecho de San Carlos, on 19th June 1876.

P. N. Blanchard: 1,500-ton American Brigarque, with wooden hull. She set on fire and beached in Port Sussex, near Grantham Sound, Estrecho de San Carlos, in 1901.

Fortuna: 163-ton schooner owned by the Falkland Islands Company. She wrecked on a reef in East Head, near Fox Bay, in May 1906.

HMS Plymouth: British antisubmarine frigate of 2,380 ton, 113 m length, 12.5 m beam. In commission as from 11th May 1961, she was renewed in 1972. She was attacked by Dagger airplanes of the Fuerza Aérea Argentina, opposite Bahía de San Carlos. Four one-thousand pound bombs reached her; none of them exploded, but one made the depth charges detonate and this started a serious fire on 8th May 1982.

HMS Argonaut: British antisubmarine frigate of the Leander type. In commission as from 17th August 1967, she was slightly damaged during an attack by a Macchi 339 plane, opposite Bahía de San Carlos. In a later attack by a Skyhawk, two one-thousand pound bombs reached her and did not detonate, but the ship was seriously damaged on 21st May 1982.

HMS Antrin: British destroyer of 6,200 ton of displacement, 159 m length, 16.5 m beam. She was slightly damaged by an attack with machine guns of Dagger planes of the FAA opposite Bahía de San Carlos. A one-thousand-pound bomb also reached her and detonated on 21st May 1982.

HMS Ardent: British antisubmarine frigate of 3,250 ton of displacement, 117 m length, 12.7 m beam; in commission from 1977. She was seriously damaged by a one thousand pound bomb that reached her during an attack by Dagger planes of the FAA in Seno Grantham, Estrecho de San Carlos. Later on, she was damaged again by Skyhawk naval planes. The ship was abandoned and sunk on 21st May 1982.

HMS Brilliant: 3,500-ton antisubmarine British frigate, 131 m length, 15 m beam; in commission as from 1978. She was slightly damaged during an attack by machine guns opposite Bahía San Carlos on 21st May 1982.

HMS Antelope: 3,250-ton British antisubmarine frigate, 117 m length, 12.7 m beam; in commission as from 1975. She was damaged by the impact of two bombs that did not explode during attacks by naval airplanes Skyhawk in Bahía San Carlos. During the operations to deactivate bombs, one of them exploded, the ship set on fire and sunk on 23rd May 1982.

HMS Lancelot: British disembark ship of 5,500 ton, 131 m length, 19 m beam. In commission as from January 1964, she was fairly damaged when reached by one-thousand-pound bombs that did not explode. In Bahía San Carlos on 24th May 1982.

HMS Bedivere: British disembark ship of 5,500 ton, 131 m length, 19 m beam. On 24th May 1982, in Bahía San Carlos, she was reached by one-thousand-pound bombs that did not explode.

South of Isla Gran Malvina

Peru: Italian corvette commanded by Captain Pio. She was lost in Albemarle Bay, south of Isla Gran Malvina, on 19th April 1868.

Anne Brooks: 96-ton schooner purchased by the Falkland Islands Company in 1873 for local coastal navigation. Commanded by Captain J. P. Smithers, she wrecked in Fox Bay in 1874.

Ready, former *Letitia*, former *Allan Gardiner*: Brigantine built in Dartmouth, England, in 1854 for the South American Missionary Society. She wrecked on the western coast of Fox Bay in 1880.

Herald: 360-ton British corvette. Sailing from Liverpool to Valparaíso, after a seventy-nine day's voyage, she was lost on Isla de los Pájaros, SW of Isla Gran Malvina, on 12th August 1885. Captain Jones drowned.

Clarence S. Bement: American frigate with iron hull of 1,999 ton. Sailing from San Francisco with a cargo of coal, commanded by Captain Grant, she reached the surroundings of Cape Horn. As an important fire broke out on board, she returned to Islas Malvinas and anchored in the surroundings of Fox Bay in December that same year.

ARA Bahía Buen Suceso: Argentine Navy transport built at Halifax Shipbuildings, Canada. She had a displacement of 5,000 ton, 102.5 length and a beam of 14.3 m. As a result of the attack by British aircraft, she set on fire and beached at stern at Port Fox, the engine room flooded, on 10th May 1982.

Puerto Argentino, Malvinas Is.



ARA Isla de los Estados: Argentine Navy transport. Former Spanish the *Transbética*, of 3,900 ton, 80 m length, 10.5 beam, a speed of 14 knots, in commission as from 22nd December 1981. Carrying explosives and munitions, she was sunk by the bombing of missiles from the frigate *HMS Alacrity* that almost made her disappear from the surface of the Estrecho de San Carlos on 15th May 1982. Twenty-two hands died and the only two survivors were collected on Isla Cisne by the *Forrest*, which had been seized from the Falkland Islands Company and was manned by personnel of the Argentine Navy.

B/M Río Carcarañá: Trader owned by Empresa Líneas Marítimas Argentinas built in Yugoslavia in 1962; 10,430 ton, 157 m length, 20.3 m beam. While sailing along the Estrecho de San Carlos, during its usual supplying tour for dwellers, she was attacked by British Sea Harriers, abandoned and sunk in Puerto Rey on 21st May 1982.

West of Isla Gran Malvina

Frances: Whaler brig registered in London. She wrecked on the coasts of New Island, north of Isla de San Rafael, on 15th February 1842.

Gienberrie: 350-ton British schooner. She set on fire near New Island during 1851. The *Tigre* brig rescued the crew.

Glaucus: 340-ton British brig. Sailing from Liverpool to Valparaíso, with an insured valuable cargo, wrecked on Isla Gobernador, opposite Puerto Francés, west of Isla de Weddell, in October 1854.

River Derwent: 504-ton schooner registered in Liverpool. She wrecked and was completely lost on Isla Goicoechea, north of Isla de San Rafael, in August 1867. It is possible that she was sent there to load manure. Her bell was hanging in Colonia Charles in Port Christm for years. Nowadays, it is on exhibit at the Museum of Puerto Argentino.

Yarra-Yarra: 1,240-ton British bark. On her way from Portland (USA) to England, she was completely lost on the reefs of Belaver

Island on 29th April 1885. She set sail from Portland with the bark *Perthshire*, which was completely lost the previous day on Blind Island, west of Isla de San Rafael, at 51° 49' of South Latitude and 61° 17' of West Longitude.

Castalia: 97-ton schooner stranded at Good Frayday, north of Isla San José, in 1893.

Glangowan: 1,804-ton British frigate with iron hull. She set on fire in the surroundings of Port Stanley in her inaugural voyage, loaded with coal, sailing from Swansea (Wales) and bound for San Francisco, in 1895. Later on, the hull was purchased by the whaling station of New Island.

Hadassah: 37-ton local sloop. She wrecked near Isla Circuin, east of Isla San José, San Julián bay, in October 1896.

Savino: 1,225-ton Norwegian barque put off duty in Port Stanley in 1891. Damaged, she was taken from the area of Cape Horn and tugged to the whaling station of New Island in 1910.

North of Isla Gran Malvina

Mary Grey: American corvette that, sailing from Santos to Valparaíso carrying sugar, was completely lost on Isla Borbón in October 1845.

Granite: 150-ton American brig. Sailing from Boston to California, she wrecked near West Point Island, south of Isla Remolinos, in October 1850.

Waldron: 600-ton American schooner. On her way from Boston (eastern coast of the States) to California (western coast) with a cargo of coal, she set on fire and was abandoned between Isla del Rosario and Isla Goicoechea. The crew boarded the boats and disembarked in West Point on 11th December 1850.

Leopold: 1,200-ton Belgian bark completely lost on Isla Grand Jason on 12th April 1858. Only one hand survived out of a crew of twenty.

George Butz: 226-ton American brig commanded by Captain Rich. Sailing from Philadelphia to San Francisco, with general cargo, she wrecked completely on Isla Grand Jason on 26th November 1864.

Alto: 200-ton American whaler schooner. After sailing for thirty-seven months from Berford, New Jersey (USA), she was lost on Isla Jason West Cay in the night of 12th July 1870.

Lotus: 115-ton schooner. Purchased by the Falkland Islands Company. She was lost in the Tamar channel on 2nd October 1872.

Lady Dufferin: 1,299-ton British frigate lost on Islas Janson West Cay on 17th February 1882. Rowing on boats, the captain and the crew headed for West Point Island, where they were collected by the sloop *Allen Gardiner*.

Genesta: 99-ton local sloop bought by the Falkland Islands Company. She was built in Elsingholm and she wrecked at the crags of Puerto Egmont, north of Isla Trinidad, on 24th May 1888.

Foam: 65-ton schooner that arrived in Islas Malvinas in 1863 to serve as a mail and pilots' ship. She was built and used as cruiser for the marquis Duferin and Ava. She wrecked at the reefs of Carcass Islands in May 1890.

Argilshire: 37-ton British bric-barque with iron hull. Commanded by Captain W. Chambers, she wrecked on Flat Jason Island on 17th

June 1893. The crew rowed and reached Isla del Rosario.

Malvina: 11-ton auxiliary sloop built for the Falkland Islands Company in 1906. She wrecked in Reef Channel, east of Isla Trinidad. She was the first propelled ship on Islas Malvinas.

Chance: 60-ton local coastal sloop. She wrecked on Grand Jason Island at 50° 59' of South Latitude and 61° 14' of West Longitude in 1906.

Baden Powell: 94-ton schooner. Sailing from Lunenburg, Nova Scotia, Canada, she was lost on Elephant Jason Island at 51° 10' of South Latitude, 60° 53' of West Longitude, on 22nd November 1907. Captain Anderson and his crew rowed until they reached Isla Borbón.

Richard Williams: Former *Allen Gardiner II*, this sloop was built in Turnchapel in 1874. She beached on Isla Borbón in November 1911.

Karina Kirsén: Sloop put off duty in 1912. Nowadays, she is beached on Isla Borbón. She was used as a pontoon to transport building materials for the old locality of Hall.

Antarctica



The 'Austral' in Puerto Cook, Isla de los Estados (1905).

Several hunters of amphibian (sea lion hunters) visited the Fuegian archipelago and, for different reasons, they started to discover places in the Antarctic continent. The competence for finding hunting places made them look for isolated locations that were kept secret. So, when in 1818, Smith descried the South Shetland Islands for the first time, sealers had been using them as a hunting area for some years. There was another case—the American Palmer arrived in Deception Island in 1818 and turned the place into his own enclosed hunting area and, later on, the base of his voyages that included expeditions to the Antarctic Peninsula. Palmer and Powell together discovered a group of islands that later on would be christened South Orkneys.

On a special mission that had the aim of circumnavigating the Antarctic continent at a southern latitude even further than Cook's, the Russian Thaddeus Bellingshausen discovered the territory currently known as Alexander Island (on the west side of the Antarctic Peninsula) and sailed in the sea now named after him (1819-21).

The British Captain James Weddell (1820-24) navigated in the sea that nowadays is named after him arriving at 74°15' of South latitude thanks to the fact that he found a pack of ice with ample navigable spaces. Apart from his explorations and hunting activities, he made excellent observations on the Yamanas and he

even bought a small bark canoe (3.20 m long) to replace his lost boat and described it in detail.

Among the scientific explorations there were three of great importance for Antarctica that also visited the Fuegian archipelago. In chronological order, these were: the French of Dumont d'Urville (1837-1840), the American of Wilkes (1838-1841) and the English of Ross (1839-1843). They were all long specifically exploratory expeditions with scientific missions.

With the *Astrobale* and the *Zelee*, Dumont d'Urville explored the Antarctic Peninsula, the South Shetland Islands, and tried to sail in the Weddell Sea, but ice prevented him from doing so; and, after a long voyage across the Pacific, he returned to Antarctica where he named Adélie Land before sailing back to France.

Charles Wilkes' experience—with six ships—was different. Although the fleet was numerous, it was not fitted for these seas, so he lost one ship and another had to be sent back while the others were seriously damaged. His expedition got poor results and he descried some islands that were never seen again. He cast anchor in Orange bay and carried some brief explorations in the Fuegian archipelago.

Aboard the *Erebus* and the *Terror*, James Clark Ross carried on a long and important Antarctic campaign. Some of his discoveries were Victoria Land, the Ross Sea, Ross Island, Ross Ice Shelf, where he traveled hundreds of



The Antarctic's crew picking up as much as possible before the sinking.



The 'Antarctic' (1902), under Nordenskjöld expedition, sinking away.



The expeditionaries on being rescued by the corvette 'Uruguay.'



The corvette 'Uruguay' back with the Antarctic's crew and the expedition under Nordenskjöld (1903).

miles, the Joinville Land, Paulet islands, Snow Hill, Cockburn, etc. He spent winter seasons on Hermite island (one of the Wollaston). It was the most important expedition until the beginning of the 20th century.

Given the loss of vessels and human lives, the interest in Antarctica quickly decreased. On the other hand, there were not many economic advantages as there were no new settlements in the devastated sealion exploitations and there were a few whales left (the rest of the species usually struggled and sank). It was not until the end of the century (19th) that, with the Norwegian invention—a harpoon shoot with a cannon—and the swollen of whales, that warlike and large species such as blue whales and sperm whales were hunted again.

In this period only isolated navigations of sealers took place. One of them was that of Smiley "The Consul" that sailed with the bark *Davison* down to the 60° South (1848). The cabin boy Luis Piedra Buena was sailing with him and learning to harpoon whales and became a real sea dog succeeding in facing heavy storms and dangerous icebergs. In 1852, he went on another voyage. To give an idea of the situation in the area at that time, we could find the whaler *Brisk* (1850); the sealer *Stonington* (1853); the *Samarang* (1854); the *Zoe*, which wintered in the Heard islands in 1857; the *Pacific*, wrecked in the same islands (1864); the *Somerset*, which was in the Kerguelen the same year. These were just some of the sealions and elephant seals hunters that used to visit Antarctica.

But we may say that until the Sixth International Geographical Congress, which took place in London in 1895, the scientific study of Antarctica was delayed and this assemble encouraged research institutes to influence their corresponding governments to send missions to the white continent. A new chapter in the history of Antarctica was then opened and a challenge to conquer the South Pole was presented.

Then followed the expedition of Adrien de Gerlache (1897) who, accompanied by Roald Amudsen, explored the Antarctic Peninsula and had to winter there icebound. The following year, C. Borchgrevnik's expedition wintered in a base set up for this purpose.

The interest for Antarctica increased and differentiated from "sealers" and expeditions to Tierra del Fuego, which was being colonized.

Encouraged by the Seventh International Geographical Congress (Berlin, 1899), scientific expeditions started. All the branches of science were included in the German, Sweden,

English, and French expeditions. We are going to mention them without going into detail: Otto Nordenskjöld's (Swede, 1901-1904); Robert Scott's (English, 1901-1904), who was the first to fly over Antarctica in a balloon; Prof. Eric von Drygalski's (German, 1901-1904); Dr. W. Bruce (Scottish, 1902-1904), which set up an observatory in the South Orkney Islands, then transferred to the supervision of Argentina, country that occupied it permanently until the present; Charcot's French expeditions on board of the *Français* (1903) and the *Pourquoi-Pas?* (1908), which wintered on both occasions.

It is worth making something clear: although Argentina did not take part actively in Antarctic expeditions, there were a pair of attempts to carry on some. Julio Popper (1893) asked for permission to set up a factory in Antarctica. And Bove's expedition (1882), which later on was limited to the Fuegian archipelago. A very important step was the rescue of the Swedish expedition under Otto Nordenskjöld (8-11-1903) by the corvette *Uruguay* in charge of Lieutenant Irizar. He found part of the expeditionaries in Cape Seimoul and in Snow Hill Island. The *Antarctic*, which was taking them was trapped by the ice till pressure destroyed it. The Argentine expedition left several "cairns" which were found later on by Charcot's expeditions.

As for the corvette *Uruguay*, in 1922, it went on sailing to Antarctica where every year this ship relieved the staff of the meteorological observatory in the South Orkneys and South Georgias. In this last island, worked Grytviken, the whaling factory of the Argentine Fishing Company (there were other four whaling companies).

Then came Ernest Shackleton's expedition (1907-1909), which tried to arrive at the South Pole with Siberian ponies, but had to return when they were just 180 kilometers away from the finish line.

Then came Amudsen's expedition (1911), which arrived at the Pole with sledges pulled

by dogs on 14th December that same year. After many penuries, Scott's arrived at the Pole (on 17th January 1912) just to see that the group headed by Amudsen had arrived first. Everybody died on their way back to the base. The difference between both expeditions was that Amudsen's chose light sledges and little equipment. Scott took heavy sledges, 233 dogs, 10 ponies and was unluckily trapped in a storm just 18 kilometers away from the storehouse with their provisions.

After this race to the Pole, there were other expeditions that could rely on a great invention—the airplane. The first to fly over the South



The corvette 'Uruguay' (1903).



Otto Nordenskjöld, jefe de la expedición



C. A. Irizar, jefe de la expedición

The Antarctic's crew was rescued by the 'Uruguay.'



General Luis María Campos aboard the corvette 'Uruguay.' Foreground, a lady visitor. Bottom, a seaman working.



Portside of the 'Uruguay' toward stern. Bottom, port buildings and the people.



Corvette Uruguay's bow. Her remodeling for the sake of polar trips is clearly seen.



Uruguay's stern reformed.



The 'Uruguay' outside the port, tugged river out.



Seaman wearing a fur polar costume suitable for cold.

Pole was Richard Byrd in 1929. After World War II and the beginning of the Cold War between the USSR and the USA, several countries set up their bases, many of which were permanently inhabited and, in fact, few of them work specifically for scientific purposes.

Explorations went on, but not so regularly. The one by the pilot of the Argentine Air Force, H. L. Fautario, was very important as he completed the first transpolar round flight from Buenos Aires to New Zealand and Australia in 1973. This flight demonstrated the possibility of joining South America to Asia and Oceania through an air route. Nowadays, this same route is followed by airlines.

One of the most important events for the Antarctic continent took place in 1959 when the Antarctic Treaty was signed with the global healthy intention of safeguarding the area. The main points of the treaty are: The use of the space for pacific ends; Jurisdiction south off the

60° of South latitude; It does not affect sovereignty rights or claims; Free supervision, by a third party, to control the fulfillment of the resolutions.

There are 13 Argentine Antarctic bases, but not all of them are constantly occupied. There are 7 Chilean bases, 6 German, 12 of the former USSR, 7 American, 6 of the UK, 3 Japanese, 6 Australian, 3 Brazilian; China, Korea, France, Poland, Uruguay, India, Italy, Spain, and New Zealand have one each; 2 South African and one for the NGO Greenpeace to put into practice its "ecologist" policy.



The 'H.M.S. Endurance,' under Shackleton's expedition, sinking.



The 'H.M.S. Endurance' trying to set free from an ice trap.

South Georgias



Two "catchers" abandoned at Grytviken (photo taken in march 1999).

South Georgias are situated in the Mar Austral Argentino. Although they are at a latitude similar to that of Tierra del Fuego (between 54° and 55° south and 36° and 38° west), they are regarded as subantarctic. They have a severer climate given the influence of the White Continent—winds, currents, low sea temperatures, and precipitations. Regardless of one's opinion, the truth is that they are nearest to Antarctica than to any other point. Their advantage lies in the fact that their waters do not freeze and this makes them operable throughout the whole year. Temperatures are lower than those of Tierra del Fuego—e.g., the annual average in 1904 was of 1.4°C while at the magnetic observatory of Año Nuevo island (Observatorio island, on Isla de los Estados), which is at the same latitude as Royal Bay on Georgias, it was 4°C . Observatorio island was taken as reference because, at that time, there were no data for the rest of Tierra del Fuego.

As for the South Orkney Islands, subantarctic, we find that in 1904 the sea got frozen on May 8th to open again on 2nd January 1905, i.e., 240 days of ice. Let us bare in mind that water has to drop below -1.9°C to start freezing and that these islands are at $60^{\circ}44'\text{S}$; just some 5° nearer the south than Tierra del Fuego or Georgias. Average temperature in 1908 was -2.97°C and

the maximum absolute temperature of 7.4°C . These parameters have no other aim than giving us an idea of the environment in which seamen from the 1800s to the mid 1900s, when the region was visited by sealers and whalers, had to live. It also explains perfectly well why Isla San Pedro (South Georgias) was chosen as the center for this activity.

Given their position, the Georgias were visited by sealers and whalers from the moment they started to sail the southern seas. The island was first sighted in 1675, but it was not until 1775 that the first men disembarked. These voyages became more frequent with the age of whalers and the settlement of factories. Sealers and whalers started to arrive in September and the last ones left in May. They had to leave not only because of cold, but also because, by June, daylight was reduced to about six hours; in December, night lasts about five hours. Both sunset and daybreak are long and the sun moves slowly in the sky, but there is enough light to work and especially to sight whales.

A German expedition (1882-83) settled down in Royal Bay and conducted the first scientific surveys although it did not leave the bay. The *Antarctic's* Swedish expedition went along the coast for two months. Scientific research was in charge of doctor J. Gunnar Andersson who, apart from taking measures, surveyed

the coast and took the first photographs of the area. At that moment, Nurdenskjöld was in Snow Hill (Cerro Nevado) with Lieutenant José M. Sobral. It is worth reading what was written in 1905 about the treatment given to the *Cía. Argentina de Pesca* when, during that same year, it appeared with the first cargo of oil (165 ton, aboard the Argentine ship *Rolf*). The bright Argentine officials practically regarded it as imported (See *Boletín del Centro Naval*, N° 256, p. 941, 1905).

It was also doctor J. Gunnar Andersson who discovered a bay he named under Grytviken (Gryta: pot; vik: bay; en: the) given the fact that, on the beach, he had found a boat about 9 meters long by 3.3 beam, a large pot to melt fat and, later, another six. One of them read, "Johnson and Son W-ping Dock London." Remains of headsails were also found on other beaches. These works were the starting point for this island to officially become a place to set up fishing bases. In 1904, the *Cía. Argentina de Pesca* was founded and Captain A. Larsen was appointed commander of its fleet.

The company started to operate with a modern whaler and two sail transports and set up in King Edward Cove, which was declared Port of Entry for the Dependencies of Islas Malvinas in 1912. A British commissioner was in charge of the papers.

This cove was used as from the 800s by sealers for tallow candle factories. In 1906, the *Cía. Argentina de Pesca* obtains an allowance from the British government to occupy 200 hectares in Grytviken and another 2 in Jason port. This enterprise and Carlos Larsen's work as a whaler captain had a great success from the beginning. Between 1908 and 1911, the British government granted seven licenses to four Norwegian and three British companies for them to operate based on Georgias. A Grytviken-based fleet of twenty-one ships was operating. This place was chosen because of the remarkable provision of drinking water.

To give an idea of the activity, let us mention that, by 1926, the population was of 1,336 people in the different tallow candle factories of the island. Only three of them were women and

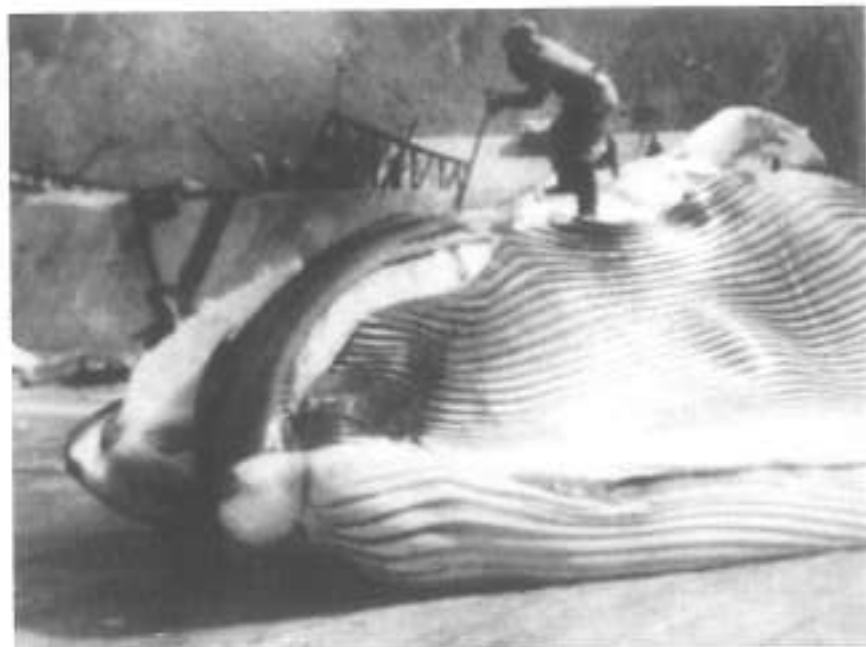


1,000 of them were Scandinavian; in fact, most of them were Norwegian. There were thirteen Norwegian companies, three British ones, and an Argentine one. About 10,000 whales were slaughtered per season. In 1914, the hunting of right whales and mothers with their calves was restricted. Their extinction by the end of the 900s was already feared, and this almost happens before the middle of the century.

Once the whaling era was over, the Georgias were visited by ships of the British Antarctic Survey both on their way to and from Antarctica. More recently, ships of the Polish and former URSS fleets operated on the Georgias. They used to load drinking water or transfer cargo to factoryships in fiords. These fleets, as the eastern ones later, obtained the corresponding allowance from the British commissioner.

The following list of ships wrecked (and abandoned) on the Georgias was compiled by Daniel Kuntschik, an expert on the topic, who goes on conducting research. There are no further details available about most of them. In Argentine official divisions there are no records and, if there are, they cannot be found. If some reader happens to have information about them or news about some files we could consult, please let us know.

1796	<i>Sally</i>	Sealer
1800	<i>Canada</i>	
1801	<i>Earl Spencer</i>	
1815	<i>Shallop</i>	
1816	<i>Argos</i>	
1816	<i>Lovely Nancy</i>	
1817	<i>Admiral Colpoys</i>	
1829	<i>Hopes</i>	



Cutting up a whale on the Georgias (1930).



Isla Decepción (Deception Is.).
In late 19th century, steam whalers mingled with cargo sailing ships.

1906	<i>Lyn</i>
1906	<i>Frittjof Nansen</i>
1911	<i>Bayard</i>
1911	<i>Camana</i>
1916	<i>Horatio</i>
1916	<i>Fortuna</i>
1916	Unknown brig
1925	<i>Swona II</i>
1925	<i>Galant</i>
1926	Unidentified
1929	<i>Sothorn Sky</i>
1930	<i>Regulator</i>
1934	<i>Shoma</i>
1935	<i>Septa</i>
1946	<i>James Turpie</i>
1950	<i>Ernesto Tornquist</i>
1951	<i>Don Samuel</i> (lighter) It took place in Punta Núñez on November 13 th .
1953	<i>Southern Wave</i>
1954	<i>Southern Shore</i>
1955	<i>Stina</i>
1956	<i>Busen</i>
1959	<i>Busenio</i>
1960	<i>Southern Chief</i>
1961	<i>Southern Spray</i>
1962	<i>Southern Star</i>
1963	<i>Stora</i>
1964	<i>Solura</i>
1964	<i>Southern Foster</i>
1964	<i>Sosrra</i>
1964	<i>Bouvet Y</i>
1964	<i>Southern Peter</i>
1964	<i>Southern Paul</i>
1964	<i>Sabra</i>
1973	<i>Dique Flotante Yoldia</i>
1974	<i>Dias</i>
1975	<i>Albatros</i>
1983	<i>Albatros I</i>
1983	<i>Petrel</i>
N/D**	<i>Shallop</i>
N/D	<i>Louise</i>
N/D	<i>Jolle</i>
N/D	<i>Karrakata</i> (high and dry)

**N/D: no data

Some Specially Important Ships for Georgias

These are not wrecked ships, but those that for some reason were outstanding or those whose names were given to places in the area; some can even be visited nowadays.

Bayard (1911): A three-masted sailing ship with iron hull of 67 m length and 1,335 ton. She was built by T. Vermon and Son in Liverpool in 1864. When moored at the coal pier in Ocean

Harbour, a fierce storm made her run aground. Two whalers (catchers, hunting ships) tried to help her, but it was impossible.

During World War I, they thought of using the hull again, but the idea was not carried out.

Brutus: Abandoned. Built in Glasgow in 1883, the former *Sierra Pedrosa* is a three-masted great sailing ship with an iron hull of 75.9 m length and 1,686 tons. She was tugged by four catchers from Cape Town to Prince Olav Harbour, where she was used as lighter for coal. Brutus Island is named after her.

Louise: Abandoned. This was one of the first ships Captain Carlos Larsen brought to the island in 1904. She run aground on the southern coast of King Edward Cove on 16th November 1904 and she has been there since then. She was used to bring the first men for the whaling station of the Compañía Argentina de Pesca and they were lodged aboard until barracks for the personnel were built. Later, coal was stored on her. A three-masted sailing ship with a wooden hull covered in copper of 52.8 m length and 1,065 tons. She was built by G. And C. Bliss in Freeport, Maryland (USA), in 1869, under the name *Jennie S. Barker*. She was employed for wood trade from the



Argentine "catcher" at Grytviken, Georgias Is. (March 1999).

Baltic to the United States. Luisa bay took her name translated into Spanish.

Tijuca: This sailing ship is not on the Georgias. In fact, she wrecked south of Brazil on 26th July 1946, but she had had an outstanding performance on the Georgias. She had a wooden hull of 52.3 m length with 846 measurement tons. Built in Nantes in 1866, she worked as supplier from Buenos Aires and Montevideo to Grytviken between 1907 and 1942; during her early years as a sailing ship and, from 1924 on, with an auxiliary engine. During World War II, she sailed from Cape Town to Buenos Aires. Tijuca point is named after her.

Albatros: Sunk at the Grytviken pier. She is a steamer catcher of 32.8 m length and 210 measurement tons built in Selvik, Norway, in 1921. When she was replaced by swifter ships,

she became a sealer. She was adapted for use with oil.

Petrel: Sunk at the Grytviken pier. She is a steamer fighter, later transformed to oil, of 35.1 m length and 245 tons built in Oslo in 1928. She was also used as sealer. In 1983, there was a project to rescue and restore her.

Dias: Built in Beverly in 1906, she always worked as a steam sealer (later transformed for use with oil) of 33.1 m length and 167 tons. Diaz Cove is named after her.

Karrakatta: Built by Akers Mekanish Vaerksted in Christiania (Oslo's former name) in 1912, she has 32.4 m length, 179 tons and has a 69-HP steam engine. She was owned by the West Australian Whaling Company (*norh*). When the new catchers surpassed her, she was raised to the top of the careening wharf where she was left high and dry and, from that moment on, she was used as a cauldron to generate steam to be used as motive power for the establishment. She can be still seen in Husvik.

Lille Carl, former Duncan Grey: She arrived in 1907 and she became the most famous catcher of the Georgias. Built in Oslo in 1884, she was 29.6 m length and just 77 tons. Although she started as a catcher—she caught a whaler that was slightly larger than her—, she was quickly surpassed and she was then used to tug whales—fat removed—from Grytviken to the floating manure factory *Nor* in King Edward Cove. She was also a



Shipwrecks' remains on the South Georgias.

sealer and, when she stopped working on the Georgias around 1960, she started to sail the Río Paraná as a tugboat up to Paraguay.

Fortuna: Member of the first fleet owned by the Compañía Argentina de Pesca in charge of Carlos Larsen. She was the first catcher to arrive in Georgias. Built by Framness Mekanish Vaerksted from Sandefjord in 1904 for the Argentine company, she was 30.3 m long and 164 tons. She arrived in November 1904. Now she can be seen almost completely underwater in Hope Point. On 14th May 1916, she ran aground at full speed while the quartermaster was reading a family letter. She was so badly damaged that only the boiler could be saved to be used at the factory.

Undine: She is registered as a steam yacht and she was built by Leith in Scotland in 1884. She served in the Royal Navy and transported Queen Victoria in 1906. Carlos Larsen purchased her for the Compañía Argentina de Pesca in 1907 and took her to Isla de San Pedro (South Georgias) where she arrived on 22nd September 1907. Captain Carlos S. Larsen used her to visit every island being exploited. Then, she was used as sealer and, later on (1919), she became a fishing boat and was bought by an Argentine company. Finally, she sunk in 1960. Two places are named after her on Isla San Pedro—Undine Harbour and Undine South Harbour.

Coronda, former Manica: She was built by W. Grey in Hartlepool in 1892 and purchased



Catcher abandoned at Grytviken.



Remains of shipwrecks and the whaling factory in port Grytviken, on the Georgias.

by the Christian Salvesen's Company. She was 94.6 m length and 2,733 tons with 279 HP; she was used as a transport and she first served at the whaling station of New Island on Malvinas. The German sunk her during World War I (1917).

James Turpie: Owned by the same company as the previous one, she arrived on Isla de San Pedro on 17th May 1910. Built in Newcastle in 1881, she was 82.5 m length and 1,732 tons with 172 HP. She was used to store coal for steamers until it was replaced by oil and she sunk at her mooring at Leith Harbour.

Ernesto Tornquist, former Craftsman, Hampstead Head, and Kommandoren I: She was named after one of the shareholders of the Compañía Argentina de Pesca and she was one of the largest of the company. Built by C. Connell and Co. of Glasgow in 1897, she was 137.5m length and 6,620 tons. Originally, she was a liner, but she was transformed into a factory in 1924 and operated on Isla San Pedro (South Georgia) as from 1932. On 16th October 1950, a storm made her run aground in Windy Hole (later renamed Tornquist Bay). The *Petrel* rescued her 260 passengers and most of her material. Ernesto Tornquist was a Swedish banker; his family continued his line in Argentina.

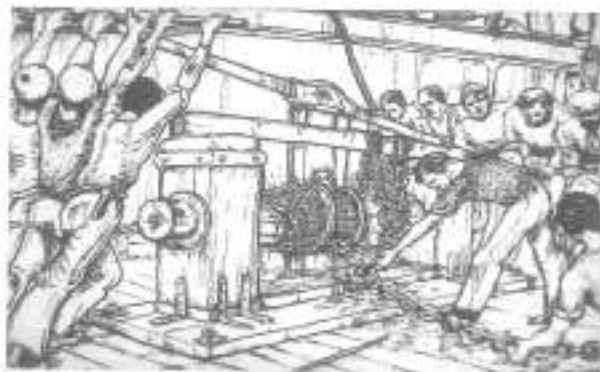
Fridtjof Nansen: Among the floating factories we find this ship of 2,663 tons that was built in Newcastle in 1885. The Sanderford Whaling Company transformed her in 1906. She sailed for Isla de San Pedro for the first time with two catchers — the *Norrøna* and the *Suder*: On 10th November 1906, on arriving in the island, she discovers a reef near Barff peninsula which does not appear in the charts and is now named after her. She split into three parts and sunk in seven minutes. Except for nine hands that drowned, the crew was rescued by the catchers.

Fleurus: Built in Savannah, USA, in 1919, she was 42.7 m length and 355 ton. The Tonsberg Whaling Company that operated the whaling station Husvik purchased her in 1924 as a consequence of an agreement with the government of Malvinas to provide a mail service. Up to 1933, she made over thirty trips between Malvinas and Isla de San Pedro (South Georgia); the Governor was aboard on two occasions. Then, she was sold and served in the North Sea under the name *HMS Thorodd* during World War II. In 1953, she run aground in Norway.

From Robert Headland's work.

Appendix 1

Voyage Along the Strait of Magellan Aboard a Brig in 1849



Weighing anchor.

Mr. Charles Waite was one of the passengers aboard the brig *B.M. Prescott* in 1849. In his journal, he wrote down everything he experienced during the crossing of the Strait of Magellan. In fact, his narration encompasses the whole voyage which took place during the gold rush in California.

She set sail from Calais (Maine, U.S.A.) bound for San Francisco on 31st October 1849 and arrived in Puerto de Oro on 18 May 1850. It took her just six months and a half. At that time—it is worth noticing—the Strait of Magellan was just the same Ferdinand Magellan or the Nodal brothers might have found 350 years ago. The only difference was that Chile had sent a schooner, the *Ancud*, and founded a colony in Puerto Hambre (former Port Famine); i.e., the nation had just taken possession of the strait.

Waite's narrative provides an interesting detail—he mentions a lot of ships, most of them sailing ships, and the first steamers. Another curious aspect is the fact that ships anchored at sunset or in case of bad weather. He also comments on Alacalufes visits and life on board in those days.

On 1st January 1850, they were south of Rio de Janeiro. "This morning Mr. Mc Curdy, one of the passengers, suffered a serious colic and dementia attacks, and the strength of two men was required to hold him back. He was given large doses of laudanum. After his recovery, he went on badly for four days. He made several attempts at throwing himself overboard."

"January 14th Today, we caught three albatross with a baited fishhook. These are large birds peculiar to Cape Horn. One of them was 10 feet long across its wings."

"January 22nd. This afternoon, at sunset, we descried land to the west. It turned out to be the portion that surrounds the Strait of Magellan, toward which we sailed two or three weeks ago."

"January 30th We are anchored in French Bay, south of Port Famine, where we anchored last Saturday. Part of the people living there (in Port Famine) is sent by the Chilean government as garrison and, I assume, this is to take possession of Patagonia. The day before yesterday (we arrived in this bay on Saturday), a passenger managed to kill three guemuls. Their meat is tasty. The same afternoon, another three passengers that were on land saw two animals of the tiger or cat species. Through the straits, we have been pleasantly accompanied by a small schooner, the 'Mount Vernon,' commanded by Captain Gibson. Being on land some days ago, I could read the narration of Captain Bourne's rescue. He was caught by Patagons some time ago and, after being under their power for 97 days, he managed to escape swimming up to a boat from Sea Lion island, opposite Santa Cruz."

"The 'Orleans,' a schooner from New London like the 'Mount Vernon,' arrived this afternoon. The country looks barren... This afternoon, I visited the ships that arrived today—the 'Page,' from Edgardtown; the 'Providence,' from New York; and the 'Flight,' from Balti-

more. Thus, I got to know that our voyage had been as fast as that of any of these..."

"February 1st. We will go on sailing accompanied by the 'Orleans' and the 'Mount Vernon,' but, with head wind, they soon left us as they are actual ketches, i. e., ships that sail as any other in these conditions. The wind blew very cold at the level of Froward Cape (the southernmost part of the South American continent) and with such strength that a jib came to pieces. We had a really hard time around the Cape, but eventually we managed to heave to and anchored at Wood bay, 21 miles from French Bay. Now we are heading right for California. In the logbook, I find that the distance covered along the straits is of 325 miles."

"February 2nd. We set off early and sailed up to 2 p.m. We reached Cabo Gallant and anchored at Fortescue bay, where we found the brig 'Robert,' from Fall River, commanded by Captain Collins and (as it is usual in our days) bound for California. On our way, we descried the remains of a ship, the schooner 'Sacramento.'"

"As soon as we anchored, some canoes full of indians approached the ship. They mainly asked for tobacco. They are a group of human beings extremely poor in appearance. We got down to land to see their houses, plain tents made of skins. They have canoes made of fire-treated bark. Their staple diet seems to be shellfish and fish. They go half-naked with a sort of seal skin as costume."

"February 4th We left the anchorage early and sailed about 8 miles. We anchored at half past three in the afternoon, we went on sailing, and anchored in York Roads to spend the night. We got down to land. The bark of trees is much thicker than in our country."

On February 5th, they cast anchor in Borja bay, at the source of Croke Reach. Again, they met the Fuegians of the Alacaluf people. The scenery was engrossing—the deep inlets and the high snowcapped peaks gave the small brig an insignificant appearance. A steamer was seen.

The Steamer *Tennessee*

"After great trouble, she managed to cast anchor. We visited her and had news about the United States, 35 days after what we last heard after our departure. The steamer is one of the government's mails and she is called 'Tennessee.'"

"February 6th We left at 5 and 1/2 in the morning and cast anchor about 35 miles forward at 2 in the afternoon. According to the newspapers we read aboard the steamer... prospects in California are as good as they were when we set sail. We are very happy today. We

have a hard-fought run with the brig 'Robert' as with any other vessel, but we have defeated the cape faithfully. We are both accompanied by the wind."

"February 7th At 9 in the morning, we went on sailing and came back soon after this. The admiral (i. e., a liquor cask) felt exhausted today, but in the evening he finally refreshed (i. e., he filled himself with cold water)."

"February 8th The anchor in port all day long. Strong and stormy wind. We had fun with the men from the 'Robert.' They called on us and we also visited them. At sunset, some dancing animation aboard the 'Robert.'"

There was at least one woman passenger on board. Mr. Wait writes down in the first part of his journal that "some dispute, between the Captain and a woman passenger, Mrs. Shannon" made her be disembarked in Rio de Janeiro.

"February 9th Again on our way this morning accompanied by the 'Robert' and the 'Page.' Throughout the last two or three days, the coasts have revealed very rocky and we have seen a number of glaciers. A hurricane-like wind takes our boom bowsprit. A new contest with the 'Robert.' We cast anchor at about twenty miles from our anchorage last night, but on the southern coast."

"February 10th We weighed anchor early this morning. The 'Robert' brig anchored last night in the bay with us, but soon after entering she almost charges against us. It is Sunday. We do not observe it too much on board, but all works stop, except for routine tasks. One or two of us sing some hymns. I read some paragraphs from 'Moral Science,' by Wayland."

"February 11th Last night we underwent a strong NW wind with rain gusts. I get up early. I have to in order to prepare cocoa. Since we left Rio de Janeiro, Meason and I drink our cocoa together every morning. We went Dutch to buy it in Rio. We stayed here throughout the whole rainy day."

"February 12th We got up at four to help, as all passengers have done since we entered the strait. Winding the capstan is first rate exercise. We see lightning and hear thunder. We cast anchor west of Punta Cherenco at about 5 in the afternoon."

After tea, Mr. Wait climbed a mountain on which a very freshening breeze was blowing. "I could see water in several directions among the mountains. It seemed as if ocean and rocks had mingled."

Hard-Working Passengers

On February 13th, they weighed anchor and after tacking back and forth many times they

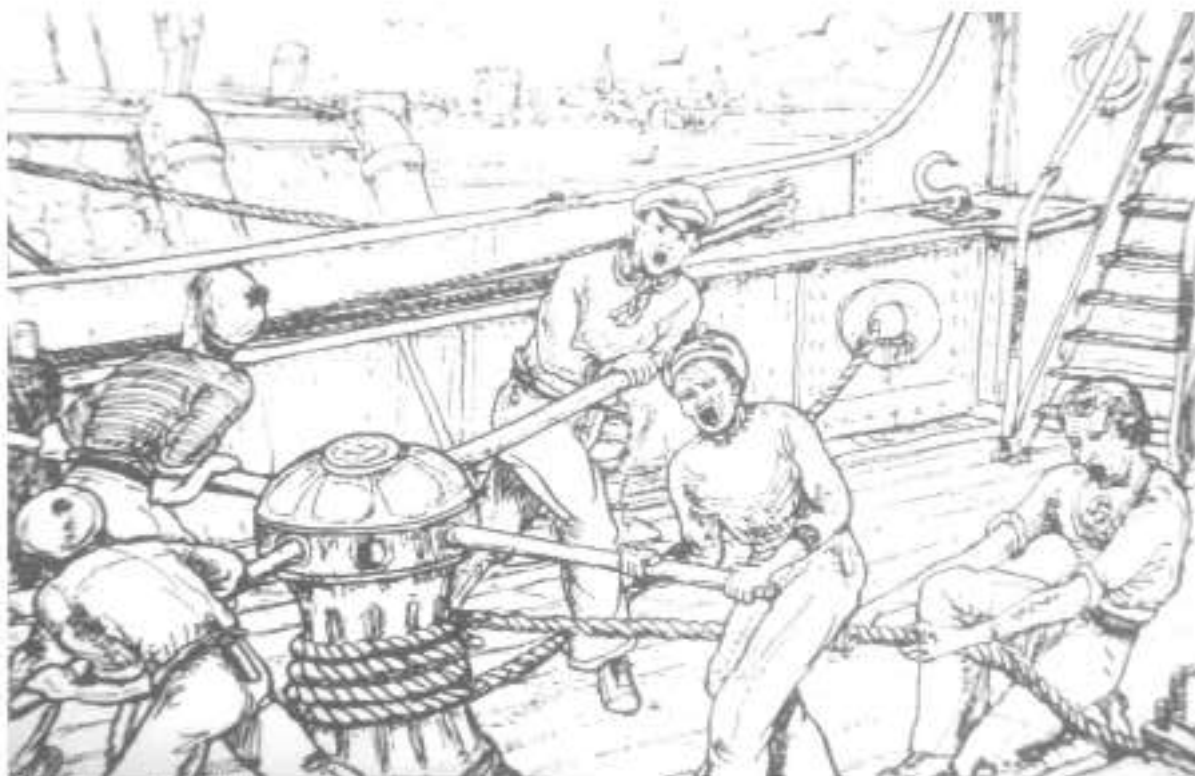
entered the strait and ended up on the northern beach, in Puerto Tamar. Here, as the *Beagle* had done, they explored the bottom throwing a cable and they got it back clean. Two anchors were caught among rocks and they had to be weighed with boats. On the beach, there were the remains of two shipwrecks that belonged to the *Andes*, from New London, and the *John A. Ruyter*. The diligent passengers actively collected things. Among them, they found four pipes, nails, and other various objects. On February 14th, 15th, and 16th, they worked in collecting pieces of iron while heavy storms hit Puerto Tamar. A great steamer they assumed to be the *Leach Sands* sailed past on the 16th at sunset. On the 17th, they tied tightly a small boiler from

the *Ruyter*. On the 18th, they still were in Puerto Tamar.

"February 19th Fair wind! was heard. The following minute we were leaving the port I once thought we would stay in. We sailed past Cabo Pilar, the SW extreme of the western entrance to the strait."

The voyage goes on in the Pacific Ocean. We can see how these passengers had to adapt to a seamen life although they were not sailors. We can imagine that, if they did not help at least in menial works, a six-month voyage could make anybody bored and tired.

Author's note: the present narration was extracted from the book *Cabo de Hornos*, by Felix Riesenberg.



Using the capstan to take moorings.

Appendix 2

Anne Richmond

On 30 May 1878, the chargé d' affaires of H. British Majesty forwards a binocular glass with which his government presents Don Luis Piedrabuena, Captain of the Argentine schooner *Santa Cruz*. The vessel had rescued the wreckers of the English barque *Annie Richmond*, whom he picked up at high sea on 6 October 1878.

On November 16, in a letter addressed to General Julio A. Roca, Navy Minister, Luis Piedrabuena acknowledges receipt of the British present.

References: Ministerio de Relaciones Exteriores, Archivo, 1878. Diplomático y consular. Inglaterra. Caja 207. Legajo n° 10.

Buenos Ayres, May 30th 1878

Monsieur Ministre:

I have pleasure in forwarding to Your Excellency a binocular glass, which the Majesty's Government desire to present to Captain Luis Piedrabuena of the Argentine Schooner "Santa Cruz" of Buenos Ayres in acknowledgement of his humanity and kindness to the ship crew of the barque "Annie Richmond" when he picked up at sea on the 6th October last; and I have to by Your Excellency to cause it to be presented to Captain Luis Piedrabuena.

I avail myself of the occasion to offer to Your Excellency the assurance of my highest consideration.

4th June, 1878

The Department of the Navy should keep an authenticated copy, and the box containing the present by the English government to Captain Piedrabuena should also be forwarded.

Acknowledge receipt to the English Legation according to the terms agreed and publish.

Buenos Ayres, 4th June 1878

Monsieur Ministre:

I have pleasure in forwarding to Your Excellency an authenticated copy of a note by H. B. M. Legation that accompanies a present to Captain Don Luis Piedrabuena, present Lieutenant Colonel.

I hope Your Excellency will send this superior officer a copy of the Legation note as soon as possible and the British Government's regards [...] for his bravery.

God save Your Excellency

Buenos Ayres, 16th November 1878

Monsieur Ministre, Dn. Julio A. Roca:

I have been pleased to be presented with a binocular glass by the British Majesty's Government for having rescued the wreckers of the Barque "Annie Richmond."

In requesting Your Excellency to give thanks for this proof of esteem from the English Government via the corresponding channel, I avail myself of the occasion to offer to Your Excellency the assurance of my highest consideration.

Luis Piedrabuena

Appendix 3

Beagle

Schooner *Tomorrow*

Built in Norway as a rescue ship, she was designed by Collin Archer, the same who had conceived Roald Amundsen's *Fram*. At that time, there were three kinds of rescue ships — a 19m-long one, another 14.25 m long, and another 9 m long.

This schooner was 19 m long, 2.40 m deep, and she displaced 30 tons.

Germán Gustavo Prillwitz purchased her in 1964. She was in San Fernando (Buenos Aires) and he took her to Mar del Plata to use her as

a fishing vessel. Before this, she had already sunk in the Río de la Plata.

The Master Fisherman Ballesteros, from Mar del Plata, took her down to Ushuaia in 1969 to catch spider crabs for the company Brisighelli (in Bahía Lapataia). But later on, the fishery was closed down and she stayed in port rather abandoned. She sunk there in 1975. After putting her afloat, she was swung, but the fast snapped with a strong NW breeze and she ended up in the old airport (Naval Air Base) in the peninsula, in November 1983.

Appendix 4

Purísima Concepción's Wreckage

The accounts written when the *Purísima Concepción's* wreckage took place in Península Mitre and during the navigation of the schooner *San José de las Animas* up to Buenos Aires are worth transcribing literally. We will find a rich description of the Haush natives, who had little contact with the Europeans. The place is also depicted in an interesting way and it wholly agrees with Caleta Falsa, except for the fact that in these accounts the latitude given is that at the mouth of the channel that leads to the shipyard.

Reading about the causes of the wreckage turns out to be interesting. It seems that this happened due to a misinterpreted order or, simply, because there was some lack of expertise in trying to take it. At moments, everything is so coarse that it even appears to be done on purpose. Every line is kept just as Don Héctor R. Ratto transcribed it—we believe everything can be understood on its own.

The following transcript is an extract from the Recopilación efectuada por el teniente de navío Héctor R. Ratto en archivos y bibliotecas españolas para el Servicio Hidrográfico Argentino, Sevilla, diciembre de 1928.

Piece I.- Summary of what happened to the Register ship "Concepción," which wrecked at about 54° 30' on the eastern coast of Tierra del Fuego when bound for Callao. Copy with no sign and no date (p. 1).

Piece II.- Excerpt from the register journal of the "Concepción," commanded by captain Curruchea, sent to the Prince of San Lorenzo and followed by the account about the building of the schooner "Nuestra Real Capitana San Joseph y las Animas, alias Buen Suceso" (p. 3).

Piece III.- Copy of a King's order dated in San Ildefonso on 2nd October 1766 in which, on being informed about what had happened to the "Concepción" and about the friendly demonstrations of the Indians of the region in which she wrecked, he gives instructions for the settling down of a colony and a port of distress for ships that cannot double Cape Horn. The Governor of Buenos Aires, Don Francisco Bucarelli, also gives orders for priests to be sent to evangelize the Indians and instructs

that the expenses be paid by the Royal Treasury (Author's note: not transcribed) p. 40.

Bound for Callao, Curruchea's *Concepción* was lost on the coast of tierra del Fuego at 54° 1/2 Latitude on 10th January; all of the luggage was recovered because they beached with fair weather—they disembarked victuals, tools, wood, some fabric, and all they needed to stay for some time in that place. They spent their unfortunate days in a plain sheltered by a wood, right next to a good 26-foot-water harbor with a sandy and muddy bottom; it must accommodate up to 100 vessels, the entrance is narrow and this channel is 5 1/2 fathoms deep; they started to build a 28-cubit schooner, her keel was made from a maintopmast; they joined the bowsprit, masts, yards and topmasts for planking and they got the fastening by burning half of the vessel's hull that the sea had washed on land; 193 men set sail from this harbor on 3rd April and arrived in Buenos Aires, having lost 3 of them, on 24th that same month. Part of this crew is aboard my vessel and I have tried to get this news, on which everybody agrees, from some intelligent and sensible men. It is a very fertile land, with lots of wild celery of a very delicate flavor; plenty of a species of berry; camomile in hawthorne-like bushes, and another strawberry; all of them very tasty.

Natives are very humane and amiable, of a rather medium height, white, blond and of a good nature, their costume is made of guanaco and sealion skins, bow and arrow are their weapons, they live on fish and, in those days, there was a whale beached and they took pieces from it little by little and then kept them underground from where they were later taken out and eaten half-roasted, they wear rosaries on their necks and manacles or bracelets with stone and shell beads, and they wanted the crew to present them with some. They make fire by rubbing two sticks anywhere they want, when this crew boarded it was on these Indians' shoulders because they volunteered to do us this favor. There are many friendship and fondness demonstrations, so it is evident that it would be easy to tame them and, if they are good-natured and the country is fertile as these

peoples say, it would be very convenient to have a colony there, and a port of distress for vessels that for some misfortune are not able to double the cape; there are different sorts of woods and in some of them there is wood suitable for building.

(Incomplete)

(Archivo General de Indias- Sevilla- Audiencia de Buenos Aires- Expedientes e Instancias de partes- Años 1771 a 1776- Est. 124- Caj. 1- Leg 16.) Carpeta/Diario del naufragio del registro de la Concepción en la Tierra del Fuego recibido por el Príncipe San Lorenzo en noviembre de 1766.

Resolution

Must be kept until required.

Journal of the *Rex*, the *Concepción's* wreckage—which had left Montevideo on 6th December 1764 for Tierra del Fuego—and having been lost, a schooner was built on the island. They returned to Montevideo on the latter, as it is stated in her navigation in the document previously forwarded.

Wednesday 9 January 1765

At noon, pilots could not see the sun because of the horizon being hidden by a blanket of clouds and, by the log, they were at 53° 37' and, therefore, 25 leagues away from the nearest land, so the captain ordered to steer SSW trying to discover it during daylight [Sounding on the surroundings of Tierra del Fuego, and her beaching in the night], but on not having succeeded by 8 in the afternoon (I say afternoon because sun would not fall until 9), sounding was carried out and 58 fathoms were measured; later the watch went on second pilot with orders to sound every two hours—but he went to sleep without having taken the order given at 12 and leaving the watch to the boat-swain and the apprentice pilot, who did the same. The captain, who had to get up for his watch at 12, did not remember this until 1 1/2 when he called the apprentice pilot and, having gone out on the poop deck, asked if they had reached 40 fathoms, and they answered that the second pilot, according to what they had been said, had not sounded, instead of sounding immediately, he ordered the people had something to drink and then made the sounding line to be prepared and ordered to tack the foresail when darkness that indicated land was seen, so sounding was postponed and he ordered to fall to leeward to fall off to starboard first taking up the mainsail up at the same time, (beaching and loss of the vessel) during which maneuver at 2 1/2 we were beached still

not descreying land on the island called land of fire away from it about 2 cables and about 5 to 6 leagues from the Maire strait, in barely 4 fathoms of sand and gravel bottom. The unexpected misfortune really disturbed us and filled us with dread and fear especially seeing the captain and the second pilot puzzled, not knowing the land as they said *isla de los Estados* was as small as that of Fire because of the thick fog and the blanket of storm clouds on the coast. Anyway, in the middle of such confusion they tried, as soon as possible, to throw the launch to the water in order to have a hauling line with an anchor to the NE. Verifying the rope's end was taken by the stern and they started to heave astern and, at the same time, to drop a large kedge with three warps to the mentioned course to achieve the aim more satisfactorily. At the same time, the furling of all the sails was ordered, which was accomplished with some fatigue because of the fear and distress the crew was suffering from. In this interim, the vessel was struck by swells every now and then and this tore our hearts off from pain. All the crew having been assigned to the capstan and rigs to the two hauling lines in order to take the hull out swimming. But it did not move favorably for an hour because it was at low tide. So, it was thought to be convenient to lighten throwing some three cases and everything at hand between the bridge and the deck; the master taking everything down one by one. The water having started to rise, we were pleased to see the vessel swim. But this did not last long pires. As usual in these cases, all the care was on the pumps to satisfy the water pressure; although the vessel struck slightly when beaching, she made a lot of water and this was increasing even when the 4 pumps were working. This is why, after the vessel was in 6 fathoms, it was ordered to ply changing ropes and warps to bow and we stayed like this so that, at the same time, the whole crew together should pump without stopping. This was very smartly carried out, but there was not relief as it was increasing. Therefore, the diver was sent down to inspect the damage. The one who was in charge of the errand said that the main board of the keel's apadadura was swelled up or almost completely unpegged. With this sad piece of news, apart from that of having a fathom and a half of water in the hold, and with two such hopeless accidents, it was impossible to sail on to their destination. Out of necessity, they decided to cut the ropes and navigate to run aground for the vessel not to sink in deep waters. Thus, we would try to keep our lives as well as the supplies safe. At that

moment, we felt like dying en route with no news ever about us. (Author's note: the wreckage becomes clear from the reading. They beached in 4 fathoms of water—one fathom equals 1.82 m, but at that time there were fathoms of various lengths that ranged, according to the region where they were used, as from 1.50 m; in this case, we think it is about 1.80—with tide lowering, and with a boat they placed two anchors to heave the hauling lines when the tide rose. Fortunately, as it is a calm day, neither the swell nor the breaking water are strong. The tide rises, the ship floats in 6 fathoms of water, but she inexorably sinks in spite of everybody's pumping. The order was given for the vessel to steer straight for land in order to have materials available to build another vessel.)

Abandonment of the vessel and difficulties to land

Then, they immediately ordered to fetch water, gunpowder barrels, and as much bread as possible from the high chamber, but most of the last was lost because the water had already reached the lazarets after the vessel had steered straight for land in the smallest place a completely lost beach promised. In order to keep the hull complete, they cut the masts and took all the supplies from it and then they tried to build a float with the upper masts, spare yards and booms in order to use it to transport people to land. At the same time, the launch and the jolly boat were loaded with as many biscuits as possible along with part of the crew, gunpowder, and weapons for fear that there were Indians on the island. But the launch returned on board as she had not been able to enter because the coast was very rough. There was high risk of losing her; what would have condemned us to end up our days among barbarians in a wretched condition. (Author's note: they were drenched when disembarking either on the make-shift float of masts, topmasts, and yards or on the boat since the breaking of the sea and the current were strong. On the other hand, nowadays this is the usual way to disembark all along this seashore.) In the afternoon that same day, the weather having cleared up a little bit, the launch en route unloaded the bread she was carrying on the beach and sailed back together with the jolly boat to load supplies. And in order not to stay on the vessel as night was falling and they feared some storm could smash the hull to pieces and put the people's lives at risk, staff officers, passengers, and the crew boarded the launch and the jolly boat. They had to throw themselves to the

water not being able to reach land and, with the help of the people in the water up to their waists, the launch was unloaded. Later they decided to load the boat only with the launch which, on sailing to the vessel, found the float with over 50 men on board imploring God for mercy because they were about to run against a dangerous craggy point dragged by the force of the current and there was no way out. Their lives were at risk because the sea was running high and spindrift was blowing roughly, so the launch tugged the float until they almost reached land and the former returned on board. Despite the night was falling, the launch was loaded with biscuits and the rest of the people boarded, but on sailing for the beach and although they tried hard they could not reach it because the backwash had grown a lot. So, having left only 4 men who decided to throw themselves to the water, they returned aboard up to the following day. They spent the night very worried fearing the hull would open completely because of the high sea and the continuous hitting against the bottom. Likewise, the ones who had had the opportunity to reach land spent the night soaked through and feeling wretched on a craggy hill. They could not rest because of the extreme cold and the fear of a sudden attack by the Indians, whose footprints and trails they had found. (Author's note: they were worried about the ship being shattered to pieces by the turbulent sea and the continuous blows against the bottom; situation which is repeated in many wreckages in the area.)

On the following day, being 193 people lost without resources in this desert, we needed a more comfortable place not only to settle down and sail for the vessel to look for the necessary things for our subsistence but also to build a new vessel (Author's note: they were concerned about finding a place to set up a shipyard close to the vessel they had lost to be able to get materials. Let us remember that, even when there are woods, nails and pegs are necessary to nail down boards and ribs) which, with the help of the launch, could take us at least to the strait of Magellan. Even if our launch were enlarged, she was not able to contain on her own half of the vessel we were building; not even without supplies. Having reached land, the captain was informed that the master had set off for the NW at dawn in order to discover a more comfortable place. So, hoping to find it one way or the other, he set off with 4 men for the C on the 1st. Although he walked for about 2 leagues along the shore, he found nothing but Indians' footprints and trails and, from place to place, some abandoned hut showing signs of

fire having been made inside and of shellfish consumption as there were shares of barnacle shells scattered. And although these fragments made them distrustful, they climbed a very high hill situated by the sea wishing to discover some comfortable place. And in fact there was one apparently about 2 to 3 leagues away in the same direction (*Author's note: it may be Río Policarpo that at full tide resembles a bay. The river is very plentiful. A league equals 3 nautical miles.*) They saw a sea arm in the way of a plentiful river that entered inland along the foothill of a high mountain until it could no longer be seen. According to what they saw, it seemed to be useful for their purpose so they returned to their first barracks. Later, they tried to go and inspect the place, but they could not as the launch was needed and this was always busy.

Discovery of the harbor, H. Ratto

The captain veered for the mentioned E course and, one league away, they discovered a harbor where the sea was very smooth. They found it a very nice bay with a very narrow entrance and sheltered on all sides. At the bottom they saw smoke coming from the wood and, having no doubt there were Indians there, the captain decided not to risk a meeting with only four men and no weapons. So they returned to the departure point and he gave the order on board for the launch and boat to set sail loaded with bread and candles, double the point and sail on for the C until finding the harbor they were announced about where they should enter. And with the idea of arriving at the same time or a little earlier, he set off on foot with 20 armed men heading for the mentioned harbor. Before, they had looked from a high position, now it was necessary to walk through the wood (which is very thick). They found this very hard but they were quite relieved to see they could obtain the first pieces for the building of a vessel that could carry all of them (*Author's note: knees and ribs. The wood is situated before the entrance to Caleta Falsa, walking from north to southeast; but at present, 1996, it has not many large trees.*) After walking past that wood, they started to hear a loud din in the distance that appeared to come from thousands of Indians who were summoning as some voices answered others; so they hastened in order to find the vessels that had to be near and join them as soon as possible before the Indians could reach them (*Author's note: meeting with the Haush people.*) In fact, the vessels were approaching so they stopped and the Indians started to approach and the

seamen realized they were no more than 26 to 30 men and women. They were coming in a tumult making various gestures but taking care in staying at a certain distance from us having first put their arches and bows away in their zarzales so the captain also made his people leave their weapons. In this way, both sides met with many friendly demonstrations; the Indians showing amazement in different ways at seen white men (*Author's note: inspecting each other*). Their curiosity was insatiable—some were tempted by clothes, others by beards and others wanted to examine under the clothes. At that moment, the launch and the boat approached; their bows heading for the place where the people were with the Indians. On seen the two vessels, they jumped and humbled themselves in many ways and our people hugged and caressed them as friends to keep them glad. But always with some care for fear that more Indians came out from the neighboring woods. Nevertheless, they appeared to be people of little evil and their weapons were not at all offensive.

Barracks

The vessels unloaded, they returned aboard to take all kinds of supplies and sails in order to set up some barracks both for our shelter and for supplies, but this would be finished late so it would not be possible to make another trip. Then, nobody was left on board in case something could happen and everybody stayed on land until the following day. (Weather) These days have been very cold and it has rained continuously. We were also disappointed several times because of the crew's robberies—they opened chests, paper cases, boxes and everything at hand without saving supplies, which was very serious because of the damage caused to everybody.

Saturday 12th

After daybreak, the launch was sent aboard to bring supplies and, at the same time, the people who stayed on land were ordered to bring all the victuals that had been unloaded in the first quarters (*Author's note: wreckage place situated one league to the east away from the harbor, i.e. to the southeast*) to Consolación harbor, which was chosen for our lodgings and for the building of the vagel we were wishing: [shipyard, barracks, robberies, indiscipline] two barracks were to be built, one to keep supplies and another for officers and passengers where the weapons that could be rescued were placed to be at hand in case of some Indians' invasion or of an uprising of our people. It was necessary

to be careful with both; I realize some comrades (and some young as them) took for their barracks all the saber-guns and some rifles with a hidden intention, but then the order of building the ship was given and both calmed down.

Food and order

Crew quarters of 12 men each were formed and their corresponding chief was assigned for the allotment of work and food. It was agreed that the latter were every 24 hours seasoned in a cauldron from which everybody, from the captain down to the most insignificant cabin boy, would be served. One day the meal would be a share of dry beans and the following another of corn, and the bread ration, one ship's biscuit a day.

It was also ordered to give the crew a draft of brandy in the mornings, and that two quarters kept watch during the night with their weapons. One up to twelve and the other until the following day, four men being stationed at a short distance from one another in different places of sentry spreading the word from one to another, from time to time, because of the fear for the Indians (who went on visiting us in the night) and to watch the supplies.

Sunday 13th

Cutting of wood for the building of the vessel

On this day, we started to cut wood both for the stockblocks and for some suitable pieces for the hull. We decided the last one to have a 23-cubit keel with its corresponding measures. Carpenters and woodcutters devoted to this task most longingly. Likewise, some hands started to take the logs cut in the wood and others started to clear the undergrowth in the place that had been marked to build the stocks. We were also glad to get the launch and the jolly boat with two boatloads of supplies. (*Author's note: the stocks was a building made of wood, either boards or logs, on which the vessel was slipped once ready. On many occasions, it started as a scaffolding that grew with the ship and also propped it.*)

Although during the first day of our unfortunate loss, we tried to take out the box of the Chapel, Mass could not be celebrated because things were not in their place and apparently there was no place for that.

Monday 14th to Sunday 20th

Wood cutting goes on

Work was vigorous these days —people on the boats made trips to the vessel, and the carpenters and the rest of the crew worked

cutting wood and transporting fragments useful for building from the beach. By this last day, we had the frames, sternpost, stem, and keel shaped and fixed. The last one was made from a jury maintopmast; the stocks being completely finished.

On this last day we were pleased to have Our Father Chaplain Fray Juan de Camiruaga, Order of Our Father Saint Francis, to celebrate the Holy Sacrifice of the Mass. We all enjoyed it and part of the Indians also heard, some kneeling down and others sitting very quietly.

In these days we underwent a changing weather, sometimes cold, others mild with WNW wind.

Monday 21st

Starting with the vessel

This was a very rejoicing day for (sic.) as we saw how, at 2 in the afternoon, the keel, the sternpost and the stem were put in their places (*Author's note: the keel, the sternpost, and the stem make up the base of the vessel on which the whole frame is later assembled in the 'inside-out' shipbuilding tradition*). The launch sailed to the vessel and brought some sails, cordages, pitch barrels, and the crew brought to the shipyard boards and other necessary fragments from the beach. On board of the vessel, the carpenters started to take pieces out from the quarter deck taking care of throwing them into the waters when there was half-flood as, according to experience, once they had reached land they stayed there as there was no backwash. Calm and clear weather with S breeze. (*Author's note: it is interesting to see how they had already mastered the situation and they even took advantage of currents. In this case, at half-flood, they threw the woods into the waters that dragged them up to the coast line, from where they were collected.*)

Tuesday 22nd to Wednesday 30th

Sternposts, floor plates, peaks and frame timbers were wittingly used (*Author's note: this is the frame or rib of the new vessel*) to fix the pieces. And the launch transported the guide main yards from the beach and the rest of the spars, which were used for the vessel's masts as it was not suitable for bottom planking as thank God the carpenter had brought a large saw on board to saw any log regardless of its thickness.

Indians withdrawal

These days the Indians have retreated from us; we celebrate their absence a lot as their visits were harmful to us as they were charac-

terized for stealing axes and other cutting instruments from carpenters very cunningly. Being aware of the fact that some tools were missing, the Indians were not allowed to visit the shipyard any more. One of them had been caught red-handed and was given a slight punishment. On the following day, his fellows brought back the axe with humble demonstrations that approved of the punishment.

Thursday 31st

How the vessel's hull was built

Day broke with NNW breeze and with a piece of news about the hull having been made to pieces. Its hatch covers and fragments along with some load came to beach, so we decided to send off most of the crew with the officers to fetch all the useful and necessary things for the building of the vessel which should serve as Redeemer to save our lives. Despite this order and resolution, many of the individuals, carried away by the damned greed of plunderage, were on the beach before dawn opening boxes and bales and choosing fabrics and fruitlessly spending their time blind with avarice. Everything was rotten and spoiled and, although everything possible was done in order to check this turmoil, it was a failure as these people are evil and lack consciousness and subordination. From the moment the vessel was lost, all their attention was drawn to theft regardless of any other Law than their own whims. God forbid us that same difficult situations should repeat with such brute people in virtue of what it was decided to let them continue with their despotic villainy as they did not want to be subject to what was fair and for the common relief.

The vessel fell to pieces upward from bow to stern staying on the bottom as it is usually the case plan because of the important ballast, with all that the hold was carrying, and because the somewhat spring tide, the whole hatch of the mainmast came to bow and beached on the coast. Once there, it was not difficult to go high and dry and collect some boards, knees, fastenings, and pumps. The rest of the hatches came one after the other to the same place.

Friday 1st to Sunday 3rd

These days the weather was mild with W and WSW winds and works in the shipyard continued well.

Every day, part of the crew with an officer was sent by land to the beach to take fastenings and some wood (*Author's note: they looked for fastenings, i.e. nails, pegs, bolts etc. for the new vessel*), but most of them were rather engaged in collecting clothes for their barracks; their

evil not being very sensitive as this made the works lag behind.

From the first time Our Father Chaplain celebrated Mass on the island, there was no day when he did not say it. In fact, from the moment we started to enjoy this great benefit, the most beautiful and mild days came; and temperament was much more temperate than before.

The day of that month, on the opposite side of the harbor (*Author's note: opposite side of the harbor, i.e. near the beach and to the NW from the Lemaire Strait*) we saw a party of Indians of about 70 to 80 counting children and grown-ups accompanied by a group of dogs and, according to the course, they were coming from the Maire strait along the coast heading NW. With the telescope we noticed that most of them were carrying load on their backs. While in this observation, one of them appeared at our R.1 (*Author's note: R stands for Real [Royal], which means settlement*). He was scratched all over and, speaking his language, making himself understood to say that other Indians had punished him and after a while he joined his kind; and as some of our people were on the beach, they met the Indians on their way back and noticed that women were loaded with sealion meat and men were armed with their arches and bows. And although our people and the Indians met, the latter gave no reason for fear; on the contrary, they showed themselves very joyful on seeing our people.

Monday 4th to Sunday 10th

On the date of this last day, the hull was already in good condition as part of the beams, transoms, hooks had been fixed and the shelves bolted were in their place as well as the keelson (*Author's note: most of the inside frame is ready, even the place where the deck is fixed.*)

During these days, the topmasts, a piece of the mainmast and the bowsprit were sawed; the last one was kept on board in its place up to the 29th when the order was given to cut it at the same stem, and it was tugged to the shipyard along with some cedar boards that had been bought in Buenos Ayres (*Author's note: all vessels always carry boards for repairs*). Sawed, the last ones rendered a number of planks of a suitable thickness for the bottom and sides of the vessel. Many boards were taken from the decks of the vessel but, being hurt with nails and wedges with which they were taken out, they were given another use.

We also worked constantly in making rag out of the pieces of cordage so that it were available when necessary. (*Author's note: rag was pre-*

pared to caulk the hull later on —i.e. to squeeze rag into the interstices between board and board in order to avoid water from filtering into the interior of the vessel. This operation was completed with pitch; this is why they unloaded the barrels that every wooden ship used to carry aboard for the maintenance of the hull.)

Changing weather, some rainy days with NW or W wind, others fine with SW wind but very cold.

Monday 11th to Sunday 17th

The building of the *Vagel* was progressing even when the workers' strength had declined both for the continuation of the rough work and for the scarcity of food; nevertheless, on this last day they had fixed the beams and stringers in their place, the deck was ready, and they had started to caulk it.

After several conferences held by the captain, the 2nd pilot and officers on the way to rig the vessel, they agreed that it was going to be a schooner as maneuvers are more comfortable and faster in navigation and also because the keel had not been given the right beam as, being 28 1/2 cubits (*Author's note: one cubit is equivalent to 42 centimeters according to Castilian measures; in this case, the keel would be 12 meters long; length is longer because of the stem and the sternpost*) the beam was given only nine (*Author's note: 3.78 meters*) and four for depth (*Author's note: 1.68 m; considering all these measures I do not think they could evacuate the 193 men of the *Purísima Concepción* crew at all avoiding sinking or death from crushing; it must be some other system. There is another cubit unit of 0.58 m that would result in more logical measures such as a keel of 16.53 m*)

Rigging

Masts used for spars are as follows: main-yard as mainmast, foremast as foremast, jury main topsail yard as sprit, and jigger yard as bowsprit.

Meeting the Indians

On the 13th, around noon, we found a party of Indians who were coming as if from the Maire strait. Following the same course as them, and having stopped at a short distance of our *Real* in a wood, some of us deign to go as if hunting where the Indians were in case they were some other people —once in the place, they realized they were part of the ones that had been there before; their number being of 50 to 60 women and children. They started to shout in their language showing they were

glad to see us and ours did the same trying to treat them with love demonstrations, seeing that men were on the beach and women and children in the woods; dragged by curiosity, some of our men attempted to enter but the male Indians showed they were against it and thus showing they are jealous of this; so our men gave in to avoid rising any feeling. On seen this, after a short while, we made ourselves understood and asked them to visit our village, and they immediately agreed. And they started to walk —women somewhat bad looking with a regular modesty and male Indians together with us. Everybody was joyful singing in their own languages and in this harmony they arrived at a *Riachuelo* [rivulet] neighboring our barracks. Once there, the Indians made themselves understood and told ours to set apart. Then, the one who seemed to be the oldest among them and had some Majesty, spoke to the women and they very submissively and quickly, with their children, started to walk up the wood. And men came with us for the barracks, where they joined their women — apparently, they ignored the women's staying. And, in fact, at a short distance from the shipyard, at the hill at the pinnacle of the wood, and under the shelter of a grove, they stopped as during the night we could hear their voices and the dogs' barking. [Indians' clothes]: Most of these barbarians were always painted of an incarnate color like red ochre; and others had their faces tinted in black, with some white spots on. They wore nothing but a cover of sealion skins; others were of fox; and most of guanacos; and although we tied several ribbons on the Indians' heads and arms as well as pieces of baize, and other items of clothing, they wanted none of these; as, although they vied for them, they would throw them away later; and always returned in their first luggage. They also usually make albaricas with fox's skin.

Indians' full dress

Their full dress consists in painting on their faces the most dreadful figure they can find. They pluck the few hairs of their beards as well as of their eyebrows. They all trim and burn their hair, except for the locks of hair falling on their faces. All the grown-ups have their cheeks scratched, either with their nails or with stones, and a scab of blood is formed.

Quality of male Indians

Naturally, they are good looking; they are all tall and well-built, and their natural complexion is not as dark as that of the other

Indians; and there are even some who are as white as us, although they are all covered with greasy paints and other junk. Most of them wear a large bundle of thin rope—carefully spun with guanaco wool—as a turban on their heads.

Idem of female Indians

Women are regularly of small size; all made ugly with paints and very disgusting; among them, there are girls that could be considered to be beautiful even among white ones. They are all dressed like the men, except for the fact that underneath they are a little bit more honestly dressed and covered and that they wear necklaces. We could not discover any apparent religion or government; they seem to be wandering as cattle in the fields, as in several places we find their huts made only of a half-moon of branches set up and intertwined, covered with herbs, so as to shelter from winds: [Their houses]. Neither malice nor embarrassment is found in them. They live on very little as they carry nothing but some meat of sealion or other animal, which they heat in a fire around which all of them gather to eat using the cutting edge of a stone to cut. Sometimes, they also used to bring pieces of quite good fish, but we could not understand each other at all to get to know where did they fished or hunted or did any other thing. Among the several troops of these people who came to visit us out of curiosity, on 28th January, about 30 others different from the rest came all dressed in guanaco skins, and without any woman, and they seemed to be from inland because the ones from the sea regularly wear sealion skins. They do not settle down in any fixed place, but they usually move in and out either because of the weather according to the season or in order to find the food they need for their maintenance.

Their weapons are arrows exquisitely made, although they have no other instrument than stones: the tips of the arrows are of flint and, from our wreckage on, they are also of glass—skillfully worked—with no other instrument than any piece of handle bowl they find; and although we neither had news of their having other weapons nor had ever seen others, the day after their departure, the steward—who was hunting—found in the fields two bullets made of stone lined with animal guts with a very-well-made but broken cord of the same material as they had lost it; and there is no doubt they use these weapons to catch guanacos and other animals with whose skins they cover themselves.

Indian women's way of fishing

With every low-tide, their women went fishing with some very flexible small sticks at the end of which there is a whale's bone with a slipknot on which they put the bait and, with this, they fish without hook. They are the ones who are in charge of fishing and gathering shellfish for their children and husbands because men do not gather shellfish unless it is to be eaten raw on the double—for this purpose, they employ another fishing style on the beaches using nets of about 8 to 10 fathoms—very well made with twisted animal guts as if for violin strings and with a large mesh. The Indians come into the water up to their necks with these nets and walk back to land with good fish.

Land yield

Apart from the wood for the building of our unique hope, land supplied us with celery, abundant around the harbor, for the caldron as well as with watercress and bitter chicory for salads and with various wild fruits eaten by the Indians—among them, a species of Corinth grapes that grow in small trees like grapevines. There is plenty of another tasty red fruit the size of wild strawberries, but without seeds; and the best of all, which could appear to be delicate anywhere, is the one that grows in the panizos and barely sticks out—it has the same form as large blackberries, but in color and taste it is just like the strawberries.

Birds

Linnets, thrushes, redwings and many other species of birds breed here. As for animals, we have only seen foxes and guanacos' trails leaving the woods.

Terrestrial animals

There is no doubt that going inland these and other animals will be found.

Quality of the soil

Apart of not being possible to risk spending the night in the open because of the Indians, the soil is mainly spongy to such an extent that one sinks. With the continuous rain and fog, added to the winter snow, the layers produced throughout a year are compressed one over the other forming a crust that in some places is deeper than one fathom and so soft that one walks on it as if on mattresses (*Author's note: peat bags*) and this is why it is so tiring to walk here; as for the rest, it seems to be very fertile, with good plains and pasture, with gentle hills from the shore up to the cordillera with its snow canopy.

Corn from the land of fire

We also found a species of corn whose grain is slender and longer and ripe by the end of March.

The sea is so abundant that on our arrival we found plenty to live on; excellent shellfish of several species such as globefish, manegues [sort of shellfish], mussels, snails, limpets and clams as well as small fish that were found in low-tide in wells, under stones and between them even congers of up to half a yardstick. Various species of sargassum or gulfweed provided us food when there was lack of something better; first we toasted it and then cooked it with fat and we ate well.

Bird hunting

When they could be caught, sealions and squabs were good food. There is plenty of ducks, plovers, woodcocks and many other birds to hunt.

Monday 18th to Sunday 24th

Stranded whale

On Tuesday, a whale stranded on the same harbor point on the opposite NW side, where the mentioned Indians, after finding it, went down to cut it up, using cutting stones and pieces of our crockery for this purpose; with these tools, they cut stripes of 3 to 4 a. weight, which they tried to cut in cubes in order to carry them on their backs, and even when the meat stank, they eagerly ate it and they licked their fingers covered with fat as if it were a tasty candied citron.

Sardines beaching

On the day of the glorious Apostle Saint Matthew, we had the pleasure of God favoring us with the beach full of beautiful and fresh sardines beached with some hakes. Therefore, not a single man in the Real failed to go and fetch them, each one bringing a sack of them; so I let it in consideration of you all ponder the special joy with which we welcomed such a delicious food, as anywhere in this village nothing could be found but pure frying fish, and grills full with roasted sardines; everybody was really hungry and in need because meals every 24 hours of some cooked corn and dry beans with one biscuit had consumed all of them.

Monday 25th to Thursday 28th

To date, we had boarded up the starboard and had begun boarding up the port, the shipwrights doing their work at the same time. (*Author's note: outer skin and caulking.*)

On 26th, the launch was sent to the beach to take the pumps that had been assigned for our vagel; having enough wood for her building and lacking male and female fastening, they had the idea of burning all the hatches in order to take advantage of all the iron needed. For this purpose, the crew was sent and in less than two days, everything was reduced to ashes, therefore the beach was supplied with plenty of iron to choose (*Author's note: they set on fire all the timber that had nails and bolts, such as ribs, beams, etc.*).

The Indians went on carving the whale and taking the pieces to the woods and, according to what our people said, they arranged them under the soil to preserve the meat. For this reason, Indians were in our sight all the time.

How our people were equipped to go fishing

With the beaching of the hakes, several rig mariners were assigned, and they set out to fish in a 20-fathom bottom on the two vessels carrying on each trip such a share of fish that there were supplies for the village.

Friday March 1st to Sunday 3rd

Works progressed quickly as most of the portside was boarded.

People was still sent to the beach to take fastening, bolts, rudder gudgeons, and other necessary things.

The Indians continued with their task and visited us every day because they found the building of our vagel a novelty. We went fishing in the mornings and afternoons and everybody enjoyed this benefit. Temperate N and NNE winds.

Monday 4th to Sunday 10th

On this last day, the boarding of the whole hull and the bow was ready and there was little to be done of the deadworks.

Three carpenters were assigned to start with the spars and two others to finish with the gunwale, the quarterdeck, and the rudder.

The rigging was also ready as well as the rest of the ship's rigs, except for the set of sails as its cutting had been delayed until the mast were placed.

The steward butler was ordered to start desalting and cooking the meat, and putting it in barrels at the same time so that it were ready for eating, in case there was no time for cooking during the voyage.

The Indians visited us from the morning to the afternoon, when they left for their huts as there was very little left to take from the whale.

Fishing was diminishing; beautiful days with N and NNE winds.

Monday 11th to Sunday 17th

We longingly worked on the finishing of our vessel. The carpentry was completely finished. On this last day, we worked on the caulking which is almost ready. We had to embark and lengthen the stocks for the beach even more because at first we had made it too steep.

In these days we all agreed, without exceptions, to make two trips to the beach, in community, and with great devotion, our Father Chaplain saying the Rosary, to take all the fastening that each one carried according to his force, agreeing that it should serve for ballast and, once arrived at salvage, its product should be for the suffrage of the Souls in Purgatory.

Indians stayed all day long with us; on the 16th, one of them informed us with demonstrations and signs he had seen a vessel sail past in the Maire strait or along the coast. NW and SW freshening winds.

Monday 18th

Day broke with SW freshening wind and a clear sky; and at about 7 1/2 in the morning, and having taken first the necessary precautions, they started to bring fire near the sides so that the pitch was really absorbed (*Author's note: pitch to make the outer skin waterproof; this operation required care because there was risk of the vessel to set on fire*), which was completely successful; then came tar and fat as we were lucky to rescue enough of everything. These tasks were performed with the intention of launching the ship on the following day as there was high-tide at three in the afternoon. A keedge was placed opposite the very bow of the ship to tie the hawsers to it so that the Main tackles were used to take the ship slowly along the stocks as we feared some misfortune. All the same, two other hawsers were placed at the sternfast to take the ship with greater security.

Tuesday 19th, Lord Saint Joseph's Day Blessing and christening of the Real Capitana de la Isla del Fuego

Day broke just as desired: clear, mild, and beautiful; and once Mass was said for everybody's special rejoicing, the bell tolled in order to gather in community and go in procession for the shipyard in order to bless and christen our Real Capitana San Joseph y las Animas (alias Buen Suceso) singing the Virgin's Litanies. Once this ceremony was over, the whole crew was ordered to put the hull in its place, lowering it on the stocks which was waxed so that it would not

prevent sliding; this maneuver had started by losing the pillar wedges at starboard, but as we had not taken the care to put a nailed wedge at pillar tops and relying (confidence is the primary cause of our being lost) that they would be there, they suddenly moved and the vessel on the stocks tilted on port breaking one of the gradients that had been put as done for Catalan barques so that the ship stayed upright while in railing. We leave in the consideration of any expert the feeling this unexpected accident would cause thus spoiling the day we have promised us would be favorable. Nevertheless, in the middle of the general surprise, they went to repair the damage with their greatest effort, the carpenters being so efficient this time that by 6 in the afternoon they had fixed everything that corresponded to their faculty, and the shipwright did their duty with the same celerity so that at 10 in the evening the ship was ready for the following day.

Tuesday 20th

Schooner's launching and setbacks

At dawn, they cut enough wood for pinch bars. Meanwhile, Masters disagreed on how to launch the ship —ones claimed that it had to be done tilted as it was and others said that it had to be up upright fist; and after several discussions they agreed to give her main tackle along the beach so that they could hang and, at the same time, lever her in order to put her in the middle of the stocks. Thus they proceeded with happy success, so next they secured the vessel with pillars from stern to bow in order to prevent the damage of the previous day. These maneuvers took the whole morning and as high-tide would not come until 4 in the afternoon, the people were sent to eat their corresponding scarce rations; and at about 3 in the afternoon, seeing that there was enough water, they started.

Second scare

We started by pulling the main tackles little by little letting the guys go as the ship advanced; and seeing that she wanted to break free, they let the mentioned guys loose and then she immediately run with speed. But then came the second scare —she stopped halfway through her race when her bow was about to touch water. Everybody was in utter dismay by this accident seeing that her loss meant ours as it was late in the season and we were short of supplies and the people were annihilated and had no strength to wait any longer. But our divine Majesty did not let us without comfort, even when everybody was in distress because

of that incident as the vessel was in danger and her keel running the risk of splitting into two. Once the tide had started to lower, they went immediately to repair the damage—two laths of the stocks were damaged as they were not wide enough and, for the same reason, in that place it was not possible to outfit by taking fire from the gradients. Seeing this, they took charge of the difficulty with the necessary speed, they tore those laths off, and started to pull with the tackles. But soon after this, they had to be taken out because with their force they pulled the kege so, lacking this device also, they decided to launch the vessel by blowing with wedges and pinch bars (*Author's note: levers*), all the people helping with their backs at the same time standing firmly at the stern. In this way, they succeeded in launching the vessel without the slightest misfortune. We thanked God and Our Lady for this through our Father Chaplain singing Hail Mary in a loud voice. His happiness made us all particularly joyful and cheerful in an imponderable way, as even the Indians that were with us threw their covers or skins in the air shouting long live Our Lady imitating our people.

Once the vessel was in the water, they loaded some ballast and tugged it until it was placed opposite our barracks where she was secured with her corresponding moorings at about 7 in the afternoon.

Thursday 21st to Sunday 24th

During these days, the shearlegs were made, the masts put in their place, the cordages rigged, and the shores hauled down for the following uses—the jigger yard and one topsail yard, the bowsprit having been cut from the jigger yard.

Monday 25th to Saturday 30th

We were trying to get ready for our departure as soon as possible—on this day the main, the fore and the head sails were bent. These were cut from the ship's topsails and foretopsails.

NW changing winds and WSW freshening winds with some rain.

Sunday 31st

Donation and promise before leaving

On this day, and after having heard Mass, Staff Officers and the rest together with all the crew appeared before Ssno. Don Eusebio de Molina. They stated that the schooner had been built with each one's honorable work, the timber for binding cut from the woods and the ship's fragments, such as fastening, boards,

cordages, and other outfit she was made up of. And for the same reason, we were sure and knew we had a right over the mentioned vessel. We all agreed to resign to it and give it for the convent of Our Father Saint Francis of the City of Montevideo as a present from Saint Joseph and suffrage of the Holy Souls of the Purgatory with all her outfit and the small share of iron ballast that was taken in procession to the beach in two opportunities for the greater suffrage of the mentioned Souls. We also made a solemn vow before the mentioned SSNO to carry out this resignation, after God would have been kind enough to let us arrive in some of the harbors of the River Plate. A formal document of this was handed over to the mentioned Ss. No.

Victuals

On that same day, we embarked the water-
ing and the supplies which were made up of 52 water tierces, 31 sacks with bread, 17 cargo barrels with parboiled salted meat, 4 small idem with partridges and sausages, and 9 barrels of wine and brandy which had been put aside for the voyage.

Monday, April 1st

After daybreak, the people started to be embarked in messes; each one carrying his rucksack. This task took the whole day and there was great annoyance because the people would not reduce their stuff to the necessary; each one wanting to carry a large sack. But on seeing that in this way there was room for less of half the crew, everything superfluous was thrown to the waters so that we were ready for the following day.

Description of the harbor and the place

This harbor, named Consolación, is situated at 54° 35' meridional latitude (*Author's note: given this position, it could not be Caleta Falsa as this one is at 54° 38'*. In order to determine this, we need to know what quadrant they used to determine latitude and according to what calculation; which is something difficult to find out nowadays. Let us remember that the meridian depended on which meridian was taken as reference—Cadiz, Madrid, London, etc. Besides, 3 minutes in latitude was not regarded as a mistake at that time; over 6 minutes was a mistake) according to a series of observations by our pilots in the western point of the mouth where there is a bottom of about a mile and a half, with a reef practically in the middle, which comes from the E point, between which and its front discovered at low-tide, this is the

narrowest part of the channel, outside of which there is from 4 to 7 fathoms of water (*Author's note: from 7 to 13 m?*). But at low-tide of jellyfish, everything is dry up to opposite Real 2 and, following the same order, the more inside, the less. Of the three well known mounts of the eastern part of Tierra del Fuego, named the Tres Hermanos (Three Brothers), the one in the middle is at the bottom of the mentioned harbor. On the E side, the easternmost Brother gives shelter although this does not come down so near the harbor as the other, but there is a stretch of land before reaching its foothill; and on the western side, the harbor is also sheltered by a high hill coming down from a luxuriant wood up to the very shore, which causes this harbor to have a somewhat different and mild weather compared to the rest of the neighboring parts.

Plenty of firewood and water

There is plenty of water and firewood in different parts, but the main watering places are two permanent brooks which are situated at the bottom of the harbor; one on the S, which is somewhat deep and has fish in it; and the other on the W, which runs along a gully that spreads near the beach. All is the color of Wine from Malaga, with no bad taste at all, and it keeps in good condition in the sea. Tides are as regular as in any place in Europe; the high-tide being at 6 1/2 on the conjunction day and in opposition to the moon.

(*Author's note: the Indians embarking the Spaniards*) Knowing that we were about to depart, our friends, the Indians, came with extreme care very early in the morning every day although our harbor was 1 league away to the E from where they were staying. They gave our people a very tender farewell with friendly demonstrations carrying their rucksacks from the Royal shipyard and embarked them on the Indians' shoulders.

Wishing to avoid any discord, lack of union or good harmony, which were so convenient for our success, we had to keep so many people in such a small vessel in every possible way. Our Ss. no read to the officers and the crew the following articles:

1^o - The mentioned schooner being ready, we would set sail on the first day with fair weather bound for the River Plate, in which we should prefer at all events the port of Buenos Ayres in the first place and, in the second, the Ensenada de Barragán. In case of head wind, we would sail for Montevideo or Maldonado, always preferring them in the order mentioned and according to weather conditions. In case of N

head winds and of another unexpected accident made us decide to sail along the Magellan strait, decision which will be taken with the formal agreement of officers, passengers and main seamen, and in this second case we would try to reach one of the first harbors in Chile, such as Chilue or Valdivia.

2^o - Aboard the vessel and during the voyage, we should keep in good union and brotherhood without claiming the equality that some ignorant persons had uttered in that dessert. We should bear in mind that we have to understand equality according to the humanity which is common to everybody without mistaking this for the prerogative of persons and the fair subordination which, apart from being absolutely necessary for the common welfare, they were obliged; in case they committed a serious offence they would be accused in front of the Judge before whom they would have to appear to account for the unfortunate event.

Ship's regulations

3^o - Being the vessel small to contain almost 200 people, for the watches and the lodging and the distribution of rations, all the people would be divided into crews of 12 men with their petty officer, and they would take lodgings where ordered without disturbance or dispute, under the penalty of being accused of disobedience.

4^o - Among so many people there could be some evilly inclined whose attacks could be very harmful for us, anybody found to have drilled some container or stolen any other victuals, or found with a tube or sheath or any other instrument to drink fraudulently would be punished with the suspension of going below deck for the time understood to be convenient.

5^o - The one who by fraud takes from his mate any food reserved for his ration will be deprived of half his ration for three days.

6^o - Anybody who, alow, committed some irreverence that could harm the health, and not being disabled by any indisposition of going out to the marked places, would be punished with staying on deck for three days and their nights.

7^o - If, during the voyage, the lack of victuals, water supply or any other urgency, makes us call some harbor, inlet or coast, the crews with the most qualified people should ask for our permit. And, in case of disagreement about the crews that should disembark, the matter would be settled by lot among the ones which had the most qualified people for the task; without useless people taking part in the casting of lots. For this purpose, the ones sent should do everything possible to work for the common survival,

without taking for themselves the smallest part of food; the one who committed such an inhuman offence would be punished with his exclusion from the company and abandoned on the same land.

8° - Those seditionists, rioters, or those who mistreated or threatened somebody with a weapon or in fact harmed somebody else would also be abandoned on the first land. This, in view of not having prisons where to take them or the corresponding security. Nevertheless, it is in the captain's faculty to use his clemency, according to the innocence in each case, if this happened before reaching port.

9° - The one found to have committed perjury against another man would be punished with the penalty corresponding with the offense charged with.

Being about to put to sea, the nine articles above were read by the undersigned Essno for all the seamen and other people aboard the schooner named San Joseph y las Animas were informed today. And he attested for this to be recorded on 1st April 1765.

Departure from the Consolación harbor on Tierra del Fuego aboard the schooner named San Joseph y las Animas (alias Buen Suceso) built in the mentioned harbor to save the wreckers of the ship Purísima Concepción.

On 2nd April at 2 and 1/2 in the afternoon, we set off from the mentioned harbor although there was N wind. We put to sea tugged by our launch, which we kept all through the night, but we had to abandon her at daybreak because of N freshening wind and rough sea. And steering by several courses we are at 54° 18' of Latitude at noon on day 3.

Thursday, April 4th to Monday 8th

With several winds steering from W and WNW, on this last day at 10 in the morning, we discovered the coast of Patagones ahead, a flat and even land which, at noon, was at about 6 leagues from us having observed 50 and 57.

Tuesday 9th

Throughout these 24 hours, we had several light airs steering different courses. This up to daybreak when wind turned by the E to SSE and steering NNW and, at noon, we were about 3 leagues from land at an estimated Latitude of 50° 39'.

(Document seemingly incomplete)

(Archivo General de Indias—Sevilla—Audiencia de Buenos Aires—Expedientes e Instancias de partes—Años 1771 a 1776—Estante 124—Cajón 1—Legajo 14.)

Author's note: As it is evident, the above document is incomplete. Let us go on with the recount of the navigation up to Buenos Aires as excerpted from the transcription by Don Héctor Ratto from the Archivo de Indias.

Today I, the undersigned, read the nine chapters above aboard the Schooner named San Josef y las Animas, which is about to set sail with all the seamen and other people that were informed; and for this to be recorded I attest on April 1st 1765: Before me, Eusebio Felices Molina, ship's clerk: all arranged as said, on April 2nd, although there was head wind, we decided to leave hoping that at sea we would find more favorable wind, because any delay in harbor could bring about fatal consequences as the loaded vessel went on being damaged, both when beaching with the variant and when swimming with the current. At half past two in the afternoon, when the schooner started to swim, we set off tugged by our launch with N and NNE wind. Having left the Channel, we were N of our harbor, which was about one league away, at six. On the following day, NNW freshening wind with a very turbulent sea made us abandon the launch we were carrying at the rear not being able to keep it any longer. Being at about four or five leagues from the brothers' coast, a variety of winds on the fourth quadrant with intervals of calm accompanied us in our trip to Costa de Patagones up to the 8th when we discovered it at about fifty-two grades and three minutes, being at about six leagues from it at noon: on the 9th, with the same variety of light winds and calms, having steered in different courses from the first to the fourth quadrants, we were at three or four leagues from land at 50 grades and thirty nine minutes at noon. But on the same day, and from two in the afternoon, stormy wind started to blow from SW with rough sea and a cloudy sky, which made us lighten half the jolly boat, which we wanted to keep for any emergency. Throughout the night, the weather only let us shorten the foresail with its two reefs. At dawn on the following day, we were near land with a lighter wind and, although the sea was still very rough, we unfurled the main with three balance reef bands and steering ENE, at noon, we were at 49° and 48' and at a distance of five to six leagues with the same wind steering NNE. At half past ten in the evening, we lost a man thrown to the waters by the tack of the foresail; and we could not rescue him because of the rough sea and wind prevailing from four in the morning on the 11th with wind turning S. Being far away from land, we started to steer N and NNW and, at noon,

observation at 48° 21': on the 12th, having steered in different courses in the first and fourth quadrants with N light winds. On the 14th and 15th, we suffered such a furious blow of wind from WSW that it seemed to be nothing but a real hurricane with the sea so rough that not being able to steer a course, we started to scud before the wind with the foresail little by little. And, as we could not open a single scuttle to let air enter the hold, a man died of suffocation. And, thank God, on the 15th in the afternoon, the weather started to clear up so that we could open the scuttles and help many who had fainted. This not being possible, there is no doubt many people would have died as, in fact, two died as a result of these conditions. And the weather became milder and milder so that at four in the morning we were in calm. At noon, observation at 45° 16'. After the mentioned calm, there were SSE winds that, turning South up to WSW, accompanied us up to the 18th when we were at 41°. From that moment on, there was light wind from NW to South and we advanced up to the 39° 24' observed on the 21st in dead calm. This was immediately followed by South wind that turned only up to SE to turn back again to the South and quite fresh with fair weather. So, steering NE, N quarter, during the night in order to avoid the proximity of land and to the N, NW quarter, from daybreak on the 22nd at 10 we discovered very flat land at an estimated Latitude of 37° 18' being at about three leagues from the coast in 8 fathoms of water, sandy red bottom. On the 23rd, and having observed 35° 31', we headed W, SW quarter, for Buenos Ayres. But some individuals were opposed as they wanted to make for Montevideo; and seeing that the Captain did not want to agree with their request, some members of the crew came with the same petition. The captain answered them all to take the ship wherever they wanted to and added that he wanted to take her nowhere but Buenos

Ayres. After this, he left, but being in a state of inaction, and on being asked by Father Chaplain and other people, because we could not waste time, he came out again and we headed for Montevideo hauling to the E wind and steering NNE and N, NE quarter, up to eight in the evening when we considered to be in the sight of land and anchored on the 24th, the day breaking with the same E wind. The Cerro de Montevideo was E of us, quarter NE, at about seven leagues away. Still, they insisted that we should head for Montevideo, supporting their view on the fact that the current would help us. And having lifted the anchor, we beat for the first time back N, but on seeing that nothing was gained, at half past nine, they asked to head back for Buenos Ayres. Having done this, on the 25th at 10, we anchored at the beacons being one hundred and eighty-nine men without considering the four we had lost on our way.

The original is in the 8th volume of Papeles varios de la Colección de m.ss de Don Benito de la Mata Linares, which belongs to the Marqués del Socorro, who lent it for me to copy.

N.F. de N. (Signed)

(Sheet v. and three more blank sheets)

Author's note: excerpt from the work by Don Héctor R. Ratto:

XIX.- Documento que trata del naufragio del navío Concepción en Tierra del Fuego - destino al que figura en el libro IV - procedente del Depósito Hidrográfico de Madrid, P.112

Costa Patagónica — Tomo 1^o; 1er Documento (Leg.9); b 1^o.

Voyage of the Ship Concepción from Montevideo down to Tierra del Fuego, which was lost on January 10th and its description and arrival in Buenos Ayres.

Author's note: As a result of this wreckage, the King orders to explore this place and to set up a distress harbor or a colony. A brig commanded by Lieutenant Don Manuel Pando is assigned this task.

Appendix 5

Luis Piedra Buena and the Wreckage of the 'Doctor Hansen' according to his journal

The rescue of Dr. Hansen's crew (1874). By Cándido Eyroa, volumes II and III (1883 and 1884).

Punta Arenas, 1 September 1878

We set sail bound for Santa Cruz taking Ruedas' family to the mentioned point.

Today, 14th, W fresh breeze entered Santa Cruz. We found the Argentine brig Chubut anchored.

On the morning of the 15th I went to the Island (Pavón), I found everything upside down.

"*Ría Coy*. On October 6th at 9 a.m., we set sail for Statenland (Isla de los Estados) with NW fresh breeze. In the morning, it calmed down and stayed like this up to the 8th at 9 a.m. The wind started to blow from the South so strongly that I had to enter Coy Iubet. Finally, I was lucky to be able to do it because Fitz Roy does not recommend this harbor and I lost four of my men that tried to enter on the Julia launch, which was broken to pieces. In this voyage, I have found remains of the launch and the boat on land.

The 8th At low tide, I took the boat and set off to survey and chart a plan by angles. I found that there is room for 5 or 6 small ships of 12 feet, without risk of stranding and very sheltered. The bottom, sand, in three fathoms, NNW from the N Point, NE of the South low point and WSW of the Island. But we did not find water and there was practically no grass in the surroundings. In three castings we caught only one fish, a very large sea bass. I think this happened because of the lack of mesh in the net. We saw the skeleton of a fish, with the shape of a dolphin, but it must have been four feet longer than the ones I have caught. Its teeth were as large as those of a sealion and separated, not as the dolphin's which are small and uniform along the jawbone and which I have used many times to comb myself.

Today 9th We set sail and the calm stayed. At last, I could enter Gallegos to refit with water and grass for the she-goats that I was taking to Isla del Estado. Weather remained the same.

Bahía Policarpo. *Dr. Hansen's*' Wreckers October. On the 24th ESE very strong breeze. At about 8 in the evening, it became calm; we

were in 12 fathoms of water but always insisting to get out. At 12 we had 27 fathoms. There was little wind and at 6 a.m. we had 16 fathoms, always with the bow outward, at this time SE freshening wind. We saw land and I cast anchor behind a point that gave me shelter.

26th - We put in to Policarpo. At 10, we saw a sailor standing at the top of the hill. I immediately sent a boat and we got to know through him that the German Brig Doctor Hansen had wrecked.

On th 27th, the captain and the pilot arrived to ask to be rescued from the risk they were in. They had got lost in the night of the 24th and the ship was completely destroyed by 2. Having wrecked in such a bad place, they were miraculously saved, with no provisions, no clothes, no weapons to defend themselves from the cannibal Indians of Tierra del Fuego. Although my ship was so small, 12 tons capacity, with eight men on board apart from the goats; I asked him if some of the wreckers could stay on deck and he agreed.

The following day, at dawn on 28th, the Luisito cutter was two miles outside River Policarpo. The wreckers were 7 miles away to the ESE. At 8, I cast anchor at Bahía Falsa. On entering, we saw how the captain's wife was taken down with pieces of 3-inches ropes, from a perpendicular 45-to-50-foot ravine and the same was done with the six-year-old little kid Federico Ruge, this was the third time he wrecked, with his mother and father. He resembled my Luisito a lot.

By ten, we were all aboard. We tried to get out, but the bay is very bad, without shelter to the North and very rough sea. I waited for the tide to start ebbing and I beached (the Luisito) to protect her from damage or breakage. At daybreak, she started to hit very strongly. The captain was having a chat with me, the lady was weeping and I reflected about the way I had built her. I remembered how many bolts and tackles I had used for her. Finally, I answered the captain that with the wood of his ship and the one remaining from the Luisito, we would built another one, although smaller. And he felt very comforted.

29th - The whole day was calm. We went to the lost ship (Dr. Hansen), but I could see nothing but remains among the shafts. I did not dare pass along them because they were like stone deep drains about 4 feet wide and 25 to 30 feet deep, along which the sea came in and out with such a force that when it hit the bottom, it produced the noise of a great cannon. The ship was lost in the most dangerous place in this stony ground and everybody got out safely just because of luck. I think that, if this had happened during daylight, something would have happened.

We have been to the place on various occasions and it is just like Don Luis describes it. The mentioned shafts are dreadful and when the sea washes, apart from the noise, a geyser-like jet comes out. Up to 1989, a lot of wrecked ships' remains could be found and even the manor house of the estancia, built in Caleta Falsa, had many parts of ships, such as the yards for poles, iron-works to hang meat or wool bales and the wood from decks for floors.

On the other hand, let us think what sort of seaman was Luis Piedra Buena who, while the *Luisito*—built with parts from the wrecked *Espora*—was hitting against the rocks, he comforted *Dr. Hansen's* captain by telling him not to worry because they could build another ship with the remains of his ship and the *Luisito*. A true superman.

Disembarking on Isla de los Estados and the Twenty-Two-Day Trip to Punta Arenas

10-30-1874 - NNW wind. Thorough overcast sky. I set off with this weather to take my crew to Isla de los Estados and I was so lucky that, when we saw land through the fog, we were in the middle of the two points. We passed with no news on my *cachuchito* (he is referring to his cutter, the *Luisito*) along those huge currents, where I have seen my *Espora*, a 157-Ton. ship, sunk confused by the sea. It is the place where

the *Gran República*, four-masted ship with deck without touching neither the side nor the houses. It broke her 36-inch beams.

31st - Very strong breeze and we could not enter the river (It must be Bahía Franklin, given the fact that it has an important river in which it is possible to enter at low tide with a 11-meter cutter without problems. The river may be about three-meter deep at its mouth. On the other hand, the place is full of goats, remains of wreckages and even a vessel of about 8 meters length sunk in the river. It might be a quite old fishing boat. No other bay on the island has a river of these characteristics), but we put the goats on land.

November 1st - We left everybody on land. We started to ready for the voyage.

5th - We set sail in the afternoon and crossed Bahía Falsa. We cast anchor the following day in the morning. There were NW winds, so we could not put to sea up to the 10th. It was not until the 22nd that we could arrive in Colonia, where we all disembarked happily. I had left 7 men of my crew as there was no room on my cutter. I was warmly welcomed by the Governor of Magallanes, who gave the wreckers a ticket and all the help they needed.

I stayed making efforts to get ready to look for the ones I had left on the Island (Estados) who stayed, as other wreckers, waiting for my return and they trusted I would sail back for them as I had promised.

A short navigation from the 'Isla' to Punta Arenas took Piedra Buena twenty-two days—weather must have been rather bad. He fetched the seven men he had left, but he stayed with them until March hunting sea lions.

In July 1876, the ambassador of the German Empire sends a note to the National Government in which its monarch acknowledges captain's Luis Piedra Buena altruism in rescuing the wreckers of the *Dr. Hansen*. As a proof of this, he sent Piedra Buena a telescope with an engraved dedication.

Appendix 6

The 'Duchess of Albany' in Mitre Peninsula



It is of interest to highlight several points in the research by Oscar Pablo Zanola for which he dived into unprecedented documents:

a) How the wreckage of the *Duchess of Albany* took place.

b) How the three groups in which the wreckers had divided themselves were rescued.

c) The relationship with the Ona indians.

d) The capacity of Ushuaia to offer help.

e) Some pieces of news about the wreckage published by the press.

f) As a conclusion, the general ignorance and complete disorder prevailing up to the moment this research was carried out.

Let us see a brief summary of the findings:

The National Maritime Museum of Greenwich reports, "...this figurehead belongs to a sailing ship with iron hull built by T. Royden & Son in Liverpool for WE. and Wright in 1884. It had two decks. Its displacement was: 1,793 (gross) and 1,746 (ton). Official number 91162. Dimensions: 253 feet (over-all length), 40.3 feet (beam), 23 feet (draught), 45 feet (bow), 5 feet and 1/2 inch (freeboard)."

"In 1892, it was taken over by R. Hamilton from Liverpool, who was the administrator. She wrecked on the coast of Tierra del Fuego, on Policarpo Island on 13th July 1893. She was named under the Duchess of Albany, married to Duke H. R. H. Leopold, Queen Victoria's fourth son. She was Princess Helena Federica Augusta, Prince of Walbeck and Pymont's daughter. The captain was named J. Wilson and he assumed the command of this ship in 1884..."

The Museo del Fin del Mundo has rescued

the figurehead of this ship and also keeps the book *Lord Macaulay's Essays and Lays of Ancient Rome* donated to the museum by Clara Bridges Goodall. This work had been found by a member of the family on the stranded ship. Its first page reads, "John Wilson. Ship *Duchess of Albany*. Belfast 1889." Obviously, it is a book from the Captain's library.

The Maritime Museum of Greenwich encloses an interesting document: an article issued by the *Gazzeta Naviera y Sumario Semanal* on 22nd September 1893. Here cargo, destination, and crew as well as the accident are mentioned.

"*Duchess of Albany*. Sandy Point, Strait of Magellan, 17th August. The 'Duchess of Albany', from Liverpool to Rio de Janeiro and bound for Valparaiso in ballast, beached near Policarpo Cove, coast of Tierra del Fuego, on 13th July in a foggy day and she wrecked completely. The crew disembarked and, on the following morning, the Captain, officers, and another seven hands went on on the boats. As they rather went by land, guides and indians were sent from Thetis Bay to look for those men, but they only found one, who had split from the rest."

"*Duchess of Albany*. Sandy Point, Strait of Magellan, 17th August. We have come to an agreement with the 'Amadeo' in order to rescue the 'Duchess of Albany' in exchange for 80 per cent of the net goods saved. The 'Amadeo' is going to set sail in a few days and she will also sail along the coast to look for the missing hands, who are expected to have arrived in Thetis Bay by now. The captain and 11 hands

will return to England on the steamer 'Britannia'..."

Voyage to Thetis Bay

In those days, notices to marines, sailing handbooks, and publications usually read in ports all over the world issued news, especially those regarding the security of seamen and, of course, shipwrecks. This is why the captain of the ship knew perfectly well that the Argentine Government had set up a station at Thetis Bay. It was also known that there was a rescue station at San Juan de Salvamento. This is how, after the closing down of the one at Thetis Bay, many wreckers found shelter in the abandoned buildings and thought that they would be helped there.

According to the article published by the *Gazzeta*, the Captain and some of his men headed for the station (Subprefecture) at Thetis Bay. They sailed for almost three days. In fact, the place was not far away and they sailed for a few days. In this area, one of the major problems is the tidal range which leaves hundreds of meters of ledge at low tide; at high, the waters almost wash against the reefs. Other important problems in winter are the low temperatures and the few hours of light, but seamen from the North Sea are used to this. Anyway, there is a great advantage in this season—calms are more frequent and storms rare. Unfortunately, there are no recounts of this voyage.

The *Gazzeta* tells us that the rest of the crew refused to accompany the others on the boats. They would rather head for the Subprefecture on foot. As soon as the boat arrived at the station, guides and men to help the wreckers were sent, but they only found one man who had parted from the rest.

Again, we go back to the *Gazzeta*, where we found that it was not until thirty-six days after the wreckage had taken place that the steamer *Amadeo* (owned by Don José Menéndez) set sail to look for them. This vessel also made an attempt to rescue as many things as possible from the *Duchess of Albany*. Lastly, the weekly reports that the Captain and the eleven men that accompanied him on the boat went on for England on the steamer *Britannia*, which had already embarked them.

The following document, rescued by Zanola, is worth noting. It is an extract of a letter sent by Juan Lawrence—who was in charge of a mission—to the South American Missionary Society at London. We decided to transcribe it because, apart from some quite plain news about the wreckers' arrival, it shows us some

local color, how they were welcomed, and how people regarded them.

"S.A.M.S. 1893, p. 167 (Juan Lawrence writes from 'Ooshooia,' 16th August 1893): "...While the Argentine steamer 'Villarino' stayed here, the 'Golondrina' brought to Ooshooia the Captain, two officers, and ten hands of a ship that had recently been lost on the Northeastern coast of Isla Grande de Tierra del Fuego. Sixteen of them were still missing as they would rather walk to the Argentine Subprefecture at Thetis Bay instead of boarding the boats with their Captain. We hope they meet some of the civilized native to lead them to the Colony."

"They were exposed to inclement weather fourteen days, day and night, without any shelter and with little food. We are not surprised at some of them having their feet frozen..."

"They saw some of the natives (Onas) but, fortunately, they were friendly despite the fact that the sailor were afraid knowing that they could be surrounded by a hostile gang of uncivilized indians any moment. Describing their manners and appearance, the wreckers spoke about their gratitude feelings when the natives showed signals of friendship toward them. At first, they thought they were Patagons, because they had hardly noticed that they had been washed on the coast of Tierra del Fuego..."

"We are encouraged at realizing that we could be an instrument in God's hands to help wreckers who, in such circumstances, need specially the assistance and sympathy of somebody and we, as Christians, are always ready to offer it. We enjoy these opportunities not only to show some hospitality but also for having the privilege to speak Jesus' word. We were pleased to invite them to attend our services, which they did; and throughout their short stay in Ooshooia I had the pleasure to visit them on the northern coast at the 'Gobernación.' Maybe we will never know how beneficiary a little simple talk may be even with such men who must have few chances (during their long voyage) to meet somebody spiritual. The Argentine steamer 'Golondrina' is getting ready to take them to Sandy Point. We have just offered them another little pleasure inviting them to have a simple tea with us and some of the natives in the classroom, which they enjoyed; and before leaving we sang some Sankey hymns, 'Pull for the shore, sailor' and 'God be with you still we meet again.' From the bottom of their hearts, they expressed their gratitude for the interest we had shown for them and they said they would



Iron masts and hulls completely made of this material characterized the last clippers.

always remember the S. A. Mission at Ooshooia in Tierra del Fuego..."

On 5th September 1893, the missionary Juan Lawrence sends another note to England in which he comments the arrival of the tug-boat *Amadeo* taking fourteen out of the sixteen missing wreckers to the port of Ushuaia.

Ushuaia Deprived of Provisions and Almost Disabled

Oscar Zanola tracks down another interesting document. It is a note from the captain of the *Amadeo* to the Governor of the Territory of Tierra del Fuego in which he warns about the situation he is in on arriving in the harbor on 28th August 1893:

"Aboard the Chilean steamer 'Amadeo,' Ushuaia harbor, 28th August 1893. Monsieur Acting Governor of the Territory of Tierra del Fuego, Don Adrián Busto."

"The subscriber, Captain of the Chilean steamer 'Amadeo,' owned by Don José Menéndez, expresses to Your Excellency with due respect."

"During the night from 26th to 27th of the present month, I was surprised by a heavy storm from the North at Thetis Bay, because of which I was about to sink if not for the Divine help that came to rescue me. For this reasons, and not having the essential elements to go on sailing and return to the place where the lost frigate *Duchess of Albany* and with the aim of performing the rescue I had been assigned I arrive in this port before Your Excellency to ask you as the only authority in this Territory to give me, if possible, three chain shackles, one anchor, and one boat as the heavy tempest we underwent dismantled my ship taking davits and boats away and making me cut chains thus losing the anchors."

"Besides, I beg Y. E. to take care of the *thirteen wreckers* that belong to the same frig-

ate found in the surroundings of Thetis Bay and, if possible, take them to the port of Sandy Point for the purpose that Your Excellency considers convenient."

"Not having another subject to discuss, I hope Your Excellency wishes to concede the required equipment. I avail myself of the occasion to offer the assurances of my highest consideration,"

"Signed by S. Mustielich, Captain of the *Amadeo* Steamer..."

As we can see in this note, the port at Thetis bay may be a lethal trap. This is a very open bay to the north and the east; it is sheltered

in the rest of the quadrants. It is not strange that at San Vicente Cape, which is part of the bay, there are two large clippers such as the *Duchess of Albany* and the *Amadeo*, a veteran in these waters, which ended up very battered just for staying anchored at this place.

In the document below—a note that the Governor addresses to the national authorities about the wreckage and the requirement of the *Amadeo's* captain—we can see to what extent Ushuaia was inefficient when it came to welcome wreckers (only thirteen) or support ships. This is not the only document that depicts such situations, which are really shameful and doleful. Obviously, the South existed thanks to men such as Don Luis Piedra Buena or General Julio A. Roca, but as for the rest...

"Ushuaia"

"9th September 1893"

"Monsieur le Ministre of Home Affairs"

"I am honored to inform your Ministry that, on 28th August the last, the Chilean steamer 'Amadeo' arrived in this port carrying *thirteen wreckers* left from the former crew of the *English frigate 'Duchess of Albany'*, which was ruined at Policarpo Bay halfway through last month."

"As the steamer 'Amadeo' failed to go on sailing to Sandy Point, because of the reasons her Captain expressed in the note of which I enclose a faithful copy, this Governorship immediately ordered to supply the equipment requested for the national steamer 'Golondrina,' in the port of this capital, to set off for Sandy Point carrying the wreckers and being at the disposal of the Consul of the Republic of Argentina in Sandy Point."

"The Governorship, Monsieur le Ministre, could no longer manage to help the wreckers because of the lack of victuals and lodgings to accommodate them and had to use the rations

that the budget settles for the staff, being thus left short of victuals and forced to resort to the credit we have with the store of this village."

"The rescued, Monsieur le Ministre, have been assisted for twelve days as the steamer 'Golondrina' could not set sail as soon as the order was given."

"With the assurances of my highest consideration, sincerely yours (signed by Adrián del Busto)..."

The wreckers and the Indians

At this stage, we can see that there were two men missing. The same researcher makes it clear what happened to the one who had joined a group of Indians while there is no news about the other. From the book *Los Indios de Tierra del Fuego*, tomo 1, volumen II. *Los Shelk'nam*, by Martín Gusinde; pp. 790/791.

"...During the last Klóketen ceremony, Tene-nek told me the following: My first wife was still alive when a ship was washed against the eastern coast of Isla Grande by a storm. Such high waves were never seen again! The ship split into two. Many people could save themselves swimming toward land. We gave them meat, as they had nothing to eat. Four days had gone by when another ship arrived and all the white men left with her. Only one stayed, a tall young man with a light complexion. As he enjoyed being among us, he did not leave with the others. Since then, he lived with us and learnt to speak our language. Later on, he expressed his desire to *marry a shelk'nam*. We esteemed him and agreed on his choosing a woman here. But before this, he had to become a Klóketen. When we gathered again for the secret ceremonies, this time next to the Fagnano Lake, this European also came with us and took part as a Klóketen."

"Many moons [sic.] we were already gathered at the Big Hut. The celebration had not come to an end yet, when the white man died. We buried him right there. He had been a good man. That is exactly why we let him live among us and he had to become a Klóketen. This had been the first time the elder allowed a Koliot to walk into the Big Hut. If any of them had approached it, he would have been finished off. But everybody esteemed this kind man! Therefore, that English man, whose name was unknown, was the first Klóketen of European origin. The knowledge and the understanding that he could have acquired during that ceremony were not protocolled. His good nature, together with an irreproachable conduct, had made him being regarded by all the tribe as a person worth trusting..."



The Duchess of Albany's figurehead.

Below, in a footnote, the author comments the following: "There is no doubt that this is that English man who, after the wreckage of the 'fine English ship, the Duchess of Albany, on the north-coast of Tierra del Fuego... had gone away with the Ona Indians...' as reported by Lawrence on 5th September 1893 (*S.A.M.S.* XXVII, 183; London 1893). The accident had happened in the winter of 1893..."

Various Versions about the 'Duchess of Albany'

Closing this appendix, and as a color touch that contributes to the understanding of the state of confusion a researcher devoted to these topics has to start from when taking as true works already published, let us see the following examples. It is worth noting that this is not always the case as, in fact, an important part of the works published is serious.

A. In his book *Algunos naufragios ocurridos en las costas chilenas* (1894), Don Francisco Vidal Gormaz comments:

A Frigate

The captain of the English frigate 'Knight of the Garter,' which arrived in Valparaiso on 24th April 1894 from Cardiff, reported to the shipping board that on 7th that same month he saw a frigate aground on a rock, near land, at 54° 36' of south latitude, west of cape San Diego in the Le Maire strait. The ship had 1,600 of register tonnage and [sic] he assumed that she had run aground a few days before.

The spars were complete, except for the fore-topmast and the mizzen that were broken. The ship was painted in black, but he does not mention neither her nationality, nor the name

of the vessel. Such is the carelessness with which the statistics on shipping disasters are kept among us (p. 702).

A Frigate

Captain Greve of the frigate 'Aconcagua,' which entered the port of Tocopilla on 3rd July 1897, reported having sighted a stranded ship about three miles west of Policarpo Bay on 2nd July the same year at 11 a.m. She was painted in black, her spars were practically undamaged; her masts were painted in light hazel and the extremes of the deck were white.

The frigate seemed to be a modern construction as it had a one-piece bowsprit and she was completely abandoned as no human being was visible. On the beach and opposite the vessel, some scraps of army tents made from sails can be seen.

It looked as if the frigate crew had abandoned the wreckage site on their own vessels as everything looked desolate (p. 760).

B. We can also read in the book *Treinta años en Tierra del Fuego*, by father Alberto de Agostini, the account of one of his trips (1915) along the eastern coast of the island, when he saw the *Duchess of Albany* and passed by Policarpo Cove:

Many vessels wrecked in these treacherous ridges made up by rocky platforms or ledges outstretching from the coast and into the sea for over one kilometer [...] some of these vessels have already appeared destroyed by the continuous

working of the waves; others, on the contrary, are practically intact because they were washed high and dry by the highest tides [...] Among these, the one that particularly attracts my attention is a three-masted vessel named 'Duchess D'Albania.' I assume it is Italian, but I could not gather any data neither about her origin, nor about the causes of her wreckage...

C. In his book *Magallanes en 1925*, the Chilean writer Don Manuel Zorrilla relates:

An Unknown Frigate

On 7th April 1894, an English ship bound for Valparaiso sighted a frigate stranded on a rock near land at 54° 30' of south latitude, west of Cape San Diego, on the Le Maire Strait. The wrecked ship was abandoned and her name and nationality are unknown." (pp. 196-197).

Obviously, mistakes are passed down from one writer to the other. This is why the research carried out by Zanola is so interesting, especially when the Lloyd's Register of Shipping, corresponding to the delegation at Buenos Aires, reports the entrance to the pier in Buenos Aires of a sailing vessel called *Duchess of Albany* in 1900. Of course, this one has nothing to do with the one wrecked in Península Mitre.

(Description: 1. Official Register N° 95,116; 2. Captain's name: J. C. Gubbey; 3. Number of decks: one; 4. Year of Building: 1889; 5. Shipbuilding Company: Scott & Cía. Greenock; 6. Year of entrance in the port of Buenos Aires: 1900.)

Appendix 7

Isla de los Estados

Sea Toller

The following comes from the Archivo del Ministerio de Relaciones Exteriores (Ministry of Foreign Affairs Files), February 17th, 1891: The *Sea Toller's* wreckers present a claim before the Secretary of the Navy, Mr. T. Gray, in London. They charge Major Villarino with ill-treatment, first in San Juan (Isla de los Estados), and later on the steamer *Villarino*.

Upon request from the British government, the Subprefect at Isla de los Estados and Commander of the Argentine transport *Villarino* was indicted by Argentine authorities.

Wreckers' Statement:

I Gray Esq[re], C.B. Secretary, Marine Department, Board of Trade, Whitehall Gardens, London.

Sir,

We the undersigned beg to lay the following statement of our grievances before you, wishing to know whether we might not obtain some recompense for the hardships and ill-treatment we have undergone.

Directly on landing at Punta Arenas, Strait of Magellan, we duly presented ourselves and laid a similar report before R. Stenberranch, Esq[re], the British Vice Consul at that port.

Statement:

"We sailed from Glasgow (February 8th 1890) on the Liverpool Barque 'Sea-toller' bound for Valparaiso with a general cargo. On the 8th April when two hundred miles abreast of the Falkland Islands we encountered a severe gale of wind which lasted about a week doing serious damage washing away our boats and carrying off our sails. On April 16th the gale having moderated we sighted the 'Cambrian Duchess' of Swansea totally dismasted, and on her beam ends. Noting her signals of distress, our Captain bore down to her, and we took off her crew, thirty-two (32) in number, her cook having been washed overboard on the previous day. Once safely on board we made for the Falkland Islands and landed the rescued crew on April 22nd. For thirteen weeks we laid there for re-

pairs, and on July 26th, being ready for sea, we weighed anchor and once clear of the land set our course S.S.W. 1/2 W. steering for St Johns point, Staten Island, with the wind free and all sail set."

"On the night of July 27th, the wind freshened and all hands were called to shorten sail, and we stood on till morning when land was reported on the Starboard bow. The ship was directly put about, but the Captain, seeing that it would be impossible to clear the land, called on all hands to set sail. While hoisting the fore-top-sail, we could plainly see the land close aboard of us [sic]. The order was then given to cut away the starboard boat, but seeing that it would be of no service to us between the ship and the rocks, we were commanded to cut away the port boat. Whilst we were engaged in doing this, the ship struck the rocks three or four times, and on her settling down, heavy seas broke over, washing away nine men and the boat, and throwing the rest of us in the water. Four of us, however, managed to reach the mizzen rigging, where we were shortly afterwards joined by the Captain."

"At daybreak we saw another man on the main top, and on hailing him he joined us in the mizzen [...] crossing on the stays. We clung to the rigging all that day with the sea breaking over us, and in the afternoon the Captain made the attempt to swim ashore with a line fast round his waist, but he was killed in the attempt to land by the surf against the rocks, we being unable to render him any assistance, as he cast off the line just before reaching the rocks. That night, seeing that nothing remained to be done, we crossed by the stays over to the main top and cut the mizzen stay sail adrift. Next morning we sighted a vessel and climbing to the main truck hailed her, but it was of no avail."

"Two of us tried to reach land by means of a line, but they died, the third one succeeded and making the line fast at both ends the rest of us were enabled to land safely. Then without boots and with very little clothing we climbed a mountain a thousand feet in height (which mountain we afterwards became well acquaint-

ed with) and after climbing all day reached the summit in a terribly exhausted condition with our hands and feet painfully cut and bruised. We travelled in a N.E. direction, and sighted the lighthouse before night, but seeing that in our weak condition we would find it impossible to arrive before sunset, we decided to look for the best possible shelter with branches, it rained heavily all night long and in the morning we set off for the shore to eat what we could find, it being impossible to travel by the beach, we were forced to take again to the mountains and after great difficulties reached the station about 10 o'clock in a terrible state of exhaustion and in a very bad condition, with our bodies lacerated by the thorns that abound in that country. We had been then three days without a particle of food: there we each obtained food and a suit of clothes. After eight or nine days, the major Villarino thinking we were sufficiently recovered set us to work in the wood-shed cutting wood, which we willingly did. But he was not satisfied, and on the 3rd October ordered us to the same work as his men: that was, carrying poles down the mountain side. Then having still weak and having snow on the ground, we being barefooted we were utterly unable to do the work; then the Major drew his revolver, presenting it at us and meanwhile loudly cursing in the Spanish tongue ordered us to be put in the stocks by the head. However the Steward only was put in stocks, and an able seaman placed in irons, taken to the mountain to work, where he was kept all day in the rain, snow and cold. The following day the irons were taken off and an iron shackle of 56 links of 3/4" chain was rivetted on him: in this condition the two of them remained for thirty two hours, therefore, when they were set free they were unable to walk. Shortly afterwards, the transport 'Villarino' arrived and we were sent on board. Not five minutes had elapsed before we were turned to work, our daily working hours being from four in the morning until seven or eight at night. Whilst laying in Ooshooia we had to discharge 200 tons of coal from the hold to the bunkers (sic) and then reload her with 250 tons of ballast. The sailmaker being very unwell and utterly unable to work, was sent ashore by the ship's doctor for two days and nights without food or shelter. The rest of us feeling still exhausted having had so little food and sleep spoke to the Commander, explaining why we felt incapacitated from work, but were told if we did not work we should be put in irons without food. Accordingly we all worked as best we could until we arrived in Punta Arenas, where seeing the British Vice Consul, Mr. Sten-

benbranch, we received the first kind treatment we experienced since the loss of our ill-fated ship.

(Signed) J.G. Hardy - Cook & Steward
47 Blakett St - Newcastle-on-Tyne
J.H.W. Clindinning
Laurel Cottage, Warrington
R.B. Gillies
8 Balmorel Crescent, Crosshill.
Glasgow
C. Swinbanks
1 Pier Terrace, South Shields,
Durham
Witness as to the ill-treatment on the
'Villarino' and Staten Island.
(Signed) J.A. Bennett Baker.

On 5th March 1891, Commander Villarino enters his plea:

"...as regards the charges the wreckers of the 'Sea Toller' have accused me of in this case record, except for the apprentice pilot whose name does not appear in the document. As for the charges against the commander of the 'Villarino' transport, I am sure he will duly justify his conduct."

"The wreckers arrived at the Subprefecture I am in charge of on Staten Land on 30th July at 8 a.m.; they were immediately given food, clothes, shoes, and care according to each one's condition. They were also given mattresses and blankets and were lodged in the dormitory with the thirty seamen that make up this Subprefecture's staff."

"Being cared for in the same way as the men I am in charge of, they were getting over up to 20th September in complete inaction (practically two months); it was then when, on seeing them burning firewood all they long in order not to be cold, and preventing any comment from my people, I asked them to help with the cutting of firewood for the common welfare, not in the hill but in a storehouse a few meters away from the place."

"It is good to bare in mind that wreckers are tough seamen and that on the island all men help each other to face the extreme conditions in which we are. In view of my requisition, Hardy, the 'Sea Toller's' cook, dared answer that 'the English government hired us to be there to serve and maintain those who were in their situation.' Holding my indignation back, I explained to him that splintering firewood was for their benefit as well; as a response, he gave me an angry look and he even threatened me with his fist; I immediately produced my gun ordering him to be fettered."

"After this, Gillies the sailer came to me saying, '...if you do not let the one with fetters go, I am not going to cut firewood,' before such an insolence, I ordered him to be shackled."

"Before serving his sentence, Hardy let me know that he had repented of his misbehavior, so I ordered him to be set free; the same happened with Gillies. The men I am in charge of, among who there are several English ones, have witnessed this."

"Looking for the reason for such an evil claim, I assume it derives from my rejecting the offer of his services to stay on the island under my charge."

"As regards apprentice pilot Charles (who does not appear in the statement), on being asked about his comrades' impoliteness he answered me, '...the good ones have drowned, Sir, the ones left are the bad ones.'"

"Monsieur Vice-Consul can testify that, when I took the wreckers to the Consulate, they were wearing the clothes of my country's marines, the only ones available."

"Only one of them, Gillies, was barefoot, of which I made Monsieur Consul take notice as the seamen had sold his boots to buy brandy. Such an attitude is consistent with their demand asking at the beginning, 'to know whether we might not obtain some recompense for the hardships and ill-treatment we have undergone.'"

"In honor of the flag I serve, it is good to bare in mind that I have as a precious token and award the chronometer with which the English government presented me in recognition of my humanity and benevolence toward the crews of the English barques 'Garnock,' 'Glenmore,' and 'Colorado,' which wrecked on Staten Land during the years 1887-1888."

"Besides, I have been congratulated on the rescue of the wreckers from the frigate 'Dunkley' and the barque 'Córdoba' among others."

"I hope what I have expressed is enough to destroy the calumnies intended to disavow the Argentine hospitality, which should not be mistaken for the impunity of those who did not respect it."

F. Villarino

March 1891. The Commander of the *Villarino* makes the following statement:

"The wreckers statements are untrue as on this ship they have been treated as all bow passengers are treated, of which officials of the mentioned vessel may attest."

F. Mourefleir
Commander of the "*Villarino*"

References: Ministerio de Relaciones Exteriores. Archivo. Año 1891 - Diplomática y Consular. Inglaterra - Caja n° 476. Legajo 3,200.

Appendix 8

The Crown of Italy

On 31st March 1892, Her British Majesty's Legation informs on occasion of the report by H. M.'s Navy Commander of the Naval Station in the South Atlantic, Captain W. A. Lang, who expresses thanks for the care with which the wreckers of the British bark *Crown of Italy*, which had wrecked in the surroundings of Cape San Diego, on Tierra del Fuego. In spite of this, in his acknowledgement, Mr. Lang, Captain of the *H. M. S. Cleopatra*, who took the wreckers to their destination, says that the vessel wrecked at Cape San Antonio, Isla de los Estados. (He thought this was what had actually happened.)

He addresses his thanks to Mr. Borghini, Secretary of the Station.

Two women, who may be Captain Wade's wife and daughter, are mentioned among the wreckers.

References: Ministerio de Relaciones Exteriores y Culto, Archivo. Inglaterra: Diplomática y consular. Año 1892. Caja 505. Legajo n° 5. Buenos Aires
31st March 1892
Monsieur le Ministre,

The senior officers of Her Majesty's Navy in command of the Naval Station in the South Atlantic, reports that when at Staten Island on the 7th of March he found there the shipwrecked crew of the British ship "Crown of Italy" which was wrecked at Cape San Diego some time previously.

Captain Lang before leaving Staten Island wrote to His Excellency the Governor of Tierra del Fuego, Señor Mario Cornero, to thank him for the manner in which the said crew were received and cared for by the officers of the Station, and brought especially to his notice the zeal and trouble taken by the

Secretary, Señor Natalio Borghini, for their comfort and welfare.

It gives me great pleasure to bring this matter to the notice of Your Excellency and I would esteem it a favor if you would be good enough to cause the subject of Captain Lang's report to be brought officially to the notice of the Prefecto Marítimo at Buenos Aires.

I avail myself of this opportunity, Monsieur Ministre, to renew to Your Excellency the assurances of my highest consideration,

Arturo Herbert

H.M.S. 'Cleopatra'
Staten Land
12th March 1892
Your Excellency:

Before setting sail from Staten Land with the crew of the British ship "Crown of Italy", wrecked at Cape San Antonio last December, I allow myself to let Y. E. know the high esteem with which the said crew was welcomed and cared for by the officials of the Station and I request Y.E. to let them know about my gratitude. I specially wish Y.E. to know about the solicitous courtesy and deference on the part of the Secretary Don Natalio Borghini in order to comfort this crew, especially when aboard the wrecked ship there were two ladies.

I will be pleased to inform the British Government, as well as the British Minister at Buenos Aires, the kindness and consideration with which the wreckers were treated.

I am honoured to be Y.E.'s obedient server.

W.A.Lang
Commander of the Naval Station
At the South-Eastern coast of America

Appendix 9

The 'Cosmopolite' on Isla de los Estados

Original name: *Kosmopoliet* (1854). Origin: Dutch - M. Dordrecht.

In 1871, she was named *Cosmopolite*, but in other documents she appears as *Cosmopolit*.

References: *Sea Breezes* magazine, n° 226, Vol. XXIII, September 1938, pp. 206, 207, 208, and 209. *Sea Breezes* n° 228, Vol. XXIII, November 1938, pp. 313; and n° 218, Vol. XXII, January 1938, pp. 238. *Algunos naufragios ocurridos en las costas chilenas*, by Don Francisco Vidal Gormaz, 1901, p. 490.

The clipper ship "Kosmopoliet"

P. Blusse Van Oud-Abias and A. Blusse were ship owners at Dordrecht between 1846 and 1876, under the name of Gebroeders Blusse.

All their ships traded to the Dutch East Indies, some round the Cape and back again, and others round Cape Horn to Valparaiso, then to San Francisco, then via Philippines or China to India and home round the Cape.

About 1851 the great Liberal Statesman, Dr. J. R. Thorbecke, suggested to Gebroeders Blusse the building of a clipper ship for their trade to the East Indies. At that time the American Clippers were known throughout the world as being the fastest, and the Dutch ship builders, not having had any experience and only very scant knowledge of the designing of ships at [sic.] that type, it was decided to have the plans for the new ship, which would be one of the first clippers to be built in Holland, bought in America.

Accordingly, an officer of the Dutch Royal Navy, who happened to be there, brought the plans from America to Holland about 1851.

The shipbuilding firm of Cornelis Gips en Zonen at Dordrecht, was given the order to build the new ship, which was to be named «Kosmopoliet». Her dimensions were 176 feet x 40 feet x 22 feet, and she measured 758 tons. On October 27, 1853, the keel was laid.

The most trusted captain of Messrs. Blusse,

Jacob Bouten, who had just returned from the voyage round the world in the barque «Jan Van Hoorn»; and was to be captain of the «Kosmopoliet», was entrusted to the supervision of the buildings of the new ship.

The ship that grew on the ways of Messrs. Gips was a very interesting one, she was indeed a throughbred [sic.], with her flaring bows, fine entrance in the water and concave waterline at the bows, her lack of sheer and her beautiful run aft, finished off with a square transom.

The placing of the masts presented some difficulty. This matter was put before Mr. H. W. Schokker, no doubt banking on his knowledge of more full-bowed vessels, wanted the foremast placed more forward in the ship than captain Bouten, considering her fine lines, thought necessary. Captain Bouten's opinion was followed.

On November 29, 1854, the ship was launched, and she sailed on April 19, 1855.

On August 25, 1855, Bouten writes from Batavia to Dordrecht: "...Our cargo consist of 200 piculs of rattan, 600 piculs of tin, 400 piculs of bronze coins, 12,098 bales of coffe, 200 piculs of tea, 557 Muscat nuts..."

In the winter of 1857 Bouten bettered his previous performance by driving the 'Kosmopoliet' from Hellevoet to Batavia in 74 days, and in 1860 he made the same passage in 77 days. The 'Kosmopoliet' was an extraordinarily fast vessel.

Captain Bouten left the 'Kosmopoliet' in 1862, Captain J. Koning, of the ship 'Admiraal Van Heemskerk', then took over command of the 'Kosmopoliet'. He was followed in 1870 by captain J. De Groot; lastly, in 1871, the old ship was commanded by captain H. Dienneke.

In 1871 the 'Kosmopoliet' was sold for Fls 35,600 to England.

The 'Kosmopoliet' was sold to James Anderson, of 1, Billiter Court, London, and renamed 'Cosmopolite'. Out of register after 1875...

Appendix 10

The 'Desdémona' in Mitre Peninsula



Of all wreckages recounted in the present work, the only captain we could meet and who gave us his official version of his wreckage was the *Desdémona's*. This is a brief summary of a long interview.

The wreckage took place on 9th September 1985 at 1 a.m.

Place: Cape San Pablo. Crew: 20 hands in all.

Length: 78 m. Beam: 8.50 m.

Captain: Germán Gustavo Prillwitz. Allen 914, Banfield. Telephone number: 4242-0247.

Place of the interview: Tucumán 326, 3rd floor, Capital Federal. Centro de Egresados de la Escuela de Náutica.

Desdémona's shipowner: Cormorán Empresa Marítima. Andrea Gunaris and Crisenta Copulus.

Built in Hamburg in 1952 following the restrictions imposed by the Allies as regards speed, length, and engine power.

Desdémona's sister ships: *Ofelia*, sunk opposite the coast of Venezuela; and *Cleopatra*, which was being broken up in Dársena, Port of Buenos Aires, when the interview took place. There is a relevant detail: the *Desdémona*, the same as her sister ships, was reinforced for ice. This is why she sailed for many years without wanting repairs.

Account by her captain, Don Germán G. Prillwitz:

In 1985, he set sail from Comodoro Rivadavia and, because of mechanical failures, the skirt and the block of a piston broke down; apparently, this happened due to lack of lubrication but, according to the Captain, it was sabotage.

On arriving in Ushuaia, he tries to fix the engine, but at the request of the shipowner he sails on to Río Grande. As the Captain insists on repairing the damage, the shipowner tells him to go on toward Río Grande as he considers the Captain masters the ship and there is nothing to worry about.

The captain covered the distance in five days when this trip usually takes no longer than thirty-six hours. He sailed along the coast trying to find shelter from storms and anchoring on several occasions. He eventually reached the port of Río Grande, but as there was NW wind (storm), he did not enter for fear that the ship run aground.

At that point, he decided to sail south along the coast looking for a sheltered place to anchor. Thus, he arrived at Cape San Pablo and, with a forecast of SW storm, he looked for a sheltered place to outride the storm. He approached the cape and, 1,000 m to the south,

she touched ground twice. At that moment, the captain decided to sail out wearing round. Apparently, there is a rock ledge which extends up to 2,500 m from the shoreline and juts out the cape some 1,000 m and this does not appear in the charts.

When the stern crushes against the ledge, the tunnel is punched and a three-inch hole is produced and this is the only place where there is a double bottom. Therefore, the stern starts to flood and the pumps are not enough; the locks are shut, but the tunnel is flooded.

At that moment, the captain decides to sail out and anchor, but he realizes that the double bottom is breaking and the hold with a cargo of cement starts to flood. The ship starts to sink at the stern and he determines to approach the beach to strand her. The place chosen is the mouth of a river. He prefers it because at the mouth of rivers the bed is firmer; in this case, of stones and sand. He is planning to leave the ship properly trimmed thus avoiding burying her.

He makes head at full speed but, being more buried, the bow strands. The breaking sea makes her advance and, thus, she is driven to a perfect place to disembark all the people and try to save the cargo which is unloaded straight to trucks.

The shipowner criticized the Captain arguing that he should have stayed anchored instead of stranding. Mr. Prillwitz, the Captain, was of the opinion that, if he remained anchored, the ship would sink with all the cargo and, according to his version, this was what the shipowner apparently wanted to happen. This issued ended up at the Supreme Court and Captain Prillwitz was charged with negligence and blamed for the wreckage of the ship, said to have occurred because of his decision.

According to his account, after taking the cargo out, he intended to cover the leakages. Later, with a syzygial tide, and having previously lightened all the cargo ruined at the bottom, he could have left sailing.

The captain also suspects that the people in charge of the engine might have made hold 2 get flooded as he himself used to control the amount of water and, all of a sudden, he found it flooded.

The truth about this is that the *Desdémona* had an insurance policy of US\$ 300,000, but

the insurance company covered 100,000 since her bottom had not being repaired. Her scraps were sold to junk dealers who could not break her up because the roads and bridges of the area cannot resist the weight of trucks loaded with this material. They could only take three small trucks.

The abandoned lifeboat was left in charge of Felix, who was an alcoholic cook.

The junk dealers assigned somebody to take care of the ship. But as the pay was not enough, the maintenance of the engines was progressively abandoned and therefore they ruined —motors as well as cranes and engines.

We are really astonished because Captain's Prillwitz account, and of course this was also said in the trial, states that in fact problems had started before all this. The ship had stranded in Río Grande and had stayed there for twenty-five days until they could take it out. The method used, as the ship had been sucked by mud, consisted in washing the bottom where she was trimmed with jets of water under pressure. According to the Captain, everything started when the hawsers were cut because neither the shipowner nor the Dirección de Puertos (Ports Administration) had provided him with suitable hawsers (he refers to quality and thickness). Therefore, she stood off and the strength of ebb tide dragged the stern away from the pier and took her toward a muddy bottom.

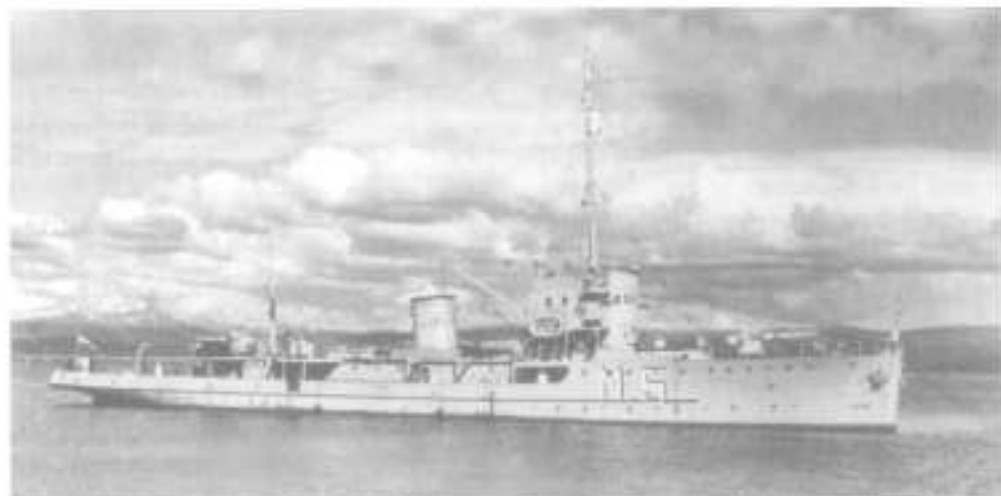
During this stranding, the bottom was dented and the cost of its repairing was calculated in US\$ 100,000, amount paid by the insurance. But the bottom was never fixed. To take her out of her stranded position, a specialized company would have charged US\$ 250,000, a sum which they were not willing to pay since it was the same value that the insurance would pay.

The *Desdémona's* bell is now kept at the Centro de Egresados de la Escuela de Náutica together with a poem that reads:

"You have died at the age of Jesus Christ
Our Lord
You have chosen your fate as a ship
From the bottom of his heart
The one who in your memory this one tolls
Condemned will be
For all the present
A round to pay."

Appendix 11

The Loss of Tracker 'A.R.A. Fournier' and Tug 'A.R.A. Guaraní'



Tracker 'A.R.A. Fournier' at Ushuaia bay.

Tracker 'A.R.A. Fournier'

In the small hours of 22 January 1949, the tracker *A.R.A. Fournier* vanished in the freezing waters of the Strait of Magellan, opposite Punta Cono, at the entrance of San Gabriel channel (60 miles south of Punta Arenas). This might be the piece of information that researchers have looked for. In a briefer fashion, it appears on lists of wrecked ships or of shipwrecks whose causes have never been completely cleared up.

But it is worth knowing a little bit more about this tragedy that saddened not only the Argentine Navy but also the whole country and especially the whole region, both Chilean and Argentine. At sea, all seamen are blue about a shipwreck regardless of rivalry—it is one of the non-written laws of the moral code of a seaman. As regards villages, let us think that in those days, it was the ships who kept their links with the rest of the continent and a leaving or arriving ship always carried news and meetings with friends and relatives. Life relied on the sea, which was a means of communication, never a barrier.

The tracker *Fournier* had a particular feature—it had been built in Argentina by the shipbuilder "Sanchez y Cia." of San Fernando, Province of Buenos Aires. She entered the

Navy on 13 October 1940. Therefore, she was practically new as she was not even ten when the catastrophe took place. Being 59 meters long and 7.30 wide, she displaced 554 tons. She had two chasers, four anticraft machine-gun and developed a top speed of 16 knots. Her fleet mates were the trackers *Spiro*, *Seaver*, and *Comodoro Py*, which entered the Navy between 1937 and 1938. They were modern vessels that became part of the fleet in a period of economic wealth for Argentina. At that time, we were a Great Power compared to the nations of the First World that were getting over after a dreadful war.

Ushuaia was very fond of this ship as she was a station ship at the Naval Base of Ushuaia. This is why she appears in hundreds of photos taken at that time in postcards or even in parades along Maipú street, when the flag-dressed ship can be seen at the bottom.

In Ushuaia, she served diverse purposes such as buoying and she even carried food or medical aid for the estancias situated along the coast, such as Policarpo—that belonged to the Bilbao—in Península Mitre or to Puerto Español, where there were sealing establishments. She also helped establishments in Bahía Thetis that were granted to Ernesto Garibaldi. She used to sail past Sloggett bay to control the gold

diggers that appeared every now and then and was in charge of relieves on Observatorio island. When she was coming from the continent, people was excited at the mail, newspapers, and fresh fruit—the last being a rarity in Ushuaia at that time.

Among her tasks as a tracker, she had accomplished some missions that made her outstand, such as the towing of the Tug *Olco* up to Puerto Belgrano, and she also helped the Chilean sailing ship *Cóndor*.

The Tragedy

The *Fournier* had set sail from Ushuaia bound for Río Gallegos with a crew of seventy-six hands on a routine mission. Two guests boarded at the latter port—the Commander's father-in-law and his child. Lieutenant Commander Carlos A. Negri was in charge of the ship as from March 1949 and, on several occasions, he had commented that he thought the vessel rolled too much.

Sailing from Río Gallegos, there are two possible routes to reach Ushuaia. One goes straight for the south crossing the feared Le Maire strait and the other takes San Gabriel channel and then the northeastern branch of the Beagle. The latter route is more beautiful given the fact that the ship sails past glaciers, and it is thought that it is more sheltered from the heavy southern storms.

In view of a possible storm, they decided to take the route along the Strait of Magellan. The vessel was last seen on setting sail from Río Gallegos at 7.40 a.m. on 21 September 1949. She entered the Strait of Magellan and got in touch with another ship of the Argentine Navy reporting, that same afternoon, her sailing past Punta Delgada.

There was no further news about the vessel and she was not seen when sailing past the San Isidro lighthouse. Therefore, the following is based on assumptions, but it is quite close to what could have happened. It is a known fact that there was northwesterly wind and, given that wind, it would have been advantageous to sail the *Le Maire*. It is also known that the forecast announced a strong breeze turning into a strong gale with rain and snow squalls, low temperatures, and poor visibility due to fog, which is usual in Fuegian spring, when winter still breaks into without previous notice.

At not having further news, Ushuaia starts to worry as the ship was scheduled to arrive on September 23. Then, the Navy asks the Chilean Navy for help while it details all available ships for the south. At that latitude, surviving to a shipwrecks is possible, but then comes another challenge—How do you survive to this severe climate? The search operation must be then carried out very quickly.



A view of the port of Ushuaia in 1948.

Chile assigned the *Lautaro*, which went on searching up to September 28. The Chilean Air Force also joined this operation with the airplanes stationed in Punta Arenas and the hydroplanes from Yendegaia.

The sinking was considered to be the consequence of a violent heeling accompanied by an unusual rolling that may have been produced by a swell or a large wave taken beam-on. It is also possible that the vessel crushed into an unknown rock that opened the bottom producing a swift sinking. The truth is that she disappeared with her seventy-six hands and the two guests.

The public got to know about the *Fournier's* delay through a communiqué issued by the Secretaría de Marina (Secretary of the Navy). Great efforts to find some track of the vessel were still in progress. An oil slick was seen on the water surface by two Chilean pilots that were taking part in the search. More planes were sent from Río Gallegos while the Argentine ships taking part in the search were—the tracker *Spiro*; the tugs *Chiriguano* and *Sanabirón*; the frigates *Trinidad*, *Hércules*, and *Heroína*; the transport *San Julián*; and the surveying ship *Bahía Blanca*.

Everybody hoped the survivors were in some cove or channel and they thought that the ship had suffered some damage and believed that, given the fact that there was enough food, the wreckers could survive without further trouble. This hypothesis started to crumble down when the first corpses started to appear. The Second in Command was found.

Immediately, on October 4, newspapers in Buenos Aires reported the sinking of the tracker *Fournier*. The list of missing men was given and it was informed that life preservers, timber and two boats had been found, as well as three corpses on a raft in a nearby cove, which was confirmed by the Chilean Navy, and one corpse on the coast near Punta Cono that turned out to be the Second in Command. He was Lieutenant Luis H. Lestari.

The Subsecretaría de Marina issued bulletin 203 reporting the following: "The tracker 'Fournier' wrecked at Punta Cono, at the entrance of Canal San Gabriel, 60 miles south of Punta

Arenas. The villagers have found two boats on the shores. Three ships of the Navy are looking for wreckers in the surroundings. The sunk vessel has been seen from a plane, thus confirming her wreckage. On the other hand, the finding of boats, elements belonging to the ship, and



Hydroplane '1° de Mayo.'

a corpse that has not been identified, nearby Punta Cono, certify the sad reality of the accident. The Ministerio de Marina (Department of the Navy) has sent divers in order to reach the hull of the sunk vessel, and it has detailed commissions made up by the staff of the

ships that took part in the search to sail along the shore looking for possible survivors." This was signed by Captain Anibal O Olivieri. (Contribution by the Departamento de Estudios Históricos Navales).

Immediately after this, commissions with Marine Corps were sent to sail along the shores to look for survivors as well as divers teams in order to reach the vessel. It is worth remembering that these commissions only recovered some things, such as life preservers, that nowadays remind of the tragedy in different museums and naval facilities, apart from some more corpses.

It is important to bare in mind that the temperature of the water is not over 6° C. This implies that death due to hypothermia will depend on each body but always takes minutes. Death can also be caused by a shock when getting in touch with the freezing water, which produces a heart failure.

As regards the climate, this is a very wet region with fog and it has high mountains with glaciers and deep channels with craggy coasts and abundant half-covered rocks (tops of hills that do not outcrop out of the sea). While the search was in progress, the tracker *Spiro* had an emergency and had to ask for help and run aground at Caleta Fitton. This brought about a commotion that many people at the Navy still remember.

The planes Catalina (some of them hydroplanes) constantly overflew the region while the weather did not prevent them from doing so. The ships sailed during the day and, in the evening, they anchored on the channels. The use of radars was very recent and although the

cartography of the region is very precise, navigating during the night was not safe.

Very close to the place, we find Dawson island, and old indigenous reservation (settlement of converted natives) run by the Salesians. On this island, inhabited by workers of cattle establishments, the other eight corpses were found on boats and life rafts. They were those old wooden rafts usually seen at that time. One of the corpses had a watch that had stopped at 4 (would that be in the small hours on September 22?). The dead were —Lieutenant Commander Carlos Negri; Petty Officer 2nd Class Ramón Chávez; Petty Officer 2nd Class Electrician Ernesto P. Rodríguez; Chief Petty Officer Signaler Juan C. Laza; Seaman Apprentice Torpedoist Manuel González; Seaman Electrician Eliberto Oscar Buló; Seaman Signaler Valerio F. Galeano; and Seaman Apprentice Engineer Miguel Lucena.

It is thought that all these men were at the navigating bridge and this is why they could avoid sinking with the ship, but they would have a slow agony on the rafts they managed to throw to the sea because of the cold. They were transported to Buenos Aires on the frigate *Heroína* that was welcomed by a crowd at Dock A. By chance, the school ship *Juan Sebastián Elcano* of the Spanish navy was in port and her crew formed a honor guard. Other ships present did the same. On the frigate *Heroína*, the coffins covered with the Argentine flag could be seen.

The welcome was exceedingly moving and president Juan Domingo Perón and his wife

Eva Duarte were present. Thousands of citizens, many militarymen and ministries were present on that rainy October 14. The long funeral cortege followed the bodies up to the Escuela de Mecánica de la Armada, where the wake took place.

Among the mourning signals, the celebration of the Day of Race was put off and, as a permanent homage, trees forming the word Fournier were planted beside the expressway Ricchieri (near Ezeiza).

The guests that died because of the tragedy were the Vice-Dean of the School of Agronomy and Veterinary of the University of Buenos Aires, Raúl Wernicke, and his son Julio, a medicine student. Raúl Wernicke was the Commander's father-in-law. Marta Wernicke had delivered a baby girl two months before the accident. She got to know the piece of news through the newspapers, which was later confirmed by the Secretary of the Navy. Therefore, she had to get over the loss of her husband, father, and brother.

From the excellent work published by Adriana Carrasco, *Catástrofes en el mar* (Editorial Sudamericana), I excerpt the biography of César Fournier, the corsair-hero of the Revolución de Mayo that is worth remembering.

The Secret History of César Fournier

"On 20 September 1828, César Fournier died near Florida, United States, due to a dreadful storm that made his corvette '25 de Mayo' and the rest of his fleet wreck. The way



Hydrographic ship
'Madryn' in the port of
Ushuaia.

he died and the date of his death draw attention because of the analogy with the ship named after him. Over and over again, September would mark not only the life of this indomitable corsair but also, 121 years after his death, the fate of the famous tracker."

"Fournier's peripetias are still barely known for the Argentine to place him next to men such as Brown. Nevertheless, his bold interventions have given a glorious legacy that was repeated on few occasions."

"Fournier's father was a French nobleman, but the Revolution threw him away from his motherland. Settled down in Livornia, Italy, in 1793, he married a woman that belonged to the Italian society. Soon after, César was born from this marriage. Educated in Livornia, he engaged in the navy. In 1821, he had to emigrate to France because of political reasons, and it was then when his 'energy and bravery, dominated by an ambition of glory as boundless as worth extolling' nature became obvious, according to what his biographers point. Besides, he was so frank and loyal that he bordered on abnegation, and he usually sacrificed himself for the sake of his friends."

"When he was 26, he bought a polacre, 'La César,' and set off bound for Buenos Aires. As passengers, he carried the Italian José Manera, who was travelling with his wife and sister-in-law, Cristina Gatti, whom Fournier would marry on 15 December 1824 at a church in the neighborhood called Montserrat in Buenos Aires."

"At that right moment, the Argentine government had hired the services of Francisco

Fourmantin for him to be a corsair with the 'Lavalleja' to check Brazil's imperial navigation. The war against Brazil was under progress, and it was necessary to send some ships down to the Patagonic coasts in order to chase enemy seamen and bring them to the Río de la Plata. It was Fournier who, with his polacre solved the situation. He headed for the south and, as the negotiations were delayed, he entered the Caleta Valdés in order to fix his ship. On sailing out, he touched a rock and the ship sunk. However, the brave seaman was not discouraged (that would not be the only ship that would sink throughout his life), he left the remains of the shipwreck on the coast, dodged a violent storm, and he reached Patagones looking for help. Once he got over, he tested his skills again in returning to the place where his mates were on a ship that Fourmantin, who had not being idle, had caught."

"Lodged with his comrades at Ambrosio Mitre's, a villager of Patagones, Fournier got into trouble. He argued with an officer from the 'Lavalleja' and the incident ended up in a duel. After trying hard to avoid it, he agreed to it and killed his rival with a well-aimed shot. His authority started to be respected among his comrades."

"Back in Buenos Aires, Vicente Casares handed over the armed schooner 'Profeta Bandarra' to him and he set off for the Río Grande, where he chased some Brazilian preys and draw the attention of two imperial ships that started to sail after him. To avoid them—as he was daring but not irresponsible—he approached land too much and he was so unlucky

Transport 'Patagonia' with a hydroplane at stern and a bird's nest top of the foremast to descry ice during the Antarctic Campaign.



when anchoring that, during the night, his boatswain, trusting his captain's skill, dropped the anchor and caused the schooner to crash against the coast. But Fournier was not intimidated—some sailor occupied the only boat available and he followed them on horseback up to Maldonado. On his way, he met a tiger, of which he got rid with a good shot. He arrived in Maldonado practically at the same time as his mates and he personally engaged in fixing an old beached launch. On 21 September—his cabalistic month—1826, on his poor vessel and with just 24 hands, he boarded one of the imperial ships that was anchored in the area, and he succeeded in occupying her after injuring her commander. He boldly sailed past among the blocking ships, between Montevideo and Banco Chico and, on September 26, he was already in front of Buenos Aires, whom he saluted, exultingly, with the obligatory 21 salvos. Soon after this, his prey, the 'Maldonado,' was purchased by Rivadavia at 20,000 pesos and detailed for service. Thanks to Fournier, the vessel would outstand later in Juncal, with her two 24 revolving ordnances, her three caronades (12 per side), her munitions and her 76 heroes."

"On 11 October 1826, Fournier set off from Buenos Aires bound for Colonia on a schooner, chased after by four Brazilian warships. As he could not escape, he headed his ship for the coast 4 leagues south of the fortress, in front of Isla Matamoros. He disembarked all arms, the luggage, and three whalers while seeing how one of the enemy ships, in trying to maneuver to seize the booty, beached on a rock point and sunk with her eight chasers, which were silenced for good by waters. Fournier loaded his whalers and guns on carts and he reached Maldonado back by land, and cooperated with Olivera in defending the fortress up to November 1826."

"On February the following year, the government of the Provincias Unidas drew up his dismissal as Sergeant Major of the Army, serving the Navy, and commissioned him to put to sea on a cruiser. Despite the close Brazilian watch—his fame of 'unreachable' had consolidated among the enemy commanders—, Fournier undertook the voyage."

"He disembarked in Los Castillos and apprehended the English sealer 'Florida,' which was eluding international laws. This brought about some problems and he had to evade the action of the English war corvette 'Ranger,' which wanted to apprehend him. But in veering, his task was favored as, on his way, he hunted three Brazilian preys, which he sent to Río Salado."

"Due to the apprehension of the sealer 'Florida,' he had to face a Court-Martial because of the lobby by the English Minister Ponsonby and he was declared not-guilty."

Before the court decision was settled, through a government order, he set sail on the vessel 'Congreso,' the best of the fleet. Never before such a good vessel had a better commander. Taking pride in a matchless boldness, he crossed Cabe Frío, at the mouth of Río de Janeiro, and started one of the most brilliant corsair campaigns ever known. He had a series of highly risky clashes with enemy ships, he boarded many merchant ships, from which he replenished, and apprehended others. He was in action as from September—month during which his maneuvers astonished both sides—up to December 1827, when, after having forced the Río de la Plats blockade, he runs aground with the 'Congreso' and the brig 'Arminia Deo Anjos,' which he had apprehended near the cove. On the day after his running aground, he set the ships on fire in order to avoid them to be caught by a highly superior enemy. Apparently, Fournier was an expert in burning ships."

"On 10 December 1827, he was promoted to Lieutenant Colonel and, on the following month, he was given the command of the 'Juncal,' aboard of which he set sail on a cruise in front of enemy coasts. There, he managed to apprehend the brig 'Homero,' built in the States, armed with 16 chaser and renamed 'Dorrego.' On 29 March 1828, he arrived in Baltimore. In this city, he fitted the 'Dorrego' out and armed the corvette '25 de Mayo' to sail with both for New York, from where he set off for his last voyage on September 12, month during which he entered Argentine history for ever."

"He called at Rhode Island with his squadron, and the three ships, the '25 de Mayo,' the 'Juncal,' and the 'Dorrego' wrecked amidst a devastating storm. This is how César Fournier's glorious odyssey ended up incomplete and truncated by misfortune. The tracker that would perpetuate his name and show it with pride along the southern seas from 1940 to 1949 also disappeared between September 20 and 22, 121 years later. The hero, while commanding the '25 de Mayo' near Florida, and the homonymous tracker, near Punta Cono, at the entrance of the channel San Gabriel. However, none of the two tragedies could dim the bravery and gallardly attached to the name Fournier."

Tug 'A.R.A. Guaraní'

The tug *A.R.A. Guaraní*, also known as *Rastreador*, set off from Ushuaia bound for Antarctica in the afternoon of 14 October 1958.



Tug 'A.R.A. Guarani' before sinking.

Her mission was to support a plane that had the aim of dropping medicines at the Melchior base on the South Shetland Islands. It was a Douglas DC-4 sent to take plasma and antibiotics as Petty Officer 2nd Class Cook, Mario Oliva, had been operated on by the doctors at the base because he suffered from appendicitis and it was impossible to evacuate him. The support was ordered for the sake of safety as, if the plane happened to have any trouble, the only possibility of being rescued was with a ship in the surroundings. But, as the *Tug Guarani* sailed the Beagle Channel heading for the Drake, she got in touch with the Naval Base of Ushuaia and reported that there were enough signs that a storm from the south was approaching. Let us remember that, at that time, forecasting was rather difficult because of the lack of observers at different points that made it impossible to draw a map.

When level with Lennox island, the ship reports over the radio that she is running a storm to the north. Immediately, as it is usually the case, the two Navies, the Argentine and the Chilean, are on the alert to intervene if need be.

The *Tug Guarani* went on running the storm and her last report locates her a few miles south of Nueva island. She also gives a frightening piece of news —she was making water while waves were washing down at the bow. This happened early on October 15. We can assume that water not only flooded the hold but also the engine room since generators stopped working and they started to operate

with emergency radio equipment that used only telegraphy.

But soon after this, they stopped broadcasting. There was immediate fear that the ship could be lost. The only hope was that they could have run aground or, being near the coast, abandoned the ship on lifeboats.

Silence continued and the alert had already been given. A distressing search accompanied by a heavy but yielding storm started. Meanwhile, the Douglas D-4 had accomplished its mission dropping the eight packages with medicines and mail, and the cook petty officer was getting over from his appendicitis operation. After this experience, it was decided that men going on duty to Antarctica should be operated on first.

On its way back, the same plane overflowed the region where the tug was thought to have looked for shelter. As usual, the search took five days. On October 20, the Department of the Navy reported the *Tug Guarani* and its crew missing. The accident site was located about 10 miles south of Cabo Hall as the planes Catalina of the Argentine Navy described a large oil slick near that cape for several years. The area is very deep and it is estimated that the ship is 170 meters down.

The *Guarani* was 45 meters long, 10 meters wide and 5.70 deep and she displaced 932 tons. She was a seagoing tug built to help at the high-seas and it was considered to be very suitable for the area. She had gained renown dodging heavy tempests and she had even endured rolls and very steep heels always

righting back. There were many speculations about the place where the Commander of the *Guarani*, Lieutenant Gerardo Zaratiegui, could have found shelter—Bahía Aguirre and Bahía Valentín were named among others. Anyone who sails the area knows that a ship can be lost with a milder storm and the only way out is to run aground. They also tried to look to leeward on Nueva island and even in Puerto Bandera on Picton island; but these were just expectations leading to avoid facing what was foreboded—the sea had won another battle and the name *A.R.A. Guarani* would enlarge the long list of hundreds of ships vanished in the area.

The thirty-eight hands were lost with the ship. Despite of the fact that the list may appear to be irrelevant, we do not want the names be consigned to oblivion. They are: Lieutenant Commander Gerardo Zaratiegui, Lieutenant Juan Carlos Sanguinetti, Lieutenant Nelson Patterlini, Lieutenant Doctor Elias Tanus, Lieutenant José Palet, Petty Officer 1st Class Engineer Domingo Tasisto, Petty Officer 2nd Class Engineer José Romero, Petty Officer 2nd Class Engineer Carlos Aguirre, Chief Petty Officer Fernando Díaz, Petty Officer 1st Class Engineer Luis Moyano, Petty Officer 1st Class Engineer Orlando Meinardi, Petty Officer 1st Class Pedro Pereyra, Petty Officer 1st Class Nurse Vicente Bolloli, Petty Officer 1st Class Signaller Leonel Cruz, Petty Officer 2nd Class Engineer Marcelo Spiazzi, Petty Officer 2nd Class Salvador Suárez, Second Cook Tomás Torres, Seaman F. Pimienta, Seaman Electrician B. Quinteros, Chief Petty Officer P. Gragniello, Seaman Apprentice Furrier Andrés Viqueira, Seaman Apprentice Engineer Oscar Vera, Seaman Engineer Armando Neme, Seaman Recruit Tomás Cabral, Seaman Recruit Hermenegildo Encinas, Seaman Recruit Julio Gogorza, Seaman Recruit Salvador Gilabert, Seaman Recruit Oscar La Marca, and Seaman Recruit Jorge Jacob. They were between twenty and thirty seven.

Back to the *Guarani's* fate, on the 22, they found remains such as life preservers and timber that, drawn by currents, ended up on the shores of Isla de los Estados or in Puerto Español. More remains still appeared long after the shipwreck.

The accident was caused but a violent storm that, in that area, makes the sea form very high swells with breaking waves on top of them. This is a dantesque spectacle and those who have undergone this experience try not to remember it. But, in general, there is never a single cause. Hurried by her mission, the *Guarani* set off from the port of Ushuaia with the after hatchway having problems to be completely sealed. Some say that she even set sail with the wooden hatch lids that are usually used in port and, given the fact that the crew was somewhat unskilled and that the staff had been partially changed, this detail was overseen and, therefore, came the tragedy. As I see it, it is difficult to forget such a detail, especially taking into account the area of navigation and how careful officers are about the whole ship being "in sailing trim" before leaving and checking everything while setting sail taking advantage of the relative calm of the bay of Ushuaia.

Another hypothesis points at the hatchway not being fit to sail. Being impossible to adjust it completely, it might have started to wash down and water flooded the engine room causing a blackout and leaving the ship at the waves' will that, according to the opinion of the pilots engaged in the search, were about twenty meters high.

To pay homage the *Guarani's* crew, there are places, beacons, and streets named after the sailors. Every time a ship of the Argentine Navy sails by, she salutes and a minute of silence is made. As it usually happens, mystery surrounds the wreckers reality and, in trying to keep our consciences calm, a cause is determined, the most probable, but we will never come to be completely certain.



Annex 1

News about the Monte Cervantes



The 'Cervantes' sinks away for good (1954).

As regards the *Monte Cervantes* and her two sinkings, the possibility of visiting her has been a dream for a long time. So, many theories about her exact location and the possible depth she is sunk at have been proposed. For many, even the Argentine Pilot, she was 90 meters down over, but at the same time a professional diver turned up at the Museo Territorial (Territorial Museum) with some remains such as a beer pitcher and other elements from the vessel. It was Héctor Monsalve who, while diving in the surroundings of Les Eclaireurs lighthouse about 1977, had found part of the upper structure of the ship. His silence and the secrecy he kept about the exact place gave rise to a wide variety of hypotheses. Many contradictions and the fact that both witnesses and files were disappearing contributed to the incipient myth.

But in June 1999, a piece of news struck the whole of Ushuaia and had nation-wide repercussions. In the newspaper *El Diario del Fin del Mundo* of Ushuaia, Emilio Urruty wrote the headline: "The Finding of The Upper Part of the *Monte Cervantes*" (first article).

"Remains of a wreckage may become another attraction of Ushuaia, if we know how to preserve them."

The *Monte Cervantes* is to Ushuaia the Fuegian *Titanic*. As we have seen, both sinkings had great repercussions among the population. The first time, convicts of the famous prison volunteered to help giving half of their food rations and it was the Prison that provided from blankets to lodging. On that opportunity, Ushuaia's population was abruptly doubled for

a week. The second sinking was different and made the company Salvamar go bankrupt and left many workers, who dreamed of the ship on the coast to start working on her, jobless. The same happened to hundreds of neighbors such as Vicente Padín, who, one way or the other, had contributed to the enterprise (Author's note: we suggest reading *El Tesoro del Monte Cervantes*, by Enrique Indá). But let us go back to the chronicle of the events as narrated by Emilio Urruty:

"Last June 6th, on their second attempt, a group of sportive divers of the Asociación Fueguina de Actividades Subacuáticas y Náuticas (AFASyN) found the derelict of the German liner 'Monte Cervantes.' The remains belong to the upperworks of the vessel wrecked in 1930, which sunk later while works to try to put her afloat were being carried out in 1954. The group of divers assured that they did not intend to profit from their finding; they just really wish the remains to be preserved to form part of the cultural heritage of the Fuegians and become a 'submarine park' visited by local and foreign divers."

This was the piece of news we received via electronic mail or telephone. Inflated versions like one that said the divers had already entered the hull started to circulate; Urruty goes on: "... On the first Sunday in late June, a numerous group of sportive divers of the Asociación Fueguina de Actividades Subacuáticas y Náuticas (AFASyN) had their second go at finding the remains of the upper part of the ship sunk almost 70 years ago."

"Alejandro De La Rosa, Carlos Giuggia, Alejandro Mora, Marcelo Giorgetti, Angel Marchisio, Claudio Ulibarri, Pablo Lois, Luis Ludueña, Martín Ludueña, Julio Romero, and Carlos Maida made up the expeditionary team. They were aboard three vessels: the boat 'Burbuja Traviesa,' the launch 'Ushuaia Divers,' and the 'Luci.'"

"Family matters prevented Armando D'Aiello from taking part in the events of that day; Carlos Pérez, Captain of the 'Saladina' (support vessel), was also absent because he was in Puerto Williams (Navarino island, Chile) participating in sportive activities in representation of AFASyN. Both divers 'absent with notice contributed intensely with the research..."

"... The immersion was carried out in a planned way: divers in twos were detailed every 500 meters until an area of about 2,500 meters was covered. They reached a maximum depth of 36 meters with a 'maximum bottom time' of 12 minutes, which implied decompression stops."

"The area they were aiming at —Les Eclaireurs islets— was the same where, during eleven years between 1943 and 1954, the Sal-

varnar company had been operating in the breaking up of the 'Monte Cervantes.'"

"That firm, owned by a Simoncini, had decided to cut the 'upperworks' of the vessel by separating it from the hull in order to gain a better 'maneuverability' of the parts and thus manage to put it afloat again. But it was during this stage that the sections sunk for good."

According to a recent study carried out by the Argentine Navy, the hull is at a depth of between 100 and 116 meters and it may be split. The works go on and some do it as a hobby while others shoot a documentary; others take it as part of their training or practice.

But maybe the most relevant aspect is that the mystery has finally been solved and the derelict has been transformed. As *El Diario* stated: "... Our idea is that this becomes part of the cultural heritage of all the

inhabitants of Tierra del Fuego. We want to prevent any sort of plundering; which is very usual in sunk ships as everybody wants to take a keepsake,' Carlos Maida, of the diving sub-commission of AFASyN, pointed out."

"He also assured that the possibility of preservation would make it possible to turn her into



Big bottle found in 1999 (photo by C. Maida).



Dismantling the small shed used by divers and operators during the attempt to rescue the ship (1954).

another tourist attraction, especially for sportive divers visiting Tierra del Fuego.⁹

At the moment, the most attractive aspect of a place of this sort for a visitor is either immersing in the freezing Beagle waters or in the room

of some museum to get in touch with local history. For experts, this is just another piece of information of little relevance as regards submarine archaeology, both from the point of view of shipbuilding and of history.

CARLOS MAEDA



Diving around the remains of the Monte Cervantes' forecabin. It was split from the hull in trying to recover it. Now, it is over 100 m down.

Annex 2

Where is the Rockhopper Penguin Going to?

By Adrián Schiavini, Centro Austral de Investigaciones Científicas
(Austral Center for Scientific Research) of Ushuaia



Bahia Franklin.

Nowadays, twenty penguin species are registered around the world. Eight out of those twenty belong to the *Eudyptes* genus known as "crested penguins" since they have a bunch of long feathers of notorious color above their eyes as a sort of eyebrow. These penguins are characteristic of the water bird fauna of southern oceans. The rockhopper (*Eudyptes chrysocome chrysocome*) nestles in highly populated coastal colonies along the southern extreme of Chile and Argentina. Preferably, the rockhopper nestles in thick coastal pasturelands that provide shelter from wind and predators. In the area of Tierra del Fuego, the pasturelands of *Poa flavellata* (known as tussock) offer this shelter. This penguin is relatively small: males may weigh between 3 and 4 kg and females up to 3 kg before the March molt. The name rockhopper derives from their peculiar way of moving about on land jumping on both feet, apart from their skill to go along rocky areas thanks to their well-developed toenails.

Distribution

In Argentina, colonies of this species are distributed on the Islas Malvinas and along the Patagonic coast. In the latter case, there are three colonies—one on Isla Pingüino, opposite Ría Puerto Deseado (province of Santa Cruz) with some 250 pairs; and two colonies on Isla de los Estados, one on Cabo San Juan (northeastern extreme of the island) and the second in

Franklin Bay. The estimated population of the Malvinas for 1995/1996 season was of about 297,000 pairs (Bingham, 1995).

The colonies on Isla de los Estados were practically unknown for science. The bibliography registers only some isolated instances that make it possible to partially rebuild the scene on which this species developed throughout the last century and a half. In his work *La Australia Argentina*, Roberto J. Payró mentioned a penguin rookery of this species in Cabo San Juan. He pointed out that the laying took place between October 20th and November 5th and specified that the colony surface was of about "700 x 250 feet" (c. 19,000 sq. m). Assuming that this estimate is precise and that the nest density is consistent with the known numbers for this species, this colony could have lodged between 13,000 and 38,000 pairs. In its chapter on Isla de los Estados, the Argentine Sailing Handbook shows the existence of this colony and the possibility of collecting eggs during the breeding season. In 1909, Hartert and Venturini mentioned the finding of an egg on Isla Año Nuevo (Isla Observatorio). In 1972, Imshaug claimed that he had seen the rockhopper nestling in the southeast of Franklin Bay. In her book on Isla de los Estados and human prehistoric settlements, Anne Chapman mentions "several colonies" in Bahía Franklin. Natalie Goodall also observed this species nestling in the area.

Isla de los Estados was the setting of extensive bird and marine mammals hunting. The first activities registered date back to 1787 and refer to the installation of a sealing company headed by the English captain Colnett. The sealing and whaling activities that developed in this part of the Southwestern Atlantic Ocean chose Isla de los Estados for drinking water and firewood replenishing. Besides, the island was also a hunting place. At the beginning, man also took advantage of bird colonies to get eggs in order to have a stock of fresh protein. Later, and as sealing places were exhausted, sealers started to use penguins to obtain oil (each rockhopper produced almost half a liter of oil).

The little information available was practically useless to determine the status of this species on Isla de los Estados. This was also the case with other water bird species—it was unknown if they nested on the island and, in case they did, what was the size of their colonies. In 1992, we started to survey the water bird and sealion colonies of Argentine Tierra del Fuego. Before these studies, the last survey had been conducted in the late 40s. As many areas of the coast of Isla Grande de Tierra del Fuego and of Isla de los Estados are inaccessible, we had to carry out the surveys by sea or air. Therefore, we started to take advantage of any vessel or airplane that could take us to that scarcely known area of our geography. We wish to thank to the Argentine Navy, the Prefectura Naval Argentina (Argentine Naval Prefecture), and the Government of the Province, who have suffered our persistent transport requests. What is more, they suffered our constant instructions when, for instance, during a flight along the coast of Isla de los Estados, we asked them to fly very close to a place that, in the distance, appeared to be a bare rock or a tuft of grass on the coast which, as the plane approached, turned out to be a bird or sealion colony (pilots must have thought they were coping with insane people who wished to kill themselves crashing against some slope of the island.)

In March 1994, we conducted a partial survey of Isla de los Estados on the provincial plane ARAVA. This time, we managed to fly across Franklin Bay. We were greatly surprised at the discovery of uncountable "two-feet" birds among the thick pastureland of this bay in different locations along the coast. They were penguins, but which species did they belong to? The plane was flying at a speed of 200 km/h, which made any attempt to identify them difficult. Data provided by Imshaug,

Chapmann, and Goodall made us think of rockhopper penguins.

We managed return to the island in November 1995 and in January 1997, and we tried to carry out an extensive survey of the whole coast aboard a 11-m sailing boat (*Yaghan III*) with stops at every harbor covering practically seventy per cent of the coast. We were prevented to visit Franklin Bay as heavy southwest storms made us look for shelter in Puerto Hoppner for some days.

It was not until March 1998 that we managed to enter Franklin Bay during another expedition aboard the sailingboat *Fernande* in a day with eastern breeze which was ideal for our aim of approaching Franklin Bay, which is completely open to the southeast. One morning, on leaving Bahía Capitán Canepa, we decided to change our plan and, instead of heading east along the southern coast, we decided to tack about and head for the northern coast sailing round the western coast of the island. There was Franklin Bay.

What we saw on arriving at the bay was beyond our craziest dreams about the place. Penguins mingled with grass stretched for six kilometers along the coast; sometimes they were in places with no vegetation at all (areas with a high concentration of nestles) or they were among the stems of high pastureland. We were in the twilight of the breeding season, when the adults molt their feathers before leaving the island for their winter migration. On the sailing vessel's deck, we could hear comments such as "there are more over there" or "also there." In short, it was a true hell of penguins; many more we had ever imagined. In the end, we arrived in Lacroix Cove, where the Maritima Museum had been working in the recovery of evidence about the sinking of Commander Luis Piedra Buena's ship, the *Espora*. There we could see the "ribs" of a beached vessel at the mouth of a brook. Five hundred meters away from this place, penguins crowded the rocky coast patiently waiting for their feathers to stop molting.

When we saw the vessel's ribs and the penguins so close one from another, a circle was completed for us. We had no way to know if those buried frames belonged to the *Espora*. Instead, we could assert that if there was a place on Isla de los Estados where to look for penguins it was no doubt in Franklin Bay. Our predecessors, Imshaug and Chapman, had been right in locating the colony; but they did not even suspect what it represented in terms of the population living in the place.



Rockhopper penguins at Bahía Franklin.

On leaving Franklin Bay for the northern coast of the island, we sailed past a point situated some three kilometers northeast off Lacroix Cove. There there is another large subcolony of rockhopper penguins; most probably, a branch of this larger colony of Franklin Bay. All we could manage to do was to take some photographs through the drizzle falling down smoothly on us.

Since the re-discovery of this colony in March 1998, we have been back on the island twice to start a survey on the biology of this penguin species under the sponsorship of Total Austral oil company. Basing our assumption on these last works, we are sure that this place was highly valuable for those engaged in penguin oil extraction: the colony must have had near a quarter of a million of nestles, which makes it one of the largest around the world for this species.

It is hard to believe that at the end of the 20th c this huge colony was unknown to ornithologists. Despite this fact, this finding is great

news: the rockhopper penguin has been recently proposed as a Vulnerable species by the IUCN (International Union for the Conservation of Nature) given the important drop in its global population during the second half of the 20th century. This is why the existence of this large colony is so remarkable.

We will be visiting Franklin Bay in the coming years. There are many questions to be solved, such as: where on the Argentine continental shelf are these penguins feeding while they take care of their squabs?, where do they go after the breeding season?, is the same effort involved in breeding a squab at sea level as in a nestled situated 200 meters uphill?, do goats, red deer and rats have any impact on the development of the penguin colony? These are some of the questions we are planning to find out about in the coming years. We are aiming at answering a more general question about the conservation of this species: Where is the Rockhopper Penguin Going to?

Annex 3

Isla de los Estados

Report on the Study Carried Out by Sherlie V. Macnie in Franklin Bay
by Sherlie V. Macnie



Sherlie Macnie measuring whale's skulls (February 1999).

Background Information

There was news about some 20 cetacean skeletons stranded on Franklin Bay, Isla de los Estados. The said skeletons were found by an expedition aboard the sailing ship *Callas* in April 1997.

Objectives

In the first place, the trip aimed at verifying if they were specimens of pilot whales (*Globicephala melas*); then a series of standard measures of skulls would be taken and as many bone remains as possible would be examined for abnormalities.

Works carried out

Twenty skull measures were taken and each skull was identified with a number. Data about the physical maturity of each specimen were collected and a photograph of each skull was taken. Besides, skulls were carefully inspected for bone abnormalities. Another inspection of bone remains to look for abnormalities started, but it was not completed due to lack of time.

Results

On the basis of observations, it was determined that this group of animals was mainly

made up of young specimens that had not reached physical maturity. Only three (IE 1; IE 15; IE 18) out of the twenty-one skulls studied turned out to be physically mature.

Only one specimen showed bone abnormalities in its skull. It was the IE 18, which had abnormal dental alveoli. These had exostotic growths on the dental alveoli, which leads to the conclusion that this animal must have probably lost some of its teeth and, therefore, it could have found it difficult to get food. This was one of the three animals physically mature of the group, and the characteristics of the lesion suggest a chronic progress that could have developed through a relatively long term.

Projects to develop

The idea is to confront the morphometric data obtained with similar data from measures taken from other *Globicephala melas* specimens in the country and in other parts of the world. The confrontation of these data with those belonging to animals from the Northern Hemisphere is of special interest due to the fact that there are doubts about the similarity between pilot whales of both hemispheres.

Pilot Whales in Franklin Bay, Skull Measurements

IP	PMAT	OFUS	CDLN	ROST	ROSQ	ROSW	ROSH	ROS3	PMXH	TIPN	PERC	POST	ZYGO	EXTN	PMXM	PARI	BRNH	BRNL	FOSL	FOSH	UPRO	MAXH	photos	
IE1	Y	2	71	34	29,5	28	24	26	27	45,5	47	49	50,5	10,8	27	45,5	27	34,8	15,6	11,6	29	35	21-22 r	
IE2	N	1	59	29,9	22	21	19	20	5,3	38	34	41	42	8,5	15,5	34	21	27	12,5	9	16,5	27,5	25 r	
IE3	N	1	59	30	24	21	18,5	19	15	42,3	40	42	41	10	16,5	38	22	27	11	10	19	31	26 r	
IE4					18						33	36	37	7,5	12,5	31	20,5	28	10,5	8		25,5	27 r	
IE5	N	1	56	31,5	22	20	17	18	15	40	38	40	41	8,5	15,3	40	22,8	28,4	13,5	10	14	16	28,5	31 r
IE6	N	1	59	31,5	24,5	21	18	20	16	41	42	43	44	9,8	16	40	24	29	14	11	17	34	35-36 r	
IE7	N	1	57	33,5	23	21	18	20	14,6	40	39	41	42	9	15,8	40	23	29	13	10,5	17,5	3,5	37 r	
IE8	N	1	58	31	23	21	17	19	14	40	39	40	41,5	9	16	37	22	27	14	10	18	38	1 r2	
IE9	N	1	65	35	25	24	21	23	19	47	44	46	46,5	10	19	42	26	33			20	37	2 r2	
IE10	N	1	60	32	22,5	21	18	20	15	40	35	39	37	10	16	40	22	27	12	7	17	32	3 r2	
IE11	N	1	66	35	28	23	22,5	22	19	49	47	48	49	10	19	47	26	20	16	13	19	36	2 r2	
IE12	N	1	58	31	23	21	18	20	16	40	38,5	39,5	40	9	16,5	37	22	30	13	9	19	31	5 r2	
IE13	N	1	63	35	26	23	20	22	17	43	43	46	47	10,5	18,8	42	24	30	15	11	21	34	7 r2	
IE14	N	1	57	32	22	20	19	18	15	38	40	40,5	41,5	9,5	15	39	28	28	13	10	18	31	8 r2	
IE15	Y	1,5	68	37	28	25,5	21	23	20	49	48	46	46	10	19,5	45	24	28	16	13	22	34	9 r2	
IE16	Y	1,5	69	37	27	25	23	24	19	45	45,5	46	46	9,8	19	44	31	30	15	12	20	32	10 r2	
IE17	N	1	61	31	22,5	20,5	18	19,5	14,5	36	38	41	37	10	15,5	36	21	28	14	11	18	30	11 r2	
IE18	DEF	Y	1	70	36	27,5	23	20	21	18	45+	44	48	45	19	47	26	36	12	15	28	32	12-15 r2	
IE19	N	1	63	32	22	22	18	20	15	41	39	41	38	9	16	39	22,5	28	14	10	17	30	16 r2	
IE20	N	1	57	32	23	21	19	20	15,5	40	37	40	39	10	16	38	22	29	12	10,5	16	32	17 r2	
IE21	N	1	56	33	23,5	21,5	18,5	20,5	16	42	38	40	37	9,5	16	37	23	29	14	10	17	30	18 r2	

References

PMAT	physical maturity	ZYGO	zygomatic width
OFUS	occipital fusion (1 sutures open, 2 sutures closed)	EXTN	width of external nares
CDLN	condylobasal length	PMXM	maximum width across premaxillaries
ROST	length of rostrum	PARI	parietal width
ROSW	rostrum width at base	BRNH	braincase height
ROSQ	rostrum width at quarter length	BRNL	braincase width
ROSH	rostrum width at half length	FOSL	length of temporal fossa
ROS3	rostrum width 3 quarters length	FOSH	height of temporal fossa
PMXH	width of PMX, at half length	UPRO	length of upper tooth row
TIPN	tip of rostrum to external nares	MAXH	maximum height of skull
PERO	preorbital width	DEF	deformed
POST	postorbital width		

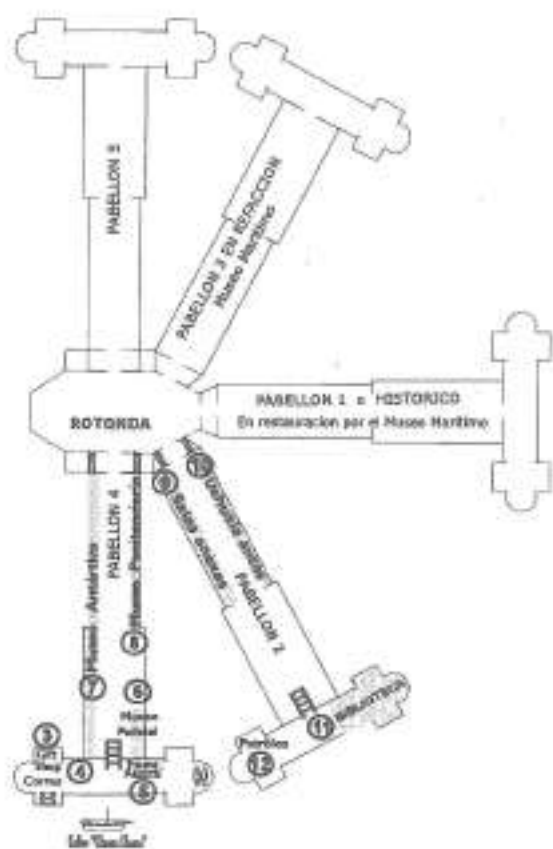
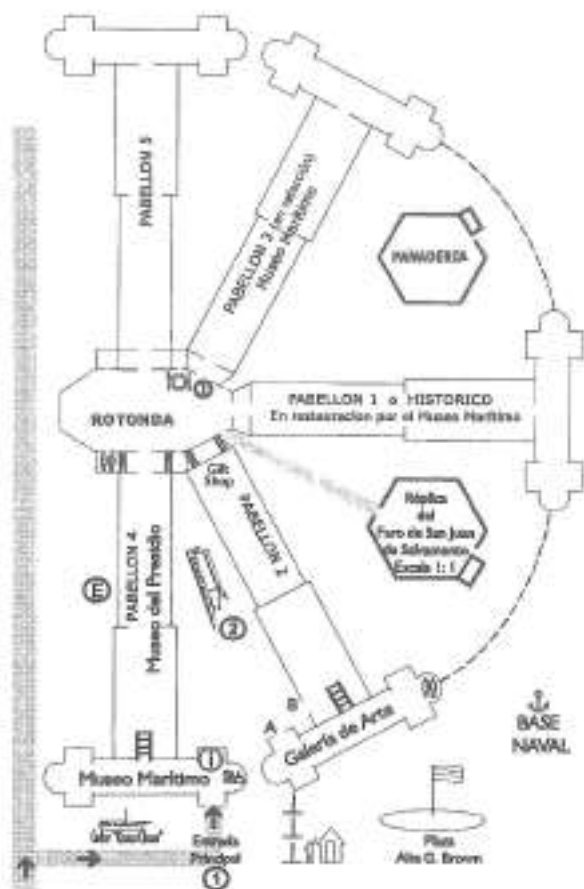


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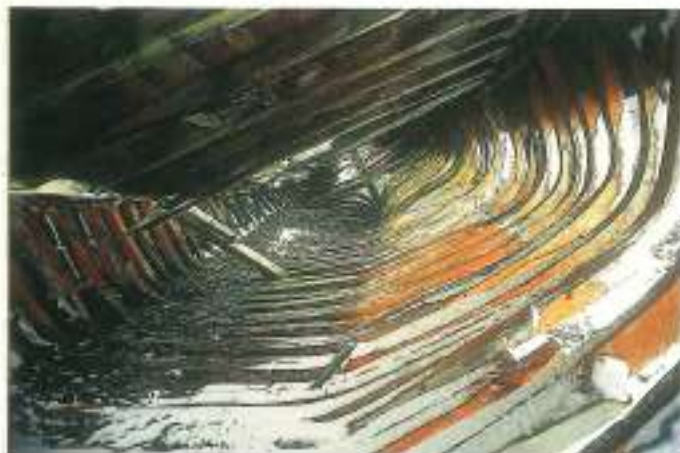
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