CHAPTER III

FROM CADIZ TO ACAPULCO

On the morning of July 30, 1789, the two corvettes sailed from Cádiz. A fair northwest wind favoured the sailing. Hardly two weeks earlier, the Bastille had been stormed in Paris. At that moment, the rest of Europe had heard only the vaguest rumour of that event, and there were few people who could foresee the upheavals that lay ahead. The political situation that the navigators would encounter upon their return five years later would be quite different.

The Atlantic crossing presented no particular difficulty. When the ships arrived near Trindade do Sul, Malaspina decided to re-check the island's coordinates, and was thus able to correct a slight error he had made three years earlier when using the *Astrea's* instruments for his calculations. The expedition next arrived at Montevideo, on September 20. The following day, in Madrid, almost as a premonition of the success of this first leg of the voyage, Charles IV signed Malaspina's promotion to Ship Captain.

In the region of Río de la Plata, which had been a colony for nearly three centuries, there was little to investigate from the socio-political and economic points of view. For this reason, the men occupied themselves primarily with tasks related to geography and natural history. It was as if the commander wanted, at each stage of the voyage, a dry run of the procedures he was going to use later.

Each officer and each scientist was given a very specific assignment. Some of the officers took care of the astronomical and hydrographic measurements, while others were occupied in the maintenance of the vessels and in shopping for replacement parts and fresh provisions. Some proceeded to Buenos Aires by land, while others followed and overtook them aboard a small schooner, in which they carried the scientific instruments.

Buenos Aires, which had become the capital of the Viceroyalty of Río de la Plata, was like a Spanish city, even to the bullfight ring. However, it is doubtful that the men were allowed to enjoy the amenities of the city, for during the five years of the expedition Malaspina never forgot, nor allowed his men to forget, that they were not on holiday, but were fulfilling a mission of exceptional importance to science and to the nation. The Viceroy, the Marquis of Loreto, following instructions from the Government, granted all possible aid to the expedition, and the same occurred at each stop the corvettes made in the Spanish possessions.

Alessandro took personal charge of the cartographic sounding of the coasts from Montevideo to the Cape of Santa María. The naturalists commenced their botanical and zoological collections. The specimens they could not preserve were drawn with great care by the painters, who also drew vistas of the harbour that would later prove useful for illustrating the volume of charts and the account of the voyage. At the same time the collection of all sorts of memoranda from the local archives was not overlooked. This assortment of tasks was repeated during the five years with very few changes.

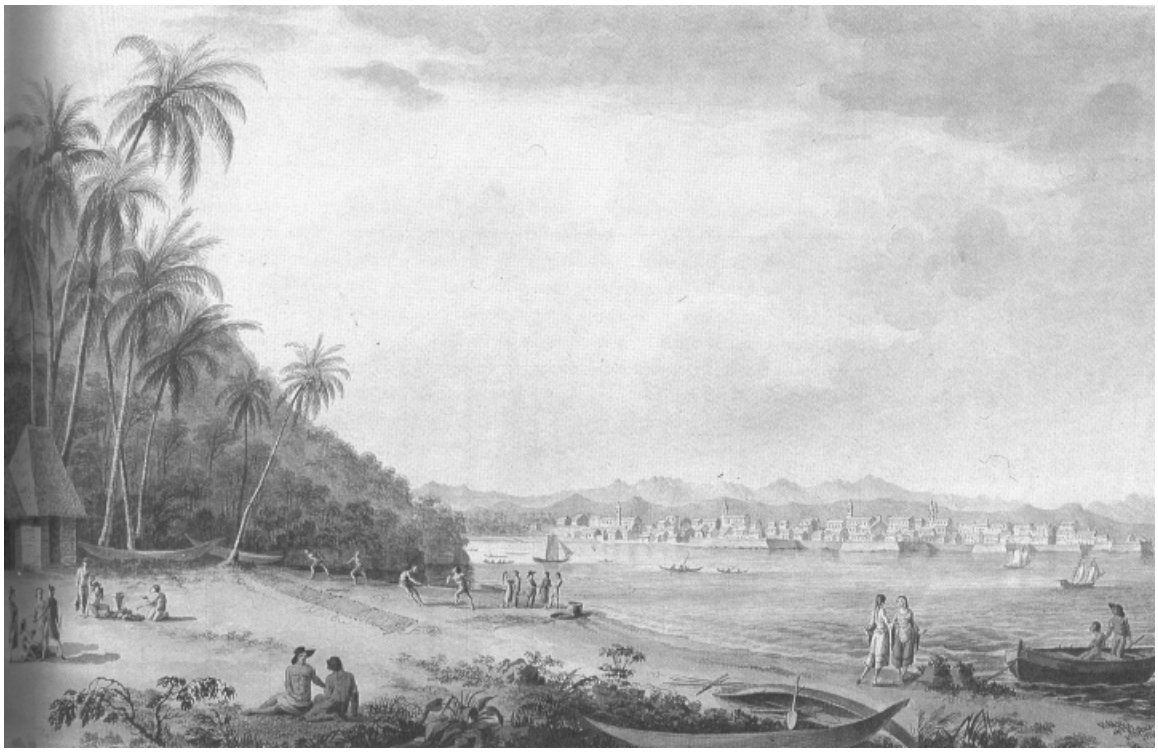

Figure 9. *View of the city of Panama as seen from the Isla de Naos next to the Fondeadero [the Anchorage]*. Fernando Brambilla. Museo Naval.

Toward the end of October everyone had returned from Montevideo. A few days before departure they realized that quite a few crew-members had deserted, and they had to dismiss others for disciplinary reasons. Such occurrences were not uncommon, and the losses were made up by men from the port. On some occasions the deserters were caught and handed back to the commanders, but on others it was necessary to fall back on local officials. Overall, the turnover of the crew was quite significant. It has been calculated that more than half of them had to be replaced along the way. In any case, the corvettes left Montevideo for Patagonia on November 15.

As they proceeded, Bustamante and Malaspina gave their names respectively to a bay and to a naval station in the Gulf of San Jorge. The ships remained on course and anchored in Puerto Deseado on December 2. The following day our navigators had their first encounter with a Patagonian tribe, a population that had awakened the interest of scientists all over Europe. In fact, there had been curiosity about these people ever since the voyage of Magellan, that is, since Pigafetta, upon his return to Europe, had given astonishing descriptions of their height. Later on, navigators who made contact with the Patagonians nearly all confirmed the first reports. Not everyone was convinced, however. Malaspina, specifically, vowed that he would set the record straight once and for all.

The tribesmen arrived on horseback. They were sociable, peaceful, and besides knew some words of Spanish, since they had maintained contact with Spanish navigators coming from Río de la Plata. The chief was named Junchar, and he graciously allowed

himself to be measured by Pineda and to be drawn by José del Pozo. This put an end to one of the many American myths. Junchar was about 1.9 metres tall—a considerable height, of course, but not the monstrous one shown in the engravings of travel books.

Malaspina was interested, however, in more than the height of these people. He was especially interested in their language, and so he set out to compile a small dictionary. In order to guarantee that his men gathered the accurate information he wanted, he gave specific instructions for each officer to ask a native the word for a concrete object and then for all the officers to get together to compare and discuss their results. The dictionary would only include those words for which there was unanimity.

Malaspina repeated this procedure on other occasions, in other places. The wish to provide future voyagers with a tool useful for exploration was not all that impelled him in this quest. Above all, he wanted to know more about the origins of the American peoples, and he was convinced that knowledge of their languages was an excellent way to help solve this problem. Once in Manila, after having studied the languages of other peoples, he speculated to his friend, Gherardo Rangoni:

> We are all striving in vain to discover one single source for the American population. Actually, it is clear that, as in Europe, there were invasions or waves of distant peoples, some of whom came by land and others by sea, with other customs, other laws, and other social principles. We can assume that some of the invaders arrived from the north and others from the Pacific Ocean, and that they pushed the first settlers to the other side of the mountains, exactly as they did on the island [Luzón in the Philippines] where I am now. I have still not been able to find the smallest clue which would provide an explanation for the origin of the Patagonians. Consequently, we shall have to assume that they are more ancient than the Perúvians, Mexicans and Eskimos ... but no more so than the Asiatic Siberians who reached approximately 40º north latitude toward the Pacific, and those poor, wandering, naked inhabitants of an America which we can scarcely think of nowadays as resembling even a primitive nation. Thus the Misquitos, the Dariens, and the entire terrible list of unpronounceable names that extend from the region of Campeche to the interior of our establishments along the Viceroyalty of Santa Fe were perhaps driven out of pleasant Mexican fields. Thus, in the same way, the Perúvians might have concentrated the first barbarian inhabitants – Mojos, Chiquitos, Pampas, etc. – along the Amazon River, the pampas of Buenos Aires, and parts of Uruguay, Paraguay, etc., finally pressing the Guaitecas (about whom I have already written) toward the Patagonian West Coast. … We can also suggest that the Eskimos and some of the people from Northern Europe pushed earlier inhabitants toward California, inhabitants whose excessively harsh conditions will be easily understood from our reports on the natural history of those coasts.

From Patagonia the corvettes set course for the Malvinas (Falkland) Islands. There were no indigenous inhabitants there; only the ruins of an English settlement remained. While the officers prepared to take the usual soundings, Malaspina had an opportunity to examine the natural surroundings. He was captivated, and in his journal of the voyage he wrote a lyrical tribute to them:

> Having barely set foot on the soil, one is amazed at the little dells. One contemplates in awe the inexhaustible abundance of what only recently was utterly unattainable. The soft murmur of one's descent into these little vales reminds one of the quick passing of life and of its experiences, both happy and unhappy; but, astonished and nearly forgetting oneself, one fears to lose sight of the dells again. Hunger, on the one hand, and gratitude, on the other, propel one toward them; one has scarcely satisfied one's pangs, kissing the gracious hand of nature thousands of times surrounded by this veritable icon of vegetation, when one looks around and sees smallage and spoonwort swaying in the breeze and in the water's rippling. One gathers them, chews them, blesses them; the fatigue and the quiet lure one into a brief nap; in a moment the languor that had oppressed one shortly before fades.
>
> > And meanwhile forget
> > The boredom and the evil of the travelled path.[1]
>
> The aquatic birds soon alter this scene a little, but without diminishing its beauty. Some have beautiful plumage, some come in a thousand sizes. Their voices in that setting do not speak of constant seasonal migrations, or of the recent loss of a faithful female companion and the tender young. They denote only the natural drive with which these birds make themselves nearly indivisible, with which they call each other when they change habitations and invite each other to share in the abundance offered by the sea, or when the uninhabited coasts entice them with the promise that they might enjoy themselves and fly to their hearts' content. Nor is it less entertaining to look at the sea, where fish, amphibians, and sometimes even whales, heedless of their great power and the destructive genius of man, greet people almost in emulation, without ever dreaming that doing so is enough to bring about their destruction.

The year's end, as five years previously, found Malaspina leading the expedition through the dangerous waters of Cape Horn. Contemplating the Pacific inspired the commander to write another meditative page in the journal:

> The situation of the navigator in seas and regions so far from where he was born is undoubtedly one of the most extraordinary in which he could find himself.
>
> Uncertainty surrounds him at every instant. A simple glance toward the nearest coast brings to mind a complex image of shipwreck, cold, hunger and loneliness. He turns to the Pole and new dangers, even more dreadful, immediately appear in his imagination. Immense fields of icebergs menace the fragile vessel; even with all the help available to the fallible art of navigation, it is futile to try to evade them, for they seem bent on persecution. Their positions, which are constantly changing, and their ubiquity, which is as great as that of the islands, increase the risk and one's loss of confidence. The tenacity of the westerlies also seems to

[1] "E intanto obblia / la noia e il mal de la passata via." These verses by the Renaissance poet Torquato Tasso were published, with errors, for the first time in 1885 by Pedro de Novo y Colson, and are here correctly transcribed a century later. It is interesting to note that they are the same ones that George Foster, the naturalist who travelled with Cook on his first voyage, quoted when describing the same kind of setting.

> war against the continuation of the voyage; their violence permits only shortened sail. The waves, moved by a constant, violent impulse, rock the ship dangerously and threaten to dismast it at any moment. At the same time, the currents are contrary and often fatal to maintaining the course of the ship. Such are the obstacles by which navigation is confronted in these parts, and yet which conquer with greater ease every day an uneasy alliance of greed and the science of maritime art.

However, there would also come a time when Malaspina would wonder whether the art of navigation did not in fact provoke the suffering of people in ever more distant regions. While he was in the fortress at La Coruña some years later, he wrote the following observation in a text on a very different subject:

> Indeed, we have raised astronomy and navigation to heights of excellence never before known. But leaving aside the imprecision and inutility of the former, we cannot deny, as far as the latter is concerned, that the whole globe was discovered and measured when navigation was still in its infancy. But if it has given us an easier and speedier means of communication between Europe and the innocent families of Africa and America, it has been at the cost of introducing a thousand vices and illnesses which have been extremely debilitating to the species from a moral and physical point of view. It has also facilitated the transportation of ten or eleven million blacks from Africa to America, and in turn the extermination of three or four times that many people in America.

But Malaspina shared these thoughts with no more than one or two friends.

The voyage continued. Eventually the corvettes reached Chiloé, the most important of the Chilean islands. As was customary on such occasions, the local governor organized a reception for the chiefs of the Huiliche tribe, which had been expelled from the territory long before, but which had recently reconciled itself with the Spaniards. Alessandro registered the event in a detached manner, and included a summary of the address delivered by Chief Catiguala, in which the latter said that “he was seeing with great pleasure the soil which had been inhabited by his ancestors.”

Alessandro added no further commentary. His latent sympathy with the indigenous peoples of America did not become apparent until five years later. At that time he was indicating to his collaborator, Father Manuel Gil, the basic outline for the account of his voyage. He advised Father Gil that when talking of South America he was to mention “the native Indians, the invasion of the Perúvians, and the European invasions.” The word “invasions,” applied to Europeans and addressed to a Spanish audience, had a provocative charge that makes one wonder whether Alessandro knew it.

At Chiloé, the ease with which one could find food, the women’s behaviour – “naturally inclined to licentiousness” – and the clear distance of government “could not but give the erroneous idea of happiness,” according to Malaspina. Indeed, quite a few of the men abandoned the ships to their fate and instantly forgot their country and their families. The officers tried at first to capture them, but in order to avoid excessive risk they were forced to order the departure. On other occasions they adopted preventative measures, but the results seldom accorded with the wishes of Bustamante and Malaspina.

They spent a short time in Concepción, where the voyagers received information about the previous visit of the La Pérouse expedition, and then proceeded to Talcahuano. Malaspina was profoundly impressed by the mineral richness of the area, as well as by the neglect in which Spain had allowed the few *criollos* [people of European origin] of that establishment to languish. Alessandro was again preoccupied with his recurrent reflections on developments in industrial and commercial relations between the mother country and its colonies, and among the colonies themselves. He felt that they should serve as concrete instruments of welfare, of course, but he went beyond this in the journal of his voyage (which he expected to be read by the public) with a clear and sorrowful denunciation of the prevailing situation:

> Even a brief tour of the countryside bathed by the Viovio River will reveal how fruitful it is, but whoever looks at it with a political eye will see that it has been bathed in the blood of our courageous forebears. In the precious forests of the nearby mountains, in the amazing fertility of the soil, and in the nearby waters that teem with sea lions, whales, eels, etc. … this land, with proper development, offers a rich bounty to the whole vast Spanish Empire. Therefore, we must raise our patriotic voice a thousand times to the repositories of public and legislative welfare, so that they may eliminate the shackles placed on nature herself in a more ignorant and timid epoch, and finally be witness to prosperity in a country that has been rightly called by the learned Señor Venegas "the obstinately rich and poor Kingdom of Chile."

In order to increase the amount and variety of scientific data collected, Malaspina and Bustamante decided to separate. The *Atrevida* set course along the coast toward Valparaíso, while the *Descubierta* set sail for the San Fernández Islands. This strategy was repeated on various occasions during the voyage.

At Valparaíso, much to the surprise of the commander, Tadeusz Haenke appeared. Off the coast of South America, Haenke had survived a shipwreck in which he had lost all his personal effects except the botanical treatise of Linnaeus, a treasured volume which he had managed to save. Afterwards, he had travelled through the Pampas and had crossed the Andes, gathering rare and even unknown plants along the way. He had already collected some 1,400 of these and proudly showed them to the officers.

The naturalist joined the complement of the *Descubierta,* and in time made significant contributions to the expedition. His value as a botanist was obvious from the start, but beyond that he had studied music, and, since he was also interested in folklore and ethnology, he was able to make musical transcriptions of several ritual chants from the various tribes visited.[2]

From Valparaíso, Malaspina slipped off to Santiago, in the hope of receiving news from Europe. On March 28, he sent to the Marquis Gherardo Rangoni a letter in which he expressed his wish that the expedition would end during peacetime, not only because of the immediate problems that a war would create, but because "a general war would mean the ruin of all lesser endeavours."

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[2] These musical texts belong to peoples who nowadays are acculturated, and in some cases even extinguished. Thus they constitute a priceless set of documents for ethnomusicologists.

At Coquimbo the corvettes anchored. Here Malaspina emphasized the enormous importance of the mercury deposits and asked Pineda to take a serious look at this. Here the desertion problem surfaced again and the commanders decided to leave as soon as possible. They decided to separate and meet three or four weeks later at Callao, which they did.

As planned, the expedition remained in the Viceroyalty of Perú for four months, during which maintenance work was done on the corvettes, provisions were replenished, and collected materials were organized for transportation to Spain. Then it was a matter of waiting for the rainy season to end before proceeding toward the equator.

Malaspina went directly to Lima, a distance of about twelve kilometres from the harbour at Callao. At the capital, Alessandro learned that the new viceroy, Francisco Gil de Taboada y Lemos, was just then taking command of his post. The officers joined in the lavish festivities, but the journal of the voyage provides no details about them. It is likely that Malaspina was upset for fear that these social obligations would demand too much of his time. However, he and the viceroy had known each other previously (perhaps they had met at Greppi's house in Cádiz), and their relationship, which was already good, improved, so that the whole expedition benefited from it.

The commander was not pleased with the way his officers had settled in at Callao, where the bustle that usually prevails in a harbour could distract them from their normal duties. Nor did he like the idea of transferring them to Lima, whose attractions would be even more tempting. He finally reached a compromise solution: the friars of the order of St. Camillus, from the convent of the Good Death, lent to the expedition a small isolated farm. It was located in Magdalena, a village about half way between Lima and Callao. Since the building was too small to house everyone, the Count of San Carlos made his nearby country house available to the voyagers. The officers were able to commute easily to Callao on horseback, and thus carried out their assignments of reorganizing and repairing the corvettes.

Among the friars, Father Francisco Antonio González Laguna stood out for his erudition. He was a botanical expert and provided the naturalists with many valuable pointers. Given the magnitude of their work, these naturalists were able to persuade the viceroy to involve two more experts who had worked with Pavón and Ruiz, the botanists Juan Tafalla and Francisco Pulgar. Pulgar then immediately substituted the painter José del Pozo (who, in Malaspina's view, was too lazy), while the expedition awaited the arrival from Europe of the coveted Italian painters whom the commander had again requisitioned.

In Lima, Malaspina was fortunate to run into Giuseppe Rossi Rubí, another Italian whom he had already met in Spain. Rossi would become very helpful to the voyagers because of his vast knowledge of the Kingdom of Perú. He had recently opened in Lima an academy whose membership comprised the most learned intellectuals of the country. Together they had begun to publish a paper, *El Mercurio Perúano,* which was devoted to discussing Perú's natural, folkloric and ethnographic resources. In addition to giving Malaspina a set of the *Mercurio* collection, Rossi also gave his compatriot a selection of briefs and notes, which were published some years later.

What with writing scientific papers, making excursions to the interior, and doing a thousand everyday chores, Alessandro passed the months quickly. From time to time

they were punctuated by some unusual happening, such as the trial of a sailor who had mortally wounded one of his companions, or the fire which began on a merchant vessel anchored too close for comfort to the corvettes. On that occasion, only the courageous action of the midshipman Jacobo Murphy prevented the fire from jumping to the *Atrevida.*

At about that time, many letters arrived for our navigators from Spain. Malaspina received some from Greppi, and since Greppi was also a friend of Gil de Taboada, Alessandro read them with the viceroy. In all probability, Greppi mentioned the recent events in Europe and expressed his enthusiasm for the new ideas which had transformed France. Some time later the Lombard aristocrat would abandon his commitment to these ideals, but when he wrote these letters the French Revolution had not yet been stained with serious excess.

For his part, however, Alessandro already knew intuitively that the French were heading for disaster in their pursuit of the good. “I discover nowadays,” he replied to Greppi, “an excessive zeal for perfection; meanwhile, in seeking a Platonic perfect republic, the leaders sacrifice the nobility and the clergy for the lower orders.” Malaspina was not actually defending the privileges of the nobility and the clergy, but he was defending their rights from being trampled by the Third Estate. He believed in a society where each class would have its own voice and be free to fulfil its own rôle. He took notice of a dangerous intolerance against this ideal. “Why is it Mirabeau’s eloquence that arouses the 1200 members of the Assembly?” he asked himself. “Whoever listens to these legislators will think they are hearing incorruptible Lycurguses reminding them not to forget for a moment the public good.” Evidently our intellectual was somewhat sceptical in this matter.

Alessandro actually held very different ideas about how to guarantee the welfare of nations. In the same letter to Greppi he reflected at length:

> I did not believe that my political assessments would bring me to the conclusions they did. Yet I think they provide evidence that our America can enlarge the treasury and increase our strength at the same time that our expenses for defence decline. I have gone as far as to determine the number of inhabitants of the Southern Continent from 36° to Cape Horn; I have analysed their customs, origin, dispositions toward us, their forces in case they align themselves with other interests, and ways to prevent them from doing so. Almost unconsciously, I have become aware that the provinces of Río de la Plata and of Chile could prosper with the slightest push from government, as happens in the British colonies. Along with their agriculture, this would increase their population and allow them to acquire various necessities by trading their agricultural surplus with Spain, Havana and Perú. Perú, on the other hand, is a country purely of mines, and it gets profoundly upset if anyone suggests that it ought to develop its agriculture and navigation, even though these fields of endeavour offer an easier living and would support a growing population.
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> It is not as easy as I thought for an invader to attack us. Rather, I think that his attempts to do so would soon discourage him. He would disembark and would find water and firewood easily enough, but for a thousand reasons he would not

> be able to go any farther. And in this case the expenses of so risky an expedition would probably not be recovered.
>
> Anyway, what truly pleases me is that the inferences I drew from my examination of the coast are basically the same as those of the viceroy, on the evaluation of the Kingdom of Santa Fe, which came from Europe. It is impossible, my dear Greppi, to tell you in detail all of my ideas about wealth and national power. I observe that in large monarchies nature's harmony is more perturbed than balanced; and that, in spite of efforts to suppress this harmony, nature's cry for release is still heard. The mining countries are arid and unpopulated; the agricultural countries in general lack mines, but have people in abundance. Water is plentiful in the latter, but generally scarce in the former. Traditions incline some people to vice, and others to virtue. Everything points to the conviction that there exists a harmony, especially among contiguous countries, and that Spain must take it into account in order to determine her system of commerce and the generation of wealth.
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> Predictably, our fisheries on the Patagonian coast have led me to conceive of a highly organized system for them. Economy and security have been the first objectives. The movement of the King's ships in one sea or another is a pressing concern. And lately I have become aware that it is freedom [from regulation] that will make navigation, and especially fishing, prosper.
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> If I have managed to demonstrate that our system in America is erroneous, and that it must be reformed according to certain specific principles, then I think I have performed a considerable service, so much so that the nation need not involve itself in arduous tasks, and my future does not hang in the balance.
>
> My head is *échauffée* [bursting] with these ideas, but please do not discuss them with anyone who has anything to do with government. There is already enough suspicion of foreigners—as if a man of honour is not the same everywhere and in all nations.

Perhaps Alessandro was aware that some of his ideas seemed a bit extravagant. He himself described them in jest as the "paradoxes of a *marin barbare* [barbarous sailor]." But, above all, he sensed that they would indeed be considered paradoxical by the Government. And so he prepared a fallback position, although strictly in personal terms: he tried to obtain a pension from the Order of Malta so that he might retire to private life. He wrote to Greppi,

> I wish to have the commission at my disposal so that hunger does not force me to confuse love for interest or to continue in the service beyond what my proposals require. In this philosophical crisis, which will not last more than two or three years after my return, my people will clamour and my friends will clamour; you alone will know my inner self and forgive it.

Nearly a month later, before leaving from Callao, he wrote again to his friend in an even more confidential tone:

> Yes, my friend, although fortune seems to smile on my efforts to fulfil my rôle in the Great Comedy of the World, believe me, I do not forget reality for a moment. The comedy has finished; now I can contemplate the pleasures of retirement with a friend, and prepare for the end with indifference. Every step I take is aimed at drawing me closer to this autonomous slavery of friendship.
>
> Be assured that if anything pleases me in the approval my deeds have met with, it is the happiness I have experienced in doing good to others, and in the pleasure of being appreciated by my friends.
>
> I confess to you, however, that love would have taken me in a totally different direction. Ambition would have spurred me then with the same force that disenchantment spurs me now.

Ah, love! This is the only instance in which the naval officer Don Alessandro Malaspina, condemned to celibacy because of the strict obligations imposed by his social condition, admits that he might have wished for a very different lot, for a home and family. But it is only a brief, confidential indulgence, and he immediately hides his intimate feelings with the little aside, “You may want to laugh, my Count!”

On September 20, 1790, the corvettes set sail for New Spain. Near Guayaquil, Alessandro wrote another of his lyrical passages dedicated to nature:

> The shores pleasantly clad in greens whose varied tones enhance the beauty of the scene; the many birds completely new in song and colour; the rafts, canoes, the juxtaposition of houses, trees, water and ships almost as a single picture—everything reminds the perplexed observer that such vast and varied vegetation exceeds the most vivid and exuberant of imaginations in its marvellous exquisiteness.

In Guayaquil there was another month-long stay, because it was necessary to draw the coastal cartography and to explore the interior of the region. Antonio Pineda, Haenke and Née undertook memorable excursions to Chimborazo and other nearby mountains that were covered by perpetual snow.

Before leaving, Malaspina again wrote to Greppi. He continued to be preoccupied with the thought that war could destroy the work of the expedition.

> The latest news leads me to be confident that there will be no war. I certainly hope not, for war would bring to an end an enterprise whose difficulty and length nobody could have foreseen. The changing of ministries does not alter my plans. I will continue to pursue the ideas which I have so often discussed with you. I look with equal indifference to whatever might happen, either favourable or unfavourable, as long as my heart and my conscience do not directly denounce them.

From Guayaquil to Perico the sailing was difficult because of adverse climatic conditions. The harbour at Perico was located about five kilometres from Panamá, a city which impressed the officers. In fact, Panamá was but a faint reminder of its past splendour, but each of its walls held a memory. Although much of the traffic in recent

years had been directed toward Callao and Acapulco, Panamá continued to be relatively important from a strategic and commercial point of view. Therefore the commander wanted the geographic measurements to be particularly accurate. In addition, he ordered Juan Vernacci to cross the isthmus and to undertake astronomic calculations in Chagres on the Atlantic coast. Alessandro kept alive the dream of Balboa and Cortés to find a Northwest Passage, but he was quite aware that the only practical alternative to going around Cape Horn was to cut a canal across the isthmus, although that project obviously lay in the distant future.

Soon the tropical climate began to take its toll of the crew. Pernicious fevers and other illnesses affected many of the men, and so it was decided to set sail as soon as possible. Once again the corvettes separated. The plan was to reunite at either Acapulco or San Blas. Before that, the *Descubierta* would visit Realejo and Sonsonate. In both places the necessary tasks were diligently accomplished. In Sonsonate, specifically, Malaspina was impressed by the abundance of products: dyes, asphaltite, precious woods. If commerce were more liberalized, the commander mused, these gifts of nature would provide a comfortable life for a great number of people.

When the *Descubierta* arrived in Acapulco, Malaspina discovered that the *Atrevida* had already arrived and gone on to San Blas. He welcomed aboard his ship José Espinosa and Ciriaco Cevallos, officers who had just arrived from Cádiz with books and instruments for the expedition. Among the instruments was a simple pendulum, which made it possible to calculate with some accuracy the length of the meridian degree in different latitudes. This was exactly what Malaspina had been waiting for, as it was related to his goal of determining the exact shape of the earth. This problem had fascinated him ever since he had written his theses on physics at the school in Rome.

In Acapulco the commander was given orders which had just arrived from Spain. One of them was of special importance: the Minister Valdés informed him that the King had ordered the expedition to travel along the northwest coast of America up to 60° north latitude, and to search for a navigable passage between the Atlantic and the Pacific. The ghost of the Northwest Passage had reappeared.