AUSTRALIS®
CAPE HORN & PATAGONIA

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CAPE HORN

There are few places in the world in which man feels as vulnerable and surrounded by a mystic aura of spirituality as Cape Horn. Its location between two oceans at 55°56' South latitude and 67°19' West longitude, along with the intensity of the climatic phenomena that occur there, make its passage a unique and incomparable experience.

Entire books have been written about the difficulties that the sailing ships of yesteryear had in traveling around Cape Horn. The extraordinary feats and countless dramas that took place there can be illustrated by three pieces of information:

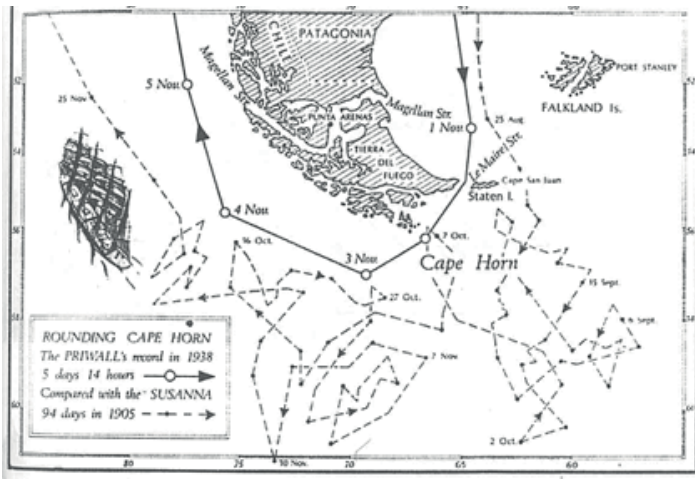
European eyes first set sight on Cape Horn at the beginning of the XVII century. In the small port of Höorn, the French merchant Isaac Le Maire and the sailors Guillermo Cornelio and Juan Schouten signed the constitution of the Southern Company and fitted out two ships: the 360-ton Endracht (Unity) and the 110-ton Höorn, which sailed from Texel, the Netherlands on June 14, 1615.

On January 24, 1616 they crossed the strait which they called Le Maire and gave the name of Statenlant (Land of the States) to the island they sighted to the east. They called it "Land" believing it to be a peninsula of Terra Australis Incognita, and "of the States" in honor of the provinces in the Netherlands that were fighting for their independence (Holland, Zeeland, Friesland, Utrecht, Drenthe, Gelderland and Groningen). Five days later, on January 29, 1616, they rounded the cape that they named Höorn, thus opening a new route between the Atlantic and the Pacific. They sailed through the Pacific with no clear idea of their course until they arrived at Java and the Moluccas. Here they were captured by another Dutch expedition commanded by Admiral Spielberg of the East India Company, which possessed exclusive rights to the only passage known until that moment. They were indicted for breaking the law governing the crossing of the Strait of Magellan, and argued in their defense that they had used a new passage. The jury was scandalized and did not believe them, since it was supposed that to the south of the Strait lay Terra Incognita, an impassable continent. They were found guilty in the first instance and were sent back to Holland on the Zeeland, the ship on which Jacobo Le Maire died two weeks later at high sea.

It is estimated that between the XVI and the XX centuries more than 800 ships were lost in the stormy waters of Cape Horn, burying no fewer than 10,000 men of all walks of life and nationalities at sea.

The fastest known passage around Cape Horn was made by

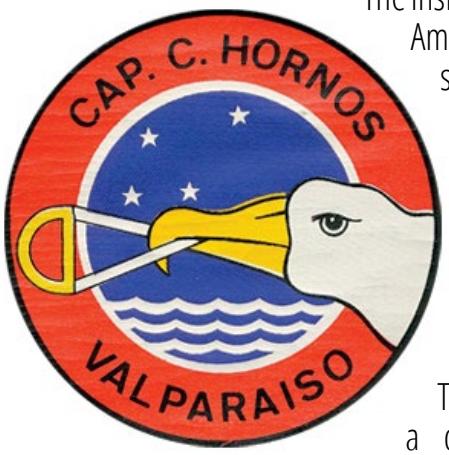
the Priwall in five days in 1938, while the inverse record is held by the sailing ship Susana, which took 94 days in 1905!



Records for rounding Cape Horn

THEINTERNATIONALASSOCIATION OF CAP HORNIERS

The Association was founded in 1937 in Saint-Malo (France) by a group of French captains whose first members were experienced seamen that had lived the experience of sailing around Cape Horn in command of the old merchant ships. Due to the passing of the majority of its members, the Amicale decided to put an end to the international entity, which was replaced by supporting organizations inspired by the same spirit of adventure.



The insignia or symbol of the Amicale Internationale shows the head of a white albatross on a blue background that surrounds a red circle with white letters and the name of the institution. The albatross holds a diamond or hook-shaped device in its beak.

This symbol is inspired by an old tradition of the sailors of yesteryear: they used to capture these immense birds to play with them, simulating a kite. To do this, they tied a piece of salted pork to a hook, which was lowered down to the surface of the ocean on a light rigging line. When the albatross took the bait, the hook would lodge in the curve of the bird's beak. With the line tight, the bird could not escape and the sailors would play with it from the ship until it was landed on the deck, after which it was released. No sailor was willing to kill an albatross, since superstition had it that these beautiful and wandering birds embodied the spirits of sailors lost at sea.

THE CAPE HORN MONUMENT

The Cape Horn Monument was solemnly inaugurated on December 5, 1992. It was erected as an initiative of the Chilean chapter of the Chilean Association of Cape Horniers, in memory of the seamen from every nation who perished in the battle against inclemency of nature in the southern seas around the legendary Cape Horn.

This seven-meter-high monument consists of two independent pieces each made of five steel plates, and is the work of the Chilean sculptor José Balcells Eyquem. The plans and construction were carried out by the Chilean Navy under the basic premise that the structure would have to withstand gusting winds of up to 200 kilometers per

hour. The construction took more than a month, between October and November 1992.

On the road leading to the sculpture, two concrete structures were built that support marble slabs. The monument's dedication is found on one of them, and the other displays the beautiful poem by Sara Vial, a writer from Valparaíso:

"I am the albatross that awaits you
at the end of the earth.
I am the forgotten soul
of the dead sailors
who sailed around Cape Horn
from all the seas of the world
But they did not die
in the furious waves,
today they fly on my wings,
towards eternity,
in the last crevice
of the Antarctic winds"

BIRDS OF PATAGONIA

This lecture covers an area that includes two National Parks: De Agostini and Cabo de Hornos. Currently, the region hosts 198 known species, which can be classified into 44 families. 116 of these species are NESTING (divided into those that build their nests and stay in the region throughout the year, and migrating species), and 31 are REGULAR VISITORS (summer, winter and yearly). Both nesting and regularly visiting birds are characteristic of the region. We can classify them into sea, land and shore birds.

SEABIRDS

WANDERING ALBATROSS *(Diomedea exulans)*
This is the world's largest bird. When flying, its wingspan can go up to 4 meters. It nests in the islands off South America. These seabirds have long and narrow wings and a short tail. The beak is long and robust, with independent nasal tubes located on either side of the upper jaw. Its characteristically soaring flight allows them to cover great distances without flapping their wings. They are permanently on the lookout for planktonic food, crustaceans and fish. The chick and juvenile are brown; this bird whitens with age. A wandering albatross' distinguishing trait is its black tail.

SOUTHERN ROYAL ALBATROSS *(Diomedea epomophora)*
This albatross breeds in New Zealand, and the non-nesting among them travel along Chile and Argentina's southern seas. Adults feature white head, tail and body, while the dorsal surface of the wings tends towards whiteness. The beak is yellowish pink.

BLACK-BROWED ALBATROSS *(Thalassarche melanophris)*
This is the most common Albatross in Tierra del Fuego. Its back and the surface of its wings are black. The rest of the body is white, with black feathers around the eye, which give the impression of an eyebrow. While flying it is very easy to identify through a very noticeable white strip under the wings. It nests in the Falklands, the Isla de los Estados and the Cape Horn Archipelago.

DOLPHIN GULL *(Larus scoresbii)*
This is a mainly scavenger bird and a common sight in Patagonian ports. It is very noisy and possibly one of the most beautiful seagulls: grayish color and intensely orange beak and feet.

KELP GULL *(Larus dominicanus)*
This is the most common seagull in the region. It is easily distinguishable through the red spot it features under the beak. The young usually poke this spot to cause their parents to regurgitate and then feed. This species is easy to find along the coasts of the Beagle Channel, Strait of

Magellan and inner channels in Tierra del Fuego.

SOUTH AMERICAN STERN *(Sterna hirundinacea)*
This stern can be identified by its white color and black spot on the head. It is a migrating bird and can usually be found in the Magdalena Island, Garibaldi Fiord, and Beagle Channel between December and January, and preparing to migrate northwards between March and April.

BLUE PETREL *(Halobaena caerulea)*
Petrels are sea birds and skilled flyers; they feed off or near the water surface. They have a hooked beak and all feature external nasal tubes located above the upper jaw.

The petrel we see here usually glides in semicircles. It has pale gray plumage. During the summer months these birds nest in the Antarctic coasts, only to reach Chilean and Argentinean seas during wintertime. The Blue Petrel can be easily identified thanks to the bluish line above the wings.

SOUTHERN GIANT PETREL *(Macronectes giganteus)*
This is the biggest Petrel. It looks like an Albatross but has a more robust body and a bigger beak with a noticeable nasal tube. It is grayish brown, with paler neck and head. Specimens in the Antarctica develop a white phase -the whitening of the plumage-, which has not been observed in the region. The beak is yellowish with a greenish tip.

Juveniles are entirely dark, brownish gray; same as adults, they only go inland to nest and breed. It is easy to notice that adult Petrels' heads are fairer than the rest of the body. These birds are constantly expelling salt through their nasal tubes.

MAGELLANIC DIVING PETREL *(Pelecanoides magellani)*
This bird is black on its backside and white on the front. A black beak and bluish feet complete the picture. It is a common sight from September to February. It nests in the Isla de los Estados and during wintertime it migrates northwards, reaching the Chilean and Argentinean coasts at roughly 43º southern latitude.

SHOREBIRDS

MAGELLANIC PENGUIN *(Spheniscus magellanicus)*
This is the most characteristic penguin in the Magellan region and Tierra del Fuego. During wintertime it migrates northwards in search of more temperate waters. In September the first males return to the region to prepare the nest for females, who arrive a week later. Upon finding each other, breeding season ensues and three months later, towards the end of December, the chicks are born.

For the following three months, chicks will learn how to survive while feeding on what their parents regurgitate. Then, from March onwards, they migrate northwards together with the adults. It has been discovered that adults accompany the juvenile during the initial sea-bound phase, and then come back to shed their plumage.

ROCK SHAG *(Phalacrocorax magellanicus)*
The shag is an aquatic bird and an excellent diver. They taxi on the surface of the water before taking off. After diving they will be quite heavy, as their feathers are not 100% waterproof. These birds stretch their necks while flying and they have a very horizontal flight. This cormorant can be identified through its completely black neck and head.

They mostly feed on fish and nest in rock ledges; they are particularly visible at the Tucker Islands. They produce rich guano, which is usually used as fertilizer.

IMPERIAL SHAG *(Phalacrocorax [a.] albiventer)*
The Imperial Shag also nests in rocky ledges, as well as on horizontal surfaces. The trait that tells it apart from the Rock Shag is its neck that on the front is half black and half white right until the base of the beak.

DARK-BELLIED CINCLODES *(Cinclodes patagonicus)*
One of the most abundant species in the region, it feeds on mollusks, larvae and seashore insects. It is very sociable and, therefore, is a usual sight in beaches and in coastal forest.

MAGELLANIC OYSTERCATCHER *(Haematopus leucopodus)*
This is a shorebird with a very high-pitched song. It uses its long and firm red beak to break shellfish and feed on them. These birds couple and then live permanently with their partner; they nest on the ground.

CHILEAN SKUA *(Stercorarius or catharactas chilensis)*
This is a predatory, very aggressive bird, which preys on penguin's eggs. It is capable of attacking flying seagulls, just to steal the food they are carrying in their beaks. They look like a brownish seagull and when they fly, a white spot on the end of each wing becomes visible.

KELP GOOSE *(Chloephaga hybrida)*
This coastal goose has very clear sexual dimorphism. The male is mostly white and the female, almost entirely black, with some white feathers on the wings. When the female dies, the male will remain by her body for a long time. When the male dies, on the other hand, the female flies away immediately thereafter. This is a very common resident species. It only lives on the seashore or by inland seawater pockets. It feeds on seaweeds.

FUEGIAN STEAMER DUCK *(Tachyeres pteneres.)*
This duck is mostly steel-gray, with a white belly, orange beak and yellow feet. It is big, sturdy and incapable of flying. It can usually be seen moving along the water at considerable speed, paddling along like a "steamer boat". They are very good divers and feed on crustaceans and mollusks.

CRESTED DUCK *(Lophonetta specularioides)*
Local ducks are usually big and dressed in scarcely colored plumage. Generally speaking, they are good divers and more carnivorous than common ducks. They taxi on the water surface before taking off. The crested duck is almost entirely grayish brown, with darker feathers on the dorsal region. Males and females are very similar, they use short squeaks: "juar... juar..." This species is very common and usually nests along the inland shores of the island. Its most characteristic trait is a tuft on the back of the head, which looks like a crest.

LANDBIRDS

ASHY-HEADED GOOSE *(Chloephaga poliocephala)*
This species lacks sexual dimorphism. Both males and females feature grayish head and neck. Like other South American geese, they are less bound to water and are mostly grassers or algae eaters. They are taller than ducks.

UPLAND GOOSE *(Cloephaga picta)*
This is a very common geese species in Patagonia. Sexual dimorphism is strong: the male features white head and neck, while the female is grayish brown. The male upland goose uses white to attract the attention of predators and, thus, protect the female and juveniles.

SOUTHERN CARACARA *(Caracará plancus.)*
This is a scavenger bird and very common in the region. They flock together and in livestock farms, they usually give the alert that there is a dead animal. It usually lives in forests and nests in treetops.

SOUTHERN LAPWING *(Vanellus chilensis)*
This bird inhabits Chile from the Central Region all the way south to Patagonia. Its very characteristic squeak makes it very easy to recognize. Its plumage is basically gray, with varying hues on the wings. This bird is very easy to spot in the countryside near Wulaia and other cities.

PATAGONIAN NEGRITO *(Lessonia rufa)*
It feeds on insects, inhabits forests, nests in bushes and lays two to three eggs. Considerable sexual dimorphism: the male is black with a "brown backpack" while the female is light brown. This is a resident species.

FIRED-EYED DIUCON *(Xolmis pyrope)*
This is a migrating bird; it returns to the region during summertime, to nest. It has red eyes, gray plumage and is considerably smaller than other birds of the same type. It is easy to spot when disembarking, along the Beagle Channel and near Wulaia. It hunts insects while flying.

HOUSE WREN *(Troglodytes aedon)*
In Wulaia, you can listen to this bird's song. It is a walking species and likes to remain on the ground.

CHILEAN VULTURES

There are four kinds of vultures that can be found in Chile, and only the yellow-headed is harder to spot. They feed on carrion and, particularly black vultures, can be seen near colonies of sea lions, where they wait to feed on the placenta left after the pups are born, or on the bodies of pups that are accidentally crushed by adults.

THE FLIGHT OF THE CONDOR *(Vultur gryphus)*
The most famous and characteristic vulture is the Andean Condor. Only males feature the characteristic crest of the species. Adults develop a white collar around their necks.

This is the world's biggest land bird; at sea it is second only to the wandering and royal albatrosses. The wingspan of the adult condor is 3.2 meters. This bird is a national symbol and it features prominently in Chile's national emblem.

DARWIN IN PATAGONIA

There is no doubt that chance can sometimes play a central role in the development of defining events in the history of humanity. Such was the case with Charles Darwin's opportunity to travel on the Beagle; it was without a doubt the most important experience of his life and was a key element in the development of his ideas about evolution and the origin of species.

Charles Darwin was born on February 12, 1809 in Shrewsbury, England. He was the fifth of six siblings and was practically raised by his sisters after the death of his mother at age six.

In 1825 he began to study medicine at the University of Edinburgh, but postponed these studies to pursue theology in 1828 at Christ's College in Cambridge, encouraged by his father, Robert Darwin, a renowned doctor and businessman in England.
During his time at university, he met the Reverend John Stevens Henslow, a botany professor to whom Charles Darwin owes a great part of his love of natural history as well as his introduction to Captain Fitz Roy. It was J. Henslow who proposed that Darwin take a position as an unpaid naturalist with Captain Fitz Roy, since the latter needed a companion and gentleman of his own social class with whom he could get on reasonably and share the trip, and who was not a formal part of the crew.

This expedition, entrusted by the British Admiralty, was preparing its second voyage to finish the cartographic work started during the first voyage between 1826 and 1830 under the command of Robert Fitz Roy. Fitz Roy took on the role of captain during the Beagle's first voyage after its first captain, Pringle Stokes, committed suicide in Tierra del Fuego.

The Beagle's voyage lasted almost five years, sailing from Plymouth Bay, England on December 27, 1831 and arriving in Falmouth on October 2, 1836.
Its first landfall in South America was in 1832 in Bahia or San Salvador, Brazil, where Charles Darwin spent his time exploring the area, admiring the exuberance of the vegetation and the great number of new species that

presented themselves before his eyes.

Continuing his exploration southward, it is important to mention his stay in Bahia Blanca, more specifically in Punta Alta. Darwin found this to be a place of great geological appeal that lent itself to the field application of the new knowledge acquired through the recent publication of the first volume on geological principles by the geologist Charles Lyell. It was here where he found enormous fossils of immense, extinct quadrupeds, and this discovery sparked his first doubts with respect to his religious beliefs.

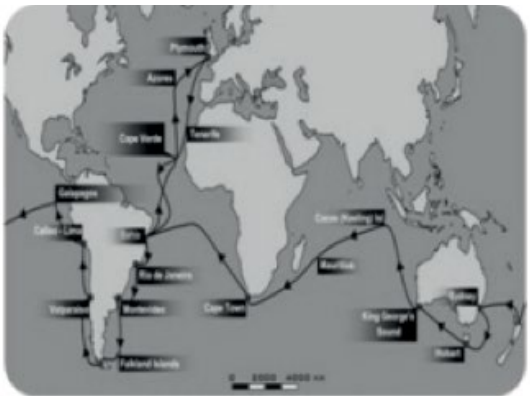
The next destination was Cape Horn. It was on this leg of the voyage that the Beagle found itself in the most serious danger of shipwreck due to the high seas and constant storms, but it came through unscathed thanks to Fitz Roy's great skill as a pilot.

The Beagle then sailed to Navarino Island in order to carry out another of the voyage's main objectives: to return three natives to their homeland after they were taken to England some years before by Fitz Roy, who intended to carry out a very peculiar human experiment. The Anglican Church Mission Society chose the young and inexperienced clergyman Richard Matthews as a missionary to ensure that the seed of civilization and Christianity planted by Fitz Roy in Tierra del Fuego germinated and bore fruit. Charles Darwin's encounter with the natives of Tierra del Fuego generated a series of comments and prejudices that negatively affected these ethnicities, especially in their later contact with the white man. They did, however, help Darwin understand the process of education and civilization, which were learned concepts that differentiated these savage men.

Once the natives Jemmy Button, Jork Minster and Fuegia Basket were left in Wulaia Bay together with Reverend Matthews, the Beagle continued its cartographic work, exploring a portion of the Beagle Channel now known as the Avenue of the Glaciers. This is where Darwin came to be considered Patagonia's first glaciologist, since he managed to quite accurately describe the geological formations based on the preexisting glaciers. A few days later, they returned to Wulaia Bay to rescue the Reverend Matthews, demonstrating the failure of this attempt at evangelization. In accordance with its cartographic objectives, the Beagle set sail once again for Montevideo, but Darwin stayed to carry out scientific expeditions in the area, and then made a long trip by horseback through Argentine Patagonia. On this trip he made numerous observations, for example, about the gauchos he met and the rhea and its similarities to the African ostrich.

One year later, the Beagle returned to Tierra del Fuego, where the crew found Jemmy Button in his savage state. Button expressed his intention to continue to live the way he was raised, thus dashing Fitz Roy's plans for evangelization.

After a landfall in the Malvinas or Falkland Islands, the Beagle was repaired on the Santa Cruz River in southern Argentina, and then sailed though the Strait of Magellan. Here, Charles Darwin once more displayed his great analytical capacity for describing the geology of the area and the importance of undersea forests, among other things.



Darwin's Voyage, 1831-1835

Beagle shooner sailing Cape Horn

Now began the voyage along the Chilean coast of the Pacific Ocean, and it was there that Darwin lived unthinkable experiences for a scientist in those times; for instance, the eruption of the Osorno volcano, the Concepcion earthquake, or the discovery of marine fossils at more than 4000 meters above sea level. These experiences caused Darwin to reflect deeply on the contrast between the precepts learned in the Bible and the physical evidence found in the field.

This important experience helped Charles Darwin develop his famous theory on the origin of man, which was not published until 23 years after his return to England. This theory sparked an important intellectual revolution among its champions and detractors that continues to this day.

The theory states that all living beings have evolved over time from a common ancestor or a small group of common ancestors through the process of natural selection. Charles Darwin died in Dawne on April 19, 1882, and his remains now lie in Westminster Abbey together with the remains of Isaac Newton. Darwin's great legacy in Patagonia is embodied in the southern mountain chain that bears his name (the Cordillera Darwin) and its highest peak (Mount Darwin, with an altitude of 2,488 meters).

The passage of the Beagle and the young naturalist Charles Darwin through Patagonia left an indelible path that we now follow today, visiting the pristine landscapes that he himself explored in the past.

PATAGONIA, FROM ICE TO FLOWERS

The Holocene is the last and current geological period. It corresponds to the end of the last glacial period approximately 12,000 years ago, when the glaciers slowly retreated and caused the sea level to rise. At the same time, the bedrock was exposed on the surface of Patagonia, which had previously been covered by great ice masses. This began the process of colonization by lichens and mosses, the ancestors of the southern flora, which in turn led to the arrival of animals and later migrations of humans to the southern zone.

The majority of the flora that can be observed in the Magellan's Region is generally found between the Baker River and Cape Horn; in other words, between the 47th and 56th parallels south. While rainfall over this extensive territory ranges between 350 mm and 8,000 mm per year depending on the zone, the average annual precipitation in the area of the Beagle Channel is 1,000 mm. In this same region, vegetation generally grows up to altitudes between 400 and 600 meters.

TREES AND SHRUBS

Trees in the Nothofagus genus are the most representative and common of the Magellan's Region, including the Magellan's beech (Nothofagus betuloides), the Lenga beech (Nothofagus pumilio) and the Antarctic beech (Nothofagus Antarctica). The Magellan's beech is evergreen. To distinguish these species from each other, the leaves must be observed:

- the Magellan's beech leaves are hard to the touch, dark green and have irregular, saw-toothed edges;
- the Lenga beech has two "teeth" between each vein;
- the Antarctic beech has several "teeth" between each vein.

The Chilean fire bush *(Embothrium coccineum)* stands out for its splendid red flowers in the spring. It also flowers less intensely in the fall.

The Chilean fire bush

The Winter's bark *(Drimys winteri)* is a tree with persistent, large, lanceolate leaves. It grows in humid places and its bark contains vitamin C. It has white flowers. Despite its common name in Spanish (canelo, which is similar to the word cinnamon) this tree is not related to cinnamon.

The fashine *(Chiliotrichium diffusum)* is a tree that can reach up to 1.5 m in height and is found everywhere. In summer, it is covered with tiny white flowers similar to small daisies, and can be confused with a sheep from afar.

The prickly heath *(Gaultheria mucronata)* forms low bushes (from 20 to 50 cm in height). Its flowers are the shape of miniscule bells, and its fruits have the appearance of tiny white and pink apples. They are edible and have a peculiar, spongy texture inside, making them resistant to freezing during the winter.

The prickly heath

The native wild currant *(Ribes magellanicum)* produces a cluster of little yellow and red flowers that later turn into exquisite berries.

The holly-leafed barberry *(Berberis illicifolia)* is in the same family as the Magellan barberry. Its sharp leaves are wider than those of the latter, but its flowers are relatively similar. Its fruits are bitter.

The Calafate barberry *(Berberis microphylla)* is a thorny and very abundant shrub. It has a lovely blooming period, with infinite little orangey-yellow flowers. The best time for this bush, however, is at the end of the summer, when its berries ripen and offer the gourmet their exquisite, sweet flavor. They can be turned into jam, sauces or tarts. A very popular legend tells that "he who eats the Calafate barberry will return to this land".

Calafate

FLOWERS AND PLANTS

The waterfall plant *(Ourisia ruelloides)* is characterized by its small, red, bell-shaped flowers that seek out moisture, especially near waterfalls.

The coiron *(Festuca gracillina)* is Patagonia's most common native grass and can grow up to 50 cm in height. It is a delicacy for sheep, even during the winter.

The Magellan orchid *(Chloraea magellanica)* is probably one of the only four orchids that exist in Tierra del Fuego and is the most difficult to find. Its white flowers set off by green stripes are extremely beautiful.

The cojines are various species of mosses that grow on groups of rocks and whose shape and texture resemble a cushion. They make up the largest component of the peat bogs or peat.

The basket rush *(Marsippospermum grandiflorum)* grows in saturated soils. For thousands of years, the native peoples of the Patagonia and Tierra del Fuego channels used this plant to weave baskets.

The sundew *(Drosera uniflora)* is the region's only carnivorous flower. It measures between 3 mm and 5 mm and lives in moist environments such as peat bogs.

The stick-tight *(Acaena magellanica)* grows everywhere. The flower of this plant, which grows to some

20 cm in height, sticks to shoes and pants.

The false mistletoe *(Misodendrum punctulatum)* is a parasite that often grows on Nothofagus species, forming large and highly visible balls.

The woods lady's slipper *(Calceolaria biflora)* is a beautiful and tiny flower that is not very easy to find in Tierra del Fuego, but that can be admired in Torres del Paine National Park, for example.

The devil's strawberry (Gunnera magellanica) grows in moist, shady places. Its small red fruit has a bitter taste.

The Magellan strawberry (Rubus geoides) grows at ground level or It is hidden underneath the plant's leaves. At the end of the summer it is red, and is a true delicacy when fully ripe.

FUNGI

The fungi are a kingdom of unicellular or pluricellular life forms that do not form tissues and whose cells group together to form a highly branched body of filaments.

The Darwin's fungus (also known as pan de indio or llao-llao): Three species are given the same common name. They parasitize Nothofagus species, causing tumors known as "knots". Darwin's fungus is edible but has no flavor.

The Darwin's fungus

LICHENS

The lichens are fungi that live symbiotically with algae.

Lichens as bioindicators: Although lichens are tolerant to a wide range of ecological conditions, they are also very sensitive to air pollution. The delicate nutritional balance that exists between the microalgae and the fungus is easily altered by gaseous airborne contaminants, including SO2 and nitrogen oxides, among others. For this reason, they have been successfully used as environmental bioindicators in urban and suburban areas. Thanks to their slow growth, they have also been used to date the retreat of glaciers (lichenometry) as well as megalithic monuments such as the Moai in Easter Island.

"It is a marvelous chapter of life, the fight that these little organisms wage against the formidable power of the high mountains, allowing us to find their colorful crusts even on the highest rocks. With bright colors, they paint the dead rock and rise up as the first and last sentries of life, awakening our passionate interest."
(C. Schroeter)

Nature is the shared heritage of all human beings. Admire it, take care of it.
Do not unnecessarily cut the plants or branches that we encounter on our walks.
Thank you!

HISTORY OF THE STRAIT OF MAGELLAN

At the end of the XV century, the Portuguese discovered and monopolized the Cape of Good Hope. They thus opened up the first sea route to Asia and Oceania, a source of riches for European trade.
The Portuguese Ferdinand Magellan could not convince the king of his country to fit out a fleet to look for a passage to the Orient via America. Finally, it was the Spanish King Charles V who accepted Magellan's proposal in 1518. This was the beginning of the most extraordinary of the European explorations to discover the world.

On September 20, 1519, the "Moluccas Fleet" set sail from the port of Seville under Magellan's command. On board was a young Italian Antonio Pigafetta, who left us an account of this expedition that departed from Spain with five ships and 265 men and returned three years later at the breaking point with only one ship and 18 men, having completed the first circumnavigation of the globe.

After reaching Brazil and thoroughly exploring the La Plata River, the flotilla headed south and, on November 1, 1520, finally entered a strait that Magellan christened it the "Strait of All Saints" and that was later renamed the "Strait of Magellan". The lands to the north of the Strait were named "Land of the Patagones" (Patagonia) and those to the south "Land of Smoke" (Tierra del Fuego).

Five weeks later, the three remaining ships came out into a vast and new ocean with calm waters, for which it was given the name "Pacific Ocean". Magellan later died in a battle with natives on the Moluccas, and it was his pilot, Sebastián del Cano, who led the remainder of the expedition back to Spain after uncountable hardships and difficulties. The western sea route was open for Spain.Later, between the years 1557 and 1559, Juan Ladrilleros sailed from Valdivia (Chile) and made a notable contribution to the knowledge of the Strait of Magellan, but the enemies of the Spanish Crown, the English, also used the Strait. The privateer Francis Drake passed through it (1557-1578) to sow the seeds of desolation in the Spanish colonies of the west coast of South America and, on the way, was the first to mention the fact that Tierra del Fuego was an island and not a great continent that stretched to the South Pole. He also completed the second circumnavigation of the globe.

The Spanish, alarmed by the unpunished passage of the English through the Strait of Magellan, decided to establish two cities in the area. Sarmiento de Gamboa, at the helm of this military and colonizing expedition, set sail from Seville in September 1581 with 23 ships and 3,000 people. A year and a half later, after extensive damage, he finally arrived at the Strait with just five ships and 500 people. The city of Nombre de Jesús was founded near Dungeness Point

(the east entrance of the Strait), while the city of Rey Felipe was founded some 60 km south of the current city of Punta Arenas.

This attempt at colonization turned into a true disaster: the two cities' colonists and soldiers died of hunger. Such was the extent that in 1587 the English privateer Thomas Cavendish managed to rescue a Spaniard, one of the few survivors of the tragedy. The rest were abandoned to their fortunes, and Spain forever renounced the colonization of the Strait of Magellan. The site on which the city of Rey Felipe was built was then named "Port Famine", a name that has lasted to modern times as "Puerto de Hambre".

1520, Strait of Magellan by Antonio Pigafetta

During the first few years of the XVII century, the Dutch passed through the Strait on various occasions, until they discovered the Cape Horn route in 1616. From then on and for almost two centuries, sailing ships of all nationalities generally preferred the Cape Horn interoceanic route to the Strait of Magellan. Some famous scientific expeditions, such as that of Commodore Byron or Bougainville, passed through the Strait. Thanks to the English hydrographic exploration campaigns of Parker King and Fitz Roy (between the years 1826 and 1834), an extremely precise knowledge of the Strait's coasts and the Patagonian and Fuegian archipelagoes was acquired.

In 1843, the Chilean governor sent Commander John Williams on board the schooner Ancud to take possession of the Strait of Magellan and found the colony of Fuerte Bulnes on Santa Ana Point close to the famous Puerto de Hambre. In 1848, the new governor of the incipient colony, José de los Santos Mardones, abandoned Fuerte Bulnes due to the lack of fresh water and the poor soils. The governor then founded the colony of Punta Arenas (December 18, 1848) some 60 km further north, on the site known up to that time as Sandy Point.

1607 Mercator-style map, by W. Janszoon

In the beginning, the new colony of Punta Arenas was no more than a military post where inmates condemned to prison sentences were sent. Some colonists slowly began to settle there, until a mutiny of the military garrison brutally reduced the population from 436 to 86 inhabitants. However, with the dynamism of its inhabitants, the exploitation of coal deposits, the hunting of sea lions and the extraction of timber, the city was reborn and the slow but steady migration of people from Chiloe, Switzerland, Spain, France and other countries contributed to the development of a small and thriving city (150 inhabitants in 1853, 805 in 1870, 1,095 in 1878 and 7,000 in 1898).
From the end of the XIX century until the opening of the Panama Canal (1914), the Strait of Magellan regained its importance as the main sailing route between the Atlantic and Pacific Oceans. Punta Arenas was transformed into a cosmopolitan port and the site of all types of exchange, business and trade. With the opening of the Panama Canal, the Strait of Magellan became significantly less important as an international sailing route, and this situation has lasted to some extent until today.

Starting in 1877 with the introduction of sheep rearing on both shores of the Strait, an intense regional shipping industry developed and numerous livestock ranches or

estates were established, generally along the coast.

The discovery of oil, first in Tierra del Fuego (1945) and then in the waters of the Strait of Magellan itself, gave rise to an important industry that rallied in the 1980s with the exploitation of gas deposits and their transformation into methanol. To some extent, these activities brought new life to navigation through the Strait of Magellan. Currently, close to 1,500 ships per year pass through the Strait and about 50 tourist cruise ships put in each summer in the city of Punta Arenas.

GLACIOLOGY IN PATAGONIA

WHAT IS ICE?

Ice is the solid state of water (H20 molecule). In a glacier, ice is mixed with air bubbles, making it 0.9 times denser than water. For that simple reason, ice floats on water.

GLACIER ICE FORMATION

During winter, snow piles up and compresses. Its hexagonal crystals start to deform due to compaction, releasing air, giving crystals a more granular shape. This brings us to the second stage of snow: névé. As new layers of snow accumulate, the weight of said layers compresses the snow into glacial ice.

HOW LONG DOES IT TAKE TO FORM A GLACIER?

It varies considerably from one glacier to the next. It can take just a dozen years for temperate glaciers like the Patagonian glaciers, up to hundreds of years for cold glaciers like the ones in Antarctica. Contrary to popular belief, the warmer the glacier is, the quicker the ice forms, because the snow crystal needs moderate temperatures (above 0) in order to fuse into glacial ice. In Antarctica, temperatures are so low that the snow compaction process takes much longer.

MOVEMENTS

There are two reasons that cause movement: sliding and internal deformation:

- sliding is produced by friction between the base of the glacier and the rocky substrate, which creates a thin film of water which allows movement. It can also be caused by water leaking from the upper layers down to the base of the glacier.

- internal deformation is produced by the pressure (approximately 650 tons per cubic meter) exerted by the weight of the ice. This tension leads to deformation, which causes the glacier to move.

ANATOMY OF A GLACIER

The accumulation zone is the top of the glacier, where snow accumulates.

The ablation zone is the bottom of the glacier, where there is a loss in glacial mass.

The equilibrium line separates the accumulation zone from

the ablation zone.

A moraine is an accumulation of rock, sand or clay that is picked up and transported by glaciers as they advance.

Pia Glacier

There are several kinds of moraines:

Lateral Moraine: as its name states, it consists of sediment deposited on the sides of a glacier.

Medial Moraine: it is the junction of two glaciers merging their lateral moraine deposits.

Terminal Moraine: this moraine marks the furthest advance of a glacier and the point where it starts to recede.

Internal Moraine: it is an accumulation of sediment which falls into crevasses and is trapped in the ice, giving the ice a "dirty" appearance.

-Crevasses are mainly formed due to the differences in velocity between the center of a glacier and its lateral affluents.

-Seracs are blocks of ice normally found at the front of glaciers, and they are prone to crumbling apart.

-Nunataks are exposed rocky elements not covered with ice or snow within an ice field or glacier. They are like islands of rock amidst the ice and sometimes contain plant life.

-Icebergs are blocks of ice that have broken off from the ablation zone of a glacier towards a lake or the ocean. The area of an iceberg underwater is approximately nine times larger than the portion one can see poking above the waterline.

THE COLOR OF ICE

Glaciers' peculiar color tone is due to the following optical effect: the white sunlight that strikes the ice is split into three main colors, red, green and blue. Ice tends to absorb red and green waves of color, causing the blue appearance of ice; conversely, it looks whiter when the amount of air bubbles in the ice increases.

Garibaldi Glacier

THE COLOR OF WATER

Meltwater from a glacier is commonly known as "glacial milk". The unusual color of this water is due to the presence of mineral sediments (especially quartz particles) that remain in suspension or cannot be deposited at the bottom of the lake, sea or river.

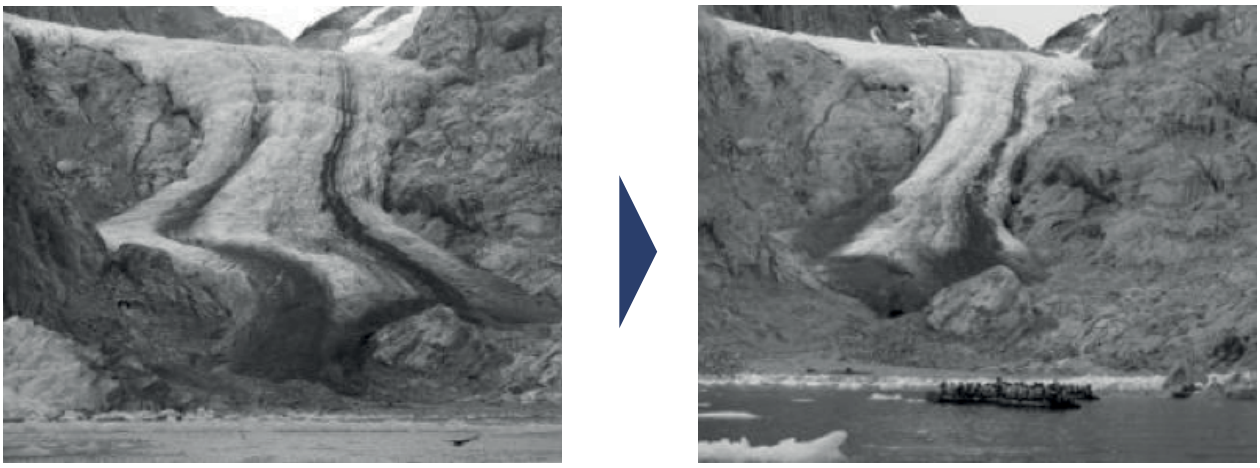
Aguila Glacier

PRESENT-DAY GLACIERS

Worldwide, most glaciers are in a receding period or are in equilibrium, although there are exceptions of glaciers that

are still advancing in Alaska, Greenland, The Himalayas and even here in Chile, represented by the Pío Xi glacier, near Puerto Edén. The most accurate theory on glacier recession believes that there has been a warming effect on the Earth and temperatures have risen considerably. In order for a glacier to advance, there has to be a positive mass balance: this means that, the amount of snow that falls during the winter must be greater than the amount of the snow that ablates or melts during the summer.

In conclusion, we can safely say that, currently glaciers are merely relics of the vast glaciers from the past ice ages, yet they still play a key role on planet Earth. They represent 10% of submerged soil and 90% of Earth's freshwater. In addition, as they create air and water currents, they contribute to balancing Earth's climate; which would be asphyxiating without them.



2006 | Central moraines of the Nena Glacier, Alacalufe fjord | 2010

THE MAGELLANIC PENGUIN

The first mention of this cute animal dates back to 1520, when Antonio Pigafetta, the man that chronicled the voyages of Ferdinand Magellan, described it as a wild goose!

It is believed that the penguin was a flying land bird in a faraway past. It was supposedly related to the petrel and began getting closer and closer to the sea in order to look for food. Therefore, it stopped flying and adapted to an aquatic life, evolving into its wedge-shaped body (spheniscus), webbed feet and wings that serve as fins, just like a fish.

There are 17 species of penguins in the world, all of which live in the southern hemisphere. The northernmost species is the Galapagos penguin and the southernmost one is the Emperor penguin, which lives in the Antarctic continent.

The Magellanic penguin can be found from Tierra del Fuego up to Brazil (along the Atlantic Ocean) and Peru (in the Pacific). These faraway destinations are reached after a migration to warmer waters that lasts over 6000 kilometers.

Our penguin measures between 50 cm to 70 cm tall; it weighs up to 5 kilos and lives until the age of twenty. The male penguin is slightly larger than the female and its beak is also a little longer. They lead a pelagic life and spend most of it in the water, even when they're sleeping. They are fantastic swimmers and can reach speeds of up to 8 km/h underwater. Their plumage is similar to a duvet; it is very dense and is coated with waterproofing oil secreted from the uropigial gland. A thick layer of fat that helps insulate their body from the cold.

They have a peculiar call which sounds like a donkey's bray. They sneeze out a salty fluid produced by a gland that concentrates excess salt in their body.

Penguins shed their feathers every year. During this period (January – February), they avoid going into the water to eat. They attain their final colors only during their third year of life, which includes eye-catching rings around their eyes and neck. In addition, they shed their grey feathers for a basically black plumage.
Their diet consists of small fish, such as anchovies, sardines or sea silversides. The penguin's main enemies are sea lions, fishing nets and ocean pollution. They can dive up to 80 meters deep.

REPRODUCTION

Between August and September the first males arrive in the area to rebuild their nests, normally in the same spot

they used the previous season, which can be outdoors or beneath a bush.

Then, the females arrive and couples are formed. They lay two eggs (3 on rare occasions), which are hatched and cared for by both penguins for 30 to 40 days. They take turns to get food. At birth, hatchlings weigh no more than 150 grams and they do not head out to the ocean until they bulk up to 250 grams. After the first egg is laid, males go out to sea to feed and also bring back more vegetation to fill out the nest. The second-born chicks are usually smaller and have less chances of survival (30% survival rate). This is normally due to lack of food, as commercial fishing is making it harder for parents to find sustenance.

Baby penguins depend on their parents for at least two-and-a-half months, until their new feathers become waterproof and they are strong enough to head out into the ocean to feed on fish. From birth up to that moment, they are fed by both parents through regurgitation. Between the age of 3 and 4, juvenile penguins are ready for reproduction.

At the end of January – February, groups of juveniles born in prior seasons return to their place of birth. They spend nearly two weeks on land, near the coast. Here, they shed their juvenile plumage. All penguins shed their feathers once a year. During this period they do not eat because they avoid the water, since they momentarily lack the ability to regulate their body temperature until they complete their molting cycle.

From March, they abandon land and remain at sea. A significant portion of the population, especially the juveniles, migrates north, as far away as Peru and Brazil. Many penguins disappear during the northern migration due to oil pollution or because they become entangled in fishing nets.

There are numerous colonies of Magellanic penguins in the region. The most accessible ones are the Seno Otway Penguin Colony, which congregates approximately 5,000 individuals, along with the colonies located in the Strait of Magellan and Magdalena Island, where over 130,000 specimens come together. As a matter of fact, Magdalena Island is protected and managed by CONAF, the National Forestry Corporation, under the name “Los Pingüinos National Monument”.

DISCOVERING TIERRA DEL FUEGO

Tierra del Fuego is located at the southern tip of South America, beginning at approximately the 52nd parallel south. It is bordered by the Strait of Magellan to the north, the Beagle Channel to the south, the Atlantic Ocean to the east and the Pacific Ocean to the west. This giant island is shared by Chile and Argentina, to whom the western and eastern parts correspond, respectively.

The name of this great island comes from the sight that the first sailors saw when they were exploring its coasts. From their ships they could make out surprising, continuous fires, which were the hearths used by the native peoples to protect themselves from the southern cold. The indigenous Onas and Yámanas hardly wore any clothing despite the harsh climate. Only the fires and their special metabolic adaptation (a body temperature one degree higher than ours) kept them warm. They even took lit hearths with them in their lenga-bark canoes, which they used to fish and hunt marine mammals.

MIGRATIONS

There are several theories that speak of the arrival of humans in America, the most recognized one being that of the Czech paleontologist Aleš Hrdlička (1869 1943). According to this theory, the humans who came to America originated in Mongolia, from which they entered America by way of an ice bridge over the Bering Strait during the last glacial period approximately 13,000 years ago. These people moved south using a land corridor between the Cordilleran Ice Sheet that began in the Aleutian Islands and ended in central Canada and the Laurentide Ice Sheet, which began in the Atlantic Ocean in northern North America, covered as far as the Newfoundland area, and then extended to the Great Lakes region of central Canada. Proof of this are remains found in Alaska, dated at approximately 13,000 years. One of the most solid pieces of evidence is the Clovis culture, remains of which were found in New Mexico in the United States. Today, most American archeologists are fervent defenders of a late entry to the continent by the Clovis and Folsom Indians, who correspond to the oldest cultures to first set foot on American soil. These archeologists believe that occupation occurred only some 11,500 years ago, based on dozens of Clovis points found throughout North America.

INDIGENOUS SETTLEMENT

The Yaghan (or Yámanas)

Historically speaking, the Yaghan have been known

since 1624, but archeology has established that their ancestors began to live in the Beagle Channel region at least 6,500 years before the present. Their origins are still a mystery. In the 19th century, their estimated population was some 3,500 people, dispersed between the Beagle Channel and Cape Horn.

Yahgans (or Yámanas)

The Selk'nam (or Ona)

The Selk'nam were descendents of continental tribes and began to populate Tierra del Fuego Island 8,000 years ago. They were "discovered" by Magellan in 1515. They have been shown to have had a sporadic presence on the north shore of the Beagle Channel for at least the past 6,500 years.

Ona - Selknam Family

THE PRECURSORS

Although the Beagle Channel was first named, described and mapped by English expeditions in 1826 and 1832 (see below), we have solid reasons to believe that at least a part of the channel was known earlier. For example, its outline was sketched on several maps from the 1590s. The famous James Cook, while looking for the continent of Antarctica, explored the southern part of the Tierra del Fuego archipelago on two occasions (1769 and 1774), but we are not certain that he saw the Beagle Channel in its entirety. Various place names remain from his voyage (Cook Bay, Christmas Sound, etc.). Furthermore, it is highly probable that the sea lion hunters that crossed these waters between the 18th and 19th centuries were familiar with the Beagle Channel, but they did not leave any documents in reference to it.

Parker King and Fitz Roy

Between 1826 and 1830, the British Admiralty organized a hydrographic survey expedition in Patagonia. Under Commander Philip Parker King and Captains Robert Fitz Roy and Pringle Stokes, on board the Adventure and the Beagle, the enormous task of defining thousands of kilometers of coastline from Brazil to Valparaiso, including the Strait of Magellan, Cape Horn and the Beagle Channel, was carried out for the first time with surprising precision. This is how the latter became known to modern geography and how the Murray Channel (which separated Navarino Island from Hoste Island) was discovered, thus giving "birth" to Navarino Island in geographical terms. It was at the end of this trip that Fitz Roy took four Fuegian natives back to England: Fuegia Basket, York Minster, Boat Memory (who died during the journey) and Jemmy Button. Fitz Roy's aim was to attempt to "civilize" the natives, but this would have unsuspected consequences years later in the slaughter at Wulaia.

At the end of 1831, the Beagle set sail once more, this time alone, for the second survey campaign in Patagonia. Fitz Roy, accompanied by the young naturalist Charles Darwin, returned to Tierra del Fuego to refine the details of coastline, as well as to return the three Fuegian natives to their homeland after more than a year of "education" in England. After finishing its work in Tierra del Fuego, the Beagle continued northward, crossed the Pacific Ocean and returned to England in 1836, circumnavigating the globe in the space of five years. This long voyage allowed Darwin to gather an enormous amount of information that he used to publish his famous work The Origin of Species 23 years later, in 1859.

The Romanche

In the context of an international program whose goal was to observe the passage of Venus from various points around

the globe, the French government organized an important scientific expedition to Tierra del Fuego. Under Commander Luis Martial, and aboard the steamship Romanche, a land mission was established for one year (September 1882 – September 1883) in Orange Bay (Hoste Island, Hardy Peninsula, just a few kilometers north of False Cape Horn). Prefabricated houses and laboratories were set up to allow a part of the scientists and crew to live on shore while the Romanche carried out hydrographic explorations in the Tierra del Fuego archipelago, the Strait of Magellan and the Falkland Islands. Thanks to this expedition, it was possible to map the parts of the Fuegian coastline that Fitz Roy had not been able to define in detail, particularly the area between the Beagle Channel and Cape Horn. Many names were given to places along the channel (Martial Mountains, Les Eclaireurs Island ...), Hoste Island (Dumas, Pasteur and Cloue Peninsulas...), and Wollaston Island, among many others.

The observations of the Yaghan natives are to this day one of the best sources of information about this people. The over 400 photographs taken constitute the first photographic record of Tierra del Fuego's landscapes and inhabitants. With respect to the expedition report published between 1885 and 1891 in nine thick volumes, its table of contents demonstrates the breadth of the work carried out: History of the voyage, Meteorology, Terrestrial magnetism, Geology, Botany, Zoology (three volumes) and Anthropology. In addition, several expedition members later published numerous articles in their respective specialties.

MODERN SETTLEMENT

The Missionaries

The first attempt at evangelizing the Yaghan was made by Fitz Roy when he disembarked in Wulaia, Navarino Island, together with the young missionary Richard Matthews (January 1833). Fitz Roy's idea was to take advantage of the return of the three Fuegian natives "educated" in England to try to establish a bridge between the Yaghan and English civilizations. In the face of the Yaghan's aggressiveness, the experience failed after 10 days and Fitz Roy took Matthews back aboard.

In 1841, a retired official of the British Navy, Allen Gardiner, founded the Patagonian Missionary Society in London. After a failed attempt in the Strait of Magellan, Gardiner disembarked on Picton Island with six volunteers in December 1850. Since the first contact with the Yaghan was not entirely peaceful, they took refuge in Aguirre Bay (on the south coast of Tierra del Fuego Island) where, one by one, they finally died of hunger.

In 1855, Gardiner's work was taken up again under the name of the South American Missionary Society, with the establishment of a mission in the Falklands (Malvinas) archipelago (Keppel Island). The missionaries sailed the waters of Tierra del Fuego in a schooner baptized Allen Gardiner, establishing contact with the Yaghan. This is how they were able to find Jemmy Button, the same man who had been in England with Fitz Roy years earlier. The missionaries' strategy consisted of convincing Yaghan families to go for stays in the Falklands (Malvinas) to become acquainted with the virtues of English civilization and the Anglican religion before returning them to their homelands, thus establishing a sort of bridgehead in Yaghan territory.

This system worked well until 1859, when the Yaghan brutally murdered eight members of the mission in Wulaia. The only person able to escape was the cook, who later gave his account of the event after being rescued by a ship sent from the Falkands (Malvinas) in search of news. This slaughter (November 9, 1859), for which the true reasons were never known, marked a certain freezing of the Society's activities in Tierra del Fuego. It was in this place that Thomas Bridges, the son of a missionary, continued to become familiar with Yaghan customs and language.

It was not until 1869 that the new leader of the mission, the pastor Waite Stirling, bravely attempted to establish himself alone amidst the Yaghan for eight months on the peninsula where the Ushuaia airport is now located. In light of his success, the decision was made to set up a permanent mission in Ushuaia under the direction of Thomas Bridges, who became the first white man to permanently settle in Tierra del Fuego (1870). He directed the mission until 1886, when he retired and independently founded the Harberton ranch, also on the Beagle Channel.

It was this extraordinary man who left us a Yaghan-English dictionary (first published in 1933) containing close to 32,000 words; and it is one of his sons, Lucas, to whom we owe an autobiography published under the title of "The Uttermost Part of the Earth" (translated in Spanish as "El último confín de la Tierra"). This book is a fundamental element of the historic literature about Tierra del Fuego.

Gold rush

At Cape Virgenes (the entrance to the Strait of Magellan from the Atlantic) in 1884, gold that had been deposited by the sea under the beach sands for thousands of years was discovered by chance. This event unleashed a gold fever over the majority of the beaches in Tierra del Fuego exposed to the undertow of the Atlantic Ocean, until the famous Romanian Julius Popper set up gold panning sites and attempted to impose a strange sort of dictatorship in Tierra del Fuego. His story inspired several novels.

This gold rush mainly attracted Croatians, thousands of whom arrived at Tierra del Fuego Island, Lennox, Nueva and Hoste Islands and Cape Horn between 1888 and 1895. Some of these gold seekers later settled in Ushuaia, Punta Arenas or Navarino Island.

The colonization

The English missionaries living on the Ushuaia peninsula were the only white inhabitants of Tierra del Fuego until the Argentine government established a military post on the other side of Ushuaia Bay, considered to be the founding of the city of Ushuaia (1884) and the beginning of the colonization of the Beagle Channel. Starting at the end of the XIX century, several Ushuaia settlers and some Chileans set up livestock ranches on the coast of Navarino Island; the meat produced supplied Ushuaia and the wool was sold in Punta Arenas. In 1928, the Chilean authorities attempted to build a town across from Ushuaia by the name of Puerto Navarino, but did not have lasting success. It was not until 1953, when Ushuaia already had a population of 2,500 inhabitants, that the Chilean naval base in Puerto Williams (originally called Puerto Luisa) was founded on the north coast of Navarino Island.

CURRENT SETTLEMENT

Ushuaia (in Argentina) is today the most important city in the Tierra del Fuego region, with 65,000 inhabitants. Its main economic activity is tourism, and the city receives over 160,000 visitors annually.

The city of Porvenir is the capital of the Chilean province of Tierra del Fuego and the district by the same name. It is the most populated city on the Chilean portion of Tierra del Fuego Island, with 5,500 inhabitants.

Porvenir arose from a police detachment established in 1883 during the gold rush, and was founded in 1894 under the government of Jorge Montt Álvarez to serve the new livestock ranches. It was initially inhabited by residents from Chiloé and Croatia, who were motivated by the discovery of gold deposits. The city faces Punta Arenas across the Strait of Magellan in Porvenir Bay, also known as Karkamke (shallow waters) by the Selk'nam.

CHILEAN WINE

Although wine production in Chile is centenarian due to the Spanish origin of the population, only during the last decades of the 20th century did local companies start building technical and commercial bonds with French and US winemakers and vineyards, obtaining international contacts and ties. As a result, many Chilean wines have moved up in rank and are now among the best in the world. The best vineyards in Chile are concentrated in six valleys in central Chile: Casablanca Valley, Maipo Valley, Maule Valley, Curicó Valley, Rapel Valley and Colchagua Valley. They cultivate mainly French grape varieties, refining blends and ripping techniques with good results.

Chilean wine exports are distributed as follows: 25% to the United States and 55% to Europe, the main destination being Great Britain.

Wine production in Chile is concentrated mainly in Regions VI, VII and the Metropolitan Region, totaling 92%. Region VII accounts for 47% of the total production in the country.

CARMENÈRE WINE

The vine originated in France (Bordeaux) and disappeared in 1860 due to the attack of the Phylloxera Vastratis epidemic. This vine was used only for mixtures.

In 1850, a wine producer in Chile, Silvestre Ochagavia, introduced the first fine French vines to our country, such as Cabernet Sauvignon, Sauvignon Blanc, Cabernet Franc, Merlot, Syrah, Chardonnay, etc.

Along with these vines came the Carmenère or Grand Vidure, but it came to our country mixed with Merlot and Cabernet Franc. Thus, Chilean wine production started in our country with fine French vines.

More than one century later, a few producers from the central valley brought a French ampelographer to Chile to conduct some studies and wine denomination in their plantations. On a slope of the Andes Mountains in a small Merlot plantation, the ampelographer found that this vine was not only Merlot, but there was something else he needed to discover. The investigation lasted for over three years, and in 1933, the wine world received the news

that the Carmenère vine, lost in 1860 due to the Phylloxera Vastratis attack in Europe, had been found in Chile.

At the moment, Chile has 6,045 hectares of Carmenère vine planted for wine production. The producers and the government are taking part in a project to present this wine as the Chilean emblematic vine to the rest of the world.

¿What is a Carmenère like?

With a very complex ripeness within the vineyard, the Carmenère usually smells like green vegetables and paprika. However, when ripeness is achieved and not exaggerated, these green notes are combined with chocolate and cherry marmalade aromas, plus some earthy notes on medium bodies, sweet and very soft.

A Carmenère can be a simple, fresh and light wine or a strong, deep, very ripe one. Because it needs heat to ripen, Chilean climate is good for it. It has been especially successful in the Colchagua Valley, but there are also good examples in Maule and Aconcagua, as well as Cachapoal.

¿What should I pair it with?

Since the Carmenère is a Chilean vine, it is a good idea to pair it with traditional Chilean cuisine, such as a beef casserole or a corn pie.

Some good Carmenère

- Terruño Carmenère 2005 Peumo, Concha y Toro Vineyard.
- Single Vineyard Carmenère 2006 Maipo, De Martino Vineyard.
- Carmenère Micro Terroir 2005 Colchagua, Casa Silva Vineyard.

WINE TASTING

First phase: THE SIGHT

The first sense we will activate is the sight. For this purpose, fill a third of your tasting glass so you can move and swirling the wine softly in it without spilling. Find a white background and look at the glass from the center towards the edges. We will observe the color of the wine in order to deduce the following:

a) Whether it has AGEING or not, that is, whether it has been aged in barrels for several months.
b) Whether it is a VARIETAL or not (young wines, without ageing). For red wines, these colors evolve to russet tones and whites. If they are in barrels, we will observe golden highlights caused by oxidation.
c) Now, observe the wine while swirling it softly around the sides of the glass. Once the glass is straightened, look for the formation of so-called tears or legs. The more distinct they are the greater alcoholic and glycerol content the wine has.
d) Next, observe the turbidity. From it, we will deduce if the wine was conveniently filtered according to the particles observed, and also if there are possible remains.

The colors of wine come basically from the color of the grape it was made with, and they go from the brightest whites, to pinks, to the darkest red. There is a great variety of them.
- For white wines, we will use the following color definitions: white, pale yellow, greenish yellow, lemon yellow, straw yellow, golden yellow, yellowish, topaz, coppery, mahogany, gold, pale gold, green gold, fine gold, old gold, red gold, golden, reddish, dry leaf, brown, wooden, amber.
- For pinks, color is defined as follows: violet pink, true pink, vermillion, cherry pink, raspberry pink, carmine pink, yellowy pink, salmon pink, pinkish, reddish, onion skin, orange, salmon,
- Finally, for red wines, we will refer to light red, dark red, reddish, violet red, cherry red, redcurrant, blood red, brick red, orangey red, yellowish red, brown red, carmine, ruby, maroon, vermillion, purple, black red purplish, russet, bigarreau cherry, ripe bigarreau cherry

In order to come even closer to real colors and define them better, they are accompanied by nuances such as reflections, rims, iridescence, etc.

Second phase: THE NOSE

Now we will give you basic instructions on how to smell the wine during the tasting process. Hold the glass by the foot and bring the nose close to the wine itself without swirling it, tilting the glass softly towards you.

Receive impressions about the intensity and the most

evident aromas, and write them down.

Now swirl the glass so that the wine lets new aromas escape, and write them down again.

Repeat this part as many times as necessary until the aromas you receive suggest something.

It will prove very useful for the future to write your list of possible aromas, so you can discover errors during production.

From the aroma, in many cases you will be able to tell if the wine was kept under adequate conditions or not, if this is the best time to consume it, or if on the contrary, it is vinegary.

These types of wine offer us aromas such as cabbage, garlic, vinegar, tempera paint or egg.

If we smell overripe fruit or strong apples, it indicates excess oxidation.

If you smell humidity, mold or cork, it is due to the bad quality of the cork.

Good wines give us a greater amount of subtle aromas in considerable quantities. This aromatic complexity will help us tell the intensity of our wine, its aromatic quality and purity.

We must know that sour aromas produce salivation. Those produced by alcohols are strong and affect the back of the nose.

Educate your nose by cutting and smelling fruit before eating it or becoming impregnated with the smell of flowers in the park, the garden, the terrace or the vase. Educate your nose with diverse smells from daily life, food, salads, dressings, etc. Learn how to distinguish those smells so that their memory can be associated with the aromas received from the wine at some time in order for you to define them with precision.

When you are more experienced, you will be capable of recognizing the aromas that characterize each vine, like a Cabernet or a Merlot, for example.

Train yourself in this phase before starting with flavors, since it will be very useful to you later.

Third phase: THE MOUTH

Our palate will play a very important role in the development of wine tasting. It is the final step, and like your nose, it requires training in order to make the best of our senses and complete the tasting process successfully. Let's start by recognizing the parts of the mouth where different flavors are received, so you can practice with this type of products and get used to perceiving them in the corresponding place.

Back = Bitter
Front = Sweet
Sides and back = Sour
Sides and front = Salty

Get used to writing down the flavors you perceive during the tasting, as well as their tactile characteristics, such as the body it offers on the palate, the consistency, the alcohol, the intensity or the astringency of the tannins (of a color that goes from yellowish white to reddish brown, of an astringent flavor, partially soluble in ethyl acetate and soluble in water), which is similar to that produced by tea. If it is soft, it is a virtue of that wine. Also, note the persistence of flavors.

Please note that the temperature of the wine when served is a very important factor, and we must ensure it is appropriate in order to bring out its virtues and aromas.

In some cases, we will be able to perceive carbonic gas, which is revealed in the form of bubbles and freshness on the tongue. It is the case of young Sauvignon Blanc or sparkling wines.

Finally, there is the texture or the impression the wine leaves in the mouth.

The features of a good wine persist in the mouth and nose.

In a balanced red wine, the acidity and astringency of the tannins are strengthened.

A good wine is also measured by its persistence in the mouth.

The sum of all these characteristics is what determines whether a wine is good or not.

WINE REGIONS IN CHILE