

Our past and present beliefs on the History of the Sea Nomads of Tierra del Fuego. Concepts from the 17th to the 21th centuries

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Abstract

Between the 18th and the first half of the 20th centuries three main concepts dominated the picture on the Magellan-Fuegian sea nomads: they were primitive, cornered in Tierra del Fuego, and had recently settled the region. These conclusions, rooted on historical and ethnographical information and repeatedly concluded in tautological and unverifiable presentations. By the late 20th century new archaeological data lead to discard those previous concepts. In today's panorama the way of life based on the exploitation of coastal resources in the Beagle Channel region would have begun around 6500 14C uncal. years B. P. and not much earlier. The later process is seen as adaptive and not as stagnation. The system was able to maintain equilibrium until the early nineteenth century due to an energy subsidy generated in a much larger area than the actually foraged one. In that century, the balance would have been broken by overhunting of seals by Europeans, Americans and Creole. The sea nomads had no opportunity to retrofit their system to the new environmental state: the almost extinction was immediate.

Key words: Yamana; Yahgan; Tierra del Fuego; Archaeology; Concept's History; Littoral adaptation; Beagle Channel; Sea Nomads.

Early assessments

When the Europeans arrived to the austral tip of America, the Beagle Channel - Cape Horn archipelago was peopled by sea nomads (fig 1) that rowed between islands and made their living mainly from sea and littoral resources. A large list of ethnohistorical writings on them is available (see Orquera and Piana 1999a: 547-567).

Up to the late 1970`s three main concepts lead what was thought to be known on this world's southernmost people: that they were *primitive*, that they were *cornered* in such extreme tip pushed down by stronger neighbours, and that their settlement in the region was somehow *recent*. All the three concepts floated on the undervaluation of this archipelago environment, and the assumption that the sea nomads had always been as they were seen by the Europeans.



Fig. 1 Ethnic distribution along the 18th to 20th centuries.
Yamana and Alakaluf were sea nomads.

Although earlier close encounters of coastal inhabitants of the Magellan Strait and western explorers had already occurred (García de Loaysa in 1526; Juan Ladrillero in 1557; Francis Drake in 1578; Simon de Cordes in 1599; Sebal de Weert in 1600; Van

Noort, in 1600), the first meeting with the *Yamana* was that of Jacques L’Hermite fleet in February 1624. This event is described in the expedition logbook (Anonymous 1643), most probably written by the cosmographer Jan van Walbeek (Orquera and Piana 1995:188). The encounter turned unfriendly, as may be expected when one of the parties was recruited with piracy purposes (Lane 1998).

From that very start false appreciations on the *Yamana* outcropped:”by their nature and character, these Indians are more like animals than humans. Apart from feeding on raw human flesh and that we have not noticed in them the slightest trace of religion or culture, they are totally devoid of shame” (from Spanish translation in Gallez 1975).

By then, the medieval preference for the unusual exotic and monstrous over truth and reality was still rampant and a mantle of alleged fierceness was thrown upon the Fuegian sea nomads.

It takes to go forward some 150 years to find new descriptions on the *Yamana*. Into the 18th century, the Age of Enlightenment, when the desire to understand rationally the nature unfolded on distant landscapes and their inhabitants prevailed. There was a bloom of explorations based on commercial objectives and aimed to gather more methodical and systematic geographical data, particularly on navigable routes. This required open minds and sharp observers of what was new to them. At that time geographical, flora, fauna and people descriptions were considered as “naturalist” studies.

In the Magellan Strait, the French Louis Antoine de Bougainville (in 1767) and the Spanish Antonio de Córdoba (in 1786) met the northern sea nomads: the Alakaluf. In the southern region Captain James Cook landed in Good Success Bay (in 1768) and Christmas Sound (in 1774). Along the first trip Joseph Banks accomplished the naturalist on board tasks while the German Johann Reinhold Forster –with his soon Johann Georg Adam Forster as assistant- did so in the second. Both had solid

backgrounds to make systemic observations and records.



Fig. 2 Early draw of the Fuegian sea nomads after Hawkeaworth, 1774, II, pl.7

In the 18th century travel books or exploration accounts became a literary genre in itself, including graphics (as fig. 2), that was highly appreciated by the European public. No wonder why, in spite of the Admirals effort to restrict and control the diffusion of the exploration events, many legal and clandestine publications appeared (Torres Santo Domingo 2003). Even so, from an ethnographical stand point, these publications were more devoted to the South Pacific people so the impact on what the public opinion thought on the Fuegian groups was but light.

For a set of reasons, the publication of travel account scheduled to be written by Johann R. Forster including both his and Captain J. Cook notes, finally appeared under the name of his son (Forster, G. 1777), a young man 22 years old by then. Cook`s own writings appeared few weeks later (1777) and had great public acceptance.

Even so, the most meaningful and substantial analyses of non-Western cultures that have emerged from Cook trips was that

of the father's work (Forster, J. 1778) who extracted a more general sense of such foreground. Forster's approach is thoroughly scientific; it made comparisons to look for causes in the material relations, thus his speech is full of concepts that seem modern today. Nevertheless, J. Forster was not on the more radical line of the materialists of the Enlightenment philosophy, still invoked Providence, still had vestiges of the conception of human degeneration along the History and did not accept biological evolution (in the crude way in which it was conceived then). In contrast in the social and cultural field he was already evolutionist, this long before Condorcet and Lamarck and probably being a source for the later. He did not accept the myth of the "noble savage" that was fashionable in the eighteenth century and his attitude to the Yamana was a distaste based on his belief in the advantages offered by a civilized society. He awarded them with *degradation, indolence, and stupidity* qualifications and considered their way of life as *painful*. But he conceived that human characteristics were not innate and must have some sort of explanation. As for the Enlightenment beliefs in fashion, he focused in two causes to search for such explanation: environment and education. The proposed explanation was rooted in a false and undervalued appreciation of the Fuegian environment. He judged the Yamana country as poor in food and drew social consequences from such evaluation (Forster, J. 1778 II: 317-318). Also, because geographical location, he attributed isolation to the residents and believed that such isolation would have been detrimental for the transmission of knowledge (*idem*: 301 and 317).

Foster assessed that the Yamana seemed to be victims of revenge or insolence of some more powerful tribe that would have driven them to this inhospitable tip of the American Continent (Forster J. 1778 II: 313). Or that they were unfortunate outcasts of some neighbouring tribe, that carried a sweeter life somewhere else, and forced them to live in this wild portion of Tierra del Fuego, where they have imperceptibly lost all ideas except those

that are constantly renewed by imperative needs (Forster G. 1777 II: 505).

Therefore, three core concepts on the valuation of the state and history of the sea nomads of Tierra del Fuego emerged in his work, which later reappeared again and again: the appreciation of the Fuegian **environment as hostile**, harsh or negative; the interpretation of their **lifestyle as miserable** and unhappy (this by comparison with Europeans and other Aboriginal communities); and the belief that they were **cornered** in this environment by other societies pressure.

With end of the Napoleonic Wars in 1815, Britain devoted the efforts to the expansion of a formal and informal empire. Other European countries soon followed into what in the last decades of the 19th century became an imperialist race. The outside coasts of Tierra del Fuego and surrounding sea were sailed in the late 18th century and the beginning of the 19th by sea lions hunters and passing by explorers, but this activity grew intensively after 1815.

The condescendence and the pejorative trends

The archipelago of Tierra del Fuego used to be considered a hindrance or obstacle to the passage from the Atlantic to the Pacific. It was James Weddell (1825) who, back from his travels around hunting sea lions, reported that in these islands had safe harbours and abundance of drinking water and wood. This modified the consideration that the sailors have had on Tierra del Fuego. Before a decade, the British Admiralty commissioned a fleet commanded by Parker King and Fitz-Roy to recognize the area. Soon other explorers visited the archipelago.

The exploration and commercial exploitation activities carried out in the first half of the 19th century collaterally left more or less extensive records of encounters with *Yamana*. Within these writings two trends may be neatly recognized: one of condescendence, the other pejorative (Orquera and Piana 1995).

Exception made of James Ross none of the ones in the condescendence trend had aristocratic roots. James Weddell (1825), in two journeys maintained repeated contact with the sea nomads, traded with them, gave away small gifts, welcomed them in his brig, and left a handful of stories and anecdotes describing them as friendly, peaceful and picturesque. William Webster (1834) Medic of the Foster expedition, Charles Wilkes (1844), James Ross (1847), and J. Parker Snow (1857) left a peaceful and joyous picture of them. Anyway all of them kept considering the Yamana as miserable and apathetic beings. Also all agreed (judging under Western customs) in express abundant complaints about their fondness for their persistent and blatant thievery. But the writings left by these seamen have not too noticeable prejudices.

Weddell, whose only school was the sea and made it to Captain because of the Napoleonic War (Piana 2006) made some speculation on the Fuegian sea nomads. On the regarded conditions he pinpointed the environmental conditions were they lived as causes of their physical structure and lifestyle. On their past put forward two alternatives either it “must be supposed that the ancestors of these tribes were in the same state of ignorant stupidity as the present race”... “unless we suppose that they were from North of the Magellan Strait and came to an unproductive territory, which gave no means to continue with the arts learned and gradually ceased to remember” (Weddell 1825:189-190). The negative consideration on the Fuegian environment held valid.

At the same time, other writers were much more openly biased to reflect the dominant ideology and prejudices of the 19th century. Most of them had aristocratic origins. Their writings structure the aforementioned pejorative trend. Outlined examples because of their subsequent impact on Western thought are Fitz-Roy and Darwin.

In his first voyage, Robert Fitz Roy came as an officer of the fleet of Parker King on board of H.M.S Beagle from 1826 to 1830, with the purpose to make up a detailed map of the Atlantic -

Pacific oceans pass and to explore the unknown archipelago. Towards the end of the trip, as the fleet Second Commandant Fitz-Roy explored the Tierra del Fuego southern islands and rowed for the first time into the channel named after his Cherokee-class brig-sloop Beagle.

Fitz-Roy relationship with the inhabitants was somehow distant, but enough to born in his mind some detrimental concepts and the idea to take back to England a few natives with the objective of “civilize them” and then bring them back to be helpful in a transculturation process. This turned into a well-known event with the embarking of four sea nomads in the Beagle (Hazlewood, 2000).

After overcoming several obstacles set by the British Admiralty -and largely at his own costs- Fitz-Roy finally made it down again to Tierra del Fuego on board of his old ship, and as Commander. In this trip Fitz-Roy embarked Charles Darwin, his choice as Naturalist, but superior orders gave this charge to a surgeon who latter disembarked in Rio de Janeiro. Then, Darwin undertook the task although being unrecognized by the Admiralty. By 1883 they were in the Fuegian channels (Thompson 2005).

Fitz-Roy was always strongly dogmatic in religious and social concepts while, at that time, Darwin was a young ex-seminarian interested in geology and biology (not the great naturalist who became years later). Both shared the general assumption that the situation of commercial and political dominance of England was a direct indicator of moral, cultural, and even biological superiority. Subsequent personal stories strongly confronted with each other. Also, their writings and actions led to, at least, two new trends of thought on the canoe men of Tierra del Fuego which clearly differed; both having their own lights and darks. This was not a result of their intentions, but a consequence of their thoughts being inserted in a time of changing paradigms in the Western society.

The Fitz-Roy descriptions of the Yamana and Alacaluf still

have great significance (1839 I: 394-430 and 1839 II :175-189; fig. 3), but include frequent apprehensive and derogatory value judgments. Darwin`s subjectivity and dislike (1839: 235-on) of the Fuegian people were even greater. He compared their actions with those of the Royal Garden`s orangutans and judged that their ability could not be improved by the experience, so equivalent to the instinctive behaviour of animals. Both perceived the scarcity of material goods and its simplicity as a symptom of congenital disability and indifference to the "high concept" of work. They felt their way of life as miserable and degraded, and interpreted that this situation was caused by the lack of chieftaincy and private property. Based on previous beliefs and lead-to-please answers of Jemmy Button on board of the Beagle, Darwin and Fitz-Roy kept considering the Yamana to be cannibals.



Fig. 3 Early engraving of a Yamana man, after Fitz-Roy 1839

Darwin (1839: 235) stated that people of the American extreme south had the world`s lowest state of progress, but this is not to be understood as an evolutionary approach, it only meant that the natives were considered to be in the lowest step of a scale ordered from the simplest to the most complex. An appreciation compatible with Creationism so, in general, shared by Fitz-Roy. The evolutionary approach bloomed in Darwin`s mind only years

later. However, when the evolutionary theory won adherents, the supposed hierarchical low position of the Fuegian people generated and maintained a concept which has long dominated the view that Europeans had of them: **biological and cultural primitivism**.

The sea nomads of Tierra del Fuego were used to exemplify stages overtaken by mankind both culturally and biologically, and, given that “simple” was almost equivalent to “antique” or “early”, they were regarded like "living fossils" that enabled to observe the lifestyle and behaviour in the European “prehistory”.

In sake of brevity the two concepts can be exemplified in a single author: Lubbock (1865, 1867). He believed that the canoe men of Tierra del Fuego were "for the antiquarian what the opossum and the sloth account for the palaeontologist " (1865:408) and used with few modifications the Yamana's description of Darwin to illustrate how life was in the Danish Mesolithic *Kjokkenmoddings*, at that time recently discovered.

To conceive the canoe men as living fossils from a biological standpoint, raised the interest for their cranial shape and measurements, and this turned into a serial dug out of graves (of course in the name of science and the museum collections) (Orquera and Piana,1995). The worst and unforeseen effect of the “pejorative trend” outcropped from the interplay between the characteristics ascribed to the canoe men (primitivism, "living fossils", proximity to animal behaviour, oddity, etc.) and certain features of the European society at that time (i.e. ethnocentrism , domain, commerce, capitalism, interest in the exotic, etc.). This is kidnapping or convenes by trickery of entire families of Fuegians so to be exhibited in cages in Europe (fig. 4).

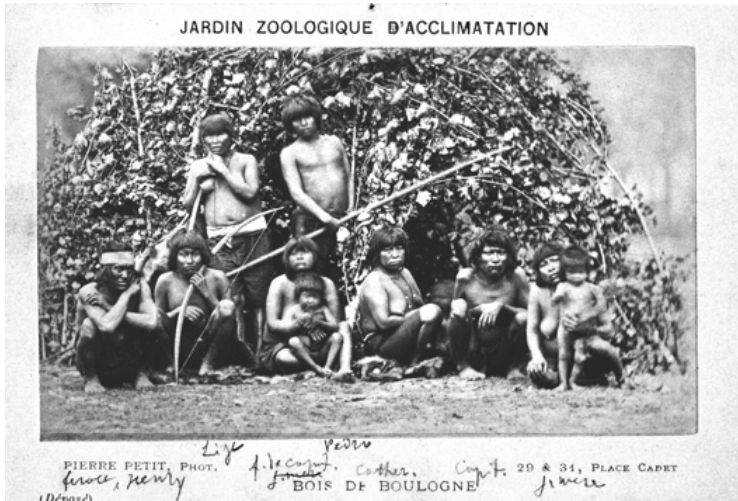


Fig. 4 Postal card done with a photo of 1881 taken by Pierre Petit in the Paris Zoological Gardens during while a group of Alakaluf was exhibited (in Fiore and Varela 2009:305)

In turn, the Fitz-Roy's actions derived into a more conservative trend of thought, it was also pejorative in the beginning but turned substantially modified over time. This trend rode on the globalization of Protestantism, which had in the 19th its great missionary century.

The Anglican Church, as the official church of the Kingdom with highest colonial development, expanded along with the British Empire, throughout a complex logic involving interests of the state, the church and private ones (Seiguer 2006). Consistent with his previous decisions, Fitz-Roy returned the three surviving natives who had been taken to England along with a catechist sent by the Church Missionary Society, Richard Matthews. Landed in Wulaia (Navarino Island, Chile), Matthew soon had to be rescued from the attacks of Yamana. Most probably, these aggressions emerged from the inconsistency between the intent of the newcomers to safeguard their possessions and supplies and the

lack of the concepts of private property and accumulation within the Yamana. A failure, but the seed was sown and the sailor and missionary Allen Gardiner founded 1844 the Patagonian Missionary Society (PMS), later the South American Missionary Society (SAMM), and made a new missionary effort that also failed. The Rev. George Pakenham Despard took up the challenge, but modifying the methods and getting back to the Fitz-Roy idea to take from their country a certain number of natives to be "civilized" and then return them with an assigned role of spearhead of the acculturation process. But instead of England he opted for Keppel Island (Malvinas, Argentina). In 1856 Despard and his family (including his 13 years old adopted son, Thomas Bridges) were established in Keppel. In 1859 they tried to establish a Mission Tierra del Fuego. A new failure. Two years later Despard decided to abandon the attempt and returned to England, but Thomas Bridges decided to stay on the island. In 1862, the PMS submitted a new superintendent at Keppel Island, Rev. H. Waite Stirling. By then T. Bridges had come to speak Yamana with some fluency and had begun to compile a dictionary of this language (Bridges 1933)

In 1869 Stirling found the natives good willed to assist, installed himself in a small cabin in Ushuaia and lived alone among them for six months (SAMM 1869: 106). But then, the Anglican Church appointed him as Bishop -the first one- of the Falkland Islands Diocese with jurisdiction over all of South America. Thomas Bridges, was ordained deacon in London and returned to assume the role of superintendent of the mission in Ushuaia. Respect to the Yamana, the initial considerations of the missionaries were not far from those of Fitz-Roy and Darwin. Stirling also attributed their cultural state to the lack of private property and chieftaincy (i.e. SAMM 1870: 34). But outside his speeches, in fact the missionaries coincided with Forster's belief on the value of education as a potential driver of change. Even though the nominal task of the mission was to spread the Gospel,

the chosen methodology tended to privilege the awareness of the advantages of Western civilization by offering food and tools for work, teaching new techniques (such as agriculture) and sedentarism, inducing to a life in which the effort has good long-term consequences (Seiguer 2006; cf Orquera and Piana 1999 a: 531-on). Also they were taught on the benefits of producing in order to commerce with vessels travelling along the Beagle Channel (Orquera and Piana 1999a:533)

The long lasting coexistence and the chance to learn the native's language allowed the missionaries to go beyond the superficial description of material goods and anecdotes and in most of the other fields emerged a much less incomplete and distorted vision of the Yamana than the one that arose from their predecessors. The aforementioned pejorative trend of thought became into a trend of vindication and understanding. The fallacy of cannibalism ended and the concept of Fuegians as "surviving fossil" was abandoned. In this, T. Bridges was particularly important because he achieved a very good knowledge on the customs of the Yamana, especially in fields as behaviour and social life (Orquera and Piana 1999a). He made public such knowledge in many different writings (cf. *ibid.*: 548-549) and also freely shared it with many incomers to Ushuaia

However, the issues of religion and aboriginal beliefs were left in almost total darkness. In this field the missionaries had an attitude of imposition rather than interest.

In the second half of the 19th century several expeditions sailed the Fuegian waters, from them the Mission Scientifique du Cap du Horn, that settled in Bahía Orange along 1882-1883, is the cornerstone. As part of a Polar Year research, its objectives were broad: astronomical, geological, oceanographic, climatic, botanical, zoological and anthropological (both physical and cultural). The anthropological survey was done by Dr. Paul Jules Hyades, one of the doctors of the expedition, and comments were added by the commander of it, Cap. Louis Ferdinand Martial. The photographic

record of Yamana, -undoubtedly the best available- was in charge of Lieutenant Jean-Louis Doze (fig. 5).



Fig 5 Yamana family. Photo taken by the Mission Scientifique du Cap Horn 1881-1882 (Hyades and Deniker 1891).

In the scientific field, the current of thought in vogue at the time was Positivism. As expected from this standpoint, both Hyades and Martial based their writings in direct experience and empirical data. Their analytical results were clearly presented as objective but dissociated categories. Any speculation or interpretation that was not immediately apparent was left aside (Hyades 1885, Martial 1888, Hyades and Deniker 1891). The Yamana were neither presented as intrinsically good or bad or primitive, nor was any sort of explanations for their condition sought. They simply show them as individuals living and behaving in a certain way.

From popularization standpoint it is interesting to find out that novels (i.e. Alvarez 1898), memories (i.e. Payró 1898), papers of scientific divulgation or the state of the art (i.e. Dabbene 1911) and even newspaper articles (Anonymous 1884, 1902) of the time generally reflected the way of thinking led by T. Bridges on what was believed to know about the Yamana and their ancestors. Some

of them are spotted with - data from the Mission Scientifique du du Cap Horn.

As explained elsewhere (Orquera and Piana 1995: 202-203), since the late 19th century an important part of the Western society did not accept the "geographical determinism", mostly they would agree on the idea that the environment could establish certain limits on human activity and to pay more attention to history but it was conceived as made up by individuals and events without looking for generalizations. The interplay of both positions also entailed a shift towards particularizing the descriptions. Ethnographers and archaeologists followed this particularizing path, devoting him to identify and analyse configurations that apparently possessed unique and incomparable features.

Neither T. Bridges nor the French consider the Yamana as "living fossils" and, as the Positivism of the 19th century tended to avoid any speculation or interpretation that was not immediately apparent, the concept fell into disuse, at least concerning the Yamana.

Nevertheless the idea resurfaced in the twentieth century – somehow surprisingly - in the works of J.M Cooper and M. Gusinde.

The ethnographer's standpoints

The Evolutionism's seed had rooted the notion that data on the past could enable or help to understand the present. The Historicism shared such belief, but restricted it to particular contexts.

J.M Cooper was North American, PhD of Roman Academy and Doctorate in Sacred Theology by Propaganda College in Rome, and he was mainly involved with the "Historical Approach". Basically he believed that the thesis that the "marginal cultures," (as he termed them), were relatively unchanged survivors of cultures of "prehistoric times" (Flannery 1950). Consequently, "knowledge of the savage culture can help us to reconstruct the early stages of prehistoric cultural development" Cooper (1917: V).

He presented what he considered the evidence for this thesis and proposed canons of temporal reconstruction and also emphasized the importance of considering, along with evidence from spatial distribution, both the positive and negative genetic factors which he thought that conditioned the rise of cultural phenomena (Cooper 1941). He believed that through the comparison between cultures it was possible to order chronologically the appearance of different features (Orquera and Piana 1995)

By applying these techniques for historical reconstruction he felt that some headway could be made in inferring temporal depth and so he worked out sequences of development of cultural phases restricted to relatively limited geographical areas. He never subscribed to the over-all worldwide reconstructions arrived at by followers of the extreme diffusionist theories whose generalizations, in his opinion, were too sweeping (Flannery 1950).

Hence, with reference to the Yamana he stated that they looked to be the first human inhabitants of the territory they occupied, even previous to the Alacaluf (Cooper 1917: 219), and perhaps representatives of a culture carried by the oldest immigrants to South America that previously would have occupied all of the subcontinent (Cooper 1917: 225 and 226, 1924: 411-412 and 418), or at least of a culture that developed on the Pacific coast between Peru and Cape Horn (1924: 413-414). He considered that these cultures would have found themselves restricted of their large territory because of other more advanced cultures. Isolation, their nomadic way of life, the low soil fertility, and the usual easiness of shellfish gathering, would have conspired against progress of the Yamana. All these ideas were supported in observers' and missionaries' earlier writings because Cooper never had the opportunity to travel to Tierra del Fuego and meet the Yamana face to face.

The next author who influenced the thinking about the Yamana was Lothrop. He followed the line of thought of Cooper and reshaped the concept of "forced cornering" assuming that the Magellan-Fuegian sea nomads had reached their respective territories by being displaced from northern Chile due to pressure

from Andean farmer (Lothrop 1928: 193-194 and 199). Since by then a no great antiquity was accepted for the agriculture in South America and based on his own examination of the Beagle Channel archaeological shellmiddens, Lothrop suggested that the population of this region could only go back to the last centuries before our era. Along with to the **cultural archaism** and *the cornering*, this **recent peopling** of the world's southernmost islands became the third concept of repeated appearance in the academic image of Tierra del Fuego's past.

The following cornerstone in this account is the extensive work of Rev. M. Gusinde. He was an Austrian Catholic Priest who studied with the Mödling ethnologists, the core of the German Historic-Cultural school and Gusinde was involved with it (Gusinde 1937, 1951: 14-15 and 19). This line of thought was diffusionist, rejected the notion of progress and development stages replacing them with cultural circles and had an idealistic approach of culture. Gusinde also totally rejected the Darwinian Evolution (*ibid*: 24) and in the spiritual realm he neared the Creationism (*ibid*: 28 and 29). His interest on a supposed "primeval monotheism and monogamy" was characteristic of both the Historic-Cultural school as his religious engagement.

Hence, his theoretical standpoint was far away from Cooper's ideas. In addition, within their lifetimes, their countries were enemies in World War I, and although Gusinde was in Chile all of the war time, it is better no to bypass the historical frames. Their outstanding common factor is that they both belonged to the Catholic Church.

Gusinde conducted field studies between the Yamana in the austral summers of 1921-22 and 1923-24 while, as mentioned, Cooper never had such a chance. But it must be pointed out that his informants were fully acculturated and did not maintain their traditional lifestyle (Piana 2009). The remarkable work of Gusinde is based on an excellent compilation of ethnohistorical data and what these informants believed to remember of their past. A methodological problem that is still ongoing ethnographic field (Sahlins 1972). Gusinde's belief on the immanence of cultures and

historical immobility was such that he described his own reconstruction of what the Yamana would have been (as fig. 5) regardless what he actually saw (fig. 6).



Fig 6. Yamana informants and Koppers, Gusinde's assistant, in 1922. Photo taken by Gusinde. It is part of an album given to his guests, the Lawrence family. Collection of the Laboratory of Anthropology – CADIC.

Even so, Gusinde, as Cooper, also assessed that the Fuegian sea nomads would represent the oldest wave of the South America peopling (Gusinde 1922: 432-433). But adding that "these are the only ones entitled to give us a safe and satisfactory response on details of certain institutions and customs of the earliest epoch of mankind, the beginnings of human society" (Gusinde 1924: 42, cf. also 1951: 118), an assertion that could hardly be subscribed by Cooper's restrictive standpoint. A new standard was awarded to the Fuegian sea nomads. A more detailed review of the works of Gusinde and the evolution of his concepts can be found in Orquera and Piana 1995.

The first archaeological excavations in the region were

conducted by Junius Bird and made public in 1938. This researcher proposed two successive stages of evolution with replacement over time: the Shell Knife and the Pit House ones. That is, a dynamic past that refuted the idea of cultural immobility. On the other hand, as a result of his own archaeological research in continental Patagonia, he reported finding evidence of coexistence between humans and Pleistocene megafauna, which means great antiquity. Therefore, when asserting, as Lothrop did, that the human population of the southern archipelago of Tierra del Fuego may not be older than a couple thousand years (Bird 1938: 263), implicitly rejected or placed into serious questioning the concept of "living fossils"

Few years later the bet was raised by Imbelloni (bypassing Bird's assessments). He relocated the concepts of "living fossils" and "cornering" into a higher rank by using them as descriptive of the early peopling of all the Americas. Within this frame (Imbelloni 1947), the sea nomads of Tierra del Fuego were regarded as representatives of the oldest wave of peopling of the continent, a wave that would have occupied all of the Americas, and these ethnic groups would have kept almost unchanged in the southernmost archipelago because the cultural wave to which they belonged had been swept from almost all the rest of the continent by later and culturally better equipped waves. This panorama also floats on the 18th and beginning of the 19th centuries misconceptions that under-valuated the Fuegian environment. Something like: they lasted in Tierra del Fuego because no one else wanted to go there, and the proof it was they were living in Tierra del Fuego. Circular reasoning. Tautology.

The general panorama of **primitivism** and **cornering** made up by Cooper, Gusinde and Imbelloni long enjoyed wide acceptance, especially in, Argentina, Chile and the European countries, and even made its way into synthesis, teaching and dissemination writings. The **low antiquity** postulated by Lothrop and Bird was widely spread through the work of the first, while the

assessment of Bird of a past with changes did not impact enough. The latter is not for lack of Bird's personal prestige or problems with his interpretation: it was mainly due to the limited publication of his results; and also maybe to the scarce attention paid by ethnographers to the growing discipline of archaeology, which still had to mature in its methodology.

By mid of the twentieth century, Canals Frau (1950: 405 and 410), as an alternative to the concept of "living fossils" or primitivism, introduced the vision that the lifestyle of Yamana and Alakaluf would have been the result of an adaptation process, but also kept the idea of cornering (Canals Frau 1950: 407). The new concept was to gain importance with time, but not due to Canals Frau's idea. Three reasons for this fact may be acknowledged. First, because he figured an adaptation to a general coastal environment, when in fact the coastal environments are highly variable among themselves. Second, because he presented that adaptation in a very schematic way and within the context of its highly questionable and inconsistent assessments on the total peopling of America. And finally, because the dominant mindset of the idealistic schools previously described, showed little willingness to consider different approaches.

Consequently, at that moment, the archaeological findings of Bird seemed irreconcilable with the ethnographic approach of Cooper, Gusinde and Imbelloni.

Menghin (1960 [1972]) attempted a synthesis (detailed in Orquera and Piana 1995). As a result, he accepted that Yamana and Alakaluf had been cornered, but not that this would have implied any sort of cultural immobility. He envisioned the cornering as generating positive adaptive changes. The process would have been accomplished "without any spiritual stagnation, so to say, an inability to absorb the unfamiliar and to incorporate it properly, much less was it a decline... specialization towards a coastal protolithic culture... was a great achievement" (Menghin 1960 [1972]: 41). One way or another, Menghin began to split

apart two concepts within the peopling of Patagonia: the movement of human beings as carriers from the culture they carried.

Menghin panorama was internally consistent and could be tested. However, nowadays very little remains from his scheme.

The sequence Cooper – Gusinde – Imbelloni - Menghin was, in fact, a succession of reconstruction and explanation attempts on the way of life and the past of the southernmost seamen, which was primarily based on historical documents from the 18th and 19th centuries and in the negative appreciation of the Fuegian environment

On the other hand, the descriptive sequence that may be traced from some writings of the first half of the 19th century and through T. Bridges, had reached its maximum expression for the Yamana with the work of the Mission Scientifique du Cap Horn. Within this line the French Joseph Empeiraire (1955) conducted the last ethnographic survey among the Alakaluf that turned into an extensive published monograph. His explicit intention was to not defend any thesis but try to present the essential parts of the data collected. This entire sequence also flowed over a negative conception of the Magellan-Fuegian environment.

By the same time, J. Empeiraire and Annette Laming (1961) continued the archaeological path initiated by Bird, excavating in 1952 the site Englefield, at the north of the Magellan Strait. The remains of technology and subsistence there found, seemed to them similar to those of recent sea nomads. In 1958 they obtained two radiocarbon dates (then a fledgling technique) with an age near to 8000 ¹⁴C years BP. ¹

This dating was questioned later (Legoupil 1988), but at that time it clearly faced to the presumption of a late or recent peopling. However, either because it was a single, isolated date or for other reasons, the fact is that this review was not done and it

¹ All ¹⁴C dates mentioned in this paper indicate uncalibrated radiocarbon years (non-calendrical)

was quoted as an intriguing and curious data.

Meanwhile, a new change was blooming: a closer attention to the environment.

Steward and Faron (1959) continued analysing the ethnographic information that emerged from the historical record, but focusing on livelihoods and the environment. Explicitly rejected the validity of assumptions such as the archaism and marginality (1959: 374, 381, 449 and 454) and in regard to the Magellan-Fuegian sea nomads, did not mention cornering. Steward and Faron thought that the key to understanding why these Indians were as they were was their dependence on mussels as food (see Orquera and Piana 1995). According to them, the gathering of shellfish would have favoured social isolation (1959: 382-383), a prolonged exploitation of mussel beds would lead to their exhaustion and consequently imposed nomadism (1959: 398) while, in turn, nomadic life would have forced to have few material goods (1959: 391).

Steward and Faron regarded the Magellan-Fuegian sea nomads as within what they considered a general rule: unproductive environments would lead to the formation of small, scattered and undifferentiated human groups (1959: 376 and 381).

The major advance of these authors was to begin to analyse the environmental conditions. His greatest fault was that, based on historical information and the lack of environmental data, overstated the importance of shellfish collection at the expense of activities and revenue from hunting and fishing.

An independent and interesting work, also with an ecological standpoint, was that of Peter W. Steager (1965). He criticized the notion of the Alakaluf and Yamana as cornered and primitive, linked the natural resources and their cultural features, and considered them as regulated by the environment, adapted to a specific niche, which he recognized as highly productive. It was the first positive consideration of the southernmost environment. Regardless warning Englefield, Steager accepted an apparent low

antiquity, found no difference between the -by then- little archaeological records and ethnographic material culture. So, he projected the ethnographic image into the past by postulating that there were no changes and, relying on the alleged persistence, valued the adaptive system as successful because it would have lasted without changes. Again it was circular reasoning.

There were other attempts to understand the Yamana from an adaptive perspective. Stuart (1974) sought the explanation of the flexible and unstructured social organization of those natives in the relationship between navigation conditions and unpredictable weather. Jackson and Popper (1980) focused on seasonal organization of the subsistence search and discussed its possible implications for the archaeological record. They all well warned on the importance of the mussels in regards to their abundance, gathering easiness and location predictability, but also in its scarce caloric revenue and the need for grease from pinnipeds. However, distance with no personal knowledge of the environment and a restricted base literature lead them to some considerably erroneous considerations (comments in Orquera and Piana 1995).

The ethnographic based approach turned into circular thinking, again and again, because of the lack of data from other sources. The attempts from an adaptationist interpretation searching for such new data in the ecological information made some correct statements regarding the sea nomads, but failed to advance much more, or interest for doing so was desultory.

A plateau was reached. To go further required archaeological contextualised and diachronic data, as also verifiable results and assessments.

Nowadays archaeological panorama

However, a traditional archaeological research limited to stratigraphic sequences of material objects or to detailed studies of time-isolated archaeological sites was not enough. To overcome

the state of prior knowledge it was necessary a long-range archaeological research that gained diachronic data from different points in the process of settlement and occupation of the region and made use of ethnographic, environmental and paleoenvironmental information (Orquera and Piana 1995).

In the western Magellan Strait, Ortiz Troncoso (1975 and 1980) excavated the sites Bahía Buena and Punta Santa Ana, finding interesting early dates for the presence of the sea nomads in continental Patagonia. Nevertheless, the analyses were limited to typology and stratigraphy

In the Beagle Channel and southern islands, these requirements led to a systematic archaeological research initiated in 1975 that gave rise to the Beagle Channel Archaeological Project (PACB –initials after Spanish name-; Orquera and Piana, 2009; Orquera *et al* 2006). The first excavated site, Lancha Packewaia, broke down the assumption of a recent human peopling of the Beagle Channel because of identifying occupations of about 4200 ¹⁴C years BP and also suggested that the notions of archaism and cornering were highly controversial (Orquera *et al* 1977). Progressively these concepts were completely discarded (Orquera and Piana 1984; Piana 1984). A little later, Legoupil (1989, 1997, 2003) started similar researches in Otway Sound and other places in the Chilean territory. Also in Chile, the initiative of Ocampo and Rivas (2000, 2004) has to be mentioned.

The archaeological investigation is in progress since then, and it should be expected that what we believe to know today about the past of the sea nomads will be modified in the future.

However, the sustained research provided a mass of information and some firm conclusions that are not easy to summarize and structure a panorama quite different from the previous ones.

Nowadays it is possible to differentiate three regions where the sea nomads peopling acquired certain individuality: the Beagle Channel region, the Otway and Skyring sounds plus part of

Brunswick Peninsula, and Chiloé Island and its surroundings, although the in-between spaces were also populated (Orquera *et al* 2010).

From now on this paper focuses the first region and will relate to others only when necessary for the subject.

Continental Patagonia from the Atlantic to the Pacific was peopled by terrestrial hunter-gatherers as far back as 12.000 years or little more (synthesis in Borrero, 2008). By that time, the Magellan Strait was not totally open so it was possible to walk dry-feet from the continent to today's Isla Grande de Tierra del Fuego. Evidences of human presence from the 11th millennium BP found in this island, indicates the population spread of those hunter-gatherers (Massone 2004, Laming-Emperaire 1968, Orquera and Piana 2009, Piana and Orquera 2009).

The flooding of the Magellan Strait some 8000 years ago (Rabassa *et al* 1986) would have isolated a population group, both genetically and culturally. According to unpublished findings made in 2009 in the basal layer of Imiwaia I site on the north coast of the Beagle Channel, these people would have lasted at least until the arrival of the sea nomads (Piana *et al* 2010 MS).

Some 6500 years BP the Beagle Channel region started to be settled by people whose way of life depended on the exploitation of sea littoral resources (Orquera and Piana, 1999b, 2009). Almost from the same antiquity and on, there are findings of the same way of life at the north of the Magellan Strait (Legoupil 1988, 1997; Ocampo and Rivas, 2000; Orquera and Piana, 1999 b; San Román 2005, 2010). In both regions the recovered assemblages indicate an already well-developed adaptation towards the intensive use of littoral resources. Including the specific technology required. No traces of a previous experimentation stage have been still identified (Orquera and Piana 2005).

Where this adaptation did really start is still matter of argumentation (Orquera and Piana 2005). For Legoupil and

Fontugne (1997) and Ocampo and Rivas (2004) this way of life could have either started in the Magellan Strait inner seas or in the Beagle Channel. Instead, Orquera and Piana (1999b, 2005, 2009) pinpoint the Beagle Channel as a less likely alternative. More still, in 1988, based on the facts that the archaeological instruments found were already well developed, on the raw materials used for them, on the way that the environment was exploited, and on paleoenvironmental data, these authors put forward a hypothesis relating the coeval occurrence of this sea nomads way of life with the necessary presence of woods. Hence, such way of life would not be much older than the initial postglacial forest repopulation in the Beagle Channel domains that roughly matches the antiquities already found (Orquera and Piana 1988, Piana and Orquera 2009).

The previous considerations plus the finding in the oldest archaeological records of isolated lithic instruments made on raw materials imported from the Magellan region lead them to interpret the southernmost Fuegian islands as colonized for already pre adapted sea nomads (Orquera and Piana 2005; Fig. 7). No matter the geographic origin where these transformation and technological innovations had begun, the initial expansion of them along the southwestern South American shores would have been very fast. (Orquera *et al* 2010).

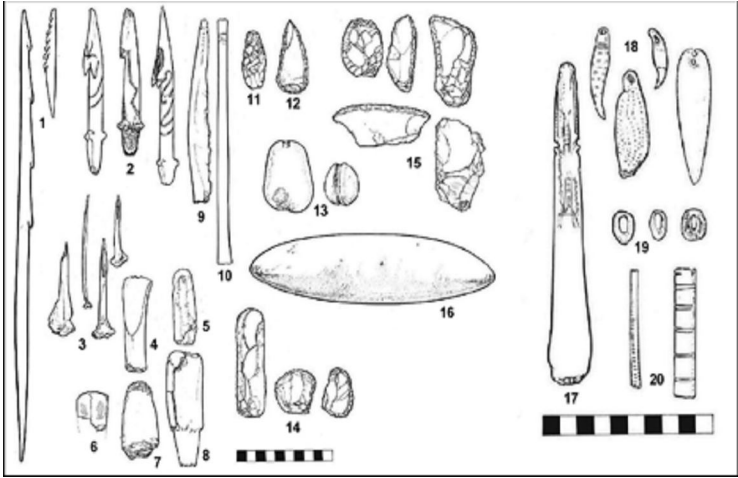


Fig. 7 Earliest sea nomads toolkit in the Beagle Channel. References: 1 Multibarbed harpoon heads; 2 Detachable harpoon heads; 3 Hollow awls; 4 Chisel; 5 Spatula-like tool; 6 Shell knife blade; 7 Wedge; 8 Stemmed wedge; 9 Flaker; 10 Sucking tube; 11 Lithic point; 12 Borer; 13 Fishing line sinkers; 14 End-scrapers; 15 Side-scrapers; 16 Pecked mallet; 17 Non utilitarian decorated rib; 18 Pendants on bone and teeth; 19 Shell necklace beads; 20 Bird bone necklace beads. After Piana and Orquera (2009:108).

In the region of the Beagle Channel it was possible to retrieve information about their continued presence over the last 6000 years. From the very beginning some sort of trustable navigation device had to be available (Piana 1984: 63; Piana and Orquera 1999; Legoupil 1994: 107). No significant differences were found in settlement patterns all along the sequence (Barceló *et al* 2002). All along the sequence data firmly leads to consider a canoeist and highly mobile life, with regular reoccupation of the same locations (Piana and Orquera 2010). There were technological modifications and innovations in the hunting weapons, little in the typology of the processing tools and some in its use (Piana and Orquera 2007, Alvarez 2009). Some authors think that the presence of subfoliated lithic spear points some

4000 years BP would indicate a migration or a population change (Schidlowsky 2001, Morello *et al* 2002, Ocampo and Rivas 2004), but Piana and Orquera (2007) think that it is more likely to see it as only the diffusion of a technological innovation which did not entail ethnic replacements or basic cultural changes. Anyway, their detection is restricted to Lancha Packewaia and one isolated finding.

In the alimentary resources actually exploited there were some changes both regional, depending on microenvironmental conditions, as along time, especially towards the last 1500 years when there was a greater evenness in the diet and an increase of the fishing activities (Zangrando 2009). Yet subsistence was based on the use-in-flexible proportions of pinnipeds, large and small cetaceans, fishes, birds, guanacos (*Lama guanicoe*) and mussels all along the sequence (Orquera and Piana 1999 b: 100). The environment (cold, windy and rainy) imposed high metabolic demands to humans. Local supply of vegetable food was totally inadequate; hence fat consumption was the only way to get enough energy. However, the natives did not live permanently in the verge of hunger, archaeological records indicate that their diet was rich in calories, mostly from fur seal (*Arctocephalus australis*) and from the very beginning the use of detachable head harpoons and canoes could ensure a reliable year round capture (Orquera 1999). Isotopic analyses (Panarello *et al* 2006) confirm the great incidence of maritime resources in the human diet. Currently, mussels are not evaluated as the primary source of food, as the ethnographers did. Measured their kilocalories contribution in various archaeological records, the role of "safety valve" they fulfilled as a source of fresh food -though low in calories- in between more nutritious procurements, is regarded as more important than their contribution to the diet (Orquera 1999).

The Beagle Channel people were not totally isolated. There are strong proofs of contact with de Magellan Strait ones in oldest archaeological records; later, the similarities of transformations in

both regions suggest either that such contacts continued or that both groups reacted the same way to internal or external stimuli, be them natural, cultural or both (Orquera and Piana 2005).

Therefore, in opposition of what could be expected for such a long period, the emerging panorama is that throughout the entire sequence the same trend of a human-environment relationship lasted without reaching points of no return.

This, in turn, required consideration. In general terms, within a half-a-day displacement in canoe, it was possible to find lithic raw materials to knap tools, fresh water, wood, pinnipeds, marine birds, fish, mussels, and, eventually, stranded cetaceans. The encounter rates might have been variable, but all these resources were always available. The only exceptions were the guanacos, restricted to the northern shore of the Beagle Channel and Navarino Island (Orquera and Piana 1999b). The even distribution of resources and the low magnitude of seasonal variations of the available dietary resources made their procurement a somehow predictable task. These circumstances do not necessarily encourage the elaboration of increasingly refined procurement tools and, according to the optimal foraging model, they favour social dispersion in small social viable groups evenly distributed throughout the landscape. Accordingly, no incentive for reaching greater levels of technological or social complexity has been found, and a greater complexity might have been counterproductive (Orquera and Piana 2009).

The unavoidable staple was the pinnipeds. Of them, the most exploited species, by far, was the fur seal (*Arctocephalus australis*). According to Schiavini (1990), its population would have been very abundant and the breeding rookeries would have been located in the outskirts of the Fuegian archipelago, in locations with aggressive seas, outside the scope of aboriginal predation. Also, the hunters did not reach the open seas where these animals fed, and could only catch individuals which approached to the shores. This explains the greater consumption of pre-reproductive

male individuals in the Beagle sites. It is true that the aboriginal predation might have reduced their stock, but also it is that the *Arctocephalus* may repopulate from distances exceeding 800 km. So, human predation would not have threatened the survival of the *Arctocephalus* population (Schiavini 1990, 1993).

More still, the income of migratory fishes from the Atlantic and the Pacific, birds both from northern and southern areas and cetaceous nourished in extended outside areas moulded an energy grant for the Fuegian archipelago. Top predators require extensive areas of primary production being this a limit for its demography. At condition of having the equipment and knowledge required to take advantage of the sea littoral, humans would not have such a roof down in the Beagle Channel region. To unbalance its environment was not achievable for the sea nomads.

And neither had it happened because of natural environmental changes. Due to its geographical location, after the last deglaciation the Tierra del Fuego climate was largely modelled by the surrounding oceans. Also sea waters were the media where more than the 90% of the diet came from. Isotopic analyses of the $^{16}\text{O}/^{18}\text{O}$ content of archaeological *Mytilus* shell indicates that the average Sea Surface Temperature varied less than 3°C all along the last six millennia (Obelic *et al* 1998) well within the range of cope capability of all of the exploited fauna.

The negative misconception of the Fuegian environment that started with the first European explorers was totally discarded. Nevertheless, the risk of having but little alternatives in the calories offer was underlined (Orquera and Piana 1999 b).

The regional favourable balance of resources over requirements - rooted in the almost constant immigration of food resources- should have favoured the Yamana to reach a population of some 2000 / 3000 individuals in the initial moments of contact with Europeans (Stirling 1867: 154, Bridges SAMM 1869, 1892: 317). This means a population density much higher than is common among hunter-gatherers. This demographic rate would

have been some thirty to forty times higher than that of the people of continental Patagonia when compared at the moment of arrival of Europeans to each region (Orquera *et al* 1984). On how was the population growth along the sequence there are only theoretical approaches, but the possibility that such growth has been rapid in the earliest moments with a plateau towards the last millennia is not discarded (Orquera and Piana 2006).

The collapse of this successful system happened by the end of the 19th century and was caused by the catastrophic pinnipeds depredation carried out by American, European, Chilean and Argentine groups, as well as by the introduction of sicknesses against which the indigenous populations had no antibodies (summary in Orquera 2002).

As a result

The assessment of a population of late antiquity has been rejected. The way of life and instruments developed are considered to be designed to take advantage of such environments and not of others, so the concept of "living fossil" was completely discarded. Instead of the concept of cornering, the process is seen as successful colonization of a new environment. The appreciation of primitivism was shelved by the adaptation.

The concept of adaptation abandoned its qualifying characteristic as had previously been used (i.e. Gusinde) becoming a tool for understanding. The social and technological simplicity is considered as a result of adaptive adjustment to conditions of abundance, reliability and low environmental diversity. Not as simple reflection of a lack of resources environment, as previously considered by the ethnographic standpoint. It is considered that it was not a lack of food resources, but its relatively homogeneous distribution, both spatially and seasonally, what lead the sea nomads to be organized into small and unstructured groups. Nor would the shortage of resources, but rather their abundance,

finding predictability and distribution evenness what justified an almost constant nomadism.

The emphasis in the preceding paragraphs to the consideration of environmental resources does not support environmental determinism. The environment shaped human behaviour either by imposing limitations or because some options were more economical than others. But there also was interaction: the integration of nomads with the ecological system was not merely passive (Orquera and Piana 1995). The advent of a greater evenness in the diet, the increase of fishing activities, the adoption of lithic weapons and the greater consumption of sub-adult pinnipeds are but a few reflections of such non passivity.

The current standpoint is not particularism: the pre 19th century southernmost sea nomads are considered as foragers (*sensu* Binford, 1980) or time-minimizer travellers (Bettinger, 2001). There are examples in other parts of the world in which other processes based on the exploitation of marine resources led to stratified societies and more complex technologies; the Beagle Channel case is just one extreme of the variability of human adaptive systems to coastal environments. The differences can be attributed primarily to the selective effect of different local environmental conditions on the possible behaviour variations. The Beagle Channel case is another example that the analyses of the adaptive potential in evolutionary processes should be evaluated not as abstractions but in close connection with local conditions.

The change of perspective is more than just descriptive, but does not include evaluative judgements.

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