

Bulletin of the Museum of Far Eastern Antiquities, Statens Museer för Världskultur, Box 16176, 103 24 Stockholm, Sweden.

Bulletin of the Museum of Far Eastern Antiquities 73 (2001), p. 192-213. Spring 2003 issue

MAPPING “ANCIENT” CHINESE ANTARCTICA

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Abstract: I examine how modern cartography may support the traditional perception of the Chinese landscape by studying the rendition of that environment as far away from China as geographically possible. I discuss the ways in which map-readers can combine the metaphors of geomancy and modernity when they compare the maps that Chinese scientists have compiled on King George Island, Antarctica. Connotations, suggestions and discrepancies in the naming of the island features play a crucial role in my construction of a coherent system for the ancient interpretation of a newly built landscape. I can therefore explain how the metaphorical cartography of a site has assisted in creating a cultural environment that has subjectively displaced the physical environment of insular Antarctica.

Keywords: Antarctica, cartocontroversy, Chile, China, exploration, fengshui, geomancy, Great Wall station, King George Island, landscape representation, place name.

1. Introduction

The media have granted a spiritual character to Antarctica and described the continent as offering much more to the travelers than an exotic landscape of floating icebergs and crazy penguins.¹ Antarctica provides a popular topic for introspective travelogues, science fiction novels, and accounts of British gallantry. More and more wealthy retirees, stamp collectors and mountain climbers travel there, but the continent and its islands have primarily remained the province of physical scientists.² An American geographer noted with pride in 1912 that Antarctica was “the stamping ground of explorers and scientists, and it would seem therefore as if scientific geographers had full sway and should crystallize Antarctic

names in accordance with the claims of discovery.”³ The cartographic representation and the Chinese nomenclature of this stamping ground are what I am about to analyze.

Indian, Japanese, Korean, and Chinese researchers now interact in Antarctica with their colleagues from both Americas and Europe. The People’s Republic of China has maintained since November 1984 two permanent bases in Antarctica, the Great Wall and Zhongshan research stations, which are located on King George Island and in the Larseman Hills on the mainland. Surveying, measuring, mapping and naming are obviously among the activities expected from polar researchers. We read for instance that Wuhan University experts surveyed Mt. Grove and mapped 120 square kilometers in January 2000. The team set up two Global Positioning System (GPS) stations and buried three Chinese bronze survey plaques on the mountain. It later published a large-scale topographical map.⁴ The acts of mapping and establishing residence on the White Continent are manifestations of exclusive sovereignty by the nations involved in the race for science in Antarctica. Aerial photographic survey, satellite imagery, the techniques of Global Positioning System and Geographical Information Sciences (GIS), are all employed to process and update an increasingly large amount of cartographical data. The analysis of the maps so produced can yield information on the geographical cultures of the countries that have built bases in Antarctica.⁵

One century ago, the nomenclature of the continent was seen as a major issue, which to be solved had: “to be founded on truth and justice, since geography and history are simply records of things as they are or events which have happened. A proper Antarctic nomenclature must have its source in loyalty to humanity and to science, and not spring from servile obedience to national prejudices and national greed. (...) Since the Antarctic regions (...) belong to the human race collectively, it seems self-evident that any names invented and applied to them (...) should be international.”⁶ We may have less naïve views on geography and history, but still find nomenclature to be an issue today. Place names given by cartographers are supposed to be either descriptive (like Elephant Island) or commemorative (like King George Island), but since no Chinese explorer or vessel is memorialized, it would seem that all Chinese toponyms are descriptive. This is not exactly true because the names chosen almost always refer to a landmark in China. They are therefore evocative and would form a new genre in the gazetteers of Antarctica. The Chinese maps of Antarctica display a nomenclature that is founded on verisimilitudes and place-loyalty, on the traditional school of Chinese geography, and on an uplifting vision of national history. This nomenclature excludes the names of Chinese emperors and admirals, but Chinese readers will find nonetheless that it expresses its national character without any ambiguity.⁷

I am questioning maps as landscape narrators to argue that they represent much more than the topography of the place. Cartographers manufacture power and, by extension, Chinese cartographers manufacture Chinese power. This argument has been made before by geographers but certainly not in the case of Chinese Antarctica.⁸ The Chinese nomenclature there suggests metaphorical constructions of space that are related to the

traditional school of Chinese geography known as fengshui or “geomancy.”⁹ To prove my point I have relied on two Chinese and Chilean maps that depict Fildes Peninsula at the southern end of King George Island (Isla Rey Jorge, península Fildes), in what Chileans call Territorio Chileno Antártico and Chinese Zhongguo Nanji zhou.¹⁰ I compare the Chinese and Chilean surveys as if the map readership included not only scientists and cartographers but also the government officials who support campaigns in Antarctica and the general public. I equate cartographic representation and environmental perception since the cartographic records of King George Island provide information on both, and I examine map names for what they suggest as much as what they show. I believe that the Chinese map of the Great Wall station makes references to the landscape paradigm of the imperial capitals of China, Hangzhou and Beijing especially.

2. The Geopolitical Context of an Island and a Continent

Despite its rigorous isolation, Antarctica has been affected by the same tensions between science, state and territory that have shaped the history of geography on other continents. Shortly after Pakistan and India became independent, the United Kingdom decided to continue in Antarctica the “Great Game” in which British and Russians used to oppose each other in Central Asia. The shift from the Tibetan plateau to the Antarctic plateau may not have been conceptually very challenging. The competition for the settling of the strategically located Antarctic peninsula (Tierra de O'Higgins on Chilean maps) and its offshore islands has become more acute as scientific bases have multiplied since the International Geophysical Year. During the 1957-1958 IGY, a coordinated series of geophysical activities spanned both poles. Despite the Cold War, researchers of sixty-seven countries worked together toward a scientific agenda that was non-nationalistic and apolitical. Shortly after, on December 1, 1959, the Antarctic Treaty was signed in Washington DC by Chile and eleven other countries, including Japan but not China. The area covered by the Treaty extends from the South Pole to the 60th parallel South. By freezing all territorial claims, the Treaty has preserved Antarctica as a venue dedicated solely to peaceful purposes and cooperative scientific research. In the 1980s and 1990s, several protocols and conventions have modernized the Treaty and sought to better protect the environment and ecosystems of the Antarctic continent and ocean. Forty years after the signature of the Antarctic Treaty, forty-three countries have subscribed to its clauses, and twenty-six (including both Chile and China) have acquired a right to vote.¹¹

For much of the 20th century the nationalist discourse on Antarctica has employed a rhetoric that merged the determinism of geopolitical arguments with the rewriting of the history of continent. In the 1940s, nationalist columnists in Chile perceived the presence in Antarctica of non-American bases as a denial of the principle of “America for Americans.”¹² Countries like the United Kingdom, France, and the Soviet Union were accused of not recognizing the political maturity and legitimate rights of the Latin American nations. The Falklands, the French and British

Guyanas, and other European exclaves in America and Antarctica were seen as strategic threats directed toward the heart of the Western hemisphere. These possessions violated the fundamental principle of Pan-Americanism and ignored the laws of historical cycles and geographical continuity. Some commentators argued that the old imperialist powers of Europe were in decline and should not prevent the younger nations of America from establishing themselves in Antarctica. European bases, located on the Antarctic prolongation of the American soil, were clearly undesirable in this geopolitical context.

Through the bull of 1493, Pope Alexander VI awarded America with western Antarctica to the Catholic Kings of Spain. The governors of Chile appointed by Madrid administered also the *terras australis*, since whatever was south of the Magellan straits belonged to the Spanish Crown. Chile inherited Spain's claims in Antarctica, and with them frictions with other countries that had discovered and occupied parts of the coasts and islands of the continent, most notably Argentina, the United Kingdom, Australia, New Zealand, France, and Norway. A Supreme Decree, signed on November 6, 1940, created Chilean Antarctica, an entity that the Chilean government saw in agreement with historical precedents and the geographic continuity of Antarctica and Tierra del Fuego. The area claimed by the Republic of Chile has been administered as part of the XIIth region, the "Región de Magallanes y de la Antártica Chilena." The capital of Chilean Antarctica is the naval settlement of Puerto Williams, on the Beagle Channel of Tierra del Fuego and about 1,200 kilometers north from King George Island. Following the first expedition to Antarctica, in early 1947, Chile has built a network of bases and refuges. This small country now supports three permanent bases, a meteorological center, an airport and a civil settlement.¹³

Public statements have been made on a regular basis on the consolidation of the Chilean sovereignty in Antarctica, on the improvement of the Chilean position within the Antarctic Treaty system, and on the dangers that the internationalization of Antarctica has created for Chilean sovereignty rights. Today's discourse on the Antarctic vocation of democratic Chile, as presented by diplomats such as Óscar Pinochet de la Barra, the director of the Chilean Institute on Antarctica (INACH), appears to be more accommodating than fifty years ago. Thanks to the conviviality of the "Antarctic spirit," Antarctica has been called the most imaginative political project of the second part of the 20th century.¹⁴ Nevertheless, Chile feels it has a unique responsibility in the co-administration and humanization of the continent. Antarctica is a New World, just like America was five centuries ago, that man is exploring and science converting into a symbol of environmental purity. Believing that further south lays a big mass of Chilean frozen water was a comforting thought to those who have endured severe drought cycles in Santiago.¹⁵

It would seem that most members of the Antarctic Treaty use science as a pretext to mark their presence and pursue political agendas. The justification for station building lies in the infrastructure needs of the scientists who have investigated Antarctica's physical environment. The scientific community has always assumed that its activities could remain free from cultural and political constraints, would have an insignificant im-

pact on the Antarctic environment but a tremendous one for the rest of the planet's well-being. The concentration of scientific stations, mostly located between Drake Passage and Weddell Sea, casts nevertheless a doubt about the originality of the research done in only a few islands.

One of the major South Shetland Islands, King George Island is centrally located between Drake Passage and the northern extreme of the Antarctic peninsula.¹⁶ The island's approximate latitudinal and longitudinal location is 62 degrees South and 59 degrees West. A glacier covers most of the island, except for the fifty square kilometer large Fildes Peninsula where the Chilean and Chinese bases are located. Great Wall station (Changcheng zhan in Chinese or Base Gran Muralla in Spanish) is situated near the bases built for the Chilean institute of polar research.¹⁷ A three-kilometer long coastal road links the airport, the Professor Julio Escudero base, the Presidente Eduardo Frei Montalva base, and the Great Wall base. King George Island has harbored a concentration of scientific communities that is the nationally most diverse of Antarctica. The Russian, Argentine, Uruguayan, Brazilian, Korean and Polish stations are all north of the Chilean bases, between the edges of the central glacier and the eastern coast. In 1987, the leader of the Chilean Thirteenth Expedition, Patricio Eberhard Burgos, toured the King George Island settlements as an observer. He visited ten stations belonging to eight different nations between January 15, 1987 and February 22, 1987. His report describes the base infrastructures and raises questions about research duplications and the relative overcrowding of King George Island. However, the analysis of environmental changes and the study of new human landscapes were outside the scope of his report.¹⁸

Over time, the cluster of the Chilean facilities on King George Island has become relatively complex, administratively speaking. The INACH manages the Prof. Julio Escudero Base, while the Chilean air force administers the Presidente Eduardo Frei Montalva base and Teniente Marsh base. The meteorological center of the Antarctic peninsula and islands is located at the Presidente Frei station. In order to materialize colonization plans a family community called Villa Las Estrellas was built on the Teniente Marsh Base of the Chilean air force. By 1990, fourteen Chilean families were living there, busy at peopling the continent. The Chilean bases offer many services to the multinational population of King George Island: a school, a church, a greenhouse, a clinic, a post office, a hotel, public phones, a small mall, the programs of Radio Soberanía station, a bar for betting on Chilean soccer teams, and a branch of the Banco de Crédito e Inversiones.

3. Chinese Presence in Insular Antarctica

China's scientific achievements in Antarctica have contributed to enhancing the international status of the PRC, a full consultative member of the Antarctic Treaty. The Chinese navy is able to sail to Antarctica, 17,000 kilometers away, and logistically support permanent stations in a hostile environment. Scientific programs in Antarctica are part of the national five-year plans of the People's Republic of China, which would indi-

cate that research agendas are determined by the central authorities. The still unwritten history of Chinese Antarctica mostly consists of newspaper headlines, congratulation messages from the Chinese government, and technical reports that remind us of the nature of the links that have existed between physical sciences and state machinery.¹⁹ As far as I know, the Chinese archives related to the establishment of the country's two research stations and the dispatch of yearly expeditions are not opened to foreign scholars, even if the Treaty states that programs plans and observation results must be freely exchanged.²⁰ The activities of China in Antarctica have remained relatively secret and vague maybe because lack of transparency serves diplomacy best. Beijing does not want to antagonize claimant nations and prefers for the moment a consensual approach to the debate on the future exploitation of the region resources. Beijing may also have become aware that the international community is concerned by China's careless attitude toward the environment, at home as well as in Antarctica.

China's research activities began during the 1979/1980 season, at the very beginning of the Deng Xiaoping era (1978-1997), when two scientists were invited to Davis station, in Australian Antarctica. A National Antarctic Research Committee was set up in 1981; two years later, the Chinese representative at the Treaty's twelfth Consultative Meeting declared that the People's Republic of China wanted to work with other countries "to bring about a speedy development of scientific investigation in Antarctica."²¹ Following talks with Chile on oceanic and geological surveys, the INACH received an invitation to tour Beijing, Shanghai, Hangzhou and other scenic places in China in 1982. The Chilean guests were introduced to the work done by Chinese oceanographers and environmentalists. A few months later, a Chinese scientist landed on King George Island, thanks to a courtesy flight of the Chilean air force. This was the beginning of an association between Chinese and Chileans that resulted in the building of the first Chinese research station in Antarctica. Collaboration between the Chinese and Chilean bases has been largely informal and limited to solving logistical issues on King George Island: the Chileans operate an airport while the Chinese own a floating crane and the largest vessel in the area. In terms of actual research, Chilean and Chinese projects may accidentally overlap but formal efforts at program pre-coordination have remained rare.²²

Two Chinese researchers interested in lichens and sea mammals succeeded the unnamed Chinese scientist who first stayed in Chilean Antarctica in 1982. They were looking for a location for China's permanent research station. Wu Baoling and Deng Jinghai, accompanied by Daniel Torres Navarro of the Scientific Department of the INACH institute, toured the eastern and southern coasts of Fildes Peninsula on King George Island in 1984. The Chinese party did not retain the site that the Chilean proposed because leaking fuel tanks had polluted its source of drinkable water, the Laguna Langer. On February 20, 1985, the First Chinese Expedition to Antarctica inaugurated Great Wall station (Changcheng zhan), which had been built within weeks further south of the first site and west of Xihu Lake, the first lake in Antarctica to receive a Chinese name. The base is located at the southwestern tip of King George Island and close to Nelson Island, not far from Chilean and Russian stations — which remained unacknowledged in the Chinese sources of 1985.

Also in February 1985, the Chilean air force issued a cordial invitation to the director and assistant director of China's Committee of Exploration of Antarctica. The Chinese delegation flew to Antarctica in the company of the Chilean Director of the Administrative Department of the Ministry of Foreign Relations and security personnel. They inspected the construction site of the new base. The Chinese officials may have accepted the involvement of the Chilean air force partly out of convenience and partly because they were not charged for transportation. But the Chinese first had to land in Chile and solicit a visa for doing so, which implied the recognition of Chilean sovereignty on King George Island. This point seems to have escaped the attention of the Chinese mission members, although a public statement by a Chinese official upon his return from King George Island implied an unwillingness to admit the existence of the Territorio Chileno Antártico. The Chilean scientists who hosted the Chinese mission were aware of the Chinese reservation since they later quoted it.²³

The following austral summer, in January 1986, three astrophysicists from Peking and Nanjing universities went to Antarctica to study the Halley comet. The same month, two high school students from Beijing and Shanghai boarded a Chilean plane to fly to King George Island. As Young Pioneers, they had been chosen by the Chinese communist youth organization to affix a bronze plate at the Great Wall base. A penguin and a panda bear decorate the text of the plate they carried with them. The 1985/1986 and 1986/1987 expeditions improved somehow the base infrastructures. In August 1988, Zhu Qizhen and Ernesto Videla Cifuentes, both vice-ministers of external relations, signed a Memorandum of Understanding, but the Sino-Chilean memorandum has not resulted in a formal agreement or in a joint research program. The only collaborative effort took place in 1993-1994, when Chilean and Chinese paleontologists teamed up and a Chilean scientist was invited to attend a conference in China. Without Chilean assistance, China established a second station on the coast of the Antarctic mainland inside the polar circle in February 1989. On November 1, 1995, Reuters reported that Beijing would send fifteen Young Pioneers to Great Wall station for a seven to ten day research project. Teenagers from Mainland China, Hong Kong, Taiwan and Macao were welcome to apply. Several Chinese enterprises reportedly gave US \$480,000 to finance the program that Young Pioneers presented as the first of its kind in the world.

The description of China's seventh expedition to Antarctica by Sun Wensheng, which was published in the September 2001 issue of China Pictorial, reveals the confluences of nationalism, science, modernity and history. Sun Wensheng was "deeply moved (...) by the enchanting scenery" as he admired "the glittering ice floating on the sea and the icebergs and snowy peaks in the distance." He emphasized the virgin nature of the spot, describing the area as "fresh, harmonious, unsophisticated, and uncivilized, as if we were standing in the remote past of mankind." In this unspoiled area, the functional Great Wall station allowed high-level science and offered modern comfort. He remarked that "all the buildings stand on sites named after places in China, such as Pingding Mountain and Guishan Mountain." As he left Antarctica, Sun Wensheng felt na-

tional pride at the conquest of “a snow-covered world,” in which “a five-star flag was rising to the accompaniment of the Chinese national anthem.”

4. The Making of Chinese Antarctica

While the pristine environment of King George Island has changed in twenty years, the Chinese commitment to research in Antarctica has remained remarkably constant. This sustained policy resulted in China being promoted to the rank of a non-claimant consulting member of the Antarctic Treaty on October 10, 1985. China was present during the discussions that led to the Protocol on Environmental Protection to the Antarctic Treaty in 1991 and approved it in 1994, although its position on the Protocol's specific annexes is unclear. The People's Republic of China has been anxious to demonstrate that Chinese scientists participate actively in the research done on Antarctica. The yearly expeditions of CHINARE, the Chinese Antarctic Research Expedition, have been centered on the Great Wall and Zhongshan stations. At the local level, research has been conducted on the volcanic and sedimentary profiles of the South Shetland Islands and the mesa Cenozoic paleontology of the islands.

Since its establishment the Chinese National Committee for Antarctic Research has published the yearly reports that the Antarctic Treaty requires from all its signatories. The Chinese Antarctic Administration and the Polar Research Institute of China are the institutional authors of the Summary of China's Antarctic Scientific Research Report to SCAR series. The reports describe the technicalities of scientific activities. The selection and methodology of research projects receive only brief explanations.²⁴ The activities of the staff of the two Chinese research stations in Antarctica are documented in other academic journals, such as the *Jidi yanjiu* journal, which continues the *Nanji yanjiu* journal, a quarterly that was established in March 1988. Both are also published in English (Antarctic Research was renamed Chinese Journal of Polar Science in 1997). The journals are sponsored by the Polar Research Institute of China under the supervision of the Antarctic Survey Administrative Office of the National Maritime Agency of China (*Guojia haiyang ju Nanji kaocha bangonghui, Zhongguo jidi yanjiu*). The indexes of the *Jidi yanjiu* journal may give an idea of the relative importance of the fields of research where China is active: geology, environmental science, geochemistry and biology would be the most important areas of investigation in Chinese Antarctica.

Practical interest in cartographic research and mapping is also strong. In March 1999, the Chinese Antarctic administration announced its interest in conducting alone a GIS project on King George Island. The Larsemann Hills of the Zhongshan station were mapped as well as the plateau behind the station. A continental-scale mapping project was concluded recently, and Chinese maps of Antarctica are now being advertised for sale. The 1999 collection of Chinese maps of Antarctica include two maps series of Antarctica, topographic and geological, at the 1:6,000,000

and 1:5,000,000 scales, maps of the Antarctic ocean, of the Antarctic frozen seas, maps of Great Wall and Zhongshan stations, and topographic and geological maps of Fildes Peninsula. Great Wall station and Zhongshan station participated in the SCAR Epoch Global Positioning System campaigns during summer 2000/2001 and summer 2001/2002. The Chinese Antarctic Center processed the GPS data of seven stations in the Antarctic peninsula. Future plans call for the improvement of the geographic information database of Antarctica and the revision of the topographic maps of Great Wall station and Zhongshan station. In the Grove Mountain area, twenty places received Chinese names that were submitted to the National Committee for Naming Antarctic Features.²⁵ It is certainly not by accident that the Chinese Antarctic Administration took the initiative to publish a Manual of Place Names of the Antarctica (title in Chinese unknown). By assuming an active role in the mapping of Antarctica, the Chinese can put a lasting imprint on the continent.

5. Cartocontroversy on King George Island

The five-star flag of China would thus dispute a crowded island to the one-star flag of Chile. What I call “cartocontroversy” is a conflict indicated by inconsistencies or silences that become evident when we compare two maps of the same locale.²⁶ Cartocontroversy does not need to be explicitly acknowledged by the cartographer or understood by the observer. The map-reader may understand that there is an intention in these discrepancies, without imputing the coherence of the map representation to the cartographers’ intentions. The Chilean and Chinese schools of cartography cause only indirectly the discrepancies found in the maps made independently in Beijing and Santiago. I am of course abandoning the notion of map as objective representation in order to situate the notions of map coherence and discrepancies within a specific cultural context. Working with the coherence of the visual records substantiate a case for cartocontroversy, since the discrepancies that result from map production might be construed as the visual elements of opposite ideological agendas.

Comparing the Chilean and Chinese maps of the Great Wall base and the Presidente Eduardo Frei Montalva base reveals a few contradictions and silences that deserve an explanation. For instance, the Chinese map does not include information on the Chilean presence on the peninsula. This is surprising because Chinese scientists were fully aware of the Chilean maps of the area since they had to use them to prepare their landing. Aerial pictures of Fildes Peninsula had indeed been taken by the photogrametric Service of the Chilean air force in 1983-84, the year before the Chinese arrival. On the other hand, the Chilean map, which was updated in 1996, identifies and names most of the features of the site of the Chinese base. Only two Chinese place names are translated into Spanish (co. Dragón frío and Gran Muralla); the other place names are given in transliterated pinyin Chinese (Wang Long Yan, for instance). The Chilean cartographer has added a Chinese name to the only feature that already had been named in a different language (Isla Catedral or Guijan) but he misspelled it: Guijan instead of Guishan. Twice the cartographer

repeats a spelling mistake: "Shanhaicuan," instead of Shanhaiguan. Such mistakes may reveal the ignorance of the meaning of the place in Chinese. Part of Maxwell Bay has been re-baptized "Bahía Gran Muralla China" north of Isla Catedral, but the bay has kept its previous name south of the island, "Bahía Maxwell." Two Chinese-sounding capes, Dong Chen and Wuhan, now delineate the entrance to Bahía Maxwell from the Bransfield Strait. Further west, across Fildes Peninsula, we note the presence of a Shimen peninsula and a Huangshi hill, which from its 123 meters dominates, so to speak, the Laguna Geógrafos. Some Chinese toponyms, especially those that are the closest to the Great Wall base, are missing from the Chilean map.

We may safely assume that these Chinese place names, especially since they are transliterated, do not have any emotional connotations for the Chilean readers of this map of Fildes Peninsula. After all, how many technicians and scientists of the INACH laboratories and stations would appreciate the cultural meaning of the Chinese place names? Moreover, Chinese readers may remain indifferent to the place names transliterated from the Chinese characters on the Chilean map. They would not know with certainty which transliteration stands for which character since the Chinese language has a large number of homophones. However, the Chinese toponyms of King George Island are of crucial importance for the perception of the site of Great Wall station and the understanding of the political ambitions of China in Chilean Antarctica. These names have rich emotional resonance, but their potential to recreate a cultural landscape would be evident only to the Chinese expedition members and sponsoring agencies, and Chinese-literate implied readers.

6. The Cultural Landscape of the Great Wall Station

The Chinese Communist Party Central Committee and the State Council of the People's Republic of China endorsed China's first expedition to Antarctica in 1984/1985. Deng Xiaoping himself offered a plaque to the expedition members that had as its inspirational inscription: "Toward the Peaceful Utilization of Antarctica by Humanity." For the first hoisting of the Chinese flag in Antarctica, Guo Kun, the expedition leader, chose a hilly place, with lagoons opened to the sea. Along the coast of what he described to be a green oasis, the rich biota of the lagoons promised convenient research topics — unfortunately, these lagoons had disappeared by 1996. The construction of a base in an area that had no previous cultural imprint, according to Chinese sources, is an event impossible to observe in China since this country has had such a long history. Great Wall station thus constitutes a unique opportunity to observe landscape sinicization in action — the cultural values about space that an all-male team of Chinese scientists has transplanted outside the Chinese realm. In the originally neutral environment of King George Island, these values about place and space are indeed easy to notice and analyze. But what are these values that have given a Chinese meaning to the site of Great Wall station?

Expediency and nationalism were the guiding factors in the construction of the Great Wall station. The design and layout of the station were defined after examination of how countries with polar experience built and ran their bases. New Zealand provided expertise for construction and management, and Chinese scientists discussed practical details with Chilean and Argentine colleagues on King George Island. Building insulation, fire hazard, water supply, a landing site, road access, and garbage disposal were among the conversation topics. Knowing which factors were the most important ones in the founding of the station is not an easy task if Chinese records are not available. I suspect that the naming potential of the southernmost part of the island was an attractive consideration that may not have been discussed with outsiders. On the other hand, interest in the actual natural environment was openly expressed, although in lyric terms. Chinese scientists were not especially interested in making statements on socialist architecture and modern Chinese city planning.

According to Guo Kun, the very first task of the expedition was the naming of the features of the settlement, as if giving Chinese names to the lake, bay, and hills around the station were prerequisites to turn the virgin site into a sustainable environment.²⁷ The Chinese place names on King George Island fall into three functional categories:

I. Names and concepts translated from foreign languages:

Nanji: South Pole, Nanzhou: South Continent (Antarctica), Dizhixuejia dao: Geologist Island. Well before the actual mapping of the coasts of Antarctica began, in 1602, Father Matteo Ricci introduced the notion of an austral continent to Chinese geographers in his Kunyu wanguo quantu map, which was then called Nanzhou, the South Continent. Wan guo quan tu, a map similar to Ricci's, was made soon after in Hangzhou in 1623. Its author, Giulio Aleni, depicted a vast but empty austral continent that extended northward to Java and was called Magellanica.²⁸

II. Names transliterated from foreign languages:

Fei'erdesi bandao: Fildes Peninsula, Adelei dao: Ardley Island. The transliteration of foreign place names has a long tradition in Chinese geography. Reverse transcription into the Latin alphabet of foreign names transliterated into Chinese may unsurprisingly lead to mistakes: the Frei base may then become the "Ferry" base and Fildes Peninsula is called "Fields." Western scientific concepts are never transliterated into Chinese — in this respect Chinese is markedly different from Japanese, which willingly uses its katakana system to transliterate the concepts, tools and techniques developed in Europe and America.

III. Chinese place names, which, if recognized by the international community, may appear on international maps in transliteration or translation: Changcheng zhan: Great Wall base, Zhongshan base: Sun Yat-sen base (if translated), Xihu: Western Lake, Shanhaiguan: the easternmost Great Wall pass between Manchuria and the North China plain, Shuangfeng dao: Two Summit Island (on the Chinese map, and Islas dos Morros on the Chilean map).

The Chinese place names found on King George Island belong to several semantic registers within the third category. Most toponyms are actually members of at least two of the following registers:

IIIa. Geographical names that describe the aspect or the location of physical features: Pingding shan or Flat Summit Mountain, Xihu or Western Lake.

IIIb. Geographical names that have a historical and patriotic significance: scenic Xihu or Western Lake, is the famous lake that lies west of Hangzhou. Its shape has been a model of inspiration in landscape architecture. Hangzhou was the wealthy capital city of the Song dynasty that desperately resisted the Mongol invasion. Lake Xihu or Laguna Gran Muralla in Spanish is the name of the lake directly west of Great Wall station. The Great Wall of China, this wonder of military architecture that failed to protect China from incursion and conquest by Central Asian dynasties, generated several toponyms on King George Island: the station itself, the bay, one lake and two hills, Shanhaiguan and Badaling, now continue in Antarctica the 5,000 kilometers of the Great Wall of China. The restored Great Wall gates of Badaling and Shanhaiguan are among the most visited tourist places around Beijing.

IIIc. Geomantic place names that have a significance in the traditional sense of place (fengtu in Chinese) in China: Pingding shan, Xi shanbao, Qifeng yan, Wanglong yan, and the hill and island of Guishan (Isla Catedral). I would include Dragón frío Hill (Cold Dragon Hill) that is present on the Chilean map but not on the Chinese one. I am here speaking about the terms used in geomancy (fengshui in Chinese) that have contributed to the creation of relationship between the site of the base and the base community.

These geomantic toponyms form a semiological network that associates a systematic analysis of the physical site, the configuration of the natural elements of the site, and the location and shape of the human elements introduced to the site (such as: wharf, flag pole, antennas, buildings and roads, water pipes and sewer lines, fuel tanks). “Geomancy,” concisely defined, is the art of placing man-made features within the natural environment. The aim of geomancy is to locate propitious sites in order to protect local settlements from evil influences. Geomancy reveals processes of cosmic forces as they are moving through the landscape. One implication of the interpretation of geomantic space is the idea that disturbances in the environment may disturb the delicate balance between community and nature to the point that the sustainability of the community is threatened.

7. The Metaphorical Landscape of Fildes Peninsula

Toponyms with historical, patriotic and geomantic meanings bring immediately to mind ancient China’s values related to locale. The set of references is evident enough: the Great Wall of Antarctica is the Great Wall of China, the Shanhaiguan of King George Island is the Shanhaiguan

that protects Beijing, etc. Two other systems of landscape values may be less visible to the Western (Chilean in this case) observer: the geomantic and metonymic systems of references. The alignment of Nesting Phoenix Cape (Qifeng yan), West Mountain Embrace (Xishan bao), the Great Wall gate of Badaling, and Watching Dragon Cape (Wanglong yan) protects the geomantic site of the station east of Western Lake. Flat Summit forms the rear barrier hill, west of the station, and is attended by Watching Dragon in the south and Nesting Phoenix in the north. Finally, the flagpole is located on a east-west axis that we can trace from Flat Summit to the mouth of the creek that drains Western Lake. Opposite to the east-facing base lies Guishan Island that closes this geomantic site. The axis bisects the site in two equal halves; buildings and infrastructures are built on both sides of the axis. Perhaps because of the association of Flat Summit's shape to the shape of Jupiter geomantic hill and therefore to the Wood element, the oil depots of the station have been symmetrically located as far away as possible from the station and on both sides of the axis. The presence of Wood implies of course a fire hazard. The Chilean map shows that fuel tanks are placed close to the Fire Cape (Huo yan), under the protection of Watching Dragon Cape.

I will now suggest a homology between Great Wall station and imperial Hangzhou. Located near the garden cities of the Grand Canal, Hangzhou is one of the major sites of reference for Chinese landscape architecture.²⁹ In the austral hemisphere the observer must face north in order to watch our sun. As a rule, Chinese cities always face the equator line, and, conversely, if China were south of the equator, we would assume that its cities would face north. The only remarkable exception to the geometric rule of cardinal orientation (illustrated by the imperial capitals of Beijing, Kaifeng and Xi'an) is Hangzhou, the Southern Song dynasty's capital city. Because of relief constraints, Hangzhou was exempted from several geomantic rules. Maps of the city were actually reoriented with south on top to give the appearance that urban planners had respected geomantic canons by placing the imperial palace in the northern part of the city. Such practices are useful reminders of the argumentative nature of geomancy, which is a discourse that justifies building and siting decisions but remains open to further interpretations. We therefore need to mirror the map of the station to compare the site configuration of Great Wall station with the site of Hangzhou. This new mental map shows a settlement that develops in a South-North direction, a body of water that follows a Southwest-Northeast direction and, surrounded by hills on three sides, a lake west of the settlement while a river or a bay lies east of the settlement. The maps of both the base and the imperial city depict the same site configuration. The location and the orientation of the station between Western Lake and the coast is an invitation to compare the site of Hangzhou to China's frontier outpost in Antarctica.

Sinologists used to believe that Chinese held tenaciously to all the traditions of their culture, including their architectural practices. In 1103, the Song government printed *Yingzao fashi*, a treaty by Li Jie on architectural methods that the emperor had commanded. It would have been nice to find in King George Island influences of these Li Jie's principles, but such is not the case. The borrowing of place names, landscape metaphors and vistas has many precedents in the Chinese tradition and would not seem displaced in the Great Wall station of Chinese Antarctica. The com-

parison of the imperial capitals of Hangzhou and Beijing with the Great Wall station cannot be deepened because more examples are lacking to support the identification thesis. The attachment of toponyms to specific landforms indicate without ambiguity references to three landscape readings, one to the Great Wall section that historically protected Beijing, one to a geomantic archetype, one to the site of fabulous Hangzhou. Topography, orientation, map and nomenclature do suggest a desire for affiliation, but little more because metaphors do not need to become literal to be convincing.

8. Conclusion

It would be wrong to assume that Antarctica has no ancient cultural landscape, even if the values shared by the scientific community appear to be based on universal beliefs in progress, on modernity, positivism and “national greed,” and on the celebration of heroic deeds and occasional martyrdom, and not on a geographical tradition specific to an ethnic group. The landscape of Antarctica has in fact as many identities as states that operate scientific stations. Beyond all scientific rationalizations and political discourses, the construction of Great Wall station and its subsequent mapping by Chinese and Chilean cartographers illustrate a general principle of cultural identification to a locale. Fildes Peninsula holds at least one spiritual meaning, which is written in the classical language of Chinese landscape perception. As a magic site anchored in imperial China, the Great Wall of King George Island is a jewel in the Antarctic tiara.

Physical locales cannot be transplanted to a different part of the earth but a cultural locale is eminently transportable. Using this principle of identification, China has metaphorically annexed a territory claimed and occupied by Chile, while denying its formal inclusion into the Chinese universe. The Chilean observers who inspected the Great Wall base did not even notice the creation of a tangible Chinese landscape on Fildes Peninsula.³⁰ To outsiders the Chinese imprint in Antarctica appears to be negligible, since out of seventy-three items listed by the British Antarctic Survey as having a historical value, only one is Chinese. It consists of a monolith erected by the First Chinese Antarctic Research Expedition to commemorate the establishment of Great Wall station. According to the Antarctic Treaty provisions, the “Historic Site and Monument” of Great Wall station should be protected from damage and appropriately marked with notices in Spanish, French, English and Russian. Incidentally, King George Island has other historic sites: Poland contributed a plaque, grave and cross, to the humanization of Fildes Peninsula, while Germany placed a plaque to commemorate the landing on March 1, 1874, of the scientific expedition aboard the ship *Grönland*. Ancient China is nevertheless very much present today in the nomenclature of Antarctica. Chinese place names have succeeded in creating a dynamic relationship between topography and community.

After several books staged on Mars, science-fiction writer and National Science Foundation research fellow Kim Stanley Robinson wrote *Antarctica*. This novel relates a wilderness adventure expedition and tells us the continent's true story: “caught in the crossfire between oil interests and environmentalists.” Interestingly enough, Robinson included in the expedition Master Ta Shu whose name could mean either “destiny” or “the dog days of summer.” He was “a Chinese feng shui guru, transmitting his adventures to a Chinese TV audience and therefore telling them all the old tales, in his own way.”³¹ The geomantic toponyms of the Chinese maps of Antarctica can rehearse old stories as least as well as Master Ta Shu in this American novel since Chinese scientists may have named the unfamiliar landscape of King George Island just to listen to the legends of ancient China.

List of illustrations

Figure 1: The locations of King George Island and Fildes Peninsula. Source: Isla Rey Jorge-Península Fildes, Islas Shetland del Sur, XII Región de Magallanes y de la Antártica chilena, Republica de Chile, Carta topográfica No. 2 Basa Presidente Eduardo Frei Montalva. Instituto Geográfico Militar de Chile, 1996 (detail).

Figure 2: Chilean map of Great Wall station. Source: Isla Rey Jorge-Península Fildes, Islas Shetland del Sur, XII Región de Magallanes y de la Antártica chilena, Republica de Chile, Carta topográfica No. 2 Basa Presidente Eduardo Frei Montalva. Instituto Geográfico Militar de Chile, 1996 (detail).

Figure 3: Chinese map of Great Wall station. Source: Zhongguo Nanji Changcheng zhan ditu. The Map of the Great Wall Station of China, Zhonghua Renmin Gongheguo, guojia Nanji kaocha weiyuanhui, ed., Beijing, Zhongguo ditu chubanshe, 1986 (detail).

Figure 4: Map of Hangzhou. Source: Jacques Gernet, *Daily Life in China on the Eve of the Mongol Invasion, 1250-1276*, Stanford University Press, 1962, page 24.

Acknowledgements

For helping me during the various phases of this project I would like to thank Corinne Pernet (University of Zurich), Helen Dunstan (University of Sydney), Paul Claval (Paris IV University), Alfredo Sánchez (Catholic University of Chile), and an anonymous reviewer of the BMFEA. I am glad to acknowledge the assistance received from the staffs of the National Library of Chile and the Chilean Antarctic Institute in Santiago de Chile. I read a draft of the present paper to the students of the Institute of Geography of the Catholic University of Chile and the Goethe Institute of Santiago, and thank them all for their candid comments. I originally wrote a two page long report for the Chinese Environmental History Newsletter.³² I later presented my findings in “L’Antarctique chinoise et la recomposition de l’identité culturelle en territoire vierge” at “Le territoire, lien ou frontière ?” conference organized by the Institute of Geogra-

phy of Paris IV-Sorbonne University. The final revision of this paper has been made possible by a Swiss National Science Foundation research grant to investigate the history of cartography in western China.

Notes

¹ “Óscar Pinochet de la Barra, un diplomático en el reino de la luz,” *La Epoca*, December 22, 1990, page 40.

² Turistel-CTC, *Guía turística de Chile. Sur 98, Chillán a la Antártica*, Santiago, Turismo y comunicaciones, 1997, page 308.

³ Edwin Swift Balch, “Antarctic Names,” *Bulletin of the American Geographical Society*, 44-8, 1912, page 561.

⁴ Xinhua News Agency, July 9, 2001.

⁵ The two maps under consideration are:

- *Zhongguo Nanji Changcheng zhan ditu. The Map of the Great Wall Station of China*, Zhonghua Renmin Gongheguo, guojia Nanji kaocha weiyuanhui, ed., Beijing, Zhongguo ditu chubanshe, 1986. 1:1,000 scale (approximative).

- *Isla Rey Jorge-Península Fildes, Islas Shetland del Sur, XII Región de Magallanes y de la Antártica chilena, Republica de Chile*, Carta topográfica No. 2 Basa Presidente Eduardo Frei Montalva. Instituto Geográfico Militar de Chile, 1996. 1:10,000 scale.

⁶ Edwin Swift Balch, “Antarctic Names,” *Bulletin of the American Geographical Society*, 44-8, 1912, page 561-562.

⁷ With one exception, since Zhongshan station is named after Dr. Sun Yat-sen ou Sun Zhongshan (1866-1925). Sun Yat-sen, fought the Qing dynasty (1644-1912), created the Guomindang (Nationalist) Party, took part in the 1911 revolution, and is considered as the father of the Chinese republic.

⁸ Most notably by J.B. Harley in “Maps, Knowledge and Power,” in *The Iconography of Landscape: Essays on the Symbolic Representation, Design and Use of Past Environments*, Denis Cosgrove and Stephen Daniels (Cambridge University Press, 1988).

⁹ *Fengshui* (*fung shui* in Cantonese) is also called *kan yu* or *di li*, two names that better than *fengshui* indicate the importance of observation and modeling. The scholarly literature on this topic is vast. Ernest Eitel described the Chinese school of geomancy in *Fengshui. The Science of Sacred Landscape in Old China* in 1873. Andrew L. March reviewed the textual history of *fengshui* principles in an article, “An Appreciation of Chinese Geomancy,” that the *Journal of Asian Studies* published in 1968 (vol. 27-2, pages 253-267). Stephan’s Feuchtwang’s thesis, *An Anthropological Analysis of Chinese Geomancy*, was published in 1974. Geographers have enjoyed reading Ronald G. Knapp’s many books on geomancy and the traditional landscape of rural China: *China’s Vernacular Architecture. House, Form and Culture* (1989), *Chinese landscapes. The Village as Place* (1992), *China’s Living Houses. Folk Beliefs, Symbols, and Household Ornamentation* (1999), and *China’s Old Dwellings* (2000). The best introduction to Chinese geomancy I am aware of is unfortunately in French: *Fengshui. L’art d’habiter la terre*, by Frédéric Obringer (Editions Philippe Picquier, 2001).

¹⁰ The national maps of Chile always include a map of the “Territorio Chileno Antártico” in a separate box as well as a disclaimer on the national boundaries: “La edición y circulación de mapas, cartas geográficas u otros impresos y documentos que se refieran o relacionen con los límites y fronteras de Chile, no comprometen en modo alguno al Estado de Chile, de acuerdo con el Art. 2º, letra g) del DFL N°83 de 1979 del Ministerio de Relaciones Exteriores.” It would seem that this disclaimer is required by the Dirección Nacional de Fronteras y Límites del Estado, which is the agency that authorizes map circulation in Chile.

¹¹ The Antarctic Treaty's Fourth Article is the one that would matters most for Chilean and Chinese diplomats: “Ninguna disposición del presente tratado se interpretará como una renuncia, por cualquiera des las partes contratantes, a sus derechos de soberanía territorial.”

¹² Rafael Di Domenico, “¿Existe realmente el problema antártico?” *La voz de un escritor*, pages 84-85.

¹³ For a touristic description of Chilean Antarctica please consult: “Zona 15, Territorio Chileno Antártico,” in Turistel-CTC, *Guía turística de Chile. Sur 98, Chillán a la Antártica*, Santiago, Turismo y comunicaciones, 1997, pages 302-308. The map of the territory seems to be based on a National Geographic Society map of 1987, but the original map was altered to accommodate Chilean political claims.

¹⁴ Lucia Ramirez A., “Óscar Pinochet de la Barra,” *Boletín Antártico Chileno*, 2, Nov. 1996, pages 15-16.

¹⁵ “Óscar Pinochet de la Barra, director del Instituto Chileno Antártico: Abrazo de Frei y Menem marcará un hito,” *La Tercera*, June 15, 1998, page 3.

¹⁶ On the strategic location of King George Island and the supposed geopolitical significance of Antarctica for Chile, see: “Programa científico desarrollado en la Antártica, verano 1983,” *Boletín Antártica Chileno*, 3-6, 1983, page 3, and “Mapa de ubicación de la isla Rey Jorge en las islas Shetland del Sur,” *Boletín Antártica Chileno*, 4-2, 1984, page 2. Two other maps on the area covered by the Antarctic Treaty were made by Allan Daile C. of the Universidad Católica de Chile, and have quite suggestive projections: (Untitled), *Boletín Antártica Chileno*, 4-2, 1984, page 15, and “Perspectiva Antártica,” *Boletín Antártica Chileno*, 5-2, 1985, page 11.

¹⁷ The Chilean Antarctic Institute (INACH: Instituto Antártico Chileno) is supervised by the Ministry of Foreign Affairs (Ministerio de Relaciones Exteriores) of the Chilean Republic. For information on the research institute, see: <http://www.INACH.cl/>.

¹⁸ The report Eberhard wrote was published by the Instituto Antártico Chileno in its journal *Presencia de Chile en la Antártica, XIII Expedición 1986-87*, Vol. XII, 1987. The introduction of the report summarizes the purpose and results of such inspection tours.

¹⁹ Personal communication from Daniel Torres Navarro, Director of the Scientific Department of INACH, Providencia, June 9, 1999. The interpretation of the history of Sino-Chilean interaction is mine only.

²⁰ Wei-chin Lee, “China and Antarctica. So Far and Yet So Near,” *Asian Survey*, 30-4, 1990, page 578.

²¹ Wei-chin Lee, “China and Antarctica. So Far and Yet So Near,” *Asian Survey*, 30-4, 1990, page 581.

²² Patricio Eberhard Burgos, “Informe del observador de Chile en la Antártica, Periodo 1986-1987, de acuerdo al artículo VII del Tratado Antártico,” *Presencia de Chile en la Antártica, XIII Expedición 1986-87*, Vol. XII, pages 19-21.

²³ Chen Hongsheng's statement that “La Antártica es el único continente donde no existen fronteras en el mundo de hoy” (*Beijing Informa*, February 1985) was quoted in “Amistad en la exploración antártica,” *Boletín Antártica Chileno*, 6-1, page 87. The Chinese statement directly conflicts with the position defended by Chilean maps since they represent as Chilean a sector of Antarctica that extends from the 53°W to the 90°W and from the 60°S to the South pole. This sector is delineated by an international boundary on Chilean maps.

²⁴ The creation of a place name gazetteer in Chinese and a Chinese GIS database of Antarctica are thus described: “We have solved the problem of gazetting Antarctic geographic place names in Chinese in the standard way. We also make preparations for establishing an Antarctic GIS Data Base of China.” *Summary of China's Antarctic Scientific Research. Report to SCAR*, August 1994. Other Activities, Point 7. How the problem was solved and why this was seen as problem are issues that are not discussed.

²⁵ E Dongchen “Report of Current Activities of China for 2000-2002,” *SCAR XXVII, National Report of China*, Shanghai, July 14-19, 2002. <http://www.geoscience.scar.org/meetings/shanghai/china.pdf>.

²⁶ The concept of cartocontrovercy has been studied by Mark Monmonier in *Drawing the line, Tales of Maps and Cartocontrovercy* (Henry Holt and Company, 1995). Monmonier discussed in his book contests over whose language should be used to name places and physical features, where he explored the ways maps are used to control, influence and symbolize.

²⁷ *Beijing Review*, 28-24, 17 June 1985, pages 25-28.

²⁸ Eugenio Menegon, *Un solo Cielo. Giulio Aleni S.J. (1582-1649), geografia, arte, scienza, religione dall'Europa alla China* (Grafo edizioni, 1994), pages 38-39 and 40. The *Wan guo quan tu* map was published in *Zhifang waiji*. For a short history of Chinese world maps and the encounter with European cartography, see: Richard J. Smith, *Chinese Maps*, Hong Kong, Oxford University Press, 1996.

²⁹ Under the name of Xingzai (Quinsai), 13th-century Hangzhou was the most populous and luxurious city in the world. Marco Polo called it “the most noble city and the best that is in the world” because there “so many pleasures may be found that one fancies to be in Paradise.” In his now classical *Daily Life in China on the Eve of the Mongol Invasion, 1250-1276* (Stanford University Press, 1962), Jacques Gernet provides a fascinating description of the city and society of Hangzhou, which “apart from its convenient distance from the areas threatened by invasion, had only one trump card: the charm and attractiveness of its scenery. The lake which lies to the west of it and the graceful curves of the hills which surround it still make it today one of the most breathtaking of China’s beauty spots” (page 23).

³⁰ The leader of the Chilean XIIIth expedition, Patricio Eberhard Burgos, described Great Wall station on January 31, 1987, two years after its founding: “Descripción: Ubicada en la ribera que va de sur a norte de la bahía que se forma al sur de la península Ardley, en una extension de aproximadamente 300 metros de playa, donde se han instalado las construcciones de poca consideración y otra area de equipos meteorológicos al aire libre. Circundando toda la base se pueden apreciar 8 antenas de aproximadamente 30m de altura. Al sur de la zona construida se encuentra un espacio usado para instalar 8 antenas mas pequeñas de color verde y amarillo.” Patricio Eberhard Burgos, “Informe del observador de Chile en la Antártica, Periodo 1986-1987, de acuerdo al artículo VII del Tratado Antártico,” *Presencia de Chile en la Antártica, XIII Expedicion 1986-87*, Vol. XII, pages 19-21. Eberhard visited again the Great Wall base in 1989 but the first page of the second report he wrote for *Presencia de Chile en la Antártica* is now missing from the INACH records.

³¹ Kim Stanley Robinson, *Antarctica*, Bantam Doubleday Dell Publishing Group, 1998.

³² Philippe Forêt. “How the Chinese Discovered the Ice: China's First Expedition to Antarctica, 1984-1985.” *Chinese Environmental History Newsletter* 2-2, 1995, pages 14-15.