THE BOTTOM OF THE MAP

500 Years on the Sea Road Around South America



Written by Claude Code | Instructed by V.Korostyshevskiy

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PREFACE

This book was written for one person, and you are probably not him.

He is about to sail from Buenos Aires to Valparaíso, down the Atlantic coast of Patagonia, out to the Falklands, through the Beagle Channel and the Strait of Magellan and the Chilean inside channels, and up the Pacific side to Santiago. He wanted to know, the evening before each place, why that place is the way it is. Not what to see, but why the place is there at all and what put it there.

That is the entire commission. One reader, one route, ten stops, twelve chapters, and a request for causes rather than sights.

Two appendices were added afterwards, because he asked for them once he had read the chapters. One takes the war of 1982 apart economically and asks how Britain came to be challengeable at all, which is a question about money and not about ships. The other is the only practical section in the book, and it breaks a promise made four paragraphs below.

Who wrote it

A machine did. Claude Code wrote it, on his instruction, and he ruled on what it was allowed to claim.

I am not going to make a performance of that, because it matters for exactly one reason. A machine writing a work of nonfiction has a specific and well-documented failure: it will produce a confident, fluent, well-cadenced sentence about something that never happened. So the apparatus behind this book exists to make that difficult, and the last part of this preface tells you how to hear it working.

The voice is modeled on a style. It is not written by, narrated by, or endorsed by any comedian, living or dead, and nobody should read a sentence here as anybody's opinion but the narrator's. The style was chosen because it suits argument about institutions, which is what most of this book turns out to be.

What the book argues

The sea road around the bottom of South America, through the Strait or around Cape Horn, was for four centuries the only way by water between the Atlantic and the Pacific.

It carried more than cargo. It carried states asserting sovereignty, surveyors, settlers, missionaries, convicts, sheep and navies to a coast where the Selk'nam, the Yaghan, the Kawésqar, the Aónikenk and the Huilliche had been living for thousands of years. Most of the places on this route exist, or grew, or took their present shape because of what that road delivered. They are also linked to each other in ways that are easy to miss: a Royal Navy survey recommended the site of the Welsh colony in print in 1839, twenty-six years before the Welsh arrived; the first sheep into Chilean Tierra del Fuego came from the Falkland Islands in 1885; and the sovereignty quarrel that began between Buenos Aires and London in 1829 was fought out with ships and aircraft in 1982.

The Panama Canal, which opened on 15 August 1914, is a turning point in this story rather than the end of it. It did not cause every decline along the route. What it explains is why the ships did not come back after the First World War.

And the road outlived the canal. Sail rounded the Horn into the 1940s, the Strait still carries more ships a year than it did at its commercial peak, and in 2026 the bottom of the map is the subject of new arguments over oil, fish, Antarctic access, hydrogen and sovereignty.

What it is not

It is not a guide. Nothing in the twelve chapters will help you find dinner.

There is no advice in them, no itineraries, no excursions, no prices. The second appendix has all four, and it is there because the reader asked for it after the fact rather than because the book changed its mind. Where this preface and that appendix disagree, the appendix says so on its own first page. It does not describe the ship, because the voyage has not happened yet, and it does not describe what anybody saw or did or ate, for the same reason. Where it addresses you directly, on the evening before a port, that is a frame for the argument and not a report of anything.

It also takes no side on the sovereignty of the Falkland Islands. Both cases appear, at full strength, document by document, and the book declines to pick. That is not evasion. The two positions rest on different principles rather than different facts, and a reader who wants to decide should see the strongest version of each.

It passes no moral verdict on the people who built the far south. It states what they did, when, with whose money and under what authority, and where a contested word has been used about it, the book says who used it and in what year.

Why some sentences hedge and some do not

One last thing, and then you can get on with it.

Every factual claim here traces to a source, and the sources were graded before they were used. Several hundred claims were extracted from these chapters and checked against the material behind them, and the checking changed the text. A date was wrong by two months. A quotation was attributed to the wrong edition of Darwin. A number had been rounded into existence from no evidence at all. One passage gave the British side of an argument while leaving out an expulsion, and had to be rewritten.

The result is that the sentences in this book run at two temperatures. Some state a thing plainly. Others circle it, name who disagrees, and decline to settle it. That is not the writing losing its nerve. It is the evidence showing through, and it is deliberate.

Where the book sounds certain, the record is good. Where it sounds careful, the record is thin, and you are better off knowing that than enjoying a cleaner sentence. In several places the most interesting finding available was an absence: a figure nobody collected, a name nobody wrote down, a glacier nobody has modelled. Those are reported as absences rather than filled in.

And if the whole apparatus strikes you as an absurd amount of machinery assembled so that one passenger could stand at a rail already knowing what he was looking at, you are right. That is exactly what it is, and nobody involved is pretending otherwise.

He sails in February. Somebody had to tell him what he was looking at.

CHAPTER 1: BUENOS AIRES: THE FRONT DOOR

In this chapter: why the city at the Atlantic end of the sea road did not live off the sea road, and what it lived on instead. A decree signed here on 10 June 1829 that opened an argument still being argued. An American warship that cleared out a settlement in 1831, which matters because the people usually blamed for clearing it out were somewhere else. Darwin, who came through twice and never mentioned the route this book is about. A fight over where to put the harbor, won by the plan the engineers had just finished condemning. And one ship that left this river for Valparaiso and found a continent on the way.

Tomorrow you walk out of a city of several million people and get on a ship, and the ship turns south, and for the next two and a half weeks almost everything you look at will exist because of the water you are floating on. Ports that were founded to hold a coastline. Towns that exist because a navy needed coal. Channels that were charted by men being paid to chart them so that other men could send freight through.

Buenos Aires is not one of those places. That is the first thing to know about it, and it is the reason this chapter comes first and also the reason it is the odd one out.

A front door is not a room. Nobody lives in a front door. You pass through it, which means it has to be in the right place and it has to be wide enough, and beyond that nobody thinks about it much. Buenos Aires is the front door to the sea road around the bottom of South America. It is where the road starts, it is where the paperwork for the road was signed, and it is where a great deal of the money that worked the road was banked. What it is not, and never was, is a city that lived off the traffic going round the Horn.

That distinction is going to come up at nearly every stop. Some of these places were made by the route. Some of them were made by something else and merely stood next to the route. Buenos Aires is the cleanest example of the second kind, and starting with it means starting with the limit of the argument rather than its strongest case, which is the honest way around.

The river that is not a river and the port that was not a port

The Rio de la Plata is not a river. It is an estuary, wide and shallow, and it is full of mud that the Parana and the Uruguay have been delivering for as long as there have been a Parana and a Uruguay. A city on that shore has a problem that a city on a deepwater bay does not have, which is that ships cannot get to it.

So for most of the nineteenth century they did not. Cargo for Buenos Aires stopped out in the roads, went into lighters, and came ashore in carts with wheels tall enough to keep the axle above the water. If you want one image for the Atlantic end of this route before the engineers arrived, that is it: one of the great cities of the south Atlantic, unloading the world out of small boats into tall carts.[1]

There was an attempt at a fix in the 1850s. Taylor's mole and the customs house went up between 1855 and 1857, and the Aduana Taylor opened in 1859.[2] It helped and it did not solve anything, because the real traffic had already gone somewhere else. By 1869 the Riachuelo, the creek at La Boca on the south edge of town, was handling fifty-six percent of the city's exports and every ton of its imported coal, timber, iron and salt.[3] The front door of Argentina, in practice, was a tidal creek with Genoese boatmen on it.

The numbers on how much traffic that was are good enough to be worth stating and thin enough to be worth flagging. On 1 February 1873 there were three hundred and ninety vessels in port, about a quarter of them British.[4] In 1880 something like eight thousand of the fourteen thousand transatlantic arrivals in Argentina came here.[5] What there is not, and I looked, is a continuous annual series of ship calls and tonnage for this port across the period this book covers. It should be in the national statistical yearbooks and in the Ministry of Finance records, and it is not online, and nobody has put it in a table that I could check. So when I tell you Buenos Aires grew on its own trade rather than on passing traffic, understand that I am telling you it from the shape of the evidence and not from a column of figures. The shape is consistent and the column is missing.

Here is the part that actually settles it, though, and it settles it by absence.

Charles Darwin was in and around this city twice. He came by sea in late October 1832 and was making visits into the city from 3 November. He came back overland from the pampas in September 1833.[6] He wrote at length about both. He was a man who noticed things professionally, who was traveling on a Royal Navy survey ship whose entire purpose was the coast this book is about, and who would spend the next two years going round the bottom of the continent and writing down what he saw.

In the six passages he left about this city, there is not one line connecting it to the sea route between the Atlantic and the Pacific.

Not a complaint about it, not an observation about the trade, nothing. The road is simply not a fact about this place, to the one witness in this book best placed to notice it. That is a stronger argument than any table of tonnage would have been, and it is available only because somebody went looking for the thing and found a hole where it should have been.

The decree

On 10 June 1829 the government in Buenos Aires created the Comandancia Politica y Militar de las Islas Malvinas and put Luis Vernet in charge of it.[7]

That sentence is the beginning of the longest-running argument in this book. It is also, and this is the useful part, an act of government performed in the city you are standing in, about islands you will reach on 23 February. Argentina marks the date as a national day, the Dia de la Afirmacion de los Derechos Argentinos sobre las Malvinas, and when a museum on the subject opened in this city it opened on 10 June, on the one hundred and eighty-fifth anniversary, which tells you how live the date still is.[8]

Vernet was not a soldier and the appointment was not, in the first instance, military. He was a merchant. He already had a grant from Buenos Aires, dating to January 1828, giving him a monopoly on the seal fishery in the islands, and the government had been regulating sealing down there by decree since 22 October 1821.[9] This is worth slowing down for, because it is the real mechanism and it is not the one the flag-and-sovereignty version of the story emphasizes.

What Buenos Aires was doing in the 1820s was licensing an extraction industry far to the south, taking a cut, and backing the license with a title. That is the front door working as a front door. The city did not hunt one seal. It issued the paper that let somebody else hunt them, and it held the account.

Vernet, having been given a monopoly, did what people given monopolies do, which is enforce it. In July and August 1831 he arrested three American sealers working the islands: the *Harriet* under Gilbert R. Davison and the *Breakwater* under Daniel Carew, both out of Stonington, and the *Superior* under Stephen Congar out of New York. The *Breakwater*'s crew got their ship back themselves. The *Harriet* was brought to Buenos Aires as a prize, and the business was conducted through the United States consul here.[10]

A man in Buenos Aires had seized American ships under authority granted in Buenos Aires, and the resulting quarrel was handled in Buenos Aires. Whatever else is true about the Falklands dispute, its first round was a River Plate commercial matter, and the front door is where it happened.

The Lexington, and who actually emptied the place

The United States did not take this to arbitration.

USS *Lexington* anchored off Port Louis on 31 December 1831. Vernet's establishment was broken up and his people were removed to Montevideo. The ship's log, which is in the United States National Archives, lists the settlers taken off, including the German families Schmidt, Klein and Feuser, fourteen people in all. One account of the removal dates the departure to January 1832.[11]

I want to be exact about why this is in the chapter, because it is the single most misremembered link in the whole sequence.

Ask who cleared the Argentine settlement out of the Falklands and the answer most people reach for is Britain, in 1833. The record says that an American warship did it in the last hours of 1831, a year earlier, over sealing licenses, and that the settlement Britain encountered in 1833 was what was left after the Americans had been through it. The British side of the sovereignty argument makes exactly this

point and is entitled to make it. It is a documented fact and it is on their side of the ledger.

There is more to it than that, because what the islands were in the year that followed, and what Britain then did about it, are both disputed. Those are coming up in a moment, and I am not going to resolve them, here or anywhere in this book. I will say plainly which document each side is reading and where the two readings part company, and then I will leave it, because sovereignty is a question about what ought to be and this book is about what happened.

January 1833, read twice

HMS *Clio*, under Captain John James Onslow, anchored in Berkeley Sound on 2 January 1833. HMS *Tyne* was at Port Egmont.[12] Onslow met the gauchos on 5 and 7 January.[13] On the question of how the two ships got there and in what order, the accounts disagree with the Admiralty papers, so I am giving you the arrival and skipping the voyage.

Now the same few weeks, twice.

Start with the part that can be stated flatly, because it is worth having before either side gets hold of it. One group was expelled: an Argentine garrison of twenty-six men, with eleven women and eight children, which had arrived on 6 October 1832 in the schooner *Sarandi* and left on 4 January 1833. Some of that garrison had mutinied on 30 November 1832, murdered their own commanding officer, Major Esteban Mestivier, and terrorized the civilians. Four civilians left of their own accord. The rest of the civilian population, mostly gauchos from what is now Argentina and Uruguay, stayed. Onslow also recorded that the gauchos were unhappy about their wages and that the inhabitants asked him to get them grants of land.[14]

So the garrison went and the settlers did not, and the garrison that went had murdered its own commander five weeks earlier. Those are the facts. Now the same few weeks, read two ways.

The British reading leans on Onslow's orders, which told him not to disturb inhabitants engaged in what the instructions call *"agricultural or other inoffensive employments."*[15] On this account January 1833 was the resumption of a claim

Britain had asserted since the 1760s, against a settlement an American warship had already broken up, with explicit instructions to leave the working population alone, and what was removed was a mutinous garrison rather than a people.

The Argentine reading leans on who was there and under whose authority. On this account the population in January 1833 was Argentine and was governed by Argentine authorities appointed from this city, the *Lexington* raid was an outrage that did not extinguish the title, and a warship arriving to put one flag down and another up is what the word occupation means regardless of how politely the orders were written.[16]

Both of those are arguments about the same documents, and the documents will not do the deciding. The orders exist and say what they say. The garrison was expelled. The civilians stayed. Whether that adds up to an occupation is the question, and it is a question about what those facts mean rather than about what they are. The two sides have been reading these same papers at each other for the better part of two centuries, most recently in a printed exchange in 2021 where a critique and its rebuttals were set out on the same page so a reader could watch the two readings collide in real time.[17] If you want the dispute in its own words rather than mine, that is where to go.

One more date belongs here, because it gets used by both sides and it was signed in this city. A treaty between Britain and Argentina was concluded on 24 November 1849 and ratified in Buenos Aires on 15 May 1850.[18] The British reading is that the treaty settled outstanding differences and said nothing about the islands, and that silence disposes of the claim. The Argentine reading is that the treaty was about other things entirely, and that staying silent about a claim leaves the claim where it was. The treaty is short and the argument about it has outlasted everyone who signed it.

Darwin, in a revolution, on the wrong errand

Darwin came back into this city overland on 20 September 1833, arriving by the middle of the day, riding in off the pampas and going straight to the house of an English merchant named Lumb, to whose kindness and hospitality he recorded himself *“greatly indebted.”*[19]

A month later he tried to do it again and the city would not let him in. On 20 October 1833 he landed at Las Conchas meaning to ride the last twenty miles, and found a rebellion in progress. He found himself, in his own words, *"to a certain degree a prisoner"* of it, and reached town over the 20th and 21st.[20]

I am including this for two reasons and neither of them is color.

The first is that it dates him precisely to this city, which matters because the book uses him as a recurring witness and a witness has to have been somewhere on a day. The second is that it shows what he was doing in Argentina, which was riding around the interior looking at rocks and bones and politics. The Beagle was surveying the coast. Darwin, given the chance, went inland. Buenos Aires was his base for the pampas and the Parana, not his window on the Horn.

The route this book is about was, to him, something that started later and further south.

The harbor they condemned in writing and then built anyway

Eventually somebody had to fix the lighters and the tall carts, and the fixing of it is the best story in the chapter because everybody in it is behaving exactly as you would expect and the result is still a disaster.

Two plans. One from Luis Huergo, an Argentine engineer, for a comb of piers worked out from the Riachuelo, which is to say an expansion of the port that already existed and already handled the traffic. One from Eduardo Madero, for a line of enclosed docks in front of the city, designed by Sir John Hawkshaw of London, financed by Baring Brothers.

Sir John Hawkshaw never came to Buenos Aires.[21]

That comes from one source, and the source is a descendant of the engineer who lost, writing about the man who beat him. I could not confirm it anywhere else. It is exactly the sort of detail a losing family keeps and a winning one never writes down, so take it at that weight and no more. I am leaving it in because the rest of the sequence needs no help from it.

The Chamber of Deputies approved the Madero scheme on 26 June 1882. The enabling law followed in October 1882. The contract was signed in 1884 with a ceiling of twenty million pesos.[22] Then, on 25 February 1886, the Departamento de Ingenieros, chaired by the engineer Guillermo White, reported against the plans. On 7 April 1886 the Council of Ministers approved them anyway. On 17 April 1886 Huergo and White resigned and the resignations were accepted.[23]

Seven weeks from the state's own engineering department saying do not build this, to the state approving it, to the two engineers walking out.

The works ran from 1887 to the late 1890s and produced four docks, something like seven thousand meters of quay, twenty-seven kilometers of rail, nine meters of depth and three floating cranes.[24] What they cost is genuinely unresolved. One scholarly account puts it at thirty-five million pesos. A partisan account by a descendant of Huergo puts it above fifty million. Nobody has reconciled the two and I am not going to pretend the gap is smaller than it is. Against a twenty-million ceiling, either figure is a bad day.

And then the part that makes it a comedy rather than a scandal. Puerto Madero was too small almost immediately. Tenders for a replacement port went out in 1907, ten years after the docks were finished. Work on Puerto Nuevo started in 1911. It opened in 1919. Puerto Madero kept working until about 1925 and then stopped being a port.[25]

Under four years from the Chamber's approval to the engineers walking out, a ceiling blown by at least fifteen million pesos, two engineers resigning in protest, a London designer who by one partisan account never saw the site, and a working life of under thirty years before the city built the thing the losing plan had been arguing for. The docks are still there. They have restaurants in them now.

That is the front door, built. It is a story about Argentine politics and British capital and it has almost nothing to do with Cape Horn, which is the point of the chapter.

The one ship that went down the road

I will give the route one moment here, because it did pass this way, and because of what it found.

In the middle of January 1819 a brig called the *Williams* sailed from Buenos Aires for Valparaiso under William Smith, who was her master and part owner. Rather than fight through the usual way he stood further south than ships normally stood. On 19 February 1819, at about sixty-two degrees south, he sighted land that nobody had reported: the islands now called the South Shetlands.[26]

A merchant voyage from this port to the Chilean coast, taking the southern option, put the first eyes on the Antarctic. Sealing captains based in this city were hunting the new islands before the discovery had even been officially confirmed.[27]

Hold on to the date, because the ship you board tomorrow will be at sea on 19 February.

One other departure, from the end of the century, because it tells you what the road demanded of a vessel. When Joshua Slocum left here in the *Spray* in January 1896, bound for the Strait, he first cut seven feet off his mast and about five off his bowsprit. He sailed on 26 January and was in the Strait on 11 February.[28] A man heading for the bottom of the continent in a small boat made his boat smaller first.

What tomorrow actually is

So: the Atlantic end of the sea road is a city that the sea road did not build.

It grew on a hinterland, on grain and hides and beef, on British capital and British railways, on a creek full of Genoese lighters, and eventually on a set of docks that the state's own engineers had condemned in writing. Its connection to the water you will be crossing for the next two and a half weeks is not commercial. It is legal and it is financial. The licenses were issued here. The monopoly was granted here. The appointment of 10 June 1829 was made here. The prize was brought here. The consul was here.

The road did not need Buenos Aires and Buenos Aires did not need the road. What the city did was sign the papers that sent other people down it, and that is a different kind of importance, and it is the kind that ends up in tribunals rather than in tonnage tables.

Tomorrow you will see a waterfront with four handsome old docks in it that stopped being a port a century ago, and a city facing a river too shallow to come alongside. Both of those are the same fact. Now you know which fact it is.

CHAPTER 2: PUERTO MADRYN: A SURVEY RECOMMENDS A COLONY

In this chapter: a Royal Navy lieutenant finds a river on 24 February 1833, his captain prints a recommendation to put a colony on the bay next to it in 1839, and twenty-six years later a converted tea clipper lands about a hundred and fifty Welsh people on that exact shore. Whether anybody in Wales had read the recommendation is unresolved, and this chapter says so rather than joining the dots. Also why the colonists left the landing place almost at once, what the Tehuelche did about the arrival of strangers who could not feed themselves, and the fact that the town you will see tomorrow was built by a railway company rather than by the sea.

Tomorrow morning the ship anchors in a wide bay on the Patagonian coast, and you will be looking at a town that exists because of a railway, on a shore that a British naval officer recommended for settlement in print a quarter of a century before anybody settled it.

That sentence is the whole chapter and I want to take it apart slowly, because the order of events is the interesting part and the order is almost always told wrong.

Here is the thing to hold onto. Every other stop on this voyage is a place that the sea road either made or passed. Puerto Madryn is a place the sea road *recommended*. The survey came first, the survey wrote itself down, the writing was published in London, and then a group of people with an entirely unrelated motive arrived by sea and put a colony approximately where the book said to put one. Whether that is a chain of cause and effect or an accident of geography is a question I cannot answer, and the honest version of the chapter is the one that leaves it open.

The survey, February 1833

The Beagle did not come into this bay. Two small hired schooners did, the *Paz* and the *Liebre*, working the coast under FitzRoy's orders, and they got in on 10 and 11 February 1833, the first attempt in the dark against a flood tide and a fresh wind that nearly put the *Liebre* onto a rock.[1]

They found what you will see tomorrow, which is a large sheltered bay, and FitzRoy's assessment of its west shore, published six years later, is worth having in

his own words, because what he wrote is a sales pitch composed by a hydrographer who was supposed to be measuring depths.

Part of the west shores, he recorded, seemed *"fit for cultivation, being covered with a fine dark soil,"* with firewood in quantity and small ponds of good water over a clay bed, and cattle tracks around them.[2]

Then, on 24 February 1833, Lieutenant John Clements Wickham found the river. FitzRoy recorded the find himself, and his sentence is as flat as a depth reading:

"On the 24th, Lieutenant Wickham discovered the river Chupat, and after waiting for the tide, anchored half a mile within the entrance."[3]

He went up it by boat the next day and found it disappointing as a waterway, shoal and narrow, with few places deeper than six feet at low water or wider than a hundred yards, which rules out the one use a navy would normally have for a river.[4] He and his party left the Chupat on 3 March and carried the result back to the ship.[5]

A bay with soil and water and wood, and some forty miles south of it a river with a valley attached, too shallow for shipping and perfectly adequate for farming. That is the survey. Nobody on those two schooners was thinking about Wales.

And Darwin was not there. He had no part in this and never landed on this bay; the nearest he came was a brief landing in the Bay of San Jose on 17 April 1833, about a hundred kilometers north, where he picked up fossil shells.[6] I mention it only because he turns up everywhere else in this book and his absence here is easy to fill in by accident.

The recommendation

In 1839 FitzRoy published the narrative of the surveying voyages, and on page 308 of the second volume he wrote this:

"With this river so near at hand, the west side of New Bay would be an excellent situation for a settlement. There ships of any burthen might anchor in safety, and a communication be carried on with the interior by means of flat-bottomed boats, or barges."[7]

He went further on the next page and speculated about a route across the continent to Chiloe, which he thought might spread *"Christianity, civilization, and commercial intercourse."*[8]

That last clause is the one to sit with, because it tells you what a hydrographic survey was actually for. FitzRoy was not merely recording soundings for the safety of shipping. He was assessing a coastline for occupation, and he wrote the assessment down in a book published by a commercial house in London and sold to a reading public. The sea road did not only carry settlers to the far south. It carried back a description of the far south, printed and bound, that told anybody who could afford the volumes where the soil was good and where a ship could lie safely while people got off it.

So: deepwater anchorage on the west side of the bay, barge traffic up the river to the farmland, and a trans-continental ambition on top. Published in London in 1839. The Welsh landed on the west side of that bay on 28 July 1865.

Twenty-six years separate the printed recommendation from the landing, which is close enough to look like cause and far enough apart to be nothing at all.

Now the part where I stop. I have not been able to establish whether any of the men who planned the Welsh colony ever read FitzRoy's *Narrative*. The two who went out to look at the coast in 1862 left diaries, and those diaries are in the National Library of Wales, and I have not read them, and until somebody does the connection is a coincidence with suspicious timing rather than a chain of causation.[9] I am telling you about the recommendation because it is real, dated, printed and specific, and because the thesis of this book is that the sea road delivered the far south its settlers. This is the cleanest case available of the road delivering the *idea* of a settlement. It would be a much better case if I could show somebody in Wales holding the book.

Why Wales

The motive had nothing to do with Patagonia.

The colony was the idea of the Reverend Michael D. Jones, who wanted a Welsh-speaking settlement somewhere far enough away that it would not be absorbed into English.[10] That is the entire founding purpose: a place where the language

would be the language. Patagonia was selected because it was empty of Europeans, available from a government that wanted settlers, and a very long way from Liverpool.

In 1862 Lewis Jones and Captain T. Love Jones-Parry went to Buenos Aires to negotiate terms, and then went to look at the ground. They took a vessel called the *Candelaria* down the coast, were driven into this bay by a storm, and named it Porth Madryn after Jones-Parry's estate in Wales.[11]

They named the bay after a Welsh house. That is how the place got the name you will see on the chart tomorrow: a gale, two men in a small ship, and a piece of homesickness.

Lewis Jones then wrote a report on the suitability of the country which his own biographical entry describes as *"so favourable as to be misleading."*[12]

I want to be careful here, because it would be easy to make this the joke of the chapter and the people who believed the report had a hard time of it. The report was optimistic, the land was not what it promised, and the consequences fell on about a hundred and fifty people with children.

The failures started before the ship did. In March 1865 Edwyn Cynrig Roberts and Lewis Jones were in Buenos Aires to collect the help the Argentine government had promised the colony, and the government could not produce it. They went south anyway. They reached Patagones on 24 May and this bay on 14 June 1865, six weeks ahead of the emigrants, and when the *Mimosa* came over the horizon at the end of July they had a Red Dragon flying on the beach to show her where to come in.[13]

That is the advance party of a national project: two men on an empty shore with a flag, having already been told that the promised assistance was not coming, waiting for a ship carrying fifty-two children.

The Mimosa

A converted tea clipper called the *Mimosa* sailed from Liverpool on 28 May 1865 under Captain George Pepperell with a crew of eighteen, and landed her passengers at Punta Cuevas on this bay on 28 July 1865.[14]

How many passengers is genuinely unsettled. The figures in circulation are a hundred and fifty, a hundred and fifty-three, and a hundred and sixty-two. The most detailed breakdown gives a hundred and fifty-three: fifty-six married adults, thirty-three single or widowed men, twelve single women and fifty-two children.[15] I give the detailed figure because it is itemized rather than rounded, and I flag the spread because a book that quietly picks one number out of three is doing something to you.

Hiring and converting the ship cost two thousand five hundred pounds, and an adult fare was twelve pounds, which tells you both the scale of the undertaking and the class of person undertaking it.[16]

Fifty-two children on a converted tea clipper for two months, to a bay that a naval officer had called an excellent situation for a settlement on the strength of some dark soil and a few ponds.

They did not stay at the landing place. There was not enough water and not enough arable ground, and the party moved inland and south to the lower Chubut valley, which is where the colony actually took root.[17] On 1 August 1865 Edwyn Cynrig Roberts led a group of the younger settlers to an empty fortress on the river they called the Camwy, and named it Caer Antur.[18]

Note what that means about FitzRoy. He had recommended the bay for the anchorage and the river for the farmland, with barges running between them. The Welsh tried the bay, found it would not support them, and went to the river. The hydrographer was right about which of the two places you could live in and wrong about being able to use both.

The sea was not a convenience in any of this. It was the only practical way to reach the Chubut valley at all.[19] That is the sentence that puts this chapter in this book.

The people who were already there

The settlers met the Tehuelche of the region roughly a year after they arrived. After an initial period of mutual suspicion the relations became cordial, and in hard winters the Tehuelche supplied the colony with meat and taught the newcomers to hunt guanaco and rhea.[20]

That is the version the Welsh colony has told about itself for a century and a half, and the documentary record supports the substance of it. A colony that could not feed itself was fed.

There is a second reading and it is not a contradiction of the first. The argument runs that the friendship was genuine in particular places between particular people, and that it also did useful work in making a settler colonization look benign, and that the two facts sit together rather than cancelling. A trilingual exhibition mounted in 2024 set out to challenge what it called the myth of friendship.[21] I am not going to adjudicate that, partly because it is a live argument among the descendants of both parties and partly because the evidence I have supports both halves.

Both of those things can be true at once, and the reason they can is that a colony and a people are not single actors with single intentions. The men who were given meat in a bad winter were given it by somebody. The land the colony eventually farmed had been hunted over by somebody. Those are not the same transaction and nothing requires them to balance.

What the record does establish is the dependence, and the direction of it. A party of Welsh speakers arrived on a shore they had been told was fertile, discovered within days that it would not keep them, moved to a river valley they had been told was better, and in the hard seasons that followed were kept alive partly by people who had been living off that country without written title to any of it. Whatever else the friendship was, it was not symmetrical, because only one of the two parties was in a position to starve.

What I can tell you is what happened on 4 March 1884, and how uncertain it is. John Daniel Evans and three companions were ambushed. Three of them were killed. Evans escaped on his horse, which was named Malacara.[22]

Beyond that the record goes soft in a way worth naming. The names of the three men who died are inconsistent across the accounts. The attack is often attributed to the Tehuelche, and the cacique usually named in connection with it, Foyel, was Mapuche rather than southern Tehuelche, which makes the attribution doubtful.[23] The answers are probably in the Welsh colony's own records in Rawson and Gaiman and in the National Library of Wales, and not online. So the ambush is in this

chapter as an event that happened on a date, and not as a thing done by a named people, because I cannot support the second part.

The railway builds the town

Here is what actually made Puerto Madryn a town, and it was not the *Mimosa* and it was not passing ships.

In 1884 the government granted a railway concession, under Ley 1539, to the Welsh immigrant Lewis Jones.[24] The first stable settlement on this bay followed in 1886, and it was about a hundred single men who had come to build the line.[25] The section from Puerto Madryn to Trelew was finished in 1887. The first full run with passenger carriages was made on 27 April 1888. The line was officially inaugurated on 12 June 1889, having been put off, by one account, from 25 May because the paperwork did not arrive in time.[26]

Those last two dates are not a contradiction and you will nonetheless see them presented as one, with each offered as a correction of the other. The train ran with passengers in April 1888, and the ribbon was cut fourteen months later in June 1889, by which time the line had been working for over a year.

The line was about seventy kilometers long. The first formal authority on the bay arrived with it rather than before it: a maritime sub-office was established on 1 January 1888 under Pedro Derbes, dependent on the Chubut sub-prefecture, which means the state turned up to regulate the harbor in the same season the railway began carrying passengers out of it.[27] A pier named for Luis Piedrabuena was finished in 1910. An engineer called Allan Lea laid out the street plan in 1906, and a municipal corporation was created in 1909.[28]

The order there is worth noticing, because it is the opposite of the order at most of the places on this voyage. Usually the harbor comes first, then the trade, then the town, then the officials. Here the railway company came first, the officials came with the railway, the street grid was drawn twenty years after the first houses, and the town council arrived last of all. Puerto Madryn was administered into existence by a concession rather than grown out of a waterfront.

A concession in 1884, a labor camp in 1886, a railhead, a pier, a street grid, a town council. Twenty-five years from grant to municipality, and the whole thing oriented

inland toward the valley rather than outward toward the sea. The port was the railway's loading point. It was never a stop on the road around the bottom of the continent, and nothing in the record shows a Horn-bound ship calling here.

What I cannot give you is the traffic. No figures for the port's shipping or for its wool exports appear to have been collected, and nobody has published a series.[29] I also could not verify a single named supply vessel between the *Mimosa* in 1865 and the steamer *Vesta* in 1886, which is a twenty-one year hole in the sea link of a colony whose only access was the sea.[30] Two leads for ships in that gap went nowhere. If the colony's supply record exists it is in Welsh hands in Wales or in provincial hands in Rawson.

That is a real gap and I would rather hand it to you as a gap than fill it with a plausible shape. It is also a particular kind of gap, and worth naming as such. Nobody failed to write the records down. The registers of the colony, the accounts of the railway company and the returns of the sub-prefecture are where this would live, and probably do. What seems not to have happened is that anybody gathered it into a series, because nobody at the time had a reason to ask how much wool left this bay in a given year, and by the time anybody wanted to know, the papers were in three countries and two languages.

There is a version of this book that would give you a number anyway. Somebody else's estimate, rounded, with a footnote doing the apologizing. I would rather tell you that the question is answerable, that the answer is in Rawson and in Wales, and that it is not in here.

What tomorrow actually is

So the sequence runs: a survey in 1833, a printed recommendation in 1839, a misleadingly cheerful report in 1862, a landing in 1865 on a shore that could not feed the people who landed, a retreat to the river, a friendship that kept them alive and is now argued about, a railway concession in 1884, and a town.

The sea road brought every one of those things. It brought the survey ship, it carried the recommendation to London and back out again in print, it carried the *Candelaria* and the *Mimosa*, and it was the only road into the valley for twenty years after that. What it never did was send this place any business of its own.

The modern port down the coast from the old landing was built in connection with an aluminium plant, which is a fitting end for a harbor that a naval officer recommended for the shipping and that finally got a deepwater berth for a smelter.[31]

Tomorrow you will stand on a bay named after a house in Wales, where about a hundred and fifty Welsh speakers came ashore and almost immediately left, having been told by a book they may never have read that this was an excellent situation for a settlement.

CHAPTER 3: STANLEY: WHERE SHIPS WENT TO STOP BEING SHIPS

In this chapter: the business of being the first sheltered water after Cape Horn, which meant being the place where a damaged ship found out whether it was still a ship. Four hulks you can see from the deck and one that went home to Bristol. Darwin arriving twice, with the dates corrected, and hearing about a murder. The claims to these islands before Buenos Aires ever made one, given in both readings and settled by neither. Six hundred sheep that left here in 1885 and changed what happened on Tierra del Fuego. And the morning in December 1914 when two maids out riding saw the German fleet.

Tomorrow you come into a harbor that made its living out of other people's disasters.

Not by salvage, exactly, and not by wrecking. By survey. A sailing ship that had been round the Horn and lost her masts, or opened her seams, or had her deck cargo taken off her by a sea, could not know what she was worth until somebody competent looked at her. Stanley is where somebody competent looked. And if the verdict was that the repair cost more than the hull was worth, the ship stopped being a ship, right there, and became something else: a store, a wool shed, a coal bunker, a jetty with a roof.

That is the named idea of this chapter and it has a technical name in the trade. A condemned ship. Not condemned in the sense of blamed. Condemned in the sense of a surveyor signing a piece of paper that ends a career.

You will be able to see several of them tomorrow, still in the water, because iron lasts.

The hulks, in order

The earliest in this book, on a single record I could not re-verify, arrived on 27 January 1853. The *Actaeon* came in damaged, carrying eight hundred tons of coal for San Francisco, and was declared a wreck the following year.[1]

Read that cargo again, because the cargo is the whole argument. Coal, from the Atlantic, going to San Francisco, in 1853, in the fifth year of the California gold rush.

There was no canal and no transcontinental railroad. If you wanted coal in San Francisco you sent it round the bottom of the world, and the bottom of the world broke roughly one ship in a number nobody was counting, and the broken ones came here.

The American packet ship *Charles Cooper* has been in this harbor since 1866.[2] The barque *Jhelum*, built in 1849, reached Stanley on 19 August 1870 in what the record calls a leaky state, was surveyed on 3 September 1870 and condemned.[3] Fifteen days between arriving and being told she was finished. That is the speed of the business.

The most complete chain belongs to the *Lady Elizabeth*, and I am giving it to you in full because the dates show exactly how the trade worked. She was an iron barque built at Sunderland in 1879. Off the Horn on 23 February 1913 she was badly handled by the sea, lost four men and had her deck cargo of Oregon pine taken off her. She put into Berkeley Sound on 12 March, struck a rock there, and was towed into Stanley by the tug *Samson* on 15 March. She was condemned and sold to the Falkland Islands Company for three thousand three hundred and fifty pounds. She lies in Whalebone Cove, where she went after breaking her moorings on 17 February 1936.[4]

Four men, a rock, a tug, a survey, a price, and a cove. Twenty days from the sea that broke her to the tow into Stanley.

And then the famous one. The SS *Great Britain* left Penarth on 8 February 1886 with coal, was damaged off the Horn, and reached Stanley in the last days of May.[5] The exact day is given variously as the 24th, 25th or 26th; the best-supported version has her arriving late on 24 May and registered for repairs on 25 May.[6] I flag the disagreement because this is the single most documented ship in the harbor and the sources still cannot agree which evening she came in.

She never left as a ship. She became a storage hulk, held wool until 1933, and by one account helped coal Sturdee’s squadron in December 1914, which will matter later in this chapter.[7] She was scuttled in Sparrow Cove in April 1937, refloated in April 1970, reached Avonmouth on 23 June 1970 and re-entered the Bristol dry dock on 19 July 1970, a hundred and twenty-seven years to the day after her launch.[8]

Brunel's ship spent eighty-four years in this harbor and three months of them being salvaged.

The part the Panama argument gets wrong

Here is where this chapter contradicts the easy version of this book's own thesis, so I want to be plain about it.

If the harbor economy existed because ships got hurt rounding the Horn, and the canal opened on 15 August 1914 and took the traffic away, then the repair business should have died in 1914 or shortly after.

It did not. The Finnish barque *Fennia* was dismasted off the Horn in May 1927 and was kept here as a hulk for forty years.[9] That is thirteen years after the canal opened. Sail kept rounding the Horn in the nitrate and grain trades for decades after Panama, so the damage kept arriving, and the surveyors kept working.

The canal did not close this harbor. It thinned the traffic that fed it. Those are different claims and the book will keep them apart.

Steam had casualties too, and they were not all off the Horn. The Pacific Steam Navigation Company liner *Oravia* went aground on 12 November 1912 near the Cape Pembroke lighthouse at the very entrance to this harbor.[10] The sources disagree on the name of the rock she hit, so I am not giving you one. Her wreck files are in the archive in Stanley and have not been read for this book.

Darwin, twice, and the dates you will see printed wrong

Darwin came here twice and the published dates are wrong in a way worth a footnote, because a reader who checks will find a different date printed in Darwin's own book.

The first visit ran from 1 March to 6 April 1833.[11] The second ran from 10 March to 7 April 1834.[12] Both published editions of his journal give 16 March for the 1834 arrival, and the manuscript diary and FitzRoy's own narrative both give the 10th.[13] The manuscript and the captain outrank the printer, so this book uses 10 March and tells you where the other date comes from.

The 1833 arrival produced the best single sentence in the Falklands record. Darwin wrote, in his own words:

“The first news we received was to our astonishment, that England had taken possession of the Falklands islands & that the Flag was now flying”[14]

A Royal Navy survey ship arrived at an island group and the people aboard were surprised to learn that their own country had just taken it. The Beagle was not part of the operation and nobody had told her. Whatever else the events of January 1833 were, they were not a coordinated imperial program, at least not one the survey service was briefed on.

What Darwin actually saw was a place littered with the consequences of the Horn. FitzRoy counted three wrecks: a French whaler driven ashore, a wreck in Johnson Harbour, and the remains of two more.[15] FitzRoy, assessing Berkeley Sound as a naval officer, noted that it could hold a large fleet and had coves suitable for repairs, which is the professional version of the same observation.[16] He also counted the feral livestock: over twelve thousand wild cattle and four thousand horses by 1834, descended from animals the earlier settlements had turned loose.[17]

Darwin saw only East Falkland and never stood where Stanley is, for the simple reason that the town was founded after he had sailed away for the last time.

The murder

Six months before Darwin’s second arrival, on 26 August 1833, Matthew Brisbane was murdered at Port Louis along with William Dickson, Antony Wagner, Juan Simon and Ventura Pasos. The killing was done by Antonio Rivero with five convicts and three gauchos.[18]

Brisbane had been born in Perth in 1797 and had landed at Port Louis on 30 May 1830. Thomas Helsby, who found the body, recorded that Brisbane *“appeared to have been making towards his pistols”* when he fell.[19]

FitzRoy arrived in March 1834 and found that nobody had buried him properly. His narrative records finding the feet of poor Brisbane protruding above the ground.[20] He was reburied with ceremony on 25 August 1842 by the crews of naval ships.[21]

Darwin, arriving on 10 March 1834, got the story from the acting governor, and his diary entry on what he was told runs to a list: complicated scenes of cold-blooded murder, robbery, plunder and suffering.[22]

So the second visit of the ship that carries this book's recurring witness arrived into the aftermath of five murders, six months old, with one of the victims still half out of the ground.

Antonina Roxa, who outlasted every flag

If you want one person who holds this whole chapter together, it is not a captain or a governor.

Antonina Roxa was born around 1807 in the River Plate area and reached these islands aboard the *Sarandi* on 6 October 1832. Her companion was one of the seven men who murdered Commandant Mestivier on 30 November 1832; they were shot in Buenos Aires on 8 February 1833. She stayed when the *Sarandi* left on 4 January 1833, took refuge on Hog Island, and in 1834 was allowed by Lieutenant Henry Smith to keep every second calf of the wild cattle she caught and milked. She ended up holding a lease of six thousand acres.[23]

She arrived under one flag, survived a mutiny and a murder and an American warship and a change of sovereignty, and finished as a landholder working cattle that had gone wild because the previous settlements failed.

She is also the reason I distrust the tidy versions of this dispute. Both national stories need the population of these islands in the 1830s to be a simple thing, either Argentine or British. She was neither, she was there throughout, and she did well out of the arrangement that followed.

The claims, before Buenos Aires made one

The sovereignty argument still being fought in print in our own century starts earlier than the decree of 1829, and this is the chapter for the earlier part. I am giving each side its own documents and I am not going to tell you who is right, here or anywhere else in this book.

France was first on the ground. Bougainville sailed from Saint-Malo on 15 September 1763, landed in early February 1764, began building on 17 March and

took possession for Louis XV on 5 April 1764.[24] Two years later the first cargo of seal products left these islands for France, shipped by those Saint-Malo settlers.[25] The sealing economy that runs through this entire book starts in the Falklands in 1766 and it starts French.

Britain came next. McBride was ordered out on 26 September 1765 and entered Port Egmont on 8 January 1766, and Byron had made a claim in 1765.[26]

Then Spain, and the document both sides still fight over. The Masseran declaration of 22 January 1771 restored Port Egmont to Britain while stating that the restitution *"cannot nor ought in any wise to affect the question of prior right of sovereignty of the Malouine Islands, otherwise called Falkland."*[27]

The Argentine reading: Spain handed back one settlement and expressly reserved sovereignty over the archipelago, and Britain accepted that as satisfaction for the insult rather than as a judgment on title. The British reading: an earlier draft would have reserved the Spanish king's prior right specifically, Britain refused that wording, and the clause as signed therefore reserved both parties' positions and settled nothing either way.[28]

The pivot is whether a non-prejudice clause in a document signed by the Spanish ambassador alone functions as a Spanish reservation. That is a question about the drafting history, and the drafting history is in the Foreign Office papers at Kew.

There is a further Argentine argument that Britain made a verbal promise in 1771 to leave Port Egmont, supported by a chain of ambassadorial despatches, and the fact that Britain did leave in 1774, putting up a plaque and a flag on the way out.[29] And there is the Nootka Sound Convention of 1790, whose Article VI the Argentine side reads as barring Britain from settling here and the British side reads as the moment Spanish exclusivity ended.[30]

Three documents here, two readings each, with two more in the chapter on Buenos Aires, and none of the readings turning on different facts. They turn on which fact governs. The best place to watch that happen is a journal exchange printed in 2021, in which each objection is followed immediately by its answer, paragraph by paragraph, so that neither side gets the last word.[31]

Six hundred sheep

Now the sentence that connects this harbor to the worst thing in this book.

In 1883 the Chilean government decided on pastoral colonization of its far south. In 1885 it made its first land concession to foreigners, a hundred and twenty-three thousand hectares to Werhahn y Compania, and into that concession were brought six hundred sheep from the Falkland Islands.[32]

Those are the first sheep into Chilean Tierra del Fuego, and they came from here.

What the sheep did to the Selk'nam is chapter six and I am not going to preview it. What belongs to this chapter is the direction of travel. These islands had no indigenous population when Europeans arrived, which is why nothing in the Falklands story resembles what happened on Tierra del Fuego.[33] They had grass, a working sheep industry, and a long habit of running stock on open country in a cold wind.

So when Chile decided to fill its own far south with animals, the breeding stock and the method came off a British sheep colony in the South Atlantic. The sea road carried them. That is six hundred animals on a ship, and it is also the most consequential cargo in this chapter.

8 December 1914, from a sheep station telephone

The last thing this harbor did as a strategic asset, it did in a single morning.

Five weeks earlier, on 1 November 1914, von Spee's squadron had destroyed Cradock's off Coronel on the Chilean coast. The *Scharnhorst* and *Gneisenau* opened fire around seven in the evening, into the sunset; the *Good Hope* blew up at about ten to eight; there were no survivors from her or from the *Monmouth*. The *Glasgow* and *Otranto* got away. Cradock was killed.[34]

Sturdee's battlecruisers *Invincible* and *Inflexible* left Devonport on 11 November and reached Stanley on 7 December.[35] Von Spee arrived the next morning.

The usual way to tell the rest is from the flag bridge. Here it is from the land instead.

On the morning of 8 December 1914 two maids at the Fitzroy settlement, Christina Goss and Marion McLeod, were out riding when they saw the German fleet. They rode back to report it, were sent out again to watch, and with the help of a houseboy named Albert Kiddle relayed the ships' movements. Mrs Felton telephoned the sighting through to Stanley. She was given an OBE, described by the islands' museum as the first awarded to a Falkland Islander, and the Admiralty presented the two maids with a silver teapot.[36]

A Danish sailor named Christian Andreasen, in the islands since 1907 and a member of the Volunteer Force, spotted the fleet from his lookout on Sapper's Hill. Sturdee thanked him personally and gave him five pounds, and the Admiralty sent a gold watch.[37]

The *Scharnhorst* went down with von Spee aboard, and the *Gneisenau* with her.[38]

A silver teapot and a five pound note for the destruction of a German squadron. There is a whole theory of empire in that pair of rewards and I am going to leave it alone.

The numbers I cannot give you

You would expect a chapter arguing that a harbor lived off Horn casualties to put a number on the traffic. I cannot, and the reason is specific rather than lazy.

The register exists. Four thousand six hundred and forty-four records covering 1842 to 1914 are held in the archive in Stanley, with the anchorage registers running to nine volumes and reaching 1947. The annual series derived from them has been published only as a chart, not as a table.[39]

So the data is sitting in a building you could walk to tomorrow, counted, and the numbers themselves have never been printed. I am not going to read values off somebody's graph and present them as figures. The honest statement is that Stanley's traffic rose into the years before 1914 and that the series which would prove it by how much is a request away in the archive and not in this book.

What tomorrow actually is

So: a harbor whose business was the verdict on other people's ships, which went on doing that business for at least thirteen years after the canal was supposed to have

ended it, which had no indigenous people to displace and therefore sent its sheep and its methods to a place that did, and which spent one morning in 1914 as the most important piece of water in the southern hemisphere because two maids on horseback looked up.

Tomorrow you will see iron hulls in the water that have been there since before the First World War, and a town founded after Darwin had sailed away from an island he thought was miserable.

The hulls are the point. Every one of them is a ship that got round the Horn and then found out what it had cost.

CHAPTER 4: USHUAIA AND THE BEAGLE CHANNEL

In this chapter: a channel named after the ship that charted it, and the four people that ship carried to England in 1830 and brought three of them back in 1833. What happened to the mission that followed them, to the man the English called Jemmy Button, and to the Yaghan, whose numbers fall through this chapter in a line that is easier to read than to look at. Then the Argentine state arriving in 1884, the prison that followed, and a town that lived off government payroll rather than off passing ships. The name Ushuaia appears in none of the primary texts this book rests on, which tells you how recent the place is.

Tomorrow you will spend the day in a channel that is named after a survey ship, on the way to a town that is named in no document any of this book's witnesses wrote.

I searched all six of the primary texts for Ushuaia, and for the older spellings, and found nothing.[1] That is not a gap in the research. It is the finding. When the Beagle came through here the place did not exist in any form that required a name on a chart. What existed was water, weather, and about three thousand people who had been living on that water long before any of this book's witnesses arrived.

So this chapter is not really about a town. It is about a channel, a mission, a people and a prison, in that order, which is also the order in which they arrived.

The return passengers

In 1830, on the first survey voyage, FitzRoy took four Yaghan people to England. Their names, in the English the Navy gave them, were Boat Memory, York Minster, Fuegia Basket, and Jemmy Button, whose own name was Orundellico.[2]

Boat Memory died in England. What he died of and where he is buried are not recorded in anything I was able to read, which is its own kind of fact about how the four were regarded.[3]

The second voyage, the one carrying Darwin, brought the other three home. That is the thing to hold onto about this channel: the reason Darwin was ever in it was that FitzRoy had taken people from it and felt an obligation to return them, with a missionary, and with the equipment for a mission.

The Beagle reached Woollya on 23 January 1833. Darwin recorded that FitzRoy *"determined to settle here the whole party, including Matthews, the missionary"*, and that *"five days were spent in building for them three large wigwams"*.[4] The ship's boats went back into the channel on 28 January.[5]

Richard Matthews, the missionary, was landed on 23 January and taken off on 6 February 1833, fourteen days, nine of them after the ship's boats had gone.[6] Darwin had written before the landing that he doubted *"how far he is qualified for so arduous an undertaking,"* which turned out to be the most accurate prediction anybody made that month.[7]

So the first attempt to put Christianity into the Beagle Channel ran for a fortnight and ended with the missionary being taken off by the ship that delivered him.

Jemmy Button, thirteen months later

The Beagle came back through on 5 and 6 March 1834, and Jemmy Button came aboard.

He had built a canoe. He had a wife. He brought FitzRoy spear heads and arrows, and two otter skins for old friends.[8] Darwin did not at first recognize him.[9]

That last detail has been doing heavy work in this story for nearly two centuries, and it is usually used to say something about the failure of the civilizing project. I think it says something simpler and worse. A man who had spent a year in England being dressed, fed and displayed was returned to a channel where none of that was available, and when the people who had done the dressing came back they could not pick him out. The change they were looking at was him going back to being a person in his own country.

Jemmy also told them something about his people that gets overlooked. They had moved, to get away from raiders coming over the mountains, whom Darwin identified with the foot-going Patagonians.[10] The Yaghan were not living in a sealed world that Europeans walked into. They had their own pressures and their own enemies and had already shifted ground to avoid them.

The record picks him up twice more. In November 1855 the mission ship *Allen Gardiner* found him at Wulaia, still speaking English. In 1858 the South American Missionary Society took him and his family to Keppel Island.[11]

Then, in 1859, the worst day in the mission's history. A party returning Yaghan men to Wulaia went ashore to hold a service, and Captain Robert Fell and most of the crew were killed. The cook, Alfred Cole, survived, and named Jemmy Button as the ringleader. Jemmy denied it.[12] The date is given as 1 or 6 November, with the 6th appearing more often.[13]

I cannot tell you whether he did it. Nobody can, on the evidence available: one survivor's accusation against one man's denial, with nothing else in the record and a strong interest on the mission's side in having a name.

The party that starved

Before any of the permanent mission, there was Allen Gardiner, and his attempt is the clearest single illustration of what this channel did to people who arrived unprepared.

Seven men sailed from Liverpool aboard the *Ocean Queen* on 7 September 1850 and were landed at Picton Island on 5 December 1850. Gardiner was one. The surgeon Richard Williams was another. They starved to death at Spaniard Harbour between June and September 1851.[14]

Nine months from landing to the last death. They had come to convert the people of these channels and they could not feed themselves in them, in a place where the Yaghan fed themselves on sea lion, otter and whale meat, with mussels, sea urchins, some fish, and on land guanaco, birds, fungi, berries and eggs.[15]

I am not going to make the obvious remark. The men died badly and they died of their own plan.

The mission that stayed, and the dictionary

The permanent version worked because the second generation learned the language.

Waite Stirling lived alone at Ushuaia in January 1869, which is the earliest European presence on the site of the town that the record names.[16] Thomas Bridges, the adopted son of George Despard and already in charge at Keppel Island at seventeen, established the permanent Anglican mission at Ushuaia with George

Lewis and their families in 1871.[17] One of the sources gives 1870 for Bridges taking charge, and I flag the one-year variance rather than pick silently.[18]

Bridges then did the thing that makes him matter beyond the mission. He compiled a dictionary of the Yámana language running to more than thirty thousand words, completed in 1879. Only the Yámana to English part was ever published, in 1933, in an edition of three hundred copies, and it was reprinted in Buenos Aires in 1987.[19]

Thirty thousand words. Three hundred copies, fifty-four years after it was finished.

He also, in 1896, was granted forty hectares of Picton Island for a sawmill, later extended.[20] That sentence belongs next to the dictionary rather than in a separate section about land, because they are the same man in the same decade: the person who recorded the language most thoroughly was also acquiring the ground.

The numbers

Here is the part of the chapter that is only numbers, and I am giving it to you as a list because a list is harder to look away from than a paragraph.

Before sustained contact, Martin Gusinde reconstructed the Yaghan population at about three thousand people, working from the navigable coastline at roughly four hundred and fifty canoes and six people to a canoe.[21] Thomas Bridges, who had better reason than anyone to know, gave three thousand for 1850 and no more than two thousand five hundred for 1869.[22]

Then October 1884. Three Argentine naval vessels, the *Villarino*, the *Comodoro Py* and the *Paraná*, left the new lighthouse station at Ushuaia for Punta Arenas carrying seven young Yaghan. All seven fell ill and died on the voyage. At Ushuaia the disease was measles, and the Yaghan died within days, including every Yaghan child in the mission orphanage. About half the population died, and most of the survivors within two years.[23]

After that the counts run: three hundred and ninety-seven or four hundred and seven in Bridges' census of 1886, the two figures unreconciled; around a hundred by about 1905; fewer than a hundred by 1916; about seventy by Gusinde's estimate in 1923; sixty-three people in 1946, of whom nineteen had no record of mixed descent.[24]

Three thousand to sixty-three in under a century.

The causes are separately documented and the order matters. Epidemic disease above all, and the 1884 measles outbreak above everything else. Then sedentarization at the mission, which meant closed and badly heated housing producing cold, damp and overcrowding, and the imposition of heavy European clothing that was never changed or washed, dried on the body, and bred skin disease and general debility. Then an abrupt change of diet and of eating hours. Then loss of territory as the islands on both sides of the channel went into private hands.[25]

That second cause is the one worth sitting with, because nothing in the record suggests malice. A mission gave people houses and clothes, and the clothes killed them.

The language outlasted the population by about seventy-five years. Cristina Calderón died on 16 February 2022, aged ninety-three, the last person to have learned Yaghan as a mother tongue.[26]

The state, and then the prison

Argentina established a presence at Ushuaia in 1884, which is the same year as the lighthouse station and the measles.[27]

What the state then built was a jail. The first one went up in 1896. There was a mutiny at the military prison on Isla de los Estados in 1902. The cornerstone of the civil Presidio at Ushuaia was laid on 15 September 1902 under its director Catello Muratgia, and in 1911 the military prison and the Cárcel de Reincidentes were merged.[28]

By 1920 the Presidio had three hundred and eighty-six single cells and more than six hundred prisoners.[29] It was closed by a decree of President Juan Domingo Perón on 21 March 1947.[30] The buildings became a maritime museum in 1994 and a national historic monument in 1997.[31]

So the sequence at the bottom of Argentina runs: survey, the taking of the four, return, mission, epidemic, state, lighthouse, jail, bigger jail, museum. Every one of those arrived by sea, because there was no other way for any of them to arrive.

And the shipping itself was negligible. At the end of the nineteenth century Ushuaia saw two or three ships a month, which is a rounding error against what was happening at Punta Arenas in the same years.[32]

That is the argument of this chapter, stated as a number. A place can be entirely made by the sea road and carry almost none of its traffic. Ushuaia was built by what the sea delivered, not by what it carried past.

What tomorrow actually is

Tomorrow you go up a channel that FitzRoy charted, past the arm where Darwin nearly lost the boats, which is the next chapter and not this one.

What I would hold in mind is the arithmetic. Four people taken in 1830, three returned in 1833, one of them accused of a massacre in 1859 and denying it. A missionary ashore for nine days. A party of seven starved in nine months. A dictionary of thirty thousand words in three hundred copies. Three thousand people reduced to sixty-three. Three hundred and eighty-six cells holding six hundred men. Two or three ships a month.

Those are all the same story and the sea is the only road any of it traveled.

CHAPTER 5: GARIBALDI AND THE ICE

In this chapter: the afternoon of 29 January 1833, when a piece of a glacier fell into the water and nearly took the Beagle's boats with it, and what FitzRoy named the next morning because of it. Why that episode is missing from the first edition of Darwin's book and present in the second. What the surveys can and cannot tell us about where the ice stood, which is less than you would hope. And the glacier you will look at tomorrow, which has been advancing while almost every glacier around it retreats, for reasons that are measured and understood.

Tomorrow the ship turns into a fjord to look at a glacier, and the glacier is doing the opposite of what you expect a glacier to be doing in 2027.

This is a short chapter, deliberately. The material is narrow and I would rather hand you four things that are solid than pad it out with a tour of the cryosphere. Three of the four are about one afternoon in 1833.

29 January 1833

The Beagle's boats were working the northwest arm of the channel. Darwin's diary entry for the day, written at the time, is the best account and it is public-domain primary text, so here it is at length.

"One of these glaciers placed us for a minute in most imminent peril; whilst dining in a little bay about 1/2 a mile from one & admiring the beautiful colour of its vertical & overhanging face, a large mass fell roaring into the water; our boats were on the beach; we saw a great wave rushing onwards & instantly it was evident how great was the chance of their being dashed into pieces."[1]

One of the seamen caught the boat as the breaker reached it. He was knocked over and over and was not hurt, and the boats took no damage.[2]

FitzRoy, writing his own account, is more explicit about who ran. His narrative states that had not Mr Darwin and two or three of the men run to the boats instantly, they would have been swept away irrecoverably. Darwin, in the 1845 text, added what that would have meant: a hundred miles from the ship, on a shore he called hostile, with no provisions and no firearms.[3]

The next morning, 30 January 1833, FitzRoy named the water they passed into Darwin Sound, after the messmate who had run for the boats.[4] He also named the mountain above it, Mount Darwin, at six thousand eight hundred feet, and noted its immense glaciers.[5]

That is how a sound and a mountain in Tierra del Fuego came to carry the name of a naturalist in his early twenties: not for a discovery, but because he was quick on a beach.

FitzRoy then did something that a modern reader should notice. He reasoned from the wave to the boulders. Having watched a mass of ice drop into the sea and send a breaker up a beach, he worked out that this was a mechanism for moving rock, and wrote down that ice and waves together transport boulders.[6] He was a hydrographer with no particular stake in geology and he had just watched a physical process and drawn the correct general inference from it.

The episode that was edited in

Here is a detail about the text itself that matters if you ever go looking.

Darwin published two editions. The first, in 1839, dates the day correctly as the 29th and leaves the wave out entirely. It runs from the glaciers straight on to reaching the western mouth of the channel. The episode was added for the second edition of 1845.[7]

So the most dramatic incident of the whole boat journey, the one that got a sound named after him, did not appear in the book he first published about it. He put it in six years later.

Why is not recorded and I am not going to guess. What the discrepancy is useful for is calibration. If you read a secondary account of this voyage that quotes the wave from the 1839 edition, the account has not been near the 1839 edition.

There is one more thing in the 1845 text worth having, because it shows what struck him as remarkable. He noted that glaciers here reached the sea at fifty-six degrees south, where in Norway they do not do so at seventy.[8] That is the observation of a man who has understood that this coast is colder than its latitude has any right to be.

What the surveys cannot tell us

Now the limit, and it is a hard one.

You would think that having Darwin, FitzRoy and King all describing glaciers in these channels in the 1830s would let us measure how far the ice has gone since. It does not, and the reason is specific. None of them fixed a glacier front to a position on a chart. They described ice reaching the water in particular bays, they gave distances from a boat to a cliff, and they named mountains. What they did not do is leave a georeferenced terminus that a modern glaciologist could compare with a satellite image.[9]

So there is no nineteenth-century change figure for any glacier in the Beagle Channel, and no figure I could find is anything but a description converted into a measurement, which is the same thing done more politely.

There is a related trap I want to close off. The bay where the wave happened has never been identified with Seno Garibaldi or with any named glacier.[10] You will see the two joined together, because the fjord is the ice attraction on this route and the wave is the ice story, and putting them in the same sentence is irresistible. The sources do not support it. FitzRoy puts the party at Devil Island that day; which bay held the ice cliff is not established.

The glacier that has been advancing

The measured record of Garibaldi Glacier begins in 1945, not in 1833.[11]

Within that record it has been doing something unusual. A comparison of a WorldView satellite image of 27 September 2011 against an ASTER image of 13 September 2003 shows the front advanced by more than a kilometer in those eight years.[12] A study published in 2025, simulating the whole Cordillera Darwin Icefield from 2000 to 2023, found the largest advance in the icefield, around two kilometers, at Garibaldi.[13]

The surrounding picture is the opposite. Across the same icefield over the same two decades, climatic ablation runs at about 4.17 gigatons a year, give or take 1.48, which is roughly three quarters of the total loss, with frontal ablation into the fjords and lakes accounting for the remaining quarter at about 1.44 gigatons a year, give or take 0.94.[14] Marinelli, on the same icefield, has retreated extremely.[15]

So why is this one going the other way? Because of its shape, and the explanation is satisfying.

A glacier's behavior depends heavily on what proportion of its area sits above the line where snow accumulates rather than melts. At an equilibrium line of six hundred and fifty meters, Garibaldi has about eighty-nine percent of its area in the accumulation zone. Marinelli, retreating catastrophically a short distance away, has thirty-nine percent. Raise the line by two hundred meters and Garibaldi still keeps eighty-two percent.[16] The 2025 study adds a high central plateau above two thousand meters, a ratio between seventy-two and eighty-eight percent against an icefield average of sixty-one, and a southward exposure that cuts surface melting.[17]

A glacier with most of its body high up and facing away from the sun can gain more at the top than it loses at the bottom, even while the climate warms and its neighbors collapse. It is not evidence against warming. It is evidence that topography can outvote climate in a single basin for a while.

I should also tell you what does not exist. No published model projects the future of the Garibaldi terminus, in advance or in retreat, and no funded monitoring program or new survey of it was found for 2026 or 2027.[18] The glacier you will look at tomorrow is being watched by satellite along with everything else and by nobody in particular.

The name nobody can account for

Last thing, and it is an admission.

I do not know who named this fjord, or when.

What I can tell you is what the trail actually shows, because the trail is usually reported wrongly. Risopatrón's geographic dictionary of 1924 carries two separate Garibaldi features. One is Monte Garibaldi, an eight-hundred-meter peak beside Monte Sarmiento, roughly eighty kilometers from the fjord. The other is Puerto Garibaldi, on the north coast of the northwest arm. The references Risopatrón gives for the mountain are Bove's Argentine expedition and the French Cape Horn mission of Martial and Hyades. The references he gives for the port are a Chilean map of 1910 and the second edition of the *Derrotero Argentino* of 1917.[19]

That distinction undoes the usual story. The Italian and French expeditions are attached to the mountain, not to the fjord. The fjord's name enters the record through a Chilean map and an Argentine pilot book, nearly eighty years after the Beagle went through, with no indication of who put it there.

There is a circumstantial case for a French origin, because the neighboring names in this arm came from the *Romanche* expedition of 1882 and 1883, and Garibaldi died in June 1882, three months before that ship reached Orange Bay. A French crew naming a feature for a recently dead republican hero is chronologically possible. No source says it happened and I am giving it to you as a guess, labeled.[20]

As for ships using the place, the 1916 United States pilot mentions it twice, both times as a landmark for somebody passing: northbound, *"a large entrance between two low points which form Port Garibaldi"*; southbound, *"In the north coast Port Garibaldi opens between two long, low points."*[21] No anchoring directions. Risopatrón calls it a port of good sheltered anchorages.[22] I could not find a single named vessel recorded as having anchored in it before the cruise era.[23]

What tomorrow actually is

A fjord whose name has no known author, which appears in the pilot books as something to steer past rather than into, holding a glacier that has been advancing for about twenty-five years, against a measured record that goes back eighty, because most of it sits high up and faces south.

Darwin was in this arm on 29 January 1833 and nearly lost his boats to a piece of ice falling off a cliff. Which bay it happened in, nobody can say. What he could see of the ice, he described and did not measure, which is why this chapter can tell you a great deal about one afternoon and almost nothing about two centuries.

So when you stand at the rail tomorrow and look at that wall of ice, you are looking at the one thing on this entire voyage that is getting bigger.

CHAPTER 6: PUNTA ARENAS: THE BOOM TOWN ON THE STRAIT

In this chapter: a penal settlement planted to hold a coastline, which became the coaling station and free port of the only sea route between two oceans, peaked at 1,539 ships in 1913, with three blows falling between 1912 and 1919. Also the lease of more than a million hectares, the priest who asked to be paid by the head, the judge who acquitted everyone in 1904 for want of a law, and the names each side has used since for what happened on Tierra del Fuego. This is the longest chapter in the book because this is where the two halves of its argument meet.

Tomorrow you tie up in the only town on this voyage that was built, directly and deliberately, by the sea road.

Everywhere else has been a place the road touched. Buenos Aires signed the paperwork. Puerto Madryn was recommended by a surveyor and built by a railway. Stanley condemned the ships the road broke. Ushuaia lived on a government payroll. Punta Arenas is different. Punta Arenas existed because ships had to come through the Strait of Magellan, needed coal when they did, and would pay for it.

And then they stopped coming, and you can date the stopping, and this chapter does.

It is also where the other half of this book's argument happens, which is what the road delivered to the people who were already here. Those two things are not separate chapters. They are the same decade, the same companies and in several cases the same men, and I am going to keep them in one chapter because separating them would be a kindness to the reader that the record does not support.

Sandy Point

The English name for this place, on the old charts, is Sandy Point. That is what Slocum called it in 1896 and what King called it in the 1820s, although you should know that King's Sandy Point is a trap: in volume I it is Chiloé at four places and the Strait at two.

Chile came here to hold the Strait. Fuerte Bulnes was founded in 1843, on a site that proved too exposed and too poor, and in 1848 the settlement moved to the present position.[1] It was a sovereignty outpost with a penal colony attached, which was the standard nineteenth-century method for keeping people in a place nobody would choose to live.

The penal part went wrong in the way penal colonies do. On the night of 21 November 1851 Lieutenant Miguel José Cambiaso led a mutiny, and Governor Benjamín Muñoz Gamero was shot.[2] The square in the middle of town carries his name, which you will walk across tomorrow.

The next governor was Bernardo Philippi, who had been a colonization agent before he was a governor, and who was killed in October 1852.[3] Two governors in under a year, one shot by his own garrison and one killed in the field.

That is the first ten years: a fort in the wrong place, a move, a mutiny, two dead governors. Nothing in any of it suggests the makings of the busiest port in the far south.

What made it rich

Coal, and the fact that there was no alternative.

Before 1914 a ship going between the Atlantic and the Pacific went through this Strait or around Cape Horn. A steamer could not do either without bunkering, and this was the only place for many hundreds of miles that could sell it coal, water, provisions and repairs. Chile made it a free port, which meant no customs duty, which meant the shipping companies could tranship here without paying for the privilege.

By 1896 the port was handling 303 ships.[4] I want to flag that figure, because you will see 321 in print. The 321 comes from a table that is only partly legible; the narrative Martinic wrote gives 303, and 303 is what this book uses.[5] The source behind that partly legible table lists the lines calling here: the Pacific Steam Navigation Company, Kosmos, Lamport and Holt, Chargeurs Réunis and Hamburg-Süd, at not fewer than twenty arrivals a month.[6]

Five international shipping lines and twenty arrivals a month, at a town that had buried two governors inside its first decade.

Then Joshua Slocum came in, alone, on 14 February 1896, and wrote the best description anybody has left of the place at its height. He found a coaling station of about two thousand people living off sheep farming, gold mining and hunting. On the customs question he is precise and useful: *"The port at that time was free, but a customhouse was in course of construction."*[7]

Hold onto that sentence. It means the end of the free port was under construction sixteen years before the law that ended it.

Slocum also recorded two things about the local attitude to the Fuegians which belong in this chapter rather than in a gentler one. Just before he arrived, the governor had sent a party to attack a Fuegian settlement in reprisal for the massacre of the crew of a schooner. And the port captain advised him, as a matter of routine seamanship, to take hands aboard to fight Indians.[8]

What Slocum did instead was accept a bag of carpet tacks from an Austrian captain named Pedro Samblich, who told him to use them with discretion. He spread them on his deck at night, and on the night of 8 March 1896 they worked.[9]

The official advice had been to hire men with guns.

By 1901 the official table gives 401 entries and 397 clearances.[10] By 1913 the port's traffic reached its highest point at 1,539 ships of all origins.[11]

That number deserves a word about where it comes from, because it is the single most quoted figure about this town and it is harder to trace than it should be. It appears in a signed review in a Chilean journal in 2014, reporting Martinic's book of 2013, and the review points the reader to pages 161 to 174 of that book.[12] the underlying source is not named in the review, and the book is not online. So the figure is attributable to a serious regional historian and is not, at the moment, verifiable at its root. That is better than most round numbers in travel writing and worse than you would want for the headline statistic of a chapter.

That is five times the 1896 figure in seventeen years, on a coast where nothing else had grown at all.

The three blows, in order

Here is the sequence, and the order is the argument.

April 1912. Chile introduced customs at Punta Arenas, ending the free port.[13] That is the first blow and it is entirely domestic. It arrived two years and four months before the canal opened.

August 1914. The First World War. Calls at the port fell from 152 in the first half of 1914 to 47 in the first half of 1915.[14]

That collapse is wartime, not Panama. The canal opened on 15 August 1914, two weeks after the war began, and for the first years of its life the two causes are inseparable in the shipping figures. Anybody who shows you the 1914 to 1915 fall as evidence of the effect of the canal is showing you a war.

1919. And here is where the canal does its work. Martinic states that from 1919 the merchant ships simply stopped appearing.[15]

That is the argument this book rests on, and I am labeling it an argument: there is no Punta Arenas ship count after 1918 to test it against, and the historian who makes it is reading a pattern rather than a table. Let me put it plainly anyway. The war ended in November 1918. Shipping resumed worldwide. It did not resume here. The traffic that the war had interrupted never came back, because by then there was a ditch across Panama and the reason to come this way had gone.

The canal did not cause the collapse. It caused the non-recovery. Those are different claims and only the second one is Panama's.

The scale of what had moved is visible in the canal's own accounts. In fiscal 1924 the Governor of the Panama Canal reported traffic by trade route, and the routes running between the Atlantic and the west coast of South America carried 1,147 ships that year.[16]

Set 1,147 against the 1,539 that came here in 1913. Within ten years of opening, a canal in Central America was carrying a west-coast South American traffic of roughly the same order as the entire peak-year throughput of this port, and the Punta Arenas figure had included coastal and regional traffic that never went near Panama.

The trade was not destroyed. It was moved about four thousand miles north, to a ditch across an isthmus.

What replaced the ships

Sheep. And this is where the chapter turns.

In 1883 the Chilean government decided on pastoral colonization of the far south. In 1885 it made its first land concession to foreigners, a hundred and twenty-three thousand hectares to Werhahn y Compañía, stocked with the six hundred sheep that came out of Stanley two chapters ago.[17] In 1889 came two more grants, a hundred and eighty thousand hectares to José Nogueira and a hundred and seventy thousand to Mauricio Braun. In 1890 Nogueira obtained a lease of about one million three hundred thousand hectares of Tierra del Fuego.[18] In 1893 the Sociedad Explotadora de Tierra del Fuego was constituted.[19]

One man held one and a third million hectares of Tierra del Fuego on a lease, as the output of a government policy set seven years earlier, and three years later that holding was the base of a company.

The fortunes built on that are the houses you will see tomorrow. The mansions on and around the Plaza Muñoz Gamero belong to the Braun and Menéndez and Nogueira families, and they were paid for by wool off land that was granted by decree.

What the sheep did

The Selk'nam lived on Tierra del Fuego, hunting guanaco on the open ground that the concessions had just converted into sheep pasture. Sheep and guanaco eat the same grass. A fenced run stops a hunting people from moving across it. And a Selk'nam hunting party taking a sheep was, from the company's side of the fence, theft.

What followed is set out in a judicial file and in the report of a Chilean state commission, and I am going to use those two documents rather than anybody's summary of them.

Start with the money, because the money is documented and it is not where most accounts put it.

In 1895 the Salesian priest José Fagnano asked the board of the Sociedad Explotadora to pay him for each Selk'nam brought from the estancias to his mission,

and the company agreed on one pound sterling a head.[20] The source for that is not company minutes. It is the 1896 annual report of the Governor of Magallanes, Manuel Señoret, reprinted in a documentary volume in 2002.[21]

Note who asked. The payment per person was requested by the missionary, from the sheep company, and the company agreed. The mission on Dawson Island had been founded in 1888 and was leased to Fagnano by a decree of 11 June 1890 for twenty years.[22] Between 1894 and 1898 more than eight hundred Selk’nam reached Dawson, and the cemetery there eventually held eight hundred graves.[23]

There is a second payment that circulates and I am going to be careful with it, because it is the one everybody quotes. The claim is that a pound was paid for a dead Selk’nam, evidenced by a head, a nose or a pair of ears. The anthropologist Joseph Emperaire asserted that each dead Indian was also the object of a premium. A researcher working directly from the judicial file states that the one pound for a head, a nose or a pair of ears, attributed to the administrator Alexander Allan Cameron Reid, was spoken of in the sources as speculation rather than proved in the record.[24]

So: the payment for living people delivered to a mission is documented in a governor’s published report. The payment for dead people is attested by a serious scholar and treated as unproven by the person who read the file. I am giving you both at their actual strengths, and I am not going to round the second one up because it is the more quotable.

What the file does establish is the hunting itself. Cameron Reid captured Selk’nam at the San Sebastián estancia on 5 July 1895 with four laborers. In a cattle raid on the night of 13 January 1896 at the same estancia, seven Selk’nam were taken prisoner, and on 18 January the prisoners killed their guards.[25]

And it establishes the removals. Governor Señoret sent a hundred and sixty-five Selk’nam to Punta Arenas, where the children were separated from their parents and distributed among local families.[26]

The letter, and the acquittal

On 8 and 9 November 1895 a Santiago newspaper, *El Chileno*, published a letter signed only I.D., the first instalment headed *“Cacerías de indios, escenas de sangre”*, Indian hunts, scenes of blood. Hunting of Indians, scenes of blood.[27]

The Valparaíso Appeals Court acted the next day, sending an official request to the court at Magallanes on 9 November 1895.[28] That became the *Sumario sobre vejámenes inferidos a indígenas de Tierra del Fuego*, a file that ran to four hundred and eight folios, of which some twenty-six are now missing, in two runs, held in the Fondo Judicial de Punta Arenas at the Archivo Nacional Histórico in Santiago.[29]

In January 1897 the prosecuting promoter, Hernando Adriasola, asked for definitive dismissal while admitting that abuses had occurred, particularly the removal of children.[30]

On 29 February 1904 Judge Waldo Seguel acquitted all five surviving accused.[31] His grounds are worth having exactly, because they are not a denial that anything happened. He held that Parliament had never positively defined the legal condition of the indigenous people; that the government had shown no interest in effective presence or in regulating the use and ownership of Fuegian territory; that the commissioner Alberto Barra, the one man accused of mistreatment in Punta Arenas itself, had died during the investigation, extinguishing his liability; and that the other five had acted legitimately in self-defense.[32]

The Valparaíso Appeals Court ratified the acquittal on 10 October 1904.[33]

Nine years from the newspaper letter to the ratified acquittal. Four hundred and eight folios. Nobody punished, on the reasoning that the law had never got around to saying what these people legally were.

That is not a gap in the law being exploited by bad men. That is a court observing that the legislature had left a blank, and the blank being the whole case.

What it is called

The naming of this is itself part of the record, so here is who has used which word and when.

Chile's own state commission, the Comisión Verdad Histórica y Nuevo Trato, delivered its report in 2003 and opens its chapter on the far south by calling the events a genocide, in those words, and attributes the physical elimination of all the Selk'nam, a good part of the Aónikenk and practically all the Kawésqar and Yagán to the land concession policy of the state and the introduction of sheep.[34]

Mateo Martinic, the foremost historian of the region, used the word himself in print in 1989, in an article titled for the Selk'nam genocide, presenting partly unpublished evidence of abuses.[35] In 2019, in a letter to a Punta Arenas newspaper, he rejected the notion of an organized extermination, saying it absolutely lacks historical support, and emphasized the diseases brought by outsiders as the true killers.[36]

Alberto Harambour answered that a genocide includes forced displacement, and that the diseases were part of domination by the conquerors rather than an alternative explanation for it.[37]

So the dispute among the historians concerns intention and organization, and how much weight disease carries, rather than whether the killings happened, which Martinic himself documented. the demographic reconstructions made by Martinic are the basis for the figures the commission used, which makes this an argument between people working from the same numbers.

The numbers themselves run: three thousand five hundred to four thousand Selk'nam at the end of the nineteenth century, about half of them on the Chilean side, per the commission; about three thousand five hundred around 1860 per Gusinde; two thousand in 1891 per Popper and Cooper; one thousand five hundred in 1894 per Señoret; and twelve hundred to fifteen hundred for the years 1891 to 1894 per Martinic.[38]

One further date belongs here, because it is recent and it reverses something. Chile's Ley 21.606, published on 19 October 2023, added the Selk'nam to article 1 of the Indigenous Law, which means the state has formally recognized as existing a people its own commission had described in 2003 as extinct.[39]

The town that saved Shackleton

One more thing happened here, and it is the reason this port has a claim on the affection of anybody who likes ships.

In August 1916 Ernest Shackleton had twenty-two men stranded on Elephant Island and had failed three times to reach them. The fourth attempt went out from here, in a small steel-built Chilean government steamer called the *Yelcho*, under Luis Pardo, and it worked. The men came off on 30 August 1916.[40]

A declining port, four years into losing its reason to exist, sent a small steamer a long way south in winter and brought back twenty-two men that three previous attempts, in a steamer, a trawler and a schooner, had failed to reach.

It is also worth recording that the town itself was not calm in these years. In 1920 the Federación Obrera de Magallanes was attacked, which is the labor history of a company town arriving on schedule.[41]

The lights, and what the Strait carries now

The infrastructure outlasted the traffic, which is usually how it goes. The Chilean Navy lit the Strait, and the Evangelistas light at the western entrance was established in 1896, built under the engineer George Slight.[42]

As for what passes now, the Strait is busier in absolute terms than it was at the 1913 peak. The Chilean Navy's own tables give 2,775 sightings of major vessels in the Strait in 2024 and 2,394 in 2025.[43] Against 1,539 in 1913 that looks like growth, and in absolute numbers it is, though what those ships are doing there is the subject of the last chapter of this book. Set beside the growth of world seaborne trade since 1913 it is a collapse in share, and the ships going through today are mostly not going between oceans. That argument belongs to the last chapter of this book.

What tomorrow actually is

Tomorrow you walk around a square named after a governor his own garrison shot, past houses built with wool money off land handed out by decree, in a town that was the busiest port in the far south in 1913 and was finished as a transit port by 1919.

The two halves of this book meet in those houses. The same decades that made the fortunes emptied the island across the water, and the same company appears in both stories, and a court looked at the second half in 1904 and found that the law had never said what the victims were.

The ships stopped coming because somebody dug a canal four thousand miles away. The rest of it did not need a canal.

CHAPTER 7: THE INSIDE CHANNELS

In this chapter: the sheltered back road from the Strait to the Gulf of Penas, charted by three ships between 1826 and 1830, including the passage a lieutenant found on 21 February 1830 while his commander lay ill in his bunk. Why the back road only worked for steam. The anchorage where every large ship had to stop and wait for the tide. The people whose channels these were, and what a survey party's failure to meet them does and does not prove. And a German light cruiser whose southern anchorages in the winter of 1914 to 1915 are documented, whose famous northern one is not, and whose legend turns out to have a traceable author.

Tomorrow the ship goes inside.

For the next day you will be in water that has land on both sides, sometimes close enough to throw something at, and at one point narrow enough that a ship has to wait for the tide to stop running before it goes through. This is the route that made it possible to get from the Strait of Magellan to the latitude of Chiloé without ever going out into the Pacific, and it is the least known piece of the whole sea road.

Call it the back road. It is sheltered, it is a maze, it is about four hundred and fifty miles long, and for the first three centuries of European presence on this coast it was almost unused, because a sailing ship cannot reliably work a channel four hundred yards wide against a headwind, though as we will see one did it in forty-eight hours. The back road is a steam road. It only became a route when ships stopped needing the wind.

The survey, 1826 to 1830

The charting was done by three vessels: the *Adventure*, the *Beagle* and a schooner called the *Adelaide*, working the inner channels from the Strait up to the Gulf of Penas between 1826 and 1830.[1] This is the first Beagle voyage, under King, before Darwin had anything to do with any of it.

Smyth Channel was named, on the usual dating, in 1829, and the reason is a small piece of naval sentiment worth preserving. It was named as a compliment to Captain W. H. Smyth, under whom both Lieutenant Skyring and Lieutenant Graves had served while surveying the Mediterranean.[2]

The best single episode in the survey is the finding of the English Narrows, and it happened while the officer in charge was too ill to be on deck.

Skyring had been ill from the beginning of January 1830 and was confined to his bunk. Mr Millar had died. In that condition, on 21 and 22 February 1830, Lieutenant Kirke went away in a boat looking for a way through, found one, noted the tides, and on 23 February the *Adelaide* sailed through it and named it the English Narrow.[3]

Lieutenant Skyring's journal, which King prints, gives the dimensions, and they differ from the figure most often quoted. He describes the passage as *"long and intricate, chiefly formed by islands"*, and says that in three places where the shores approach each other the distance across is less than four hundred yards, yet that with a fair wind and slack tide there is no hazard.[4]

Four hundred yards, in three places. You will see two hundred quoted, and that is not an error: it is the 1916 United States pilot's figure for the narrowest point, taken eighty years later with better instruments. The two are not in contradiction. What a book cannot do is cite King and then give the pilot's number.

Two other things the survey recorded are worth having, because they are the only contemporary glimpse of what the channels were like as a lived-in place rather than a navigational problem.

Skyring saw woodland east of one anchorage that had recently been burnt over ten or twelve miles of shore.[5] Somebody had been managing that country with fire on a large scale, and it was not the Royal Navy.

And in March 1830 a seaman from the survey was given a fire by two Kawésqar women.[6] That is the entire recorded transaction: two women, a cold sailor, and a fire handed over.

Who was actually using it

Here the record corrects a claim that this book's own first round carried, and the correction matters because it is the difference between a route that opened in 1848 and one that was already in use twenty years earlier.

The usual story is that no vessel used these channels until HMS *Gorgon* came through in 1848. King records otherwise. An American sealing schooner entered the Strait by way of the Cutler and Smyth Channels and reached Port Famine in forty-eight hours, in July of 1828 or 1829.[7]

So an American sealer was working the back road, and working it fast, while the survey that was supposed to be opening it was still in progress. The sealers were close behind every chart and often ahead of it. The first seal cargo left the Falklands in 1766. The South Shetlands were sighted in 1819 by a trading brig running south for better winds, and the sealers were hunting them before the discovery was confirmed. And they were in these channels before the charts existed, because a sealer does not need a chart so much as a reason.

HMS *Gorgon* came through in 1848, and from the 1860s and 1870s the channels carried regular steamship traffic.[8] The Pacific Steam Navigation Company ran its service through the Strait and the channels, which is how the route became ordinary.[9] HMS *Nassau* surveyed here between 1866 and 1869, and the naturalist aboard her, Robert Oliver Cunningham, left a narrative that includes Eden Harbour.[10]

The place where everybody stopped

Now the detail that reframes this whole chapter, and it comes out of a pilot book rather than a history.

The United States *South America Pilot* of 1916 lists Eden Harbour first among the anchorages where large vessels waited for slack water before taking the English Narrows. It names a second, and it names a channel by which a ship could avoid the Narrows altogether.[11]

Think about what that means on the ground. The Narrows is four hundred yards wide in three places with a tide running through it. A big ship cannot simply arrive and go through. It has to arrive, stop, anchor, and wait for the water to stand still. The anchorage the pilot puts first is Eden Harbour, on the eastern side of Wellington Island.

Which is to say that the anchorage the pilot names first among the places where a large ship waited for slack water at the Narrows is also the spot where, in 1937, the

Chilean state concentrated the surviving Kawésqar of these channels into a settlement called Puerto Edén.

I am not going to claim that one caused the other, because I have not found a document connecting the two decisions. What I will say is that if you were a government looking for somewhere to put people so that passing ships would see them, the anchorage where every ship had to wait would be an efficient choice.

The channels were lit and regulated over the same decades. The Chilean Navy marked them, and pilotage became compulsory, and the modern regime rests on a navigation law of 1978 and a supreme decree of 1985, with nothing earlier than that surfacing in the sources I could reach.[12]

And ships still hit things in here. The Greek-owned cargo vessel *Captain Leonidas*, built in 1937, ran aground on the Bajo Cotopaxi in the Messier Channel on 7 April 1968, and her hull is still there, and every ship that passes photographs it.[13] That claim rests on one source and I have not been able to corroborate it.

The people of the channels

The Kawésqar were sea nomads of the channels between the Gulf of Penas and the Brecknock peninsula at the western end of the Strait.[14] A Kawésqar heritage source records a division of their own water between the calmer inner channels and the outer coast, which are two different kinds of sea requiring two different kinds of seamanship. The terms behind it have not been checked against the linguistic literature for this book.[15]

Now a figure that gets badly misused, and I want to handle it carefully because it is the kind of number that becomes a fact by repetition.

King's survey recorded meeting fewer than twenty human beings in four or five hundred miles of channel.[16]

That is not a population estimate. It is an encounter rate, recorded by an armed survey party in ships, among people who had every reason to go behind an island when a strange vessel appeared and who could do so faster than the vessel could follow. Skyring's burnt woodland, ten or twelve miles of it, is better evidence of how many people were in these channels than the number the survey managed to see.

What came after the survey is documented and it is brief. Violence by sealers and otter hunters from the late 1860s. A punitive expedition on 27 March 1873 ordered by Governor Oscar Viel to the Río Agua Fresca, south of Punta Arenas on the Strait. A removal to Dawson Island on 19 July 1897.[17]

Eleven Kawésqar were taken to Europe in 1881 and shown in a circuit of cities. Six of them died. Five of the six came home from Zurich on 13 January 2010, a hundred and twenty-nine years later, and three more ancestors came back from Basel in 2026.[18]

By the middle of the 1990s a survey counted a hundred and one Kawésqar in all: twelve at Puerto Edén, sixty-four at Punta Arenas, twelve at Puerto Natales, and the rest elsewhere.[19]

One life stands for the whole of it. Lautaro Edén Wellington was sent from Puerto Edén to Santiago around 1940, at about ten years old, to be educated into a leader. He came back in 1947 as an aviation mechanic and the President's godson, and did not recognize his own parents. He returned again in 1949 as a radio operator, then left the settlement with a Kawésqar woman and took a Kawésqar name. In early 1953 he drowned with his hunting party in the Baker estuary.[20]

Taken out at ten, returned at seventeen unable to recognize his mother and father, and dead in the water at about twenty-three. He is the clearest case in this book of what the sea road did when it was trying to help.

The cruiser in the fjords

In the last days of 1914 the water at the southern end of this route held a German light cruiser, and the story that has grown around it is a good demonstration of how a legend acquires a footnote.

SMS *Dresden* was the only ship of von Spee's squadron to escape the Battle of the Falkland Islands on 8 December 1914. Her movements before and after are partly documented and partly not.

She was on the east side of Picton Island on 3 December 1914 for partial bunkering, and left after a commanders' conference on the 6th.[21] After the battle she was at Sholl Bay, negotiating her stay with a Chilean naval representative, and HMS *Kent* reached Punta Arenas within hours of her leaving.[22] In late January 1915 she

shifted to a cove on Isla Santa Inés that was not on the charts, with a German pilot named Harry Rothemburg aboard.[23] That last movement rests on a single chain of sources and I am flagging it as such.

The famous version has her hidden deep in the Quintupeu fjord, supplied by a German settler named Albert Pagels who made repeated trips with provisions, letters, tools and coal in a small boat, and who thereby kept a cruiser of the Imperial Navy alive for three months in Chilean waters.

It is a wonderful story. The Quintupeu part rests on local tradition, and the citation trail for the Pagels material leads to a travel website.[24] A study published in 2008, working from a report Pagels himself wrote in 1915 now held in the German military archive at Freiburg, concludes that Pagels never piloted the ship and never hid her.[25]

So the legend has an author, and the author is Pagels, and the document that undoes it is his own. I find that more interesting than the legend. A man who did something real in a remote place in wartime wrote an account of it, the account grew in the retelling until he was the man who hid a cruiser, and the correction came from going back to what he actually filed.

The ship herself was run down at Juan Fernández in March 1915, which is a long way outside these channels and outside this chapter.

What tomorrow actually is

So: a shelteredtered road that sail could not use and steam could, charted by a schooner whose commander was in his bunk, with one gate in it four hundred yards wide where every big ship had to stop and wait for the water to stand still, and where the people who had been navigating it for thousands of years were eventually gathered into a village beside that same gate.

Tomorrow, at the Narrows, the ship will slow down and the officers will be watching the tide, exactly as the *Adelaide* did on 23 February 1830. That part has not changed at all.

CHAPTER 8: PUERTO MONTT: CLEARING THE GROUND

In this chapter: a town inaugurated on 12 February 1853 as the sea gate for a state colonization program, on a site that was already a timber station worked by men from Chiloé. The colonization agent who paid a Huilliche man thirty pesos to set fire to a forest, and wrote it down himself. How the land actually changed hands in the decades afterward, which was mostly by deed rather than by fire. Darwin on Chiloé in 1834 and 1835, including the night Osorno erupted. And why this chapter carries no population figure for the people who were here first.

Tomorrow you arrive at a town that was founded to be a door.

Not a port in the sense that Punta Arenas was a port, which is to say a place where ships stopped because they needed something. Puerto Montt was built at the head of a sound so that colonists could be landed and pushed inland to a lake. It is the point where the sea road stops being a road and becomes a trailhead.

This chapter belongs to the colonization agent, because the whole thing was done by one, and because he left a memoir.

The site, before it was a town

It was not empty and it was not unknown.

The place was called Melipulli, and in 1842 the German colonization agent Bernhard Philippi reported it as having about thirty huts and two hundred people.[1] Before the colonization program, Chilote timber-cutters were working alerce there.[2]

FitzRoy records Melipulli as an astillero, a timber-working station, with a descanso, a resting place, every two or three miles along the way.[3] Whether the astillero he describes is precisely the site of the modern town remains open, since he recorded no coordinates.[4]

So the sequence is: an alerce-cutting station with two hundred people and a path inland marked by rest stops, which the state then selected as the landing point for European colonists.

One more thing about the primary texts, because it is the kind of absence that tells you something. The name Llanquihue does not appear anywhere in the six primary texts this book rests on.[5] The lake that the whole colonization program was aimed at is not in Darwin, not in FitzRoy, not in King. It was inland, and the sea road's witnesses only wrote about what they could see from the water.

The founding

The colony was inaugurated on 12 February 1853, on a date the agent chose deliberately. It was named Puerto Montt in homage to the author of the colonization law of 18 November 1845. The site chosen was at Callenel, a section of Melipulli on the north shore of the Reloncaví sound. Forest covered the ground down to the tidal strip, and axe and fire cleared enough room for a poor shed, with the first stone laid the year before, in 1852.[6]

A supreme decree of 27 June 1853 created the Territorio de Colonización de Llanquihue.[7]

The German colonists had begun arriving earlier and further north. The ship *Hermann* brought the first large group to Corral, in Valdivia, in 1850, and colonists reached Llanquihue from 1852.[8]

Bernhard Philippi, who had surveyed Melipulli in 1842 and been appointed colonization agent, saw little of the result, being killed in October 1852 while serving as governor of Magallanes.[9] He appears in two chapters of this book, a thousand miles apart, which is a fair description of how thinly the Chilean state was spread across its own far south.

The fire

Here is the passage this chapter exists for, and it exists because the man who arranged it published an account of it under his own name.

Vicente Pérez Rosales, the colonization agent, offered a Huilliche man named Pichi Juan thirty pesos fuertes to burn the forests between Chanchán and the cordillera.[10]

Pichi Juan lit it at several points. The fire burned for three months. The sun over Valdivia was dulled by the smoke. Pichi Juan himself survived the fire he had started

by sheltering in the hollow root pit of a coigüe. The burnt country was afterward reckoned at about five leagues across by fifteen deep, north of Lake Llanquihue.[11]

The reason Pérez Rosales wanted it done was administrative. He had immigrants lodged provisionally at Valdivia with no land to put them on, and he went back to calm them while the forest burned.[12]

I want to be exact about the geography, because this story is routinely attached to the wrong place. The fire was in the forest between Chanchán and the mountains, on the way from Valdivia down to Llanquihue. It was not the clearing of the Puerto Montt site itself, which was done with axes and smaller fires for a shed.[13] The date is given as about 1852.

Three months of burning, roughly five leagues by fifteen, so that people waiting in a provincial town could be given somewhere to go. The agent paid thirty pesos for it and then wrote it into his own memoirs, which is how we know.

The man who took the money and lit the fires was Huilliche, which is to say one of the people whose country was being cleared. I am not going to build anything on that. It is in the record and it belongs in the record.

How the land actually changed hands

The fire is the memorable part. The deeds are the large part, and if you only know the fire you have the wrong idea of how this worked.

The judgment of Chile's own state commission is that most of the German colonization did not directly take land that indigenous people were occupying, while also finding evidence that the Llanquihue area was inhabited, and that by 1870 or 1880 all the colony's allocated land had been taken up, so that further purchases became necessary.[14] That second half is where the pressure comes from.

The groundwork was done on paper in 1850, when Wilhelm Frick's report on the state lands of Valdivia declared the north coast to be fiscal land, despite evidence of indigenous occupation.[15] Declaring occupied ground to be state ground is the cheapest step in any dispossession and it leaves the least trace.

From the 1870s the mechanisms were commercial and legal rather than violent. The commission lists them: getting a man drunk and having him sign, fomenting

lawsuits, buying shares in communally held land, and loans that could not be repaid.[16]

The scale is in the paperwork. A thousand and one deeds, seven hundred of them drawn up before 1893. Share transfers in communal land rose from three hundred and fifty-four shares across the eighty years from 1788 to 1869, to four thousand eight hundred and seventy-nine in the single decade from 1870 to 1879. By 1907, of six hundred and thirty-eight fundos in La Unión, only forty-one were indigenous.[17]

In 1893 private purchase was prohibited, and the prohibition was extended to Valdivia, Llanquihue, Chiloé and Magallanes.[18] Seven hundred of the thousand and one deeds predate that prohibition, which is the sort of ratio that tells you what the prohibition was responding to.

Fourteen times the share transfers in one decade as in the previous eighty years. That is not a fire. That is a notary's office working at capacity.

And here is where this chapter declines to give you a number. I have no population figure for the Huilliche. Chile's commission describes the question of how many there were around 1850 as one of the hardest things to clarify, with data existing only for Valdivia and nothing at all for people outside the missions.[19] A figure of about thirty thousand circulates and this book is not using it, because the commission that looked hardest for it could not produce one.

A chapter about dispossession that cannot say how many people were dispossessed is an unsatisfying thing to write. It is also the honest position, and I would rather hand you the gap than a number with no floor under it.

Darwin, in the rain, watching a volcano

Darwin spent more time in this region than almost anywhere else on the Pacific coast, and he did not enjoy all of it.

His first period on Chiloé ran from 28 June to 13 July 1834.[20] Those dates come to this book from its earlier research and were never re-verified against the text, which I am telling you because the rest of the dates in this paragraph were.

He was at Valparaíso from 23 July to 10 November 1834, and back in the south from 21 November, when he reached San Carlos, with a boat expedition under Sulivan

setting out on 24 November to survey the island's inland coast, which Darwin joined. He was at Castro on 30 November and 1 December 1834, and described it as the ancient capital of Chiloé, now a most forlorn and deserted place, where sheep were browsing.[21] He was back at San Carlos on 18 January 1835, having sailed from Low's Harbour on the 15th, his second anchorage there on that cruise and his third on the voyage.[22]

On 19 January 1835 Osorno was in eruption.[23]

He also recorded the thing that most interested him about Chilote society, which was that it ran substantially on barter rather than on money.[24]

One thing he never did, and it matters for the shape of this book, was go through the inside channels. Darwin transited neither the Sarmiento Channel nor the English Narrows.[25] The route you came down yesterday is not in his account at all.

One legend and one gap

Two short things, for completeness, because both will be offered to you locally.

The German cruiser *Dresden* is said to have reached the Quintupeu fjord, north of here, on 6 February 1915. That date comes from a Spanish-language account resting on local tradition, and it is not supported by the German log material.[26] The previous chapter dealt with how that legend was built.

And the 1960 earthquake, which destroyed the waterfront and the shops at Angelmó on 22 May 1960, is documented in photographs. I could not find a named survivor's account for it.[27] The Archivo Nacional holds a video testimony from a local architect and the regional newspaper holds the rest, and neither was available for this book. So the largest earthquake ever recorded anywhere hit this town and this chapter can only tell you that it did.

What tomorrow actually is

A town inaugurated in 1853 to be the sea door of an inland colonization scheme, on a site that had about two hundred people and an alerce industry eleven years earlier, reached by colonists who had landed further north three years before that, on land made available partly by a three-month fire that an official bought for thirty

pesos and partly by a thousand deeds, seven hundred of them before the law stopped it in 1893.

The sea brought every colonist, every agent and every coastal steamer. What it never brought was transit traffic, because nothing going between the oceans had the slightest reason to come up a sound to the head of a gulf.

Tomorrow you will see a working port with a fishing quarter, and behind it a lake district that exists in its present form because of a law passed in 1845 and a fire lit around 1852.

CHAPTER 9: VALPARAÍSO: THE FIRST PORT ON THE OTHER SIDE

In this chapter: the port that was the first thing a ship saw after surviving the bottom of the continent, and what that was worth. A steamship company that started a Pacific service in 1840 and had to send its two ships round the Horn to begin it. Darwin, ill in an English merchant's house for a month. The earthquake of 16 August 1906, with the death toll corrected upward and no eyewitness, because none could be found. And the cargo figures, which show this port peaking in 1912, two years before the Panama Canal opened, which is inconvenient for the easy version of this book's argument and is therefore the most useful thing in the chapter.

Tomorrow you reach the other side.

Everything in this book until now has been the road. Valparaíso is the far end of it, and for most of the nineteenth century it was the first port of call for anything that had come up from the Horn or out of the Strait. A ship arriving here had done the hard part. It needed coal, water, repairs, provisions, a bank and an insurance broker, and this is where all of those were.

That is the named idea of the chapter and it is also the whole of the port's original business: being first. Not biggest, not best situated, not a natural harbor, because it is an exposed roadstead with a northerly exposure that has wrecked ships at anchor. First.

Before the business

The earliest thing in this chapter is a robbery. Francis Drake plundered Valparaíso in December 1578, having come through the Strait, which makes him the first European to arrive here by the route this book is about and put him immediately to work demonstrating what the route was for.[1]

Then two and a half centuries during which the port was Spanish, modest, and of no interest to this argument.

15 October 1840

The date the modern port begins is the date steam arrived, and the way it arrived is funny in a way the Pacific Steam Navigation Company presumably did not enjoy.

PSNC began its Valparaíso to Callao service on 15 October 1840. The two ships that opened it, the *Chile* and the *Peru*, had to come out from Britain through the Strait of Magellan to get here.[2]

A steamship line was founded to run up and down the Pacific coast, and the first thing it had to do was send its steamers round the bottom of the continent, because there was no other way to get them to the ocean they were meant to work in.

The company then set up a coal depot here, and in 1840 the hulk *Portsea* brought in four hundred and eighty-five tons of Welsh coal.[3]

That is the mechanism of this port in one shipment. Coal from Wales, carried round Cape Horn, stored in a hulk in the roadstead, to fuel steamers running to Peru. Valparaíso did not have coal, or iron, or engineers. What it had was position, and position was enough to make it the place where the Pacific coast was supplied.

Darwin, indoors

Darwin anchored here late at night on 23 July 1834 and left on 10 November.[4] Nearly four months, and the longest single stay he made on this coast.

He wrote very little about the port. Three passages in the published *Journal of Researches* bear on Valparaíso, with the diary entries for 31 July and 2 August 1834 and the illness of September and October alongside them, and nothing in any of them bears on the port's later decline, which is worth stating because he is the recurring witness of this book and here he simply has nothing to contribute to the argument.[5]

What he did record is the townscape, which was one long street running along the beach with the houses climbing up the ravines behind it.[6] That is still a recognizable description of what you will see tomorrow.

He also recorded what he thought of the people he found there, and the remark is usually quoted without the comparison that makes sense of it. On 31 July 1834 he wrote that those aboard were struck by how much better the English residents here were than the English in other South American towns, the evidence offered being that one of them asked him what he thought of Lyell's geology.[7] I am not going to editorialize about a sentence written in 1834 by a twenty-five-year-old in a merchant's spare room. I include it because this book uses him as a witness, and a

witness has a position: his was that of a guest of the British commercial community, being asked about his reading.

That community is the reason he had a roof. He lodged with Richard Corfield from 2 August 1834. He rode out on 14 August, climbed La Campana, and reached Santiago on 27 August.[8] Then he came back ill, reaching Corfield's house again on 27 September, and stayed in bed there into the end of October.[9]

So the most famous passenger on the most famous survey voyage of the century spent a quarter of his Valparaíso stay being nursed in the house of an English merchant. The British commercial network was the infrastructure of this coast, and Darwin used it exactly as any other British traveler would have.

The funiculars

A small thing that will be the most visible thing tomorrow.

The first of the ascensores, the Concepción, opened on 1 December 1883, worked by water counterbalance. About thirty of them were built between 1883 and 1932. The Mariposas dates from 1906 and the Artillería from 1914.[10] They were declared Monumentos Históricos on 1 September 1998, and the historic quarter has been a UNESCO World Heritage site since 2003.[11]

One correction, because you may have heard otherwise. Wildfires around Viña del Mar on 2 and 3 February 2024 were severe and destructive. No source I could find reports damage from them to the inscribed historic quarter of Valparaíso.[12] The two things are frequently joined and I could not find a basis for joining them.

16 August 1906

At 19:55 local time on 16 August 1906, which is 00:40 on the 17th in universal time, an earthquake of magnitude 8.2 struck.[13]

Forty-one blocks of the El Almendral district were destroyed.[14]

The death toll needs correcting upward. The figure most often repeated is around three thousand. The University of Chile gives about three thousand eight hundred and eighty-two, and the American oceanic and atmospheric agency gives a range of three thousand eight hundred to four thousand.[15] The commonly quoted figure understates it by roughly a quarter.

What happened next is the part that is usually left out. Martial law was declared on the night of the earthquake, because organized gangs were looting. The intendente, Enrique Larraín Alcalde, issued a proclamation placing command with Captain Luis Gómez Carreño of the navy. Sentences were carried out publicly on the Avenida Brasil.[16]

A city fell down and the navy shot people in the street for robbing it, within hours, under a written order.

I would like to give you a person inside that night and I cannot. No named eyewitness account of the 1906 earthquake surfaced in the research for this book. A lead to a named witness was pursued and found to be nothing at all.[17] There are real options in the Chilean archives and none of them was reachable here. So this is a chapter about a catastrophe with no voice in it, and I would rather tell you that than put words in a composite mouth.

For context on what this city was already absorbing: a smallpox epidemic in 1905 is reported to have killed six thousand six hundred and seventy-eight people out of a population of about a hundred and sixty thousand.[18] That figure reaches this book at second hand and is carried at that strength. If it is right, the disease killed nearly twice as many people the year before as the earthquake did.

The numbers, and the inconvenient peak

Here is the quantitative heart of the chapter, and it does not support the simple story.

The cargo handled at Valparaíso peaks in 1912 at one million six hundred and fifty-one thousand tons.[19]

The Panama Canal opened on 15 August 1914. The peak is two years before it.

From there the series falls 22.4 per cent in the single year 1913 to 1914 and about 28 per cent across 1913 to 1915, recovers to one million three hundred and one thousand tons in 1916, and reaches its lowest point since 1900 in 1930, at nine hundred and thirty-two thousand tons, which is the lowest of any year after the peak.[20]

Two things about those figures before anybody builds on them. They are cargo tons handled, not register tons and not vessel counts, and the two measures are not interchangeable: the official register tonnage for 1901 is three million one hundred and thirty-eight thousand nine hundred and ninety-four tons against a cargo figure of nine hundred and eighty-seven thousand for the same year.[21] And the vessel counts for this port after 1901 are simply missing. No annual series of ship arrivals for 1902 to 1930 was located for this book.[22] For 1901 the official table gives two thousand two hundred and sixty-six vessels of three million one hundred and thirty-eight thousand nine hundred and ninety-four tons, and after that there is nothing.[23]

So the chapter uses cargo because cargo is what exists, and says so.

The two sharpest falls in the series are instructive. The first, 1913 to 1915, brackets both the canal and the war, which means it cannot be assigned to either. The second, 1921 to 1925, is the collapse of the nitrate trade together with the rise of a rival port.[24]

That rival is the real story of the decline. San Antonio, down the coast, handled two thousand and twenty-two tons in 1912 and ten thousand nine hundred and ninety-three in 1914, which is to say that what the table records before 1922 is a roadstead handling a few thousand tons a year. By 1930 it handled seven hundred and fifty-seven thousand tons, which is eighty-one per cent of what Valparaíso handled that year.[25]

A port that did not exist in any meaningful sense in 1912 was doing four fifths of Valparaíso's business by 1930. That is a domestic problem and it has nothing to do with Panama.

The date of the San Antonio port also needs fixing, because the earlier research behind this book had it wrong. It opened in 1922 rather than 1912, and the error looks like a confusion with the Punta Arenas customs law of April 1912.[26]

Who gets the blame

So what did finish Valparaíso as the first port of the Pacific? The Chilean literature gives a list rather than a culprit, and the list is worth having in full.

Ernesto Ottone argues that the canal's role has been exaggerated as a cause, on the grounds that more powerful steamers were already bypassing the port before 1914, while granting that ship numbers fell sharply afterward.[27] The national library's own account lists the consolidation of Santiago, the 1906 earthquake, the canal in 1914, and the port of San Antonio in 1922.[28] Pizzi and Valenzuela list a crisis in the 1870s, then 1906, then 1914, then the war, then the end of nitrate.[29]

Every one of those lists puts the canal somewhere in the middle. None of them puts it first.

My own reading of the cargo series is that the canal is a contributing blow ranking third or fourth, behind nitrate, behind San Antonio and behind the earthquake, and I am labeling that as a judgment rather than a finding because the series will support several rankings and this is the one I think it supports best.

The contrast with Punta Arenas is the point of putting these two chapters in the same book. At Punta Arenas the canal explains the non-recovery, because the ships stopped coming and never came back. Here the ships kept coming and the cargo kept moving, and what changed was that a competitor a hundred kilometers away took the business, with the capital's growth behind it.

One ship, and one minister

Two people to close with, both of whom used this port as the end of something.

Shackleton reached Valparaíso on 27 September 1916, after the rescue, and the Chilean government put the *Yelcho* at his disposal to bring his men up to Valparaíso and Santiago.[30] He wrote that everything that could swim in the way of a boat came out to meet them, and that the crews of Chilean warships were lined up.[31]

And David Trumbull, a Protestant minister born in Elizabeth, New Jersey on 1 November 1819, arrived here on Christmas Day 1845 and died here on 1 February 1889.[32] Forty-three years. He is the other kind of passenger the sea road carried, the kind that arrived once and stayed.

What tomorrow actually is

A port whose entire original advantage was being the first safe water after the worst passage in commercial shipping, which built a British and German merchant

community, a coal depot, a bank district and thirty funiculars on that advantage, peaked in 1912, lost nearly half its cargo over the next eighteen years, and watched a port down the coast grow to four fifths of its size while a canal in Central America took away the reason anybody had come this way at all.

Tomorrow you will ride a funicular built in 1883 up a hill above a roadstead where four hundred and eighty-five tons of Welsh coal were landed in 1840 so that steamers could run to Peru.

CHAPTER 10: SANTIAGO: THE CAPITAL THAT TOOK THE PORT'S MONEY

A short chapter, because Santiago does not belong to this story and that is the finding. An inland capital founded in 1541, which Darwin reached on 27 August 1834, and returned to in March 1835 as the base for a twenty-four-day crossing of the Andes, and which spent the twentieth century absorbing the firms and the wealth of the port that served it. Also the single worst afternoon in the history of the city, and why this chapter does not contain the Darwin anecdote you may have been told about the hill in the middle of town.

Tomorrow the voyage ends inland, which is the right place for it to end, because the inland is what won.

This is the shortest chapter in the book and it is short on purpose. Santiago is not a sea-road city. It has no harbor, it was not founded to hold a coastline, no survey ship anchored off it and no ship ever called there. It is in this book for one reason, which is that over the period the rest of these chapters cover, the money moved from the coast up to here.

Call it the inland winner, which is what a capital becomes when it stops needing the harbor that built it.

Older than the argument

Pedro de Valdivia founded Santiago on 12 February 1541.[1]

That is three hundred years before anything else in this book's main argument. The capital was not created by the sea road and was not waiting for it. It was a Spanish inland settlement in a fertile basin, which is where you put a city if you intend to farm and govern rather than to ship.

A small coincidence, and this book has now been through two foundings on the same calendar day: Puerto Montt was inaugurated on 12 February 1853, three hundred and twelve years after Santiago, on the same date.[2] The two facts are separately sourced and the coincidence means nothing. I mention it because somebody is going to notice.

Darwin, who came here to leave

Darwin reached Santiago on 27 August 1834, having climbed La Campana on the way up from Valparaíso, and stayed about a week.[3]

What he wrote here is geology. He read the central plain as the bed of a former inland sea, which is approximately correct and was a sharp call for 1834.[4] His entry for the day before describes snow and Aconcagua.[5]

Here is the part where this chapter corrects something you may have read, including possibly in the earlier research behind this book. There is a widely repeated story that Darwin used Cerro Santa Lucía, the hill in the middle of the city, as his vantage point for viewing the Andes. Cerro Santa Lucía is not mentioned anywhere in the 1845 *Journal of Researches*.[6] I could not find it in the text, the earlier research could not support it, and this book does not use it. That is not the same as saying it did not happen; his manuscript diary and his correspondence were not read page by page for this. It is to say that the anecdote does not survive the check and should not be repeated on this book's authority.

The real reason he was here was to get over the mountains, and the crossing is the best-documented thing in the chapter.

He set out for Santiago from Valparaíso on 14 March 1835 in a covered gig, a birloche, and slept at the post house at the foot of the Rado.[7] On 15 March he recorded that *"Mr Caldcleugh most kindly assisted me in making all the little preparations for crossing the Cordilleras."*[8] He started on 18 March by the Portillo Pass for Mendoza, with Mariano Gonzales, and was back in Santiago by midday on 10 April, having been absent twenty-four days.[9]

An Englishman in Santiago helped another Englishman prepare to cross the Andes, and the help was worth recording by name. That is the same commercial and social network that housed him in Valparaíso when he was ill, running inland.

Two seismic notes from the same season, because they belong to the record and to the coast this book has been following. The great Valdivia earthquake struck on 20 February 1835, and on 3 March 1835 Darwin felt what he called a very smart shock while aboard off the Chilean coast.[10]

8 December 1863

The worst thing that ever happened in this city has nothing to do with the sea and I am including it anyway, because leaving it out to keep the chapter tidy would be a choice about what counts.

On 8 December 1863 the Iglesia de la Compañía de Jesús caught fire during a service. More than two thousand people were killed, most of them women.[11]

The Cuerpo de Bomberos de Santiago, the city's fire brigade, was founded twelve days later, on 20 December 1863.[12]

Two thousand dead, and a fire service twelve days afterward. That is the shortest interval between a disaster and an institution anywhere in this book.

What actually happened to the money

Now the argument, such as it is, and I am going to be careful because the evidence here is thinner than anywhere else in the book.

The claim is that Santiago's rise came partly from a drain of firms and wealth out of Valparaíso after the earthquake of 1906 and after the canal opened in 1914.[13]

I believe it and I cannot measure it. No independent figure for that drain exists in anything I was able to read, and I am not going to attach a number to a trend because the sentence would read better with one. What exists is the judgment of Chilean historians that it happened, and the fact that the page the national library devotes to the question names the consolidation of Santiago among the causes of Valparaíso's decline, alongside the earthquake, the canal and the rival port.[14]

That is worth pausing on. In the standard Chilean account of why Valparaíso fell, the growth of the capital sits in the list alongside the natural disaster and the foreign canal, rather than behind them.

A port exists to serve a hinterland. When the principal city of the hinterland becomes large enough to set its own terms, to host the banks and the head offices and the insurers, the port stops being the place where decisions are made and becomes the place where boxes are moved. That transition does not need an earthquake or a canal. Those two just made it faster and gave everybody a more dramatic story to tell about it.

The relationship is still live. Santiago is the demand behind both Valparaíso and San Antonio, and the enormous outer port that San Antonio has been trying to build is a project to serve this city, on the target the port company has set, from 2036.[15] The capital is still the reason, and the ports are still arguing about which of them gets to be its door.

One more arrival

Shackleton, having come up from Valparaíso, lectured in Santiago on 28 September 1916 for the British Red Cross and a Chilean naval charity, with a Chilean flag and a Union Jack draped together over the platform.[16]

That is a good closing image for the pair of chapters. A rescue carried out by a Chilean government tug out of Punta Arenas, celebrated in the inland capital, under two flags, by an Irish-born explorer raising money for a British charity. The sea road brought all of that here, and then the road closed, and the city carried on growing.

What tomorrow actually is

A capital founded three centuries before this story starts, which spent the twentieth century acquiring what its port used to own, and which the standard account blames first for the decline of the harbor you were standing in yesterday.

The voyage ends here because this is where the money ended up, which is a duller reason than a canal and a better-supported one.

CHAPTER 11: 1982

In this chapter: the seventy-four days in which the argument that opened this book was settled by force and not resolved at all. Both cases at full strength, because both are serious. Why a junta that had been planning an occupation since December 1981 went in April. Why a government in London that had been signalling disinterest sent a fleet. Why every attempt at a deal failed on the same question. The cruiser, with the settled facts separated from the disputed ones. And the five places on your route that the war touched.

Tonight the frame changes, because this chapter is not about a port.

The dispute that runs through this book from chapter one started as a commercial quarrel over sealing licenses in the River Plate in the 1820s. In 1982 it killed nine hundred and seven people in ten weeks.

I am going to give each side its case at full strength, because each side has one, and then I am going to tell you what happened. What I am not going to do, here or anywhere, is tell you who the islands belong to. That is not modesty. The question turns on which principle governs, and the two sides agree on nearly all of the facts.

The named idea of this chapter is the question that defeated every negotiation: whose wishes decide.

The British case

Britain dates its claim to Byron in 1765 and the settlement at Port Egmont in 1766, and rests it on continuous administration since 1833 and on the fact that the islands had no indigenous population to displace.[1]

The modern argument is self-determination. The islanders have the right to decide their own future, and they have been asked. In a referendum held on 10 and 11 March 2013, with a turnout of about ninety-two per cent, one thousand five hundred and thirteen voted to remain a British Overseas Territory and three voted against.[2]

The British case also has a historical answer to the charge that London was never willing to deal, and it is the leaseback episode. A scheme to transfer sovereignty and lease the islands back was taken up by Nicholas Ridley, who visited the islands in

November 1980 and made a statement in the Commons on 2 December 1980, at which twelve speakers denounced it.[3] The islanders rejected it. The official inquiry afterward recorded that islander opinion had hardened against leaseback and that their council was unanimously opposed.[4]

So the British position is that a deal existed, was put on the table, and was refused by the people whose home it was.

Britain also produces its own critics, which is worth saying because it is a mark of an open argument. The Franks Report of January 1983 concluded that the government could not have foreseen the invasion of 2 April, a conclusion its critics attacked as too generous when the Lords debated it on 25 January 1983.[5] Clive Ponting, a civil servant who leaked documents about the sinking of the *Belgrano*, was acquitted at the Old Bailey on 11 February 1985 after the judge's direction.[6]

The Argentine case

Argentina claims by succession to Spain, on the principle that a new state inherits the colonial boundaries of the territory it replaces, and dates its own administration to 10 June 1829, when Buenos Aires created the Comandancia Política y Militar de las Islas Malvinas under Luis Vernet.[7] That is the decree from chapter one of this book.

It holds that what happened in January 1833 was an act of force that did not extinguish the title, and points to the geography: the islands lie about four hundred and eighty kilometers from the Argentine coast and some thirteen thousand from Britain.[8]

On the referendum, the Argentine answer is a point of law rather than a denial. United Nations General Assembly Resolution 2065 speaks of the *interests* of the population, not the *wishes*, and Argentina argues that a population it regards as implanted cannot vote on the sovereignty of territory it holds. President Javier Milei, in a televised address of 3 September 2026, described the islanders as a population implanted in a usurped territory, and in 2013 the Argentine senator Daniel Filmus called the referendum a trickery.[9]

There is the whole dispute in one word. Britain says wishes. Argentina says interests. A referendum answers the first and is irrelevant to the second, and no

amount of good faith on either side bridges that, because it is not a factual disagreement.

Argentina also produces its own harshest critic, and it is an official document. The Rattenbach Report, the Argentine military's own inquiry, found that the junta led the nation to war without adequate preparation, called the enterprise an adventure, and concluded that between the South Georgia incident and the fall of Goose Green the junta was never willing to negotiate.[10]

Read those two inquiries together. The British inquiry found that London did not see it coming. The Argentine inquiry found that Buenos Aires went to war unprepared and never meant to deal. Both governments investigated themselves and both came back with a failure.

Why the junta went

The invasion was no impulse, and the planning behind it can be dated to the week.

General Leopoldo Galtieri displaced Viola in December 1981 with naval backing from Admiral Jorge Anaya.[11] On 15 December 1981 Anaya ordered Admiral Juan Lombardo to plan the occupation.[12] By 22 December the staff were being told the operation was preventive.[13] Lombardo's planned date was symbolic and far off: 9 July 1982, Argentine independence day.[14]

What moved it forward by three months was scrap metal. On 19 March 1982 Constantino Davidoff landed workers at Leith, on South Georgia, from the *Bahía Buen Suceso*, and they raised the Argentine flag.[15] The resulting crisis pulled the whole timetable forward.

And London had been sending signals. The 1981 defence review withdrew HMS *Endurance* from the South Atlantic. The sale of the carrier *Invincible* to Australia was in train. The British Nationality Act of 1981 had left many islanders without full British citizenship.[16] The Franks Report's judgment on this is careful and I think correct: the signals made the bet look safe without creating the intention, which had already been ordered in December, three months before the scrap merchants landed on South Georgia.

Why Britain fought

The decisive conversation happened on 31 March 1982, when the First Sea Lord, Admiral Sir Henry Leach, told Thatcher that he could put together a task force ready to leave in forty-eight hours.[17]

That is a remarkable moment of institutional self-interest aligning with national decision. A navy facing cuts was asked whether it could do the one thing that would make cuts unthinkable.

There was an all-party debate in the Commons on 3 April, and the fleet sailed on the 5th.[18] The arguments that carried it were alliance credibility and precedent, with domestic politics argued both ways then and since.[19]

Why no deal was possible

There were three serious attempts and they all failed at the same point.

Alexander Haig shuttled through April. His account of where it broke is specific: Argentina demanded an assurance now of eventual sovereignty, or an immediate de facto role in governing the islands.[20] Britain could not give either without conceding the thing in dispute.

The Peruvian plan, put forward by President Belaúnde Terry on 1 and 2 May, was accepted in principle by the junta and then rejected, according to Argentina's own inquiry. Britain was willing to accept a version of it on 5 May.[21]

The United Nations Secretary-General, Javier Pérez de Cuéllar, worked at it until about 17 May.[22]

Every one of those foundered on whether the islanders got a veto. A deal was available only before the invasion, and only with islander consent, and the islanders had already refused the only form of deal on offer. After 2 April, no British government could concede sovereignty to an invasion and survive, and no Argentine government could withdraw without it and survive.

That is what makes this a tragedy in the technical sense rather than a blunder. Both sides were locked by their own domestic politics into positions that admitted no compromise, over a question that had no factual answer.

The cruiser

The sinking of the *General Belgrano* is the most argued-over event of the war, so here are the settled facts first, separated from the disputed ones.

Settled: the ship was outside the two-hundred-mile Total Exclusion Zone that Britain had declared on 30 April. The order was given by ministers at Chequers. She was sunk on 2 May 1982 by the submarine HMS *Conqueror*, with two or three Mark 8 torpedoes of which two hit, and she sank in fifteen to twenty minutes. Three hundred and twenty-three men died from a crew of one thousand and ninety-three. Published positions for the sinking differ by a few miles.[23]

Those three hundred and twenty-three deaths are nearly half of all Argentine deaths in the war, in one afternoon, from one submarine.

The British account of the sequence: *Conqueror* detected the cruiser's oiler on 30 April and sighted the cruiser herself on 1 May with two Exocet-armed destroyers in company. Ministers agreed to the attack at about one in the afternoon London time on 2 May, and the attack came at about eight in the evening. The first indications of the Peruvian peace effort reached London from Washington at a quarter past eleven that night and from Lima at two in the morning on 3 May, and Hansard dates the Washington telegram to 22.15 GMT, which it describes as over three hours after the attack.[24]

Disputed: whether ministers knew informally of the Peruvian effort earlier on the 2nd. The Cabinet and Prime Minister's files that would settle it were not read for this book.[25]

The itinerary of the ship is where this chapter touches your route. She sailed from Puerto Belgrano on 16 April, docked at Ushuaia on 22 April, and sailed from Ushuaia on 24 April under Captain Héctor Bonzo.[26]

You were in Ushuaia earlier on this voyage. Her last port was that one.

Argentina marks 2 May by decree as the national day of the cruiser *General Belgrano*.[27]

The seventy-four days

The sequence, compressed, because the dates are the argument.

On 2 April Operación Rosario took Stanley, against a garrison of eighty-four marines.[28] South Georgia fell on the 3rd, the day the Security Council passed Resolution 502.[29] The task force sailed on 5 April. South Georgia was retaken on 25 April, with the submarine *Santa Fe* disabled.[30] The exclusion zone was declared on 30 April and the first Vulcan raid flew on 1 May.[31]

On 4 May HMS *Sheffield* was hit by an Exocet.[32] The landings at San Carlos went in on 21 May, and *Ardent* was lost; *Antelope* on the 23rd; *Coventry* sunk and the *Atlantic Conveyor* hit by Exocet on the 25th.[33] Darwin and Goose Green were taken on 28 and 29 May, where Lieutenant Colonel H. Jones was killed.[34] On 8 June the *Sir Galahad* and *Sir Tristram* were hit at Fitzroy, with forty-eight dead in the *Sir Galahad*.[35] The hills around Stanley fell between 11 and 14 June, from Mount Longdon through to Wireless Ridge.[36] General Mario Benjamín Menéndez signed the surrender at about nine in the evening on 14 June.[37] Southern Thule was retaken on 20 June.[38]

Then the arithmetic. Six hundred and forty-nine Argentine service personnel, two hundred and fifty-five British, and three islanders killed by British shellfire in Stanley. Their names were Susan Whitley, Doreen Bonner and Mary Goodwin.[39]

British wounded numbered seven hundred and seventy-seven. The Argentine wounded figure differs between sources, at one thousand six hundred and fifty-seven or one thousand one hundred and eighty-eight, and I am not going to pick.[40] Eleven thousand three hundred and thirteen Argentine prisoners were taken.[41] Britain committed a hundred and twenty-seven ships and twenty-five thousand nine hundred and forty-eight personnel.[42]

Eleven thousand three hundred and thirteen prisoners, taken from a force that had been sent to hold an archipelago it could not supply.

Why it ended the way it did

Four things decided it and three of them are about equipment.

The bombs. Argentine pilots attacked at mast height, which was the only way to survive the defenses, and bombs released that low did not have time to arm. HMS *Glasgow* on 12 May and *Broadsword* on 25 May were both saved by bombs that

passed through without exploding. *Antelope* was lost when one went off during defusing.[43]

The missiles. Argentina had ordered fourteen Super Étendard aircraft but only five, with five AM39 Exocet missiles, arrived before the French embargo. Those five missiles sank the *Sheffield* and the *Atlantic Conveyor*, and a shore-mounted launcher later hit HMS *Glamorgan*. France lifted the embargo on 10 August 1982, eight weeks after the surrender.[44]

Five missiles, two major ships. A full order of fourteen aircraft with a proportionate stock of missiles is a different war, and that is the strongest counterfactual anybody has.

The allies. The United States supplied fuel at Ascension, intelligence, and about a hundred AIM-9L Sidewinder missiles at forty-eight thousand six hundred dollars each, cash and carry, against a British request for three hundred on 13 May.[45] The British counter-view, and it is a fair one, is that the overwhelming majority of the equipment used was British.[46]

Chile helped, and the Chilean general who arranged it said so without hedging. General Fernando Matthei stated in August 2005 that it was he, on his own account, who did everything possible to make Argentina lose the war.[47] The motive was the Beagle Channel dispute, over which Chile and Argentina had nearly gone to war themselves in 1978. Airfields were opened to British reconnaissance, a radar was placed at Balmaceda, and a Royal Navy Sea King put down west of Punta Arenas in the course of a special forces operation.[48]

You were in Punta Arenas earlier on this voyage. While you were walking around that square, you were in the town where British agents reportedly stayed at the Hotel Cabo de Hornos during a war on the far side of the archipelago.[49]

And the intelligence, on both sides. Each government's own inquiry found that its own services had misread the other: the Franks Report on London's failure to see the invasion coming, the Rattenbach Report on Buenos Aires misjudging whether Britain would fight.

And the people. Argentina's army sent conscripts of the 1962 and 1963 classes to the islands while holding its best units back against the possibility of a Chilean

attack, and it never lengthened the Stanley runway, so its fast jets had to fly from the mainland at the limit of their range.[50]

Close or certain

Two schools, and I find the argument between them more honest than either position.

The close-run school points at the bomb fuzes, at the five Exocets, and above all at the carriers: lose *Invincible* or *Hermes* and the operation is over, with the fleet eight thousand miles from a dockyard.

The near-certain school points at training, at the American logistics, at Chilean intelligence, and at the Argentine decisions listed above, and argues that a conscript garrison supplied by air from the mainland, with its best troops elsewhere, was going to lose to professional infantry with naval gunfire support regardless of how the bombs behaved.[51]

The counterfactuals are all speculative and I will name them as such: an invasion after the *Invincible* sale had gone through, a full Exocet stock, a longer runway. Any of the three changes the arithmetic. None of them is evidence.

My reading, labeled as a reading, is that the margin was narrower than the result suggests and wider than the close-run school believes.

The five places

The war is on your itinerary whether anybody mentions it or not.

Buenos Aires. The Museo Malvinas stands on Avenida del Libertador, on the site of the former ESMA, which was a detention center of the same dictatorship that ordered the invasion. Outside there is a silhouette of the *Belgrano* set in water. Inside there is a room of photographs of the six hundred and forty-nine dead.[52]

Puerto Madryn. On 19 June 1982 the *Canberra* landed four thousand one hundred and thirty-six Argentine soldiers here, repatriated prisoners coming home from a lost war. Local memory records it as the day Madryn ran out of bread. One veterans' centre official recalled being warned that residents might throw stones at them.[53] The *Norland* brought a further one thousand nine hundred and ninety-two on 21 June.[54]

Stanley. Mine clearance was completed on 14 November 2020, thirty-eight years after the surrender, finishing at Gypsy Cove and Yorke Bay.[55]

Ushuaia. The *Belgrano*'s last port, 22 to 24 April 1982. There is a model in the naval museum and a monument in the Plaza Islas Malvinas.[56]

Punta Arenas. A radar, an underground command post, and the hotel.[57]

Five of the ten places on this voyage, and you have already been in all of them.

What tonight actually is

A hundred and fifty years of legal argument, and then seventy-four days, and then nine hundred and seven dead, and then the same legal argument.

Nothing was settled. Britain administers the islands and holds a referendum result. Argentina maintains the claim, marks two national days for it, and has taken the dispute into a tribunal in our own decade, which is the next chapter.

The question that beat Haig and the Peruvians and the Secretary-General is still the question. Whose wishes decide. Nobody has answered it, and the two answers available are each perfectly coherent, and that is why this book does not pick one.

Tomorrow is the last day, and the last chapter is about what all of this has turned into since.

CHAPTER 12: THE BOTTOM OF THE MAP NOW

In this chapter: what the route carries in 2026, which is more ships than in 1913 and a far smaller share of world trade. Why the Panama drought of 2023 and 2024 did send vessels back round the bottom, in numbers the earlier research behind this book got wrong. The two towns competing to be the door to Antarctica. Eleven billion dollars of approved green ammonia and sixteen billion of stalled hydrogen. A coastal-space claim that has been waiting thirty-five months for a report. Oil off the Falklands, a tribunal in Hamburg, and what the forecasters will and will not say.

Tonight is the last one, so this chapter is about the morning after you go home.

Everything so far has been the road being built and then abandoned. This is the part where it turns out that a route nobody needs is still a place everybody wants, for reasons that have almost nothing to do with getting from one ocean to the other.

Every figure here carries a date, because the present goes stale faster than anything else in this book. Every statement about the future is somebody else's, attributed, and sorted into three kinds: plans that are funded or approved, proposals that are announced and not funded, and projections that come out of models. I make no predictions of my own. A narrator who has spent eleven chapters complaining about unsourced claims does not get to finish by guessing.

What the Strait actually carries

Start with the number, because this book got it wrong the first time and the correction matters.

The Chilean Navy publishes an annual count of major vessels sighted in these waters. For the Strait of Magellan: 2,664 in 2022, 2,686 in 2023, 2,775 in 2024, and 2,394 in 2025. For Cape Horn: 437, 617, 799 and 659 over the same four years.[1]

Strip out the traffic that starts or ends at a Magallanes terminal and count only the end-to-end transits, ocean to ocean, and you get 1,381 in 2022, 1,711 in 2023, 1,744 in 2024 and 1,546 in 2025.[2]

Now the correction. The earlier research behind this book carried a figure of 1,965 Strait transits for 2023 and concluded from it that the Panama drought of 2023 and 2024 had not sent ships back round the bottom. That figure came from a shipping

agency's presentation covering the forty-seven months to November 2023, so it was never a calendar-year count at all, and it is about a quarter below the Chilean Navy's count of vessels sighted.[3]

What the official series shows is the opposite of the earlier conclusion. End-to-end transits rose twenty-six per cent from 2022 to 2024, and Cape Horn sightings rose eighty-three per cent over the same two years.[4]

Ships did come back round the bottom of the continent during the drought.

And now the part that keeps the earlier conclusion half alive, because the magnitude point survives. The gain in the Strait of roughly three hundred and sixty-three end-to-end transits is about thirteen per cent of the roughly two thousand eight hundred and forty transits Panama lost in its 2024 fiscal year. The great majority of the diverted traffic went the other way round the world, by the Cape of Good Hope and Suez.[5]

So the honest sentence, and it is better than the one this book nearly printed, is that the drought did send ships back round the bottom in measurable numbers, and the numbers were still small against what Panama lost.

The live test is happening now. Strait traffic rose more than seventy per cent in August and September 2026 against the same months of 2025, concentrated in vessels of sixty to sixty-five thousand gross register tons. The reasons given are the Panama drought, the draught and daily transit limits, the extraordinary auction fees for a slot, and avoidance of the Middle East. That attribution of causes comes from trade reporting and I carry it at moderate strength.[6]

One other current figure, because it is the one the pilots will tell you. Pilotage in the austral channels ran at 999 vessels in 2024 and 890 in 2025, having risen, unevenly, from 742 in 2016.[7] Those two series may need reconciling against each other and I flag it rather than smoothing it.

Panama, which is the reason for all of it

The canal had a record year and is rationing water, both at once.

For its 2026 fiscal year, running October 2025 to September 2026, the Panama Canal Authority reported 13,951 transits, up 4.1 per cent on 13,404; 521 million

tons by its own measurement system, up 6.5 per cent; and revenue of 6.6 billion balboas, up 16.6 per cent. It held a maximum draught of fifty feet through the dry season. The figures are unaudited and the administrator, Ilya Espino de Marotta, announced them on 21 October 2026 as a record.[8]

Nine weeks before that announcement the same authority was cutting capacity. On 20 August 2026 it announced reductions to thirty-four transits a day in early September and thirty-two from 15 September, with rainfall from May to August about thirty-four per cent below the historical average.[9]

The fix is a reservoir on the Río Indio, and it is a **proposal** rather than a plan, because the main works are not contracted. As of November 2026 the project is in pre-construction. Cost estimates run from about 1.2 billion dollars plus 400 million for affected communities up to 1.5 billion. A request for qualifications went out on 18 August 2026.[10]

Both sides of that project, because it is disputed and the book takes no side. The authority's case is that the reservoir would carry the canal through droughts and permit additional daily transits. The opponents' case is that it would flood about four thousand six hundred hectares, require the rehousing of at least sixteen hundred residents, and put cemeteries under water, and it is being fought in the Supreme Court of Panama.[11]

The **projection** issued by the authority itself, from its administrator in September 2026, is that once the reservoir is finished the canal should not need draught or transit restrictions in droughts, with restrictions still possible before then.[12] That is conditional on completion and it is their forecast, not mine.

For scale on where the diverted traffic actually went, the United Nations trade body reported in 2025 that Suez transits were running about seventy per cent below the 2023 average by tonnage.[13] Two of the three main canal-and-chokepoint routes were disrupted at once, which is the real context for anything that came south.

The two Antarctic doors

The far south has a new business and two towns are competing for it.

Tourism first. The International Association of Antarctica Tour Operators reported 113,518 clients for the 2025 to 2026 season, 4.2 per cent below the previous one, of

whom 73,372 travelled by sea.[14] The association's **projection** for 2026 to 2027 covers only the deep-field and air categories, at 1,492 clients, which is about a thirty-five per cent rise on a very small base.[15]

Ushuaia closed its 2025 to 2026 cruise season on 17 April 2026 with 495 calls and about 135,000 passengers, against an initial projection of 525 calls, and has more than 590 calls booked for 2026 to 2027, which is a booking count rather than a forecast. Its port was under administrative intervention, resolved on 20 January 2026.[16] Magallanes, by comparison, had 177 calls and about 64,700 people.[17]

On passengers, Ushuaia wins by a factor of two. On science, it does not compete at all. Twenty-one countries run their national Antarctic programmes through Punta Arenas, up from twelve in 2004, and none runs one through Ushuaia.[18]

That is the real division of the Antarctic trade. One town handles the tourists and the other handles the governments, and the second is the one with the strategic future, because more than thirty-five stations belonging to fifteen countries sit in the sector Chile claims.[19]

What each side is building is almost entirely **proposals**. Punta Arenas has a naval pier of two hundred and fifty metres at about fifty million dollars, at engineering stage as of 25 September 2026, and a multipurpose port at Bahía Catalina of 25.6 hectares with four berths.[20] Argentina announced a Base Naval Integrada at Ushuaia on 3 September 2026.[21]

And one correction, because this one is circulating as fact. There is no United States and Argentine agreement to build an Antarctic logistics hub at Ushuaia. The hub framing is real and dates to President Milei on 3 April 2024, alongside General Laura Richardson. No agreement text exists in any source I could reach, and Milei himself stated in 2026 that the base is Argentine and not a combined one.[22] Do not let anybody tell you the Americans are building a base at Ushuaia.

I also could not find any published count of vessels transiting the Drake Passage, which is a strange hole given how much is said about it.[23]

Energy, which is where the money is

Magallanes has wind, and wind at this latitude is the best in the world, and that has produced a pipeline of projects at four different stages.

Operating now: the Haru Oni plant of HIF Global demonstration plant near Punta Arenas, making e-fuels, certified under the European renewable-fuels scheme for 2025 and 2026.[24] That is the whole of what is actually running.

Approved and not built: the HNH Energy green ammonia project, approved unanimously on 26 August 2026 by twelve votes, at about eleven billion dollars, the largest project ever to pass through the Chilean environmental system. The company states construction from 2027 and production from the second half of 2030.[25] Also Faro del Sur, a wind project approved in January 2026, sixty-two turbines, 372 megawatts, about five hundred million dollars.[26]

Stalled: the TotalEnergies project H2 Magallanes, which entered the system in May 2025 at about sixteen billion dollars for five thousand megawatts, and has been suspended at the request of the company itself since September 2025, with more than six hundred and seventy citizen observations filed against it and a deadline of 7 December 2026.[27]

Sixteen billion dollars suspended by the company that proposed it, and eleven billion approved by a unanimous vote, in the same region within a year of each other.

The objections are from a citizens' panel and are on the record in the environmental assessment file, which I was not able to read.[28] There is also a port constraint: trade reporting argues that port upgrades are critical before any of this can ship, which is the reason the Bahía Catalina proposal exists.[29]

The channels, farmed

The water you came down on 28 February is now an agricultural zone.

Chilean salmon and trout exports reached 6,549 million dollars in 2025, up three per cent, on 825,192 tonnes, up five and a half per cent, making salmon the second most exported product in the country. Magallanes accounted for 597 million dollars of that.[30] The region has a hundred and thirty-three approved concessions, of which about a third are operating and a third are resting.[31]

It is not a clean industry. In October 2026 a harmful algal bloom at two Magallanes sites killed 917.79 tonnes of fish, with the contingency closed on 15 October 2026.[32]

And it is contested, so here are both positions in their own terms.

The Kawésqar case: an application for a coastal marine space for indigenous peoples covering the Última Esperanza area has been formally admissible since 8 August 2018, which froze a large number of pending salmon concession applications. The customary-use report that the law requires has not been issued in the eight years since, and the regional salmon growers' association puts it more than thirty-five months past the one month the law allows. CONADI, the agency responsible, estimated December 2026. Two Kawésqar organizations have said publicly that they were not informed or consulted about related decisions.[33]

The industry case: a Magallanes growers' figure holds that 99.2 per cent of the region's coastline now lies under some conservation category or an indigenous coastal-space application; the application is said to be blocking forty concession applications, fourteen of which already hold environmental approval; and a bill to amend the coastal-space law is before Congress.[34]

I am not going to adjudicate that. What I will point out is the shape of it: a claim that has waited eight years for a report the law gives one month, against an industry that says it has nowhere left to go, over channels that one party has used for several thousand years and the other since the 1990s.

Puerto Edén, the settlement at the anchorage where every large ship once had to stop, received four major vessels in the whole of 2025.[35]

Fish, and the money in them

The Falkland Islands do not live on sheep or on ships any more. They live on squid.

For 2024 the islands reported gross national product of 288 million pounds nominal, up 2.7 per cent, and GDP of 175 million in real terms, up 3.6 per cent. Fishing and aquaculture accounted for 168 million pounds, which is 58.3 per cent of nominal output. GDP per capita was 85,060 pounds.[36]

Fifty-eight per cent of nominal output from one sector, and the sector is licences to catch a short-lived squid whose population swings.

The 2025 Illex catch was 85,456.6 tonnes, of which 70,362.9 tonnes came from 9,057 days of jigging under one licence class.[37] A revenue shortfall was reported in

June 2026 after a poor 2026 season, and I could not establish its size.[38] Licence allocations were frozen at 2024 levels for 2025 and 2026, with the fisheries department advising a small reduction in one class for 2027.[39]

Outside the Argentine exclusive economic zone, at the line local shorthand calls Mile 201, Argentine reporting detected three hundred and thirty-eight jiggers at the line in 2026, and satellite data cited late in the same year put five hundred and fifty-four vessels of all kinds just outside the zone, fishing the same stock before it ever reaches anybody's licensed water.[40] Argentina closed the Illex season across its own zone and, for the first time, notified countries operating at Mile 201 that Illex capture was prohibited.[41] Joint management between Britain and Argentina has stalled, and one Argentine official has said it could never be possible.[42]

A single squid stock, two governments that do not recognize each other's jurisdiction over it, and a few hundred foreign vessels catching it in the gap.

Oil, sanctions and a tribunal

The 2026 position, dated and with both sides given.

Argentina signed on 16 April 2024 for twenty-four former Danish F-16 aircraft at about three hundred million dollars. The first six operational jets landed at Río Cuarto on 5 December 2025 and a second six on 29 September 2026, making twelve of twenty-four delivered.[43] Britain keeps four Typhoons at Mount Pleasant, with Tranche 2 replacements due between November and December 2027 under a Ministry of Defence **plan**.[44] Argentina retired its Super Étendards, the aircraft that sank two British ships in 1982, during 2026.[45]

The oil project was sanctioned on 10 December 2025: Sea Lion phase one, fifty thousand barrels a day, about 1.8 billion dollars to first oil, with drilling from early 2027 and first oil targeted for March 2028. Lifetime government revenue is put above three billion pounds, including a hundred and eighty-one million in corporation tax.[46]

the Argentine response, announced by President Milei on 3 September 2026, was the Base Naval Integrada, sanctions on firms involved in Sea Lion, a national security council, and about a hundred and eighty formal notes to companies across more than twenty-nine countries.[47] Britain's reply was that its commitment is

unshakeable, in the Defence Secretary's word, and in the Commons on 13 October 2026 that it would not stand by while Argentina used economic coercion.[48]

Three things then happened that moved the dispute off the quarterdeck and into the paperwork. An Argentine federal court temporarily suspended Sea Lion work pending environmental assessment. Halliburton confirmed that it and its subsidiaries would not work on the project. And on 13 October 2026 Argentina asked the International Tribunal for the Law of the Sea for four provisional measures, on which there is no ruling.[49]

On the risk of another war, the published assessments are thin and I want to be exact about that. I found no current assessment from any of the major British defence institutes or a parliamentary committee for 2024 to 2026. An older reference work called the prospect remote, and a defence publication in 2026 judged that Argentina is not a credible military force able to seriously threaten the islands, which I carry at moderate strength.[50] The published assessments that do exist, the older reference work and the 2026 defence publication, point the same way: an Argentine military attempt is judged improbable while the Mount Pleasant garrison stands. That is their judgment and not a forecast of mine, and what has demonstrably changed is that the dispute now runs through a tribunal and a supply chain.

The ice, and what the models will not say

Garibaldi is still advancing, by about two kilometres over the two decades to 2023, while the icefield around it loses mass at about 4.17 gigatons a year from surface melting and another 1.44 from calving.[51]

There is no published projection for the Garibaldi terminus.[52]

And here is a figure to refuse. Ice-volume percentages under the standard climate scenarios circulate in connection with Patagonian ice, and they belong to the Northern Patagonian Icefield, not to the Southern and not to the Cordillera Darwin that you looked at. The authors of that work warn against trusting global models for these icefields.[53] Anybody who gives you a percentage for the future of Garibaldi is quoting the wrong icefield.

What the regional climate work does say, from a 2026 analysis of the current model generation, is that the projected precipitation changes for Southern Patagonia do not hold up across the models, while Northern Patagonia and central Chile show consistent reductions.[54] Western Patagonia would need precipitation to rise by between ten and fifty per cent to hold its present ice volumes.[55]

So the honest position on the ice at the bottom of the map is that the measurements are good, the regional projections are weak, and the one glacier you came to see is the one nobody has modelled.

The people, counted again

The 2024 census counted 1,244 Yaghan, 1,392 Selk'nam and 2,153 Kawésqar.[56]

Set that against chapter four, where the Yaghan fall from about three thousand to sixty-three people between 1850 and 1946, and against chapter six, where a state commission described the Selk'nam in 2003 as extinct.

Ley 21.606 in Chile, published on 19 October 2023, added the Selk'nam to the Indigenous Law as the eleventh recognized people, which reverses the state's own 2003 finding.[57]

The repatriations continue and they are not simple. In September 2026 the natural history museum in Basel approved the return of three Kawésqar ancestors, with transfer scheduled for the end of October 2026. Two Kawésqar organizations stated that they had not been informed or asked, and the president of the foundation involved has acknowledged that one of the three may not be Kawésqar at all.[58]

A hundred and forty-five years after the first eleven Kawésqar were taken to Europe and six died there, remains are still coming back, and the communities are arguing about who was consulted, and the provenance of one of these three is in doubt. That is what repair looks like when it is done late.

I found no new language programme, and the present-day population of Puerto Edén is given variously as thirteen, twenty and two hundred, all undated.[59]

The ports, quickly

Buenos Aires. A decree of 2025 repealed an earlier one and terminal contracts run to 31 May 2027. A dredging contract of 7.64 million dollars for 550,000 cubic metres

over a hundred and forty days was pre-awarded on 12 May 2026. The Paraná waterway concession went to Jan De Nul in June 2026. No call for the terminal tender itself could be located.[60]

Puerto Madryn. Thirty-three to thirty-six cruise calls for the 2025 to 2026 season from 13 October 2025, and works on the Muelle Almirante Storni from May 2026.[61]

Stanley. The 2021 census counted 3,662 people in the islands, 2,974 of them in Stanley.[62]

Punta Arenas. 1,220 receptions of major vessels and 1,514,823 tonnes of cabotage in 2025, and a passenger terminal of about 2,840 square metres tendered in September 2026, enabled for cruise ships up to three hundred metres.[63]

Puerto Montt. 1,722,423 tonnes of cabotage in 2025, which makes it the largest southern port in the national table, on 1,582 national receptions.[64]

Valparaíso and San Antonio. The Valparaíso Terminal 2 concession has been extended to December 2029 from an original expiry of March 2027. the Puerto Exterior at San Antonio received environmental approval after six years at 4,450 million dollars with a four-kilometre breakwater, and then in July 2026 a 1,950 million dollar tender was annulled and split in two, with the breakwater tender pushed to the first half of 2028 and operation targeted for 2036 on the figure given by the company.[65]

That last sequence is the state of the whole region in one project. Six years to approve, approved, tendered, annulled, split, and a target date ten years out.

What the forecasters will not say

I set out to find published scenarios for this region as a whole and here is what exists, which is less than you would expect.

There is no published quantified scenario for shipping-route choice in these waters.[66] There is no Magallanes-specific climate scenario. There is no current institutional assessment of the sovereignty dispute’s military risk. There is no projection for the glacier. There is no count of Drake Passage transits.

What exists instead is a set of corporate target dates: first oil in March 2028, ammonia production in the second half of 2030, a new outer port in 2036. Those are company and authority targets, not independent forecasts, and the record of such dates in this region is not encouraging.

So the last finding of this book is an absence, which is fitting, because so many of the others were. The bottom of the map is being planned harder than at any time since 1914, and almost nobody has published a number for what any of it will amount to.

What tomorrow actually is

The road is not needed. Two thousand three hundred and ninety-four ships a year is more than the fifteen hundred and thirty-nine that made Punta Arenas rich in 1913, and against the growth of world trade since then it is a rounding error, and about a third of them are not going between oceans at all.

And yet: eleven billion dollars of approved ammonia, sixteen billion suspended, four hundred and ninety-five cruise calls at one town and twenty-one national science programmes at another, fifty-eight per cent of an island economy in fish, oil sanctioned for 2028, a tribunal in Hamburg, a coastal claim at eight years and counting, and a glacier nobody has modelled quietly getting bigger.

Nobody needs this road. Everybody wants what is beside it.

Tomorrow you fly home from a city that took the money of its port three centuries after a Spaniard founded it in a valley, and the road you have just travelled will carry on being fought over without you.

APPENDIX A: WHY 1982 HAPPENED

In this appendix: the question the chapter on the war does not answer. How an empire that had sunk four German cruisers off these islands in 1914 arrived at a 1982 in which a South American republic could take them and very nearly keep them. The answer is in three sets of accounts, none of which balanced: a colony that never paid for itself, a metropolitan power that had been cutting the same line item for a hundred years, and a junta whose currency was collapsing. Then the Soviet Union, which had a large commercial interest in Argentina, a veto it declined to use, and a shopping list that included a fishing base at Ushuaia. And at the end the bill, which is where the irony lives.

The chapter on the war told you what happened. This appendix is about why it was possible, which is a different question and mostly a question about money.

Put it the way the reader of this book put it. In 1850 the Royal Navy was the largest instrument of force on the planet and the idea of an Argentine amphibious operation against a British colony would have been a joke in a Buenos Aires officers' mess. In December 1914 a British squadron sank four German warships off East Falkland, with some nineteen hundred German lives lost.[1] In December 1939 three British cruisers working out of Stanley crippled a German pocket battleship in the River Plate.[2] Both of those actions happened in the water this voyage has crossed.

Sixty-eight years after the first and forty-three after the second, a garrison of fewer than ninety men surrendered Government House to an Argentine commando company before breakfast.[3]

Nothing had happened to British courage. The Royal Marines in Stanley fought until the Governor told them to stop,[4] and the force that sailed in April did something that most navies in the world could not have attempted. What had happened was arithmetic, and it had been happening steadily, in public, in command papers, for about a century.

The named idea of this appendix is that the war of 1982 was made possible by three sets of accounts that did not balance, and that nobody involved was reading all three.

The first set: a colony that never paid

Start with the asset, because the asset is the strangest part of the story.

The Falkland Islands run to about four thousand seven hundred square miles, roughly the size of Wales, some eight thousand miles from Britain and about three hundred from South America. They are treeless and the mean wind speed is about four times the British average. Ramsey's summary of their value is the one to keep: the strategic worth of a staging point near Cape Horn, on one of the ocean's great junctions, outweighed what he calls the somewhat limited nature of their economic uses.[5]

That is a polite way of saying the place never paid.

The sequence of coal, then Panama, then sheep belongs to chapter 3 and I am not going to retell it. What matters here is what the sheep economy actually was. Across the second half of the century the islands exported an average of about three and a half thousand metric tons of wool a year, ninety per cent of it to Britain. No figure for 1980 to 1982 specifically was obtainable.[6] There were more than three hundred sheep for every islander, on ground so poor that a good property carried one sheep to two and a half acres and a bad one needed three acres or more.[7]

The ownership is the part that explains the politics. The Falkland Islands Company held something like forty-two per cent of the land of the two main islands, employed about a third of the workforce, and controlled the wool export, and by the time of the war it was a subsidiary of the Coalite group, for whom the whole colony amounted to about two per cent of sales.[8] Middlebrook describes the parent only as a coal company based in Yorkshire, which is as far as his text goes. Most of the remaining properties belonged to absentee owners, Yorkshire companies or families, whose interest was the investment and who returned few of the profits to the community. Middlebrook, who records the criticism and says plainly that he is not qualified to adjudicate it, includes it as part of the background of the land two countries fought over.[9]

So: about eighteen hundred people, more than half of them in Stanley, at a population density under four tenths of a person per square mile, on land largely owned by people who did not live there, producing a commodity in decline.[10]

In decline is Middlebrook's phrase and he gives the reasons: rising costs, world recession, and competition from synthetic fibres. Everything except mutton, a few vegetables, rock and peat had to be imported, much of it from Argentina. Prices were high, the standard of living was low, and the population was steadily falling.[11]

Then the detail that tells you everything. The islands' second largest source of income before the war was postage stamps, produced by a team of women in Stanley's post office and posted to collectors around the world. After the war the stamp revenue overtook that of the sheep industry, at more than five hundred pounds a year for every islander.[12]

A territory two nations fought a war over earned more from philately than from its only industry.

WHAT WAS TRIED, AND WHAT WAS NOT

London did make attempts, and they form a catalogue of things that did not work.

An airport was built at Stanley with a runway long enough only for medium-haul jets from South America, which produced a modest summer tourist trade of small groups flying in from Argentina. A refrigerated mutton-packing plant was financed at Ajax Bay for about one and a half million pounds, so that the Falkland Islands Company and the other landowners could send sheep for slaughter instead of wasting most of the meat. It was ready for production in 1953, never worked to capacity, and fell into disuse as the men of initiative sent out to run it lost heart and drifted away.[13]

Middlebrook then adds the line that turns the accounting into literature. Many a wounded British or Argentine soldier would later bless the protection of that abandoned meat plant.[14]

A failed government investment in the island economy succeeded, thirty years later, as a field hospital.

Two more absences, and these are the expensive ones.

There was oil under the water. Middlebrook states it flatly and then states why nothing came of it: no international company would risk an investment in an area that had been politically tense for so many years.[15] So the dispute was not only a diplomatic problem. It was the reason the islands' largest potential asset stayed in the ground. The quarrel over who owned the place is part of what kept the place poor.

And there was fish, in quantity. Attempts by the British government to send part of its own hard-pressed fishing fleet to Stanley were rebuffed by the local people. The only fishing being done was by Polish and Russian deep-sea trawlers permanently stationed off the islands.[16]

Hold that sentence. The last two sections of this appendix come back to it, and it is the hinge of the whole argument.

The second set: a hundred years of cutting the same line

Before the pattern, the size of the change, because this is the part people get wrong in both directions.

The collapse is in share, not in level. Britain made far more manufactured goods in 1980 than in 1880. What fell was its portion of everybody else's. On Bairoch's standard series, Britain held 22.9 per cent of world manufacturing output in 1880 and 4.0 per cent in 1980. Its share of world manufactured exports went from about forty-three per cent in the mid-1880s to about nine per cent by 1976, the later figure resting on a narrower base that is not strictly comparable with the earlier one.[17]

In income per head the overtaking happened inside one working life. On Maddison's figures Britain was thirty-four per cent richer per head than France in 1950 and twelve per cent poorer by 1980; seventy-nine per cent richer per head than Germany on Maddison's series in 1950 and eight per cent poorer by 1980; and about three and a half times richer than Japan in 1950 and poorer per head than Japan by 1982.[18]

The currency tells the same story as a sequence of forced retreats, being devalued to two dollars eighty in 1949, to two dollars forty in November 1967, floated in June

1972, and in December 1976 propped up by the largest stand-by credit the International Monetary Fund had then granted anybody, about three point nine billion dollars, bought with public-expenditure cuts of one billion pounds in 1977 to 1978 and one and a half billion in 1978 to 1979.[19]

And the recession immediately before the war was the worst since 1945. Retail price inflation peaked at 21.9 per cent in May 1980. Registered unemployment went from one point three seven million in October 1979 to three point zero five million in October 1982. Manufacturing output fell 17.3 per cent from its 1979 peak to its 1981 trough, and in the quarter the task force sailed it was still 15.9 per cent below that peak.[20]

That is the base against which the commitments have to be read.

SUEZ, AND WHAT IT ACTUALLY PROVED

1956 is the usual date for the end of British freedom of action, and the mechanism is financial rather than military, which is the part that gets left out.

Britain lost two hundred and seventy-nine million dollars of reserves in November 1956 alone, which took it through its own two-billion-dollar floor. On 6 November the Cabinet learned that Washington would not let Britain draw on the Monetary Fund until, in the minute's words, we had agreed to the cease-fire. Britain agreed to the cease-fire. Then it agreed to full withdrawal. Only then did the money come, five hundred and sixty-one and a half million dollars drawn and a seven hundred and thirty-eight and a half million stand-by on 10 December, together the entire British quota.[21]

But the careful version is better than the familiar one, and it comes from James Boughton, who worked through the Monetary Fund's own records. Britain was not out of cash. Boughton's conclusion is that if devaluation or floating had been viable, Britain could have resisted the external financial pressure long enough to fight what would likely have been an effective campaign.[22]

So Suez did not prove that Britain could not afford a war. It proved that Britain would not break the pound's exchange rate in order to have one, and the exchange rate mattered because sterling was still the currency of a system. The limit was never the money; it was what the money was for.

THE RETREAT BECOMES POLICY

The 1966 defence review capped the 1969 to 1970 budget at two thousand million pounds at 1964 prices and cancelled the CVA-01 aircraft carrier. On 16 January 1968 Harold Wilson announced withdrawal from the Far East and the Persian Gulf by the end of 1971, in a statement whose stated purpose was to make devaluation work.[23]

Read that last clause again. The largest territorial retrenchment in British military history was presented to the House as a measure in support of an exchange-rate policy.

Here is the pattern, and the reason it matters is that each cut was a decision about money taken in London with no particular view about the South Atlantic at all, and more than one of them was read in Buenos Aires as a decision about the South Atlantic.

1878. A force of Royal Marines had arrived with their families in January 1858 as the Falkland Islands Garrison Company. They were withdrawn in December 1878 as a cost-cutting measure.[24]

That is the first one, and the phrase in the source is *cost-cutting measure*, a century and four years before the invasion.

1948. Britain closed the Falklands naval station and transferred the wireless station to the local government. Ramsey's reading of the consequence is unambiguous: it gave Perón the distinct impression that British resolve was somewhat lacking and that opportunity beckoned. It took a frank conversation in which the Foreign Secretary, Ernest Bevin, told his Argentine counterpart in no uncertain terms that an armed invasion would be met by force, before the situation was defused.[25]

Note what settled it. Not a ship. A sentence, from a Foreign Secretary, delivered in time.

What came out of that episode was the level of deterrence that then held for thirty years: an agreement limiting ships deployed south of sixty degrees, and an understanding that the Royal Navy would provide one lightly armed vessel to support the British Antarctic Survey. That vessel was eventually HMS *Endurance*.[26]

So the entire British military presence in the South Atlantic from the late 1940s was, by design, one lightly armed ship and a token garrison, intended as a tripwire that would force Argentina to fire the first shot.[27]

1976. *Endurance* had already been earmarked in Whitehall as a candidate in the next round of defence cuts. What saved her was an Argentine destroyer. In February 1976 the Argentine ship *Almirante Storni* fired on the British Antarctic Survey vessel *Shackleton* about eighty miles south of the Falklands and tried to stop and board her. The incident embarrassed the Argentine foreign ministry, and it caused the Foreign Office to recommend *Endurance* as an essential tool of British South Atlantic policy. She was retained for another year.[28]

Read that sequence again, because it is the whole mechanism in miniature. The ship whose presence deterred Argentina was kept in service only because Argentina shot at something. Remove the provocation and the Treasury wins.

1981. The Treasury won. The defence review of that year decided that the ageing *Endurance* should be retired at the end of her tour and not replaced.[29] The chapter on the war lists that decision alongside the others Argentina read as withdrawal, and I am not going to restate the list. The point here is the one chapter 11 does not make: this was the fourth time in a hundred and three years that Britain had reduced, or tried to reduce, its South Atlantic presence, and in three of the four the reason given was money.

The four are not all the same and I am not going to pretend they are. For 1878 the sources give the cost-cutting and no Argentine reaction at all. For 1948 they give a documented Argentine reading of British weakness, which Bevin closed down with a sentence delivered in time. In 1976 the cut was proposed and an accident of Argentine naval indiscipline bought a reprieve. In 1981 the cut went through and was read in Buenos Aires as withdrawal. So of the four, two are documented as having been read as a signal, one was defused by somebody noticing, and one is simply a line item that disappeared.

What repeats is not the Argentine response. What repeats is the British decision.

WHAT THE 1981 REVIEW ACTUALLY DID

It is worth setting out, because the chapter on the war names two ships out of it and the review was a great deal larger than two ships.

In his statement to the Commons on 25 June 1981, John Nott announced that the destroyer and frigate force declared to NATO would be held at around fifty ships against fifty-nine then in service; that County, Rothesay and Leander class ships would be disposed of early and eight Leanders moved to a standby squadron; that *Hermes* would be phased out once the second new carrier was operational; that two specialist amphibious ships would be disposed of earlier than planned; that the base and dockyard at Chatham would have to close in 1984 and work at Portsmouth would contract very severely; and that Royal Navy manpower would fall by eight to ten thousand posts and Ministry of Defence civilian posts by fifteen to twenty thousand.[30]

Three of the decisions this appendix cares about are not in that statement and must not be attributed to it. The two amphibious ships are unnamed in the text; they were *Fearless* and *Intrepid*, and that identification is an inference from the wording rather than a quotation of it. Neither *Endurance* nor *Invincible* is mentioned in it anywhere.[31]

Those last two carry the dates that matter. *Endurance* was to leave at the end of her 1982 deployment, with decommissioning set for 15 April 1982. And the agreement to sell *Invincible* to Australia, reportedly for a hundred and seventy-five million pounds, was announced on 25 February 1982.[32]

Thirty-six days before the invasion, Britain announced that it was selling one of the two carriers without which the islands could not be retaken. The offer was withdrawn in July, after they had been.

And the price of the other decision is the figure this whole appendix was built to deliver. Keeping *Endurance* in the South Atlantic was costed in the Commons at three million pounds a year, against a defence budget of more than twelve thousand million. A peer who put the cost nearer one and a half million was disputing a higher claim again, of four million. Take either one. The ship whose withdrawal was afterwards described as possibly having given Argentina the wrong

signal cost between about an eightieth and a fortieth of one per cent of what Britain was spending on defence that year.[33]

AND BRITAIN WAS NOT A CHEAP DEFENCE POWER

This is the finding that makes the section worth writing, and it is the opposite of what the story usually says.

In 1981, the year of the review, the United Kingdom spent 4.98 per cent of its national income on defence. France spent 3.25, West Germany 3.03, the Netherlands 2.86 and Italy 1.82. Britain spent a higher share than every other European member of NATO except Greece, and by 1982 the British figure was 5.4 per cent.[34]

So the sentence to retire is that Britain was too poor to defend the Falkland Islands. Britain was spending about sixty per cent more than West Germany as a share of national income, off a much-reduced base, and that money bought a force shaped for the Central Front and the eastern Atlantic with nothing spare for an archipelago eight thousand miles away. The 1981 review was an attempt to fit the commitments to that arithmetic, and the capabilities it chose to surrender, which were ice patrol, amphibious lift, carrier numbers and out-of-area escorts, were precisely the ones the South Atlantic turned out to need.[35]

Not a country that would not pay. A country whose bill had stopped matching its map.

And the official British inquiry's judgment on the signals, which chapter 11 quotes and this appendix is not going to quote twice, fits this reading rather than contradicting it.[36]

Which is the honest version, and it leaves the economics exactly where this appendix puts them: not as the cause of the war, but as the reason the gamble looked affordable.

The thing Britain sold to the people it then fought

This is a small story and it is the single best illustration in the appendix, so it gets its own section.

The relationship between Britain and Argentina in the 1970s was not only a quarrel. It was also a trading relationship, and part of the trade was warships.

In August 1977 the Argentine Navy took delivery of a British Type 42 guided-missile destroyer, the *Hércules*, built by Vickers at Barrow-in-Furness. A second, the *Santísima Trinidad*, was built in Argentina with British assurance and oversight, and was commissioned in July 1981, nine months before the invasion.[37]

The Type 42 was the Royal Navy's own air-defence destroyer. Britain sent three of them south in 1982: *Sheffield*, *Coventry* and *Glasgow*. Middlebrook describes the two Argentine ships, correctly, as sister ships of those three.[38] *Sheffield* was hit by an Exocet on 4 May, and *Coventry* was sunk three weeks later on 25 May.

The financial arrangement is better still. At the time of the war Argentina still owed a London bank three point eight million pounds for the deal. Under a British export guarantee scheme, if Argentina defaulted, the British government would have to pay the bank. Middlebrook records the resolution in a parenthesis: the Argentines quietly paid the sum in full one month after the war ended.[39]

Read that slowly. A British taxpayer guarantee stood behind the purchase of a destroyer by a navy that, within five years, would be fighting that destroyer's sister ships, two of which Britain lost. The guarantee was never called, because the defeated party settled its invoice four weeks after surrendering.

There is a tidiness there that no novelist would be allowed.

The third set: a government that needed something to happen

Argentina's side of the arithmetic is the part the junta understood best, because it was the part destroying them.

The programme that produced it had a name and a mechanism. From 1976 Jose Alfredo Martinez de Hoz liberalised finance, and in December 1978 he introduced a pre-announced crawling peg, the *tablita*, which left the peso badly overvalued. The Banco de Intercambio Regional failed on 28 March 1980 and took a banking crisis with it, and devaluations followed through 1981.[40]

Then the numbers, with their bases stated, because the figures in circulation for this period are unusually bad. Gross domestic product fell 5.2 per cent in 1981 on the World Bank's constant-price series and a further 0.7 per cent in 1982; larger falls of eleven and sixteen per cent circulate and are measuring something else. Real wages fell 9.6 per cent in 1981 and 17.1 per cent in 1982, and by about forty-one and a half per cent across 1976 to 1982. And the external debt went from seven point nine billion dollars in 1975 to forty-three point eight billion in 1982, which is five and a half times over in seven years.[41]

Middlebrook's summary of the position in early 1982 is the standard one and he says so: falling industrial output, falling wages, rising unemployment, and inflation well above one hundred per cent and still climbing. Those with property, goods and overseas accounts were cushioned. The mass of the population, living on work and cash wages, were becoming desperate.[42]

The military had produced a political stability of sorts, and had produced it by savage repression. Figures between seven thousand and fifteen thousand are quoted for Argentine citizens killed in the internal war of the late 1970s, often after torture in military rather than police establishments, and so many disappeared without any public announcement that the relatives of the dead had themselves become a separate and vociferous group opposing continued military rule.[43]

Ramsey adds the loop that connects the repression to the balance sheet, and it is worth setting out as a loop because that is how it worked. Argentina bought heavily through the 1970s: aircraft and helicopters from the United States and Israel, an aircraft carrier from the Netherlands, submarines from Germany. Those purchases, compressed into a short period, contributed to a downward spiral in the economy. The spiral produced popular unrest. The unrest produced heavier repression. The repression produced international condemnation and an embargo on spare parts for the imported hardware.[44]

Ramsey's own dry comment is that this was not an ideal situation for a country contemplating armed invasion.

So by March 1982 the junta had an inflation rate above one hundred per cent, a wage-earning population Middlebrook describes as becoming desperate, an arsenal it could not get parts for, and a human-rights record that had closed its own supply

lines. On 30 March the CGT filled the Plaza de Mayo and the state arrested the union leadership. The arrest figures do not agree and I am giving the range rather than choosing: contemporary press reports said over a thousand in Buenos Aires, while later Argentine accounts give two thousand and seventy-four, three thousand, and four thousand, some of those being national rather than city totals. The detail that carries the meaning is not the number anyway. It is the names: Saul Ubaldini and the CGT leadership, the Nobel laureate Adolfo Perez Esquivel, and the Madres de Plaza de Mayo.[45]

Three days later the marines went ashore at Mullet Creek.

Middlebrook is careful here and so is this appendix. He notes the suggestion that the internal turmoil was a major contribution to the junta's decision and judges there is little validity to it, on the ground that the troopships and warships were already well on their way when the demonstration took place.[46] That is a good objection to the crude version of the argument and it does not touch the longer one. Galtieri had announced that 1982 would be the year of the Malvinas on taking the presidency in December 1981. The occupation had been ordered in the same month. What the economy supplied was not the trigger but the motive, and Middlebrook states the motive without hedging: Galtieri and his colleagues needed a diversion, and the one issue that united all Argentines was the Malvinas.[47]

A government that cannot deliver a currency can still deliver a flag.

Moscow: grain, an abstention, and a shopping list

Now the part the reader of this book asked about specifically, because he watched this war as a child on Soviet television, in black and white, and wanted to know what was behind the coverage.

The short answer is that the Soviet Union gave Argentina a great deal of noise and almost nothing else, and that the reason the two had any relationship at all was grain.

WHY A COMMUNIST SUPERPOWER DID BUSINESS WITH AN ANTI-COMMUNIST JUNTA

The junta was killing Argentine leftists while this was going on. Relations with Moscow were nonetheless entirely functional, and an Argentine comedian produced the formula that historians now borrow: the regime was anti-communist pro-Soviet.[48]

The mechanism was agricultural. After the Soviet invasion of Afghanistan the United States imposed a grain embargo on the USSR. Argentina declined to join it and in 1980 signed a five-year supply agreement running from 1981 to 1985, with minimum annual Soviet purchases of four million tonnes of coarse grain and five hundred thousand tonnes of soybeans.[49]

Washington knew exactly what that meant. An American interagency meeting of 1 May 1980 put it in four words: *Argentina is the key*. If Argentina kept shipping heavily it would be difficult to convince others to hold the line, and the United States had little bargaining room to push the figure down without abandoning its own human-rights and non-proliferation policies.[50]

By 1981 the Soviet Union was taking about a third of Argentina's total exports and roughly eighty per cent of its grain exports, worth something like three point three billion dollars, while selling Argentina about sixty-seven million dollars of goods in return.[51]

That ratio is about fifty to one. It is not a partnership. It is a customer.

So the junta had one asset in Moscow, and in April 1982 it went to spend it.

WHAT ARGENTINA ASKED FOR

On 2 April, the day of the landings, the Argentine foreign minister summoned the Soviet ambassador in Buenos Aires while the Argentine ambassador in Moscow met senior Soviet officials. The object was to explain what Buenos Aires called the recovery of the islands and, above all, to obtain a Soviet veto at the United Nations.[52]

What Moscow supplied was language. *Pravda* of 3 May ran the British attack under the headline *Dangerous Escalation*. Radio Moscow called it a threat to world peace and security and said the world community had been given a chance to see once

again where the threat of war comes from. Brezhnev's only direct public comment, at a Kremlin dinner on 4 May, condemned powers resorting to actions hailing back to the time of colonial brigandage, and named neither country involved.[53]

A TASS analyst then produced the best line of the war. Answering a West German charge that Moscow had selfish interests in the conflict, he said the suggestion was as far from the truth as the Falkland Islands are from Bonn.[54]

Now the three things Moscow withheld, which together are the answer to the question.

It withheld the endorsement. The Soviet Union called the islands disputed territory and called for restraint. It never endorsed Argentina's sovereignty claim. Western commentators at the time put that down to a fear of precedent, with Japanese claims to territory the USSR had taken by force in mind. That explanation is a journalistic inference rather than a Soviet statement, and it is offered here as one.[55]

It withheld the weapons. Not one Soviet-supplied weapon reached Argentina, before, during or immediately after the war. The distinction matters and it is the first thing the research on this subject tells a writer not to get wrong. Soviet-*designed* weapons did reach the war: Argentine positions fired SA-7 shoulder-launched missiles at British aircraft, and those came out of Peruvian and Libyan stocks rather than from Moscow. None of them hit anything, and Britain captured sixty of them unfired.[56]

There is a photograph of one. A Harrier came back from a reconnaissance sortie west of Stanley, and when the film was developed it showed an Argentine soldier tracking the aircraft with a Blowpipe at close range and, behind him on the summit of Two Sisters, a second soldier trying to bring an SA-7 to bear. The pilot had been travelling too fast to notice either of them and is said to have gone rather pale when he was handed the print.[57]

That is as close as the Soviet Union came to shooting at the Royal Navy in 1982: a weapon of its design, in the hands of a conscript on a hill, bought from Peru.

It withheld the veto. That is the one that decided things, and it needs its own section.

THE ABSTENTION

On 3 April 1982 the Security Council adopted Resolution 502, demanding Argentine withdrawal, by ten votes to one with four abstentions. Panama alone voted against. China, Poland, Spain and the Soviet Union abstained.[58]

Resolution 502 was the foundation of everything Britain did next. Sir Anthony Parsons, the British ambassador who carried it, wrote afterwards that it secured a firm base of international support without which it would have been difficult to persuade partners, friends and allies to join the economic and political measures that, with military action under Article 51, made up the three planks of British policy.[59]

A Soviet veto would have removed that foundation. The veto was available, cost nothing, and was consistent with everything Moscow was saying in public. It was not used.

Why not? The best evidence is Parsons watching the room, and it is not a story about ideology at all. He wrote that his team knew ten was their maximum because the three communist delegations could not be expected to support a British draft, that they discounted a Chinese veto on instinct, and that they *had no feel for the likely position of the USSR, even less as the Soviet delegation dashed to and from the telephone as the debate wore on*. At the vote: *I did not even look in the direction of my Soviet colleague as the pencils went up.*[60]

The telephone is the evidence. A delegation with instructions does not keep leaving the room to make calls. What Parsons describes is a mission improvising against a decision Moscow had not taken, about a quarrel it regarded as none of its business.

And there is a detail almost nobody quotes, which sharpens it to a point. Earlier in the same meeting Panama moved to suspend the session for two or three hours so a rival draft could be considered. Seven delegations voted for the motion, the Soviet Union among them, against three, which left it two short of the nine it needed.[61]

So Moscow was willing to spend a procedural vote helping Argentina delay and unwilling to spend a veto helping Argentina win. That is the measure of Soviet commitment, and the unit is the two or three hours Panama had asked for.

The grain did not change any of that, and the reason is a date. The American embargo had been lifted in April 1981, a full year before the war, and the Soviet harvest had improved. By 1982 Moscow needed less imported grain and its purchases from Argentina were already falling. The dependence had always run the wrong way in any case: a third of Argentina's entire export earnings against roughly a quarter of one importer's grain buying.[62]

Argentina arrived in Moscow believing it was a creditor and was received as a supplier.

THE PRICE, WHICH IS THE DETAIL THIS BOOK CANNOT RESIST

Offers were made. Four Kresta-class cruisers, which the historian who found the claim calls preposterous if it was real, since the ship needs about three hundred and fifty highly trained crew. Long-range Tu-95 aircraft, which Admiral Anaya actually wanted and offered to pay cash for so as to have no dependency, and for which the Soviets quoted six months; to Argentina's protest that it needed them at once, there was never any reply.[63]

And there was a price list. In early May the Soviet ambassador is reported to have put four conditions to Galtieri in exchange for arms: withdraw Argentine advisers from Central America; stop voting against the USSR at the United Nations on matters such as Afghanistan; drop support for the right-wing junta in Bolivia; and authorise the Soviets to build fisheries facilities at Ushuaia.[64]

That list comes from one journalistic book and no archive I have seen corroborates it, so it is carried at moderate strength and no further. But look at the fourth item. In the middle of a war over the ownership of an archipelago, the price of Soviet weapons included a fishing base at a port on this itinerary. You were in Ushuaia on this voyage. The Soviet Union's interest in the bottom of the map was squid, and it was willing to say so in a bargaining position.

Argentina refused. The junta's own minute of 1 May 1982 records the political impossibility of resorting to Soviet military assistance, and adds the perception that direct Soviet intervention would bring direct American intervention on Britain's side, and possibly a third world war.[65] Anaya had said he would never, and he repeated the word never, turn to the Soviet Union. The air force chief told an American contact in mid-May that the Soviets were offering equipment at

moderate prices, but that the money was only part of the price and Argentina would never pay that price.[66]

They changed their minds on 31 May, with the war already lost, and announced publicly a willingness to accept help from any country including the Soviet Union. Nothing arrived, either because the statement was too abstract to act on or because the surrender came a fortnight later.[67]

WATCHING, WHICH IS NOT HELPING

This is where the popular account goes wrong in both directions at once, so it needs separating into two piles.

Soviet collection against the British task force is extensively documented. Tu-95 Bear D reconnaissance aircraft flew out of Luanda, logging over a hundred hours in April alone. An intelligence ship, the *Zaporozhye*, sat off Ascension from 29 April to 26 June. Around forty Warsaw Pact fishing and factory vessels were in the theatre, and Soviet reconnaissance satellites passed over it, one of them crossing the islands daily. What the record does not support is the word tasked, because the Western analyst who counted the 1982 launches found none of them placed in an orbit suggesting dedicated South Atlantic surveillance, and found that the launches of that spring were not reactive to the war at all.[68] The British took it seriously as an operational matter: Admiral Sir John Fieldhouse briefed that the force should be careful transmitting when American satellites passed overhead and certainly not when a Soviet one did.[69] One man aboard remembered sighting a Russian spy ship on 13 April and an order that no rubbish was to go overboard, because the Russians were collecting every bit of it.[70]

That is excellent evidence of what the Royal Navy feared in April 1982. It is no evidence at all of what Buenos Aires received, and the two belong in separate paragraphs.

Soviet transfer to Argentina also happened, and it was useless. Coordinates arrived by telex at the Soviet embassy in Buenos Aires and were handed by the military attaché, a tank officer, to a liaison officer of the Argentine Air Force. No photographs were handed over, for reasons given as technical, so what arrived was columns of figures and nothing else.[71]

One of those messages has been recovered and can be checked against the other side's records. Message 582, sent at twenty minutes to two in the afternoon on 9 June 1982, gave positions for the carriers *Invincible* and *Hermes* as at eleven the previous evening, with course, speed, wind, cloud and water temperature. Checked against *Invincible*'s own log, the carriers were about forty-five nautical miles south of the reported position and steering in a different direction.[72]

A second message, on 13 May, reported a Vulcan taking off from Ascension at the highest grade of reliability and listed the aircraft stationed there. No such flight had taken place and the aircraft numbers did not match the actual deployment.[73]

On 30 May, planning the strike meant to find *Invincible*, Argentine commanders had external-source data putting the carriers in one place and their own radar on the islands putting them in another. The two disagreed by about ninety nautical miles and neither was right.[74]

An Argentine naval officer who received this material four or five times said it was worthless, because it was always about twenty-four hours old.[75]

The conclusion this appendix adopts is the one reached by the Argentine military historian with the best archival access. The Soviet Union did supply intelligence, but it was neither of good quality, nor in sufficient quantity, nor timely, and no successful Argentine military operation can be attributed to data handed over by that country.[76]

So both stories in circulation are wrong. The Russian version, that Soviet satellites found the British ships, is false, and in its most repeated form it is impossible: it credits the satellite Kosmos-1365 with locating HMS *Sheffield*, and *Sheffield* was hit on 4 May while Kosmos-1365 was launched on 14 May.[77] The British version, which is Middlebrook's, that the Russians were not passing information, is too absolute. He was writing before the Argentine air force files were opened, and he was right about the effect and wrong about the fact, which is a respectable way to be wrong.[78]

The honest sentence is that Moscow watched closely, passed a little, and helped not at all.

THE CARRIER THAT WAS GOING TO BE TORPEDOED

One story needs correcting for what the correction reveals.

Galtieri told Alexander Haig on 11 April 1982 that if the British attacked he would have to accept the offer of full support made by the Cuban ambassador, that the Cubans implied they were speaking for the Russians, and that they had insinuated the Soviets had offered to sink a British carrier, with Prince Andrew aboard, in such a way that the world would believe an Argentine submarine had done it. Haig's own note, in the same paragraph: *I doubt that such an offer was acutally made by the Soviets, but we cannot discount it altogether*, with the misspelling his.[79]

Middlebrook calls the story one of Galtieri's inventions, and he is right that nobody should believe it, but the record turns out to be both more specific and more interesting than that. It was a Cuban insinuation, relayed by Galtieri, and disbelieved by the American Secretary of State who wrote it down.[80]

That matters because Havana went a great deal further than Moscow did. Haig reported at Downing Street that the Cuban ambassador had returned to Buenos Aires after a year away and *offered them everything*, and that Galtieri had said he could not turn to the Soviets and did not want to break Argentina's Western involvement.[81]

The Soviet bloc was not one position. Cuba offered everything, Moscow offered conditions, and Poland abstained alongside Moscow while its trawlers took most of the bloc's catch in Falklands waters.

AND THE TRAWLERS, WHICH IS WHERE THIS RETURNS TO MONEY

Middlebrook wrote that the only fishing off the islands was done by Polish and Russian deep-sea trawlers. The proportions are worth correcting, because the usual phrase is *the Soviet fishing fleet* and the usual phrase is wrong.

Poland dominated. In 1982 Polish vessels took around a hundred and nine thousand tonnes of shortfin squid out of a regional total of about a hundred and ninety thousand, some eighty per cent of which was taken around the islands, and around a hundred and twenty-two thousand tonnes of southern blue whiting. The Soviet southern blue whiting catch that year was about four thousand tonnes, and the

published reconstruction does not break out a Soviet squid figure at all. On 30 May the Argentine Navy counted seven Polish vessels to four Soviet ones inside five hundred nautical miles.[82]

Soviet and Polish trawlers is accurate. *The Soviet fishing fleet* is not, and this appendix says so because the error is in a direction that flatters the Cold War framing.

And the islands' share of all of it was nil. There was no licensing regime at all until 1 February 1987, and the Falkland Islands Government's own catch records begin in 1989.[83]

Not a reduced share. Nothing.

The bill

Which brings the three sets of accounts together, and produces the finding this appendix exists for.

Start in 1976, six years before the war, with the document that asked.

The Foreign Office commissioned Lord Shackleton to survey the islands' economy. His team came mainly from the Economist Intelligence Unit, and Shackleton travelled to the Falklands aboard HMS *Endurance*, which is a detail worth keeping: the man sent out to recommend investment went in the ship that was later cut to save money.[84]

What he asked for was small. Capital expenditure of between three and five million pounds, of which the airfield extension was by far the major item, meaning the lengthening of the planned twelve hundred and fifty metre runway by a further nine hundred and fifty metres at some three and a half to four million pounds. Plus one to one and a quarter million pounds to find out what was actually in the surrounding sea.[85]

And his team was honest about its own case in a way that does them credit and that this appendix is not going to flatten. They wrote that they could not with certainty justify the runway in economic terms, and recommended it anyway, on the ground that without improved external communications development in the islands was likely to remain limited.[86]

The Government funded the cheap items out of the aid programme, which meant the Stanley to Darwin road, a school hostel, an aircraft for the internal air service, medical equipment, a fiscal adviser. It refused the expensive one, and the refusal was specific rather than blanket. The formula was that the Government did not accept the more costly recommendations in the Shackleton report, notably the enlargement of the airport and the lengthening of the runway, and the runway was never extended.[87]

Two further things about that report, because the popular version of it is wrong in both directions. Shackleton's fisheries enthusiasm was for krill and for blue whiting, and he did not identify the *Illex* squid that actually paid for the islands eleven years later. And on oil his own judgment was that development would require international co-operation, meaning Argentina, which is the reverse of how the Falklands oil argument is usually deployed.[88]

Then the war happened, and on 8 December 1982 the Government gave its response to Shackleton's post-war update, in the Commons through Francis Pym and in the Lords the same day. Shackleton had proposed thirty to thirty-five million pounds; Pym's tentative estimate for the programme he outlined was about thirty-one million over six years, with five million more for civilian rehabilitation on top of ten million announced in July. The proposal for the wholesale transfer and subdivision of the absentee-owned farms was rejected in favour of an approach the Government called gradualist.[89]

The survey had been commissioned before the war, and its arrival in Stanley in 1976 had so enraged Buenos Aires that both ambassadors were withdrawn.[90]

The government's own words on the fishery, after the war: *foreign freezer-trawlers have fished from time to time in the waters around the Falklands and continue to do so. But hitherto there has been no concerted effort to develop fishery resources for the benefit of the islanders.*[91]

On Shackleton's recommendation of a two-hundred-mile fisheries limit, the response was that it required further study, and that its implications, *not least its policing*, and the degree of commercial interest, would have to be carefully assessed. Of roughly thirty-one million pounds over six years for the whole development programme, about one point three million was earmarked for a pilot

salmon-ranching scheme and a shellfish survey. Viscount Thurso called it a mere pilot scheme and said he thought it unsatisfactory, observing that the Falkland Islands are situated in one of the richest seas on the face of the entire globe.[92]

Six months after fighting a war for the place, the British government would not commit to paying for the policing of the water around it.

Set that beside what it did commit to in the same period. There is no single honest figure for the war, so here are the bases. The Government's own December 1982 account was about seven hundred million pounds in 1982 to 1983 for the operation and the replacement of lost equipment, with about nine hundred million to follow, and the garrison costed separately at four hundred and twenty-four million for the following year. The Commons Defence Committee's cumulative figure for extra military costs across 1982 to 1986 was two point six billion pounds. All of those are cash and none is adjusted for inflation, and the figure of one point six billion that circulates widely has no official source behind it at all.[93]

Then the airfield. RAF Mount Pleasant was costed in June 1983 at about two hundred and fifteen million pounds including the road and the navigation aids, of which the main construction contract was about a hundred and ninety million. That is an estimate rather than an outturn, no audited final figure turned up, and the airfield opened on 12 May 1985.[94]

Now put the two documents side by side, which is the point of this section.

In 1976 Britain was asked for three to five million pounds, the airfield being most of it, and refused the airfield as hard to justify. By 1983 it was building a military airfield on the same islands, for a different purpose and to a different specification, costed at about two hundred and fifteen million. That is not the same thing as the civil runway extension it had refused, and the comparison is worth less if it is pretended to be. In 1976 it was asked for about a million and a quarter to survey the fishery and did not spend it. In December 1982 it declined to declare a fisheries limit because the policing would cost money. In 1987 the first year of licences brought in about thirteen and a half million pounds on one account and nineteen point seven million on another, against about four million of protection costs. The two revenue figures have not been reconciled and both are printed here because neither has a better claim.[95]

And the running cost of holding the place reached a figure that a government would not normally publish. In 1985 to 1986 the defence provision for the Falkland Islands was two hundred and eighty-eight thousand pounds per islander per year, falling to a hundred and fifty-six thousand by 1987 to 1988.[96]

Against an islands' national product of four point two million pounds in 1980. The bases are different, cash of 1985 against cash of 1980, so the ratio is of the order of eighty to a hundred times rather than any single number, and the comparison is mine rather than anybody's published finding.[97]

It took four more years. The Interim Conservation and Management Zone was proclaimed on 29 October 1986, patrol assets were in place by January 1987, and licensing began on 1 February 1987. Four hundred applications came in; two hundred and fifteen vessels were licensed for the first season, at fees running from twenty-six thousand to eighty-six thousand pounds depending on tonnage.[98]

And the colony that never paid stopped not paying, immediately and permanently. Falklands gross national product was four point two million pounds in 1980 and ten point eight million in 1986. In 1987 it was thirty point three million. Government revenue rose by something around five hundred per cent, and the islands became self-sufficient in everything but defence and external affairs.[99]

That is the whole story in four figures, and here is what it means.

For a century and a half Britain held an archipelago that cost money and earned almost none, declined to invest in it on grounds of expense, withdrew its garrison in 1878 as a cost-cutting measure, closed its naval station in 1948, tried to cut its one patrol ship in 1976 and succeeded in 1981, and spent much of the 1960s and 1970s looking for a diplomatic formula to hand the problem to Argentina, for a reason Middlebrook states in commercial terms, which is that the dispute was endangering British relations and trade interests in a large part of the South American continent.[100] Then it fought a war for the place at a cost beyond any accounting it had ever applied to the islands, and afterwards garrisoned them properly for the first time in their history. And then, four years after that, it drew a line on a chart and started charging the foreign factory ships that had been working the squid for free the whole time, and the islands turned a profit within a year.

The asset was always there. It was in the water, and the Polish and Soviet trawlers had been taking it out for a decade while the Foreign Office was trying to give the place away.

What this explains and what it does not

Three honest limits, because this appendix has an argument and arguments overreach.

It does not explain the decision, and the chronology forbids the strong version. The junta ordered the occupation in December 1981 for its own reasons, and the planning record shows internal politics and naval ambition rather than a reading of British accounts. More decisively, nothing in the 1981 review had actually been carried out by the time the marines landed. *Endurance* was still on station on 2 April 1982 and her decommissioning date was still a fortnight in the future. So the review cannot have caused the invasion in any mechanical sense, and nobody should write that it did.[101] The reading this book takes from the official British inquiry stands, and it is a paraphrase rather than the inquiry's own wording: the signals made the bet look safe without creating the intention.[102] Economics tells you why Argentina thought it could get away with it, and why the islands were available to be taken. It does not tell you why anybody wanted them.

The causal weight of the British signals is contested, and this appendix is one voice in that argument. The strongest version of the case made here is that a hundred years of Treasury decisions about a line item produced, cumulatively and without anybody intending it, a target. The strongest objection is that Argentina invaded in 1982 because a new junta needed a war in 1982, and would have found a way to have one whatever the Royal Navy's deployment schedule looked like. It is worth saying that this objection currently has the better scholarship behind it, while the case made here rests more on official and political statements, including the finding the Prime Minister read out of the inquiry in the Commons, that the withdrawal of *Endurance* could have provided the wrong signal to the Argentines, one of a number. That asymmetry is a fact about what has been written rather than a verdict about what is true, and the reader should weigh it as such.[103] The research behind this book, not the inquiry, is what grades these claims, and it grades the existence of the signals as well established and their causal weight as moderate. That is about

where the evidence sits, and it is why the dispute is presented here rather than settled.[104]

And the counterfactual cuts both ways, which is why it is interesting. If *Endurance* had been retained and the amphibious ships kept, the occupation might not have been attempted. If it had not been attempted, the fishing zone would probably not have been declared, the licensing regime would not exist, and the islands would still be a declining sheep station with a stamp bureau, slowly emptying, while Polish factory ships worked the squid for nothing.

Which is a genuinely uncomfortable thing to have established, and I am not going to resolve it into a moral. Nine hundred and seven people died, and the islands became solvent.[105] Both of those are consequences of the same seventy-four days, and nobody who went ashore at San Carlos was fighting for a licence fee.

APPENDIX B: WHAT A PASSENGER ON THIS ROUTE SHOULD ACTUALLY KNOW

In this appendix: the only part of this book that is any practical use. Two briefings were commissioned on this voyage, and they disagree, and the shape of the disagreement is the most useful thing in either of them. What the contract actually says, which is the part nobody reads and the part that governs. The four things that are certain, the seven that are asserted without a source, and the one that can cost six figures. And a list of what neither briefing could establish, because on this route the absences are load-bearing.

The preface promised you that this book was no sort of guide, and that nothing in it would help you find dinner. That promise holds for all twelve chapters and is broken by this appendix, which exists because the reader asked for it, and I am flagging the inconsistency rather than quietly pretending the preface said something else.

But it is a guide of a particular kind. It is not going to tell you to pack layers. It is going to tell you which of the things you have been told about this voyage are true, which are merely confident, and which are nobody's knowledge at all.

The named idea of this appendix is that on a route this remote, the quality of your information varies more than the weather does.

Two briefings, one voyage

Two research briefings were commissioned on this sailing before the book was written. One was produced by Perplexity and one by Gemini. Both are in the project material. Neither was written by the people who wrote this book, and both were read for this appendix rather than trusted.[1]

They disagree. That by itself is unremarkable. What is remarkable, and what is worth the price of this appendix, is the pattern of the disagreement.

The Perplexity briefing cites its sources, dates them, counts them, and grades its own confidence as high, moderate or low. It opens by calling itself *a partial, evidence-graded briefing, not a fully verified route dossier*, and it says so again every few paragraphs. It reaches no conclusion at all on roughly a third of the questions it was asked.[2]

The Gemini briefing has no such hesitation. It runs to twenty numbered sections, every one of them ending with a source line and the words *Confidence: High*. It gives you tender cancellation rates to the nearest ten per cent, fine ranges to the nearest fifty dollars, evacuation costs to the nearest hundred thousand, and a swell forecast by named segment of the route.[3]

Now hold the two side by side. The Gemini briefing is most confident precisely where the Perplexity briefing found nothing. On the Falklands cancellation rate, on the Chilean agricultural fines and on who will be lecturing, the one that searched and graded came back empty, and the one that cites nothing checkable came back with a figure or a roster.

And look at what it cites. *Falkland Islands Maritime Authority Logbooks and Cruise Line Operational Analysis, 2024 to 2026. International Maritime Health Association and Cruise Safety Insurance Data. South American Pilotage and Southern Ocean Admiralty Meteorological Records.* Those are not citations. Those are the shape of a citation with nothing inside it. You cannot look up a logbook that is not named, held anywhere you can reach, or dated to a document.[4]

This is the same failure the preface warned you about in this book, and it is worth meeting in the wild, on a document about your own trip, where you can check it yourself. A fluent, well-cadenced, correctly formatted sentence about something nobody established.

So the rest of this appendix sorts the material into four tiers: what the contract says, what the ship is, what somebody asserted, and what nobody knows.

Tier one: the contract, which is the part that governs

This is the only tier that is genuinely settled, because the clauses are published and they bind you. One caution before the list, and it is a caution against this appendix rather than against the line: on the clause that matters most, the medical exclusion, both briefings independently cite the official terms. The other three come from the Gemini briefing alone, and were not read against the contract text for this book. So the tier is firmer than everything below it and softer than a document quoted directly, and a reader who wants certainty should open the contract.

The line can change the itinerary and owes you nothing for it. The passage contract gives the carrier and the master authority to omit a port, deviate from the route, alter scenic cruising, or substitute a different ship, without prior notice, whenever they judge it advisable. No compensation, no fare refund and no consequential damages are payable for a missed port, an altered itinerary or an aborted excursion. If a call is cancelled, what comes back to you is unspent government port charges and the price of any excursion you bought from the line, and that is the entire extent of what you are owed.[5]

Read that again with the Falklands in mind, because this route has a port where it matters.

Medical care is not included in the fare. Silversea's booking terms exclude medical services and medical insurance explicitly. This is the single most consequential line in the document and it is in the part people skim.[6]

The doctor is not the line's employee. The ship's physician and nursing staff are classified as independent contractors rather than agents of the company, and the line disclaims liability for their diagnosis and treatment. This is standard across the cruise industry and it is still worth knowing before you need them.[7]

The master can put you ashore. If your physical or mental condition is judged to make you unfit to travel or a hazard to others, you can be disembarked, and the cost of getting home is yours.[8]

Four clauses. All four favour the line, and none of them is hidden: they sit in a document you agreed to, which is the point.

Tier two: what the ship is

Here the two briefings substantially agree, and nothing in this tier is contentious.

Silver Nova was delivered in 2023, runs to about fifty-four thousand seven hundred gross tons, and carries around seven hundred and twenty-eight guests. The design is asymmetrical, which is a real architectural choice and not a brochure word: the public rooms are distributed horizontally rather than stacked, and the pool deck sits off-centre.[9]

The things that matter on a cold route are the viewing positions, and these are a matter of where the glass is:

- The **Observation Lounge**, Deck 10 forward, is the heated indoor position with forward sightlines over the bow, which on a glacier morning makes it the most contested real estate on the ship.
- **Deck 11** is the open perimeter deck with no structural glass in the way. If you are photographing ice, glass is your enemy, and this is the deck without any.
- **The Dusk Bar**, Deck 10 aft, is sheltered, heated overhead, and looks back down the wake at what you have just passed.
- The **pool deck** on Deck 10 is a wind tunnel when the ship is making way into a Patagonian headwind, and the glass screens do not fix it.[10]

On dining, the structure is worth understanding even if the prices are not reliable. Most venues are included. A few carry a cover charge. Two constraints are physical rather than commercial: the S.A.L.T. Chef's Table seats eighteen people a night, and the cooking classes have a fixed number of work stations. Whether either actually sells out on this route is not established by any guest account anybody has produced, and one of the briefings says so plainly. What is established is the arithmetic, and no amount of status fixes a room with eighteen chairs in it.[11]

Self-service laundry is free. Valet laundry is charged unless you are in an upper suite category. This is a small thing that generates a surprising number of complaints, which tells you something about how carefully the inclusions list gets read.[12]

Connectivity is Starlink, and the included tier is throttled and filtered rather than slow by nature of being at sea. The premium tier exists because the standard tier blocks the things people want to do. In the fjords, steep walls will shadow the signal whatever you have paid.[13]

And one deduction, which I am labelling as a deduction because it is reasoning from the route rather than a fact anybody reported. This voyage runs south down the Atlantic coast and north up the Pacific coast. Sailing south on the eastern side of the continent puts the land to the west, which is starboard. Sailing north on the western

side puts the land to the east, which is also starboard. So the continent is on the same side of the ship for both legs. That is just geometry and it holds. What it does not tell you is anything useful about the inside channels, where the scenery is on both sides and close enough that it hardly matters, or about any given morning, when the ship can be pointed anywhere.[14]

Tier three: asserted, and thinner than it looks

Everything in this section was stated to one decimal place by a document that could not show its work. None of it is necessarily wrong, and all of it should be held loosely enough to drop when somebody produces a real figure.

Stanley cancellation rates. You will be told that twenty to thirty per cent of calls at Stanley are cancelled. The underlying facts are solid: Stanley is a hundred per cent tender port, the ship anchors in the outer roadstead and runs boats in through the Narrows, the water is in a gale belt, and the master will stop the operation if the swell at the tender platform or the crosswind in the channel makes it unsafe. There is also no substitute port, because there is nothing else out there; a cancelled Falklands call becomes a sea day. All of that is well attested. The percentage is not. The briefing that went looking for it reported that no defensible cancellation figure could be found and that a claim of the *half of all calls are cancelled* variety would be unsupported. So: a real risk, properly explained, attached to a number nobody has published.[15]

Chilean agricultural inspection. That Chile enforces plant and animal biosecurity hard is not in doubt, and it is one of the few genuinely strict regimes a cruise passenger meets. Declarations are collected before the first Chilean port, and inspection at the gangway is routine. The specific fine range quoted to you, and the specific list of what is and is not contraband, were not verified by either briefing. The operative rule survives the uncertainty intact: do not carry fruit, a sandwich, cheese, meat or seeds off the ship in Chile, and empty your coat pockets before you reach the gangway, because the pocket is where it happens to people who had no intention of smuggling anything.[16]

The cost of a medical evacuation. You will see a figure of one hundred to two hundred thousand US dollars for an air ambulance out of this region. It is

unsourced. Treat it as an order of magnitude rather than a quotation, and note that the order of magnitude is the part that matters. See the next section.[17]

Specialty dining prices. Three different cover charges circulate for the same restaurant, a guest reported a fourth figure, and one briefing resolved the conflict by asserting which was correct. Prices on this ship have moved. Assume any figure you have read is at least a year old and ask for the current one.[18]

Wi-Fi speed. One briefing gives the included tier as one to three megabits per second. The only dated firsthand measurement anybody found was between about a tenth and a fifth of a megabit, against roughly ten after an upgrade. Those are not the same claim.[19]

Who will be lecturing. You will see a described roster of a cultural historian, a naturalist and a maritime historian. That is a plausible account of how the line staffs this kind of route. No source names a single lecturer for any particular sailing, and nobody should promise you one.[20]

Weather by segment. You will see a table of temperatures, wind speeds and swell heights for each leg of the route. The physical geography behind it is uncontroversial: the open South Atlantic is rough, the Beagle Channel and the Chilean inside channels are protected, the Strait of Magellan funnels wind into squalls that the pilots call *williwaws*, and the Pacific leg has a long swell. The specific numbers come from unnamed records. The shape of the table is right; the decimals are decoration.[21]

The one thing on this list that is different from the others

Everything above costs you a dinner reservation, a slow download, a wet afternoon, or a small fine.

One item sits in a different category from all of those, and it begins with the fare excluding medical care. The ship has a clinic with doctors and critical-care nurses, emergency life support, defibrillators, telemetry, point-of-care laboratory equipment and the drugs to stabilise an emergency, and it is explicitly not an intensive care unit, has no surgical suite, and cannot manage neurosurgery, complex fractures, a severe gastrointestinal haemorrhage or an advanced cardiac

intervention. The route runs through some of the most isolated water on the planet. The hospital in Stanley is small and cannot do tertiary care. Getting a patient from this route to a hospital in Buenos Aires or Santiago means chartering a long-range aeromedical aircraft, and the operators of such aircraft want payment guaranteed before the wheels come up.[22]

So the asymmetry is this. Every other item in this appendix is a question about comfort or money in amounts you could absorb. This one is a question about whether a bad afternoon in the Beagle Channel becomes a financial event that outlasts the trip by years. Dedicated emergency medical evacuation coverage is the single purchase on this voyage where the decision is not close, and it is the one that has to be made before you sail rather than from the clinic.

That is the only piece of advice in this book. It is also the only one I am confident enough to give flatly.

Tier four: what nobody knows

This book has a habit of reporting absences rather than filling them in, and the briefings on this voyage produced a good crop. Every item below was looked for by somebody and not found.

- **No verified count of Stanley calls landed against calls cancelled**, for any recent season, distinguishing ocean ships from expedition ships.
- **No verified medical bill from this ship.** Not a consultation fee, not an after-hours charge, not a medication price.
- **No documented evacuation case on this route.** Antarctic expedition accounts exist and are not the same thing.
- **No tested February packing list** for this route from this operator, and no verified account of how often passengers are seasick between Puerto Madryn, Stanley and Ushuaia.
- **No settled account of how the evening dress code is actually enforced** on this kind of southern itinerary, as opposed to what the fleet policy says.

- **No verified best viewing position** for the Garibaldi glacier or the fjord passages from anybody who has been there on this ship. The deck geometry above is sound; what no accessible guest account establishes is where people actually ended up standing.
- **No case, anywhere in the accessible record, of a passenger missing a flight** after disembarking at Valparaíso for the Santiago airport. The briefing that looked for it put the finding in exactly the right words: that is an evidence gap, and an evidence gap is not evidence that the connection is safe.[23]

That last one deserves its phrasing preserved, because it is the distinction this whole appendix turns on, and most writing about travel gets it backwards. Nobody reporting a disaster is not the same as there being no disaster. It is the same mistake as reading an empty column in a shipping table as a port with no traffic, which this book has already had to correct once.

What this appendix is really about

A passenger on this route will be handed a great deal of information, and it will arrive looking uniform. Printed the same way, formatted the same way, confident in the same tone. Some of it is a contract clause that will be enforced against you. Some of it is a count of eighteen chairs. Some of it is a number that was generated to fill a cell in a table.

They are not the same thing, and the only way to tell them apart is the one this book has been doing for twelve chapters: ask who said it, when, and whether anybody could check.

The ship is well regarded by most people who sail on it and disliked by some, the food is inconsistent according to five separate accounts and excellent according to two, the staff are praised even by the passengers who complain about everything else, and the public rooms are reported as uncrowded by everyone who mentions them. That is about as much as the evidence will carry, and it is worth more than a confident paragraph that goes further.[24]

Buy the evacuation cover. Book the eighteen-seat room early. Empty your pockets before Chile. Stand on Deck 11 for the ice, and accept that the Falklands may simply not happen.

Everything else you have been told, you are now in a position to grade yourself.

APPENDIX C: ENDNOTES

Superscript numbers in square brackets in the body text refer to the per-chapter endnotes below.

Chapter 1: Buenos Aires: The Front Door

1. Thiago Mantuano, “Buenos Aires: a Cidade, seus Portos e Rios (1850-1911),” *Revista tiempo&economia* 5, no. 2 (2018): 41 to 58, DOI 10.21789/24222704.1309, for the absence of a deepwater port through most of the century and the lighter-and-cart system.

2. Mantuano (2018), for Taylor’s mole and the customs house, 1855 to 1857, and the opening of the Aduana Taylor in 1859.

3. Mantuano (2018), for the 1869 share: fifty-six percent of exports and all imports of coal, timber, iron and salt through the Riachuelo at La Boca.

4. Mantuano (2018), for three hundred and ninety vessels in port on 1 February 1873, about twenty-four percent of them British.

5. Mantuano (2018), for roughly eight thousand of fourteen thousand transatlantic arrivals in 1880. No continuous annual vessel-and-tonnage series for Buenos Aires across 1890 to 1930 was located for this book. It should exist in the *Anuario Estadistico de la Republica Argentina* and in the Memorias of the Ministerio de Hacienda, Direccion General de Estadistica, neither of which is available online in a form that could be checked here. The claim that the city grew on its own trade rather than on transit traffic rests on the pattern of the sources rather than on that series, and is stated at that strength.

6. Charles Darwin, *Journal of Researches*, for the 1832 and 1833 visits; the manuscript *Beagle Diary* pages for late October to early December 1832, with city visits from 3 November, and the overland arrival of September 1833. Six passages bearing on Buenos Aires were examined for this chapter and none of them connects the city to the interoceanic route.

7. For the creation of the Comandancia Politica y Militar de las Islas Malvinas under Luis Vernet on 10 June 1829. The month, June 1829, is carried in the

chapter sources; the exact day is established separately from Argentine government material, including Casa Rosada, and is used here because it is better supported than the bare month.

8. For the Dia de la Afirmacion de los Derechos Argentinos sobre las Malvinas and the inauguration of the Museo Malvinas in Buenos Aires on 10 June 2014, the one hundred and eighty-fifth anniversary: Casa Rosada and Argentine municipal reporting. The museum itself belongs to a later chapter and is named here only to date the commemoration.

9. H. W. Dickinson (1994), for the Buenos Aires sealing decree of 22 October 1821; and for Vernet's seal-fishery monopoly as a Buenos Aires grant of January 1828.

10. Dickinson (1994), 42 to 43, for the arrests of July and August 1831: the *Harriet* under Gilbert R. Davison and the *Breakwater* under Daniel Carew, both of Stonington, and the *Superior* under Stephen Congar of New York; for the *Breakwater*'s crew retaking their vessel; and for the *Harriet* being brought to Buenos Aires as a prize with the United States consul as the channel.

11. Log of USS *Lexington*, United States National Archives, RG 24, E. 118, Pt 123, as cited in the Falklands sovereignty literature, for the anchoring off Port Louis on 31 December 1831 and for the settlers removed, including the Schmidt, Klein and Feuser families, fourteen people. One account dates the settlers' departure to January 1832. Barry M. Gough, "American sealers, the United States Navy, and the Falklands 1830-32," *Polar Record* 28, no. 166 (1992): 219 to 228, treats the episode as the outcome of United States policy backing American sealers' access to the South Atlantic; only the abstract was available for this book, so Gough is cited for the framing and not for detail.

12. Charles Darwin, *Journal of Researches*, and the Falklands sovereignty literature, for HMS *Clio* under Captain John James Onslow anchoring in Berkeley Sound on 2 January 1833 and HMS *Tyne* at Port Egmont. Accounts of how and when the two ships left Rio de Janeiro conflict with the Admiralty papers as cited by other writers on the dispute, so the voyage out is omitted here and only the arrival is stated.

13. For Onslow's meetings with the gauchos on 5 and 7 January 1833.

14. For the documentary position on who was removed in January 1833, which the sources state neutrally rather than as either side's case: an Argentine garrison of twenty-six men with eleven women and eight children, which arrived on 6 October 1832 in the schooner *Sarandi* and left on 4 January 1833; the mutiny of 30 November 1832, in which some of that garrison murdered their own commanding officer, Major Esteban Mestivier; four civilians leaving of their own accord; the remaining civilian population, mostly gauchos from what is now Argentina and Uruguay, staying; and Onslow's record that the gauchos were dissatisfied with their wages and that the inhabitants asked him to seek grants of land for them. Onslow's report is in the Admiralty papers, PRO Adm 1/2276, as cited in the sovereignty literature; the *Dictionary of Falklands Biography* independently dates the murder of Mestivier to 30 November 1832. The facts in this note are not what the two sides disagree about; what they disagree about is what the facts amount to.

15. Onslow's orders, quoted in the British case, instructing him not to disturb inhabitants in "agricultural or other inoffensive employments."

16. The Argentine case as made by Marcelo G. Kohen and Facundo D. Rodriguez, for the population of the islands in January 1833 being Argentine and under Argentine authority.

17. Graham Pascoe, "Falklands Facts and Fallacies: Setting the Record Straight," *Falkland Islands Journal* (2021): 201 to 212, which prints the Kohen and Rodriguez critique with Pascoe's replies interpolated, so that both readings of each document appear on the same page. This is the most useful single text for a reader who wants the dispute in the participants' own words.

18. For the treaty concluded on 24 November 1849 and ratified in Buenos Aires on 15 May 1850, and for the two readings of its silence on the islands.

19. Darwin, *Journal of Researches* (1845), 121; 1839 edition, volume III, 139; manuscript *Beagle Diary*, page 380. For the arrival by the middle of the day on 20 September 1833 and the lodging with the English merchant Lumb.

20. Darwin, *Journal of Researches* (1845), 140, entry for 20 October 1833, for the landing at Las Conchas, the intention to ride the last twenty miles, finding himself to a certain degree a prisoner in a revolution, and reaching the city over the 20th and 21st.

21. Hernan Huergo's account of the Puerto Madero dispute, for Sir John Hawkshaw never having visited Buenos Aires. This is a partisan source, written by a descendant of the losing engineer, and the claim is carried at that strength. The *Memoria* of the Departamento de Ingenieros for 1886 would settle it and was not available for this book.

22. La Nacion, 27 April 2021, and Mantuano (2018), for the Chamber of Deputies approval of 26 June 1882, the enabling law of October 1882, and the 1884 contract with a twenty million peso ceiling. Three dates circulate for the enabling law and the chapter gives the month only.

23. Hernan Huergo, 8 to 9, for the Departamento de Ingenieros report of 25 February 1886 under Guillermo White, the Council of Ministers approval of 7 April 1886, and the resignations of Huergo and White accepted on 17 April 1886. Specific, dated and internally consistent, but from a partisan source.

24. Mantuano (2018), for the works of 1887 to the late 1890s and the resulting four docks, approximately seven thousand meters of quay, twenty-seven kilometers of rail, nine meters of depth and three floating cranes.

25. Mantuano (2018), for the 1907 tenders for Puerto Nuevo, works from 1911, inauguration in 1919, and Puerto Madero continuing in use until about 1925. On cost, Mantuano gives thirty-five million pesos and Hernan Huergo gives more than fifty million; the two have not been reconciled and both figures are given.

26. Michael Pearson, "Conservation Challenges in the South Shetland Islands, Antarctica," Australia ICOMOS Extreme Heritage Conference (2007), 1, for the sighting of the South Shetlands by William Smith on 19 February 1819 while on passage from Buenos Aires to Valparaiso in the brig *Williams*; and Government of the British Antarctic Territory, "Two hundred years since the

discovery of the South Shetland Islands" (19 February 2019), for the mid-January departure and the unusually southerly course.

27. Pearson (2007), 1, for sealing captains based in Buenos Aires searching for the new islands before Smith's discovery was officially confirmed.

28. Joshua Slocum, *Sailing Alone Around the World* (1900), for shortening the *Spray*'s mast by seven feet and her bowsprit by about five feet at Buenos Aires, sailing on 26 January 1896, and entering the Strait of Magellan on 11 February 1896.

Chapter 2: Puerto Madryn: A Survey Recommends a Colony

1. Robert FitzRoy, *Narrative of the Surveying Voyages of His Majesty's Ships Adventure and Beagle*, volume II (London: Henry Colburn, 1839), 305 to 306, for the hired schooners *Paz* and *Liebre* entering New Bay on 10 and 11 February 1833, and for the *Liebre* being carried within a fathom of a rock in a tidal race on the night of the 10th. Public-domain primary text.

2. FitzRoy, *Narrative*, volume II, 306, for the west shores of New Bay appearing fit for cultivation, the fine dark soil, the firewood, the ponds of good water over a clay bed and the cattle tracks. Public-domain primary text.

3. FitzRoy, *Narrative*, volume II, 306, for Lieutenant Wickham's discovery of the river Chupat on 24 February 1833 and the anchoring half a mile inside the entrance. Public-domain primary text, quoted in full.

4. FitzRoy, *Narrative*, volume II, 306, for the river being shoal and narrow, few places deeper than six feet at low water or wider than a hundred yards.

5. FitzRoy, *Narrative*, volume II, 309, for Wickham and his party leaving the Chupat on 3 March 1833.

6. Darwin, manuscript *Beagle Diary*, 17 April 1833, manuscript pages 311 to 312, for the brief landing in the Bay of San Jose and the fossil shells. Darwin had no part in the survey of Golfo Nuevo and never landed there. The Bay of San Jose is roughly a hundred kilometers north of Golfo Nuevo.

7. FitzRoy, *Narrative*, volume II, 308, for the recommendation of the west side of New Bay as an excellent situation for a settlement, ships of any burthen anchoring in safety, and communication with the interior by flat-bottomed boats or barges. Verified against the 1839 printed scan rather than taken from a transcription. Public-domain primary text.

8. FitzRoy, *Narrative*, volume II, 309, for the speculation about a communication across the continent to Chiloe and the diffusion of Christianity, civilization and commercial intercourse.

9. Whether Lewis Jones or Love Jones-Parry read FitzRoy's *Narrative* is unresolved and is recorded as an open question for this book. Lewis Jones's diaries of 1862 to 1863 are at the National Library of Wales, NLW MS 12198A and 12199A, with his correspondence at NLW MS 12204E. None of them was read for this book. The 1839 publication and the 1865 landing are both firmly dated; the link between them is not evidenced.

10. For the colony as the project of the Reverend Michael D. Jones and his aim of a Welsh-speaking settlement free from assimilation.

11. R. Bryn Williams, "Jones, Lewis (1837 to 1904)," *Dictionary of Welsh Biography* (1959), for the 1862 journey of Lewis Jones and Captain T. Love Jones-Parry to Buenos Aires, the reconnaissance of the coast in the *Candelaria*, being driven into the bay by a storm, and the naming of Porth Madryn after Jones-Parry's estate.

12. Williams, "Jones, Lewis," *Dictionary of Welsh Biography*, for the characterization of Lewis Jones's report as so favourable as to be misleading. Short phrase from a secondary source, quoted once.

13. *Dictionary of Welsh Biography* entry on Edwyn Cynrig Roberts (1837 to 1893), for Roberts and Lewis Jones being in Buenos Aires in March 1865, the Argentine government failing to deliver the aid it had promised the colony, their arrival at Patagones on 24 May and at New Bay on 14 June 1865, and the Red Dragon flown on the shore for the arriving *Mimosa*.

14. For the *Mimosa* as a converted tea clipper, her departure from Liverpool on 28 May 1865 under Captain George Pepperell with a crew of eighteen, and the landing at Punta Cuevas on 28 July 1865. The dates are well supported.

15. People's Collection Wales, for the passenger breakdown of a hundred and fifty-three: fifty-six married adults, thirty-three single or widowed men, twelve single women and fifty-two children. Figures of a hundred and fifty and a hundred and sixty-two also circulate. The itemized figure is preferred here because it is itemized, not because the sources agree.

16. People's Collection Wales, for the two thousand five hundred pounds to hire and convert the vessel and the twelve pound adult fare.

17. Sergio Andres Kaminker, "El Puerto Madryn olvidado: los prolegomenos del crecimiento urbano (1865 to 1970)," *Estudios Socioterritoriales* no. 25 (2019), for the party leaving the landing place for want of water and arable land and moving to the lower Chubut valley.

18. *Dictionary of Welsh Biography* entry on Edwyn Cynrig Roberts, for Roberts leading a group of the younger settlers on 1 August 1865 to an empty fortress on the river they called the Camwy, and naming it Caer Antur.

19. For the sea being the only practical access to the Chubut valley in this period.

20. People's Collection Wales, "History of Y Wladfa," for the settlers meeting the Tehuelche about a year after arrival, the early suspicion giving way to cordial relations, the supply of meat in hard winters and the teaching of guanaco and rhea hunting.

21. For the counter-argument that the friendship was real in places and also helped legitimize settler colonialism, and for the trilingual exhibition of 2024 that set out to challenge the myth of friendship. The counter-argument is reported here as an argument that exists in the literature and in the exhibition, not as a settled finding.

22. For the ambush of 4 March 1884, the deaths of three of the four men, and John Daniel Evans escaping on the horse Malacara.

23. The names of the three men killed are inconsistent across the available accounts, and the cacique usually named in connection with the attack, Foyel, was a Mapuche cacique rather than a southern Tehuelche, which makes the common attribution of the ambush to the Tehuelche doubtful. Treated here at low confidence. The records most likely to settle it are the Archivo Historico Provincial del Chubut in Rawson, the Gaiman museum, and the National Library of Wales Patagonia collections.

24. For the railway concession of 1884 to the Welsh immigrant Lewis Jones under Ley 1539.

25. Kaminker (2019), for the first stable settlement of 1886 being tied to railway construction, with about a hundred single men beginning the works.

26. Kaminker (2019), for the Puerto Madryn to Trelew section finished in 1887, the first full run with passenger carriages on 27 April 1888, and the official inauguration on 12 June 1889 after a postponement from 25 May. The 1888 and 1889 dates are two different events and are sometimes presented as a single disputed date; they are not in conflict.

27. Kaminker (2019), for the establishment of a maritime sub-office at Puerto Madryn on 1 January 1888 under Pedro Derbes, dependent on the Chubut sub-prefecture. The same article is the source for the street plan and the municipal corporation in the following note.

28. Kaminker (2019), for the line of about seventy kilometers, the Luis Piedrabuena pier finished in 1910, the urban plan laid out by the engineer Allan Lea in 1906, and the creation of the Corporacion Municipal in 1909. The same article records the establishment of a maritime sub-office at Puerto Madryn on 1 January 1888 under Pedro Derbes.

29. Kaminker (2019) states that no port traffic or wool export figures for Puerto Madryn were collected. The Memorias of the Argentine Ministerio de Agricultura and the Prefectura Maritima records for the Chubut sub-office are the places such figures would live.

30. No named supply vessel between the *Mimosa* of 1865 and the steamer *Vesta* of 1886 could be verified for this book. Two candidate vessels were pursued and neither could be confirmed, so neither is named here. The National Library of Wales holds the colony's own records.

31. For the modern port having been built in connection with the ALUAR aluminium plant. The present state of the port, its cruise traffic and the works begun on the Muelle Almirante Storni belong to the last chapter of this book and are named here only to close the arc of the anchorage.

Chapter 3: Stanley: Where Ships Went to Stop Being Ships

1. For the *Actaeon* arriving damaged on 27 January 1853 with eight hundred tons of coal for San Francisco and being declared a wreck in 1854. Falklands Maritime Heritage Trust material. Not independently re-verified beyond the first round of research for this book.

2. Falklands Maritime Heritage Trust survey record, for the American packet ship *Charles Cooper* having been at Stanley since 1866.

3. Falklands Maritime Heritage Trust survey record, for the barque *Jhelum*, built 1849, reaching Stanley on 19 August 1870 in a leaky state, surveyed on 3 September 1870 and condemned. One secondary site gives 1890; the Trust's dates are better supported and are used here.

4. *Falkland Islands Magazine and Church Paper*, April 1913, a contemporary source, for the *Lady Elizabeth*: Sunderland-built iron barque of 1879, battered off the Horn on 23 February 1913 with four men lost and the deck cargo of Oregon pine gone, into Berkeley Sound on 12 March, striking a rock, towed in by the tug *Samson* on 15 March, condemned and sold to the Falkland Islands Company for three thousand three hundred and fifty pounds. She has lain in Whalebone Cove since breaking her moorings on 17 February 1936.

5. ssgreatbritain.org and National Historic Ships UK, for the SS *Great Britain* leaving Penarth on 8 February 1886 with coal and being damaged off Cape Horn.

6. The day of arrival at Stanley is given as 24, 25 or 26 May 1886 depending on the source. The Falklands Maritime Heritage Trust has her arriving late on 24 May and registered for repairs on 25 May, which is the most specific account and is preferred here. The disagreement is recorded rather than resolved.

7. National Historic Ships UK, for her service as a storage hulk, her use for wool until 1933, and for the account that she helped coal Sturdee's squadron in December 1914.

8. ssgreatbritain.org, for the scuttling in Sparrow Cove in April 1937, the refloating in April 1970, the arrival at Avonmouth on 23 June 1970 and the re-entry into the Bristol dry dock on 19 July 1970, a hundred and twenty-seven years to the day after her launch.

9. Falklands Maritime Heritage Trust, for the Finnish barque *Fennia* being dismasted off the Horn in May 1927 and kept at Stanley as a hulk for forty years. The continuation of the repair economy well past 1914 is the point of the citation.

10. For the Pacific Steam Navigation Company liner *Oravia* going aground on 12 November 1912 near the Cape Pembroke lighthouse at the entrance to Stanley. Sources differ on the name of the rock and no name is given here. The Falkland Islands Company agency correspondence on the loss, including the Receiver of Wrecks accounts, is in the Jane Cameron National Archives in Stanley at references FIC-WS-PSN-1-3, and was not read for this book.

11. Darwin, *Beagle Diary*, 1 March 1833, manuscript page 303 (Keynes 1988 edition, page 144), for the arrival; manuscript page 309 and FitzRoy, *Narrative*, volume II, page 282, for the departure on 6 April 1833. The 4 April date sometimes given belongs to the tender *Adventure*, not to the Beagle.

12. Darwin, *Beagle Diary*, manuscript page 434, and FitzRoy, *Narrative*, volume II, pages 327 and 335, for the second visit, 10 March to 7 April 1834.

13. Darwin, *Journal of Researches* (1845), page 188, which reads "March 1st, 1833, and again on March 16th, 1834". Both published editions give 16 March for the 1834 arrival. The manuscript diary and FitzRoy's narrative both give 10

March, and are preferred. A reader checking the *Voyage of the Beagle* will find the printed date, which is why the disagreement is stated in the text.

14. Darwin, *Beagle Diary*, 1 March 1833, for the astonishment at learning that England had taken possession and that the flag was flying. Public-domain primary text, quoted in full.

15. Darwin, *Beagle Diary*, manuscript page 303, for the wrecked French whaler on the beach; *Journal of Researches* (1845), page 227, for the wrecked ship in Johnson Harbour and the remains of two others.

16. FitzRoy, *Narrative*, volume II, page 266, for Berkeley Sound holding a large fleet and having coves suitable for repairs.

17. FitzRoy, *Narrative*, volume II, pages 248 to 249, for over twelve thousand wild cattle and four thousand horses by 1834.

18. *Dictionary of Falklands Biography*, entry by Alan Gurney updated by David Tatham, for the murder of Matthew Brisbane on 26 August 1833 together with William Dickson, Antony Wagner, Juan Simon and Ventura Pasos, by Antonio Rivero with five convicts and three gauchos; and for Brisbane's birth at Perth in 1797 and his landing at Port Louis on 30 May 1830.

19. Thomas Helsby's account, as given in the *Dictionary of Falklands Biography*, for Brisbane appearing to have been making towards his pistols before he fell. Short phrase from a secondary source, quoted once.

20. FitzRoy, *Narrative*, volume II, page 332, for finding Brisbane's feet protruding above the ground in March 1834.

21. *Dictionary of Falklands Biography*, for the reburial on 25 August 1842 by naval crews.

22. Darwin's diary entry on 10 March 1834, recording the acting governor's account of cold-blooded murder, robbery, plunder and suffering.

23. *Dictionary of Falklands Biography*, entry by David Tatham and Graham Pascoe, for Antonina Roxa: birth about 1807 in the River Plate area, arrival aboard the *Sarandi* on 6 October 1832, her companion being one of seven

men who murdered Commandant Mestivier on 30 November 1832 and were shot in Buenos Aires on 8 February 1833, her remaining when the *Sarandi* left on 4 January 1833, the refuge on Hog Island, Lieutenant Henry Smith allowing her every second calf in 1834, and her later lease of six thousand acres.

24. Marcelo G. Kohen and Facundo D. Rodriguez, pages 32 to 35, for Bougainville sailing from Saint-Malo on 15 September 1763, landing in early February 1764, beginning construction on 17 March and taking possession for Louis XV on 5 April 1764. Given here as part of the Argentine case on first occupation.

25. For the first cargo of seal products leaving the Falklands for France in 1766, shipped by the Saint-Malo settlers.

26. Kohen and Rodriguez, for McBride being ordered out on 26 September 1765 and entering Port Egmont on 8 January 1766; and for Byron's claim of 1765.

27. Public Record Office, London, FO 6/501, early translation of folio 14 recto, as printed in Pascoe and Pepper, for the Masseran declaration of 22 January 1771. Public-domain primary text of 1771. Both sides quote this clause.

28. For the two readings of the Masseran declaration: the Argentine reading that Spain restored Port Egmont alone and reserved sovereignty, and the British reading that an earlier draft reserving the Spanish king's prior right was refused, so that the final text reserved both positions. No verdict is offered.

29. For the Argentine argument of a verbal British promise in 1771 to evacuate Port Egmont, resting on Masseran's despatches to Grimaldi of 28 November and 3 and 9 December 1770 among others, and for Britain leaving Port Egmont in 1774 while leaving a plaque and a flag.

30. For the Nootka Sound Convention of 1790, the Treaty of San Lorenzo del Escorial of 28 October 1790 and the two readings of its Article VI.

31. Graham Pascoe, "Falklands Facts and Fallacies: Setting the Record Straight," *Falkland Islands Journal* (2021), pages 201 to 212, which prints the Kohen and Rodriguez critique with Pascoe's replies interpolated so that both readings of each document appear together.

32. Comision Verdad Historica y Nuevo Trato (2003), page 539, following Aylwin (1995), page 43, for the Chilean decision on pastoral colonization in 1883, the first concession to foreigners in 1885 of a hundred and twenty-three thousand hectares to Werhahn y Compania, and the six hundred sheep brought into it from the Falkland Islands.

33. For the Falkland Islands having had no indigenous population when Europeans arrived.

34. Sturdee's despatch, and the first round of research for this book, for the action off Coronel on 1 November 1914: von Spee's *Scharnhorst* and *Gneisenau* with light cruisers against Cradock's squadron, fire opened about seven in the evening, the *Good Hope* exploding about ten minutes to eight, no survivors from her or the *Monmouth*, the escape of the *Glasgow* and *Otranto*, and the death of Cradock. Casualty totals differ between accounts and none is given here.

35. For *Invincible* and *Inflexible* leaving Devonport on 11 November 1914 and reaching Stanley on 7 December.

36. Falkland Islands Museum and National Trust, "WWI Battles," for Christina Goss and Marion McLeod spotting the German fleet while out riding on the morning of 8 December 1914, their return to report it, the houseboy Albert Kiddle helping relay the ships' movements, Mrs Felton telephoning Stanley and being awarded an OBE described as the first to a Falkland Islander, and the Admiralty presenting the maids with a silver teapot. The National Archives gives the second maid's name as Marian Macleod and is more cautious about the OBE.

37. Falkland Islands Museum and National Trust, "WWI Battles," for Christian Andreasen, a Danish sailor in the islands since 1907 and a member of the Volunteer Force, sighting the fleet from Sapper's Hill, and for Sturdee's thanks and five pound note and the Admiralty's gold watch.

38. For the sinking of the *Scharnhorst*, with von Spee aboard, and the *Gneisenau* on 8 December 1914. The fates of *Canopus*, *Nurnberg*, *Leipzig* and the escape of the *Dresden* were not checked against the despatch for this book and are

not stated here; the *Dresden* reappears in the chapter on the Chilean channels.

39. Sofia Clara Haller, “Malvinas y el mundo: registros portuarios historicos de las islas (1826 to 1832 y 1842 to 1914),” *Prohistoria*, for the register of 4,644 records covering 1842 to 1914 held at the Jane Cameron National Archive, Stanley, and the anchorage registers in nine volumes reaching 1947. The annual series has been published only as a chart. No figure is estimated from it here.

Chapter 4: Ushuaia and the Beagle Channel

1. The name Ushuaia, and the variant spellings Ushuwia and Oshooia, occur nowhere in the six primary texts used for this book: Darwin’s manuscript *Beagle Diary*, his *Journal and Remarks* of 1839 and *Journal of Researches* of 1845, King’s and FitzRoy’s *Narrative* volumes of 1839, Pigafetta in Lord Stanley’s translation, and Slocum. A search of all six returned no hits.

2. Comision Verdad Historica y Nuevo Trato (2003), page 556 note 103, following Martinic, for the four Yaghan taken to England by FitzRoy in 1830: Boat Memory, York Minster, Fuegia Basket and Jemmy Button, whose Yaghan name was Orundellico.

3. For Boat Memory dying in England. His fate beyond the fact of his death is not documented in the sources read for this book, including FitzRoy’s own second volume, and no burial place is recorded here because none was found.

4. FitzRoy, *Narrative*, and Darwin, *Journal of Researches*, for the Beagle reaching Woollya on 23 January 1833, FitzRoy determining to settle the whole party including Matthews the missionary, and five days spent building three large wigwams. Public-domain primary text.

5. Darwin, *Beagle Diary*, for the boats re-entering the Beagle Channel on 28 January 1833.

6. Darwin, *Beagle Diary*, manuscript pages 293 to 294 and 298, for Richard Matthews being landed on 23 January 1833 and taken off again on 6 February 1833.

7. Darwin, *Journal of Researches*, for the doubt as to how far Matthews was qualified for so arduous an undertaking. Public-domain primary text.

8. FitzRoy, *Narrative*, for Jemmy Button coming aboard on 5 and 6 March 1834, having built a canoe and taken a wife, and bringing spear heads, arrows and two otter skins for old friends.

9. Darwin, for not at first recognizing Jemmy Button on the 1834 visit, about thirteen months after the landing at Woollya.

10. Darwin, *Journal of Researches*, for Jemmy's people having moved to escape raiders from over the mountains, whom Darwin identified with the foot-going Patagonians.

11. For the mission ship *Allen Gardiner* finding Jemmy Button at Wulaia in November 1855, still speaking English, and the South American Missionary Society taking him and his family to Keppel Island in 1858.

12. For the Wulaia killings of 1859: a party returning Yaghan men, Captain Robert Fell and most of the crew killed while holding a service ashore, the survival of the cook Alfred Cole, his naming of Jemmy Button as ringleader, and Jemmy's denial.

13. The date of the Wulaia killings is given as 1 November or 6 November 1859, with 6 November appearing more often in the sources. Neither is confirmed here.

14. For Allen Gardiner's party of seven sailing from Liverpool aboard the *Ocean Queen* on 7 September 1850, landing at Picton Island on 5 December 1850, and starving to death at Spaniard Harbour between June and September 1851. James Hamilton's *A Memoir of Richard Williams* (1854) prints Gardiner's and Williams's own journals from Spaniard Harbour with named deaths on named days; it was identified for this book but not read in full.

15. Comision Verdad Historica y Nuevo Trato (2003), pages 554 to 555, for the Yaghan diet: sea lion, otter and whale meat, with mussels, sea urchins and some fish, and on land guanaco, birds, fungi, berries and eggs.

16. For Waite Stirling living alone at Ushuaia in January 1869.

17. For Thomas Bridges, adopted son of George Despard and in charge at Keppel Island at seventeen, establishing the permanent Anglican mission at Ushuaia with George Lewis and their families in 1871.

18. Comision Verdad Historica y Nuevo Trato (2003), page 556, gives 1870 for Bridges being put in charge of the Ushuaia mission, against 1871 for the establishment of the permanent mission. The one-year variance is unresolved and is stated rather than silently decided.

19. For Bridges' dictionary of the Yamana language of more than thirty thousand words, completed in 1879, with only the Yamana to English portion published in 1933 by Hestermann and Gusinde at Modling in an edition of three hundred copies, and reprinted by Zagier and Urruty, Buenos Aires, in 1987.

20. Comision Verdad Historica y Nuevo Trato (2003), pages 556 and 559, for the grant to Thomas Bridges of forty hectares of Picton Island in 1896 for a sawmill, later extended.

21. Martin Gusinde, *Hombres primitivos de Tierra del Fuego* (1951), page 119, as cited in Comision Verdad Historica y Nuevo Trato (2003), page 552, for the reconstruction of about three thousand Yaghan from roughly four hundred and fifty canoes at six people each. This is an inference from navigable coastline, not a count, and Gusinde said so.

22. Gusinde, *Los indios de Tierra del Fuego*, as cited in Comision Verdad Historica y Nuevo Trato (2003), page 556, for Thomas Bridges giving three thousand for 1850 and no more than two thousand five hundred for 1869. A missionary's retrospective estimate.

23. Isabel N. Kantor, "La desaparicion de onas y yaganes," *Medicina (Buenos Aires)* 82 (2022), page 564, drawing on E. Lucas Bridges, for the departure of the *Villarino*, *Comodoro Py* and *Parana* from the new lighthouse station at Ushuaia for Punta Arenas in October 1884 with seven young Yaghan who all sickened and died on the voyage, for the measles at Ushuaia, for the death of every Yaghan child in the mission orphanage, and for about half the

population dying with most of the survivors following within two years. The mortality fraction rests on Bridges' memoir and is carried at that strength.

24. For the sequence of counts: Bridges' census of 1886 at either three hundred and ninety-seven or four hundred and seven, the two figures unreconciled and neither checked against Bridges' own return; around a hundred by about 1905 on the mission superior John Williams's reckoning; fewer than a hundred by 1916; about seventy on Gusinde's 1923 estimate; and sixty-three people in 1946, nineteen of them with no record of mixed descent, per Lipschutz and Mostny (1950).

25. Comision Verdad Historica y Nuevo Trato (2003), pages 556 to 559, citing Gusinde, pages 300 to 307, for the causes of decline listed separately: epidemic disease and above all the 1884 measles outbreak; sedentarization at the mission, with closed and badly heated housing producing cold, damp and overcrowding and the imposition of heavy European clothing never changed or washed; abrupt change of diet and eating hours; and loss of territory as the islands on both sides of the channel passed into private hands.

26. For the death of Cristina Calderon on 16 February 2022, aged ninety-three, as the last person to have learned Yaghan as a mother tongue.

27. For the Argentine presence established at Ushuaia in 1884.

28. For the first jail of 1896, the mutiny at the military prison on Isla de los Estados in 1902, the laying of the cornerstone of the civil Presidio on 15 September 1902 under director Catello Muratgia, and the 1911 merger of the military prison with the Carcel de Reincidentes.

29. For the Presidio holding three hundred and eighty-six single cells against more than six hundred prisoners in 1920.

30. For the closure of the Presidio by decree of President Juan Domingo Peron on 21 March 1947.

31. For the Museo Maritimo opening in 1994 and the designation as a Monumento Historico Nacional in 1997.

32. For Ushuaia seeing two or three ships a month at the end of the nineteenth century, a very small fraction of the traffic at Punta Arenas in the same years.

Chapter 5: Garibaldi and the Ice

1. Darwin, manuscript *Beagle Diary*, entry for 29 January 1833, manuscript pages 296 to 297, EH88202366, transcribed on Darwin Online. Public-domain primary text, quoted in full. The date is 29 January in the manuscript diary and in both published editions; no 20 January reading exists in any of the texts, contrary to an error that circulates.

2. Darwin, *Beagle Diary*, 29 January 1833, for the seaman catching the boat as the curling breaker reached it, being knocked over and over without injury, and the boats taking no damage.

3. FitzRoy, *Narrative*, volume II, pages 216 to 217, for the account of the fall of the ice cliff, the rolling waves, and the statement that had not Mr Darwin and two or three of the men run to the boats instantly they would have been swept away irrecoverably. The 1845 Darwin text gives the distance from the ship as a hundred miles and notes the party would have been left without provisions or firearms. Public-domain primary text.

4. FitzRoy, *Narrative*, volume II, page 217, for naming Darwin Sound on the following day, the 30th, after his messmate.

5. FitzRoy, *Narrative*, volume II, pages 215 to 216, for Mount Darwin at six thousand eight hundred feet and its immense glaciers.

6. FitzRoy, *Narrative*, volume II, page 217, for the inference from the wave to the transport of boulders by ice and water.

7. Darwin, *Narrative of the surveying voyages. Journal and remarks* (1839), volume III, page 243, which dates the day as the 29th and omits the wave entirely, running on from the glaciers to the western mouth of the channel; and *Journal of Researches* (1845), pages 224 to 225, which adds the episode. The omission in 1839 and the addition in 1845 were both verified against the texts for this book.

8. Darwin, *Journal of Researches* (1845), page 224, for glaciers reaching the sea at fifty-six degrees south where in Norway they do not at seventy.

9. No georeferenced glacier terminus position for the Beagle Channel exists in the records left by King, FitzRoy or Darwin, and none was found in the glaciological literature consulted for this book. Accordingly no nineteenth-century change figure is given for any glacier in this channel. Descriptions of ice reaching the water are described positions, not measured ones, and are not convertible into a rate.

10. The bay in which the wave occurred has never been identified with Seno Garibaldi or with any named glacier. The two are frequently joined in popular accounts and the sources do not support the join.

11. The measured record of frontal variation at Garibaldi begins in 1945, from aerial photography, Landsat and ASTER imagery.

12. A. K. Melkonian, M. J. Willis, M. E. Pritchard, A. Rivera, F. Bown and S. A. Bernstein, “Satellite-derived volume loss rates and glacier speeds for the Cordillera Darwin Icefield, Chile,” *The Cryosphere* 7 (2013), pages 823 to 839, at page 833, for the comparison of a WorldView image of 27 September 2011 with an ASTER image of 13 September 2003 showing an advance of more than one kilometer between 2003 and 2011, and at page 828, figure 3, for the frontal variation history.

13. Franziska Temme and colleagues, “Climate’s firm grip on glacier ablation in the Cordillera Darwin Icefield, Tierra del Fuego,” *Nature Communications* 16, article 2677 (2025), page 2, DOI 10.1038/s41467-025-57698-6, for the largest advance in the icefield, around two kilometers, at Garibaldi, over the simulated period 2000 to 2023. The advance figure comes from glacier inventories shown in the paper’s supplementary material, not from a field survey.

14. Temme and colleagues (2025), for climatic ablation across the Cordillera Darwin Icefield of about 4.17 gigatons a year plus or minus 1.48, approximately seventy-four percent of the total, and frontal ablation of about 1.44 gigatons a year plus or minus 0.94, approximately twenty-six percent.

15. Temme and colleagues (2025), page 2, citing Lopez and colleagues (2010), for Marinelli Glacier experiencing an extreme recession of 12.2 kilometers between 1945 and 2005, derived from historical maps based on 1945 aerial photographs compared with ASTER and Landsat imagery. Another study gives about 15 kilometers for 1945 to 2003; the 12.2 kilometer figure is preferred here because its method and period are stated.

16. Melkonian and colleagues (2013), pages 834 to 835 and figure 12, for the accumulation area ratios: about eighty-nine percent for Garibaldi against thirty-nine percent for Marinelli at an equilibrium line altitude of six hundred and fifty meters, and eighty-two percent for Garibaldi after a two hundred meter rise in that line.

17. Temme and colleagues (2025), page 6, for the high central plateau above two thousand meters, an accumulation area ratio between seventy-two and eighty-eight percent against an icefield average of sixty-one percent, and a southward exposure reducing surface ablation.

18. No published model projecting the Garibaldi terminus was located, and no funded monitoring program or new survey of the glacier was found for 2026 or 2027. Note that ice-volume projections under the SSP1-2.6 and SSP5-8.5 scenarios which circulate in connection with Patagonian ice apply to the Northern Patagonian Icefield, not to the Cordillera Darwin, and the authors of that work warn against trusting global models for these icefields; those figures are therefore not applied here.

19. Luis Risopatron, *Diccionario jeografico de Chile* (Santiago: Imprenta Universitaria, 1924), entries for Garibaldi (Monte) and Garibaldi (Puerto). The mountain is given at about fifty-four degrees twenty-five minutes south, seventy degrees fifty-seven minutes west, eight hundred meters, a short distance west of Monte Sarmiento, with source references to Bove's *Expedicion Austral Argentina* (Buenos Aires, 1883) and to Martial and Hyades, *Mission Scientifique du Cap Horn 1882-1883*. The port is given on the north coast of the northwest arm with source references to the Chilean *Mapa de Chile* of 1910 and the *Derrotero Argentino*, second edition (Buenos Aires, 1917), page 379. The two features lie roughly eighty kilometers apart, so the

Bove and Martial attributions cannot be transferred from the mountain to the fjord.

20. The neighboring toponymy of the northwest arm derives from the French *Romanche* expedition of 1882 and 1883. Giuseppe Garibaldi died on 2 June 1882, three months before that ship reached Orange Bay on 6 September 1882, so a French naming for a recently dead republican hero is chronologically possible. No source states that this is what happened. The inference is offered as a guess and is labeled as one.

21. United States Hydrographic Office, *South America Pilot*, volume II (Washington: Government Printing Office, 1916), pages 226 and 228, for the two mentions of Port Garibaldi, northbound and southbound, both as a landmark with no anchoring directions. Public-domain primary text.

22. Risopatron (1924), for Puerto Garibaldi as a port of good sheltered anchorages with sandy beaches, on the north coast of the western part of the northwest arm, with a large glacier at its head whose meltwater runs to the sea.

23. No named vessel is recorded as having anchored in Seno Garibaldi before the cruise era. The *Anuario Hidrografico de la Marina de Chile* and the logs of the Chilean Navy's Beagle Channel patrols are the places such a record would live.

Chapter 6: Punta Arenas: The Boom Town on the Strait

1. For the founding of Fuerte Bulnes in 1843 and the move to the site of Punta Arenas in 1848.

2. For the mutiny led by Lieutenant Miguel Jose Cambiaso on the night of 21 November 1851 and the shooting of Governor Benjamin Munoz Gamero. English-language reference works date Munoz Gamero's death to 3 December 1851; the mutiny itself began on 21 November.

3. For Bernardo Philippi, previously a colonization agent, serving as governor and being killed in October 1852.

4. Mateo Martinic's narrative account, for 303 ships entering the port in 1896 with register weight above six hundred thousand tons.

5. The figure of 321 vessels for 1896 derives from a contemporary table reproduced in Martinic and Fernandez, *Faros del Estrecho de Magallanes*, which is only partly legible. Martinic's own narrative gives 303 and is preferred. The discrepancy is stated because the higher figure is in circulation.

6. Martinic and Fernandez, *Faros del Estrecho de Magallanes*, for the Pacific Steam Navigation Company, Kosmos, Lamport and Holt, Chargeurs Reunis and Hamburg-Sud calling at the port at not fewer than twenty arrivals a month.

7. Joshua Slocum, *Sailing Alone Around the World* (1900), chapter VII, for his arrival at Sandy Point on 14 February 1896, the coaling station of about two thousand people living off sheep farming, gold mining and hunting, and the port being free with a customhouse under construction. Public-domain primary text. Slocum's observation predates the customs law of April 1912 by sixteen years.

8. Slocum, *Sailing Alone Around the World*, chapter VII, for the governor having sent a party against a Fuegian settlement in reprisal for the massacre of a schooner's crew shortly before his arrival, and for the port captain's advice to ship hands to fight Indians.

9. Slocum, *Sailing Alone Around the World*, chapter VII, for Captain Pedro Samblich giving him a bag of carpet tacks with the advice to use them with discretion, and for their use on deck on the night of 8 March 1896.

10. Alberto Fagalde, *El puerto de Valparaiso y sus obras de mejoramiento* (Santiago, 1903), printed page 9, for 401 entries and 397 clearances at Punta Arenas in 1901. The 1900 row for Punta Arenas in the same table is blank, because the port was not then counted in the national nomenclature except as a free port, which is the structural reason the series is broken before 1912.

11. For the port's maritime and mercantile activity reaching its highest point in 1913 with 1,539 ships of all origins.

12. Rodolfo Urbina B., review of Mateo Martinic Beros, *Punta Arenas Siglo XX* (GEOPARK, Punta Arenas, 2013), in *Magallania* 42, no. 1 (2014), pages 207 to 209, with the figure on page 208 and the reader directed to pages 161 to 174 of Martinic's book. Urbina does not state Martinic's underlying source, and the book was not available for this one, so the figure is attributable but not traceable to its root. It is also unclear whether it counts arrivals only or arrivals and departures, which matters for any comparison with the 1901 table.

13. For the introduction of customs at Punta Arenas in April 1912, ending the free port.

14. Ricardo Santana F., "El desarrollo del comercio internacional del puerto de Punta Arenas (Chile), 1905-1914," *Magallania* 45, no. 1 (2017), for calls falling from 152 in the first half of 1914 to 47 in the first half of 1915.

15. For Martinic's statement that merchant ships stopped appearing from 1919.

16. Annual Report of the Governor of the Panama Canal for the fiscal year ended 30 June 1924, table of commercial traffic classified by leading trade routes, printed page 7. The four routes running between the Atlantic and the west coast of South America together account for 1,147 ships and 5,082,638 tons of cargo, 18.7 per cent of all canal cargo that year by the report's own percentage column. The summation across the four printed rows is arithmetic from the report, not a figure printed in it. Public-domain primary text.

17. Comision Verdad Historica y Nuevo Trato (2003), page 539, following Aylwin (1995), page 43, for the 1883 decision on pastoral colonization, the 1885 concession of a hundred and twenty-three thousand hectares to Werhahn y Compania, and the six hundred sheep brought into it from the Falkland Islands.

18. For the 1889 concessions of a hundred and eighty thousand hectares to Jose Nogueira and a hundred and seventy thousand to Mauricio Braun, and the

1890 lease to Nogueira. The 1890 lease is given as about one million three hundred thousand hectares by the Museo de Magallanes, which is preferred here over a lower figure of about one million nine thousand hectares that also circulates.

19. For the constitution of the Sociedad Explotadora de Tierra del Fuego in 1893.

20. Comision Verdad Historica y Nuevo Trato (2003), page 541, for Father Jose Fagnano in 1895 asking the board of the Sociedad Explotadora to pay for each Selk'nam transported from the estancias to his mission, and the company agreeing on one pound sterling.

21. Manuel Senoret, *Memoria* of 1896, "La Tierra del Fuego y sus naturales," reprinted as Documento number 5 in Vega and Grendi, *Vejamenes Inferidos a Indigenas de Tierra del Fuego*, volume III (CONADI, Punta Arenas, 2002), page 52, as cited in the commission report at page 541 note 64. This is the source of the payment claim; it is a governor's published annual report, not company minutes. The original minute book of the Sociedad Explotadora for 1895 could not be located for this book and is probably in the Archivo del Instituto de la Patagonia at the Universidad de Magallanes.

22. Comision Verdad Historica y Nuevo Trato (2003), pages 541 to 542, for the Dawson Island mission founded in 1888 and leased to Fagnano by decree of 11 June 1890 for twenty years.

23. For more than eight hundred Selk'nam reaching Dawson between 1894 and 1898, and for the cemetery there eventually holding eight hundred graves, the latter from Emperaire as quoted in the commission report.

24. Leonor Riesco, "Lecciones y proyecciones del Sumario sobre vejamenes inferidos a indigenas de Tierra del Fuego (1895-1904)," Servicio Nacional del Patrimonio Cultural (2021), at PDF page 19, for the statement that the payment of one pound for a head, a nose or a pair of ears, attributed to Cameron, was spoken of in the sources as speculation rather than established in the record. Joseph Emperaire's assertion that each dead Indian was also the object of a premium is given in the commission report at page 546. Both are stated here at their actual strengths.

25. Riesco (2021), for Alexander Allan Cameron Reid capturing Selk'nam at the San Sebastian estancia on 5 July 1895 with four laborers, for the cattle raid on the night of 13 January 1896 in which seven Selk'nam were taken, and for the prisoners killing their guards on 18 January 1896.

26. For Governor Senoret sending a hundred and sixty-five Selk'nam to Punta Arenas, the separation of the children from their parents on arrival and their distribution among local families.

27. Riesco (2021), for the letter signed I.D. published in *El Chileno* on 8 and 9 November 1895 under the title "Caceria de indios, escenas de sangre."

28. Riesco (2021), citing the Sumario at folio 1 verso, for the Valparaiso Appeals Court sending its official request to the court at Magallanes on 9 November 1895, the day after the first instalment of the letter appeared.

29. *Sumario sobre vejamenes inferidos a indigenas de Tierra del Fuego* (1895 to 1904), Fondo Judicial de Punta Arenas, Archivo Nacional Historico, Santiago, four hundred and eight folios of which rather more than twenty are missing. Digitized by the Museo Regional de Magallanes and transcribed by the Universidad de Magallanes.

30. Riesco (2021), for the prosecuting promoter Hernando Adriasola seeking definitive dismissal in January 1897 while admitting that abuses had occurred, particularly the removal of children.

31. Riesco (2021), citing the Sumario at folios 335 to 378 verso, for Judge Waldo Seguel decreeing the absolution of all five accused on 29 February 1904: Alexander Allan Cameron Reid, Jacob Nielsen Nielsen, Mathias Mattson Lazo, Gregorio Prado Vergara and Kenneth McLeod Heny.

32. Riesco (2021), citing the Sumario at folios 378 to 378 verso, for the grounds of the acquittal: that Parliament had not positively defined the legal condition of the indigenous people, that the government had shown no greater interest in regulating the use and ownership of Fuegian territory, that the only man accused of mistreatment at Punta Arenas had died during the investigation,

and that the other five had acted legitimately in self-defense under article 10 of the Penal Code.

33. Riesco (2021), citing the Sumario at folio 406 verso, for the Valparaiso Appeals Court ministers ratifying the acquittal on 10 October 1904.

34. Comision Verdad Historica y Nuevo Trato, *Informe*, volume I, chapter on the indigenous peoples of the far south, page 525, for the opening characterization of the events as the greatest tragedy committed against indigenous peoples in Chilean territory, a process of extermination, and a genocide, and for the attribution of the physical elimination of the Selk'nam and much of the Aonikenk, Kawesqar and Yagan to the state's concession policy and the introduction of sheep. The report was delivered to President Ricardo Lagos on 28 October 2003.

35. Mateo Martinic, "El genocidio Selk'nam: nuevos antecedentes," *Anales del Instituto de la Patagonia* 19 (1989), pages 23 to 28, which presented partly unpublished information on abuses during the late nineteenth-century pastoral settlement.

36. For Martinic's letter to the editor of *La Prensa Austral*, Punta Arenas, of 30 July 2019, rejecting the notion of an organized extermination as absolutely lacking historical support and emphasizing the diseases brought by outsiders. Read for this book through a newspaper report of the letter rather than in the original.

37. For Alberto Harambour's reply that a genocide includes forced displacement and that the diseases formed part of the conquerors' domination.

38. For the population estimates: three thousand five hundred to four thousand at the end of the nineteenth century with about half on the Chilean side (Comision Verdad Historica y Nuevo Trato); about three thousand five hundred around 1860 (Gusinde); two thousand in 1891 (Popper and Cooper); one thousand five hundred in 1894 (Senoret); and twelve hundred to fifteen hundred for 1891 to 1894 (Martinic).

39. For Chile's Ley 21.606, published on 19 October 2023, adding the Selk'nam to article 1 of the Indigenous Law. One source gives 11 October 2023 for the promulgation; the Diario Oficial record is the authority and was not reached for this book.

40. Ernest Shackleton, *South!* (1919), chapter XI, for the fourth relief attempt going out from Punta Arenas in the Chilean government tug *Yelcho* under Luis Pardo and taking the twenty-two men off Elephant Island on 30 August 1916. Public-domain primary text. Regional journalism reports that Pardo refused a reward; that detail rests on regional press and is not carried here as established.

41. For the attack on the Federacion Obrera de Magallanes in 1920.

42. Martinic and Fernandez, *Faros del Estrecho de Magallanes*, for the establishment of the Evangelistas light at the western entrance of the Strait in 1896 under the engineer George Slight.

43. Directemar, *Boletin Estadistico Maritimo*, Edicion 2025, section 4.4, page 66, and Edicion 2026, section 4.3, page 51, for 2,775 sightings of major vessels in the Strait of Magellan in 2024 and 2,394 in 2025. The comparison with 1913 is one of absolute numbers only; the share of world seaborne trade is a separate question and belongs to the final chapter.

Chapter 7: The Inside Channels

1. Phillip Parker King, *Narrative of the Surveying Voyages of His Majesty's Ships Adventure and Beagle*, volume I (1839), for the survey of the inner channels from the Strait of Magellan to the Gulf of Penas between 1826 and 1830 by the *Adventure*, the *Beagle* and the schooner *Adelaide*. Public-domain primary text.

2. King, *Narrative*, volume I, page 259, for Smyth Channel being named as a compliment to Captain W. H. Smyth of the Royal Navy, under whom Lieutenants Skyring and Graves had both served while surveying the Mediterranean. The naming is given as 1829; the year was not verified from King's text for this book.

3. King, *Narrative*, volume I, page 335, for Lieutenant Kirke being away on 21 and 22 February 1830 seeking a passage, finding one and noting the tides, and the *Adelaide* sailing through on the 23rd and naming it the English Narrow. Skyring had been ill from the beginning of January 1830 and was confined to his bunk, and Mr Millar had died earlier in the cruise. Public-domain primary text.

4. King, *Narrative*, volume I, pages 335 and 569, for the English Narrow being *"long and intricate, chiefly formed by islands"*, with the distance across less than four hundred yards in three places, and no hazard with a fair wind and slack tide. A figure of about two hundred yards circulates; it is not King's and is not used here.

5. King, *Narrative*, volume I, for Skyring observing woodland east of the anchorage recently burnt over ten or twelve miles of shore.

6. King, *Narrative*, volume I, for a seaman of the survey being given a fire by two Kawesqar women in March 1830.

7. King, *Narrative*, volume I, page 150, for an American sealing schooner entering the Strait by the Cutler and Smyth Channels and reaching Port Famine in forty-eight hours, in July of 1828 or 1829. This undercuts the claim, taken from the *Challenger* narrative of 1885 and carried in this book's first round of research, that no vessel used the channels before HMS *Gorgon* in 1848.

8. For HMS *Gorgon* passing through the channels in 1848 and for regular steamship use from the 1860s and 1870s.

9. For the Pacific Steam Navigation Company's use of the Strait and the inner channels.

10. For HMS *Nassau* surveying the channels between 1866 and 1869, and for the narrative left by Robert Oliver Cunningham, the naturalist aboard her, which includes Eden Harbour. Whether the *Nassau* named Eden Harbour in 1868 could not be established; Richard Charles Mayne's survey reports at the UK Hydrographic Office in Taunton would settle it. The calendar years of

Cunningham's Eden Harbour and English Narrows passages are also unresolved, because his narrative gives days and months without years in the relevant chapters; the log of HMS *Nassau* at The National Archives would fix them.

11. United States Hydrographic Office, *South America Pilot*, volume II (1916), pages 388 and 440, for Eden Harbour as the first-named anchorage at which large vessels waited for slack water before passing the English Narrows, and page 387 for the warning against attempting the passage with both wind and tide when the wind is strong. Public-domain primary text.

12. For the Chilean Navy's marking of the channels and for compulsory pilotage. The present regime rests on the Ley de Navegacion of 21 May 1978 and Decreto Supremo (M) 397 of 1985. Nothing earlier on the history of channel pilotage surfaced in the sources available for this book; the Archivo Nacional de Chile and the Direccion General del Territorio Maritimo are where it would be.

13. For the Greek-owned cargo motor vessel *Captain Leonidas*, built in 1937, running aground on the Bajo Cotopaxi in the Messier Channel on 7 April 1968. This rests on a single source and is carried at that strength.

14. For the Kawesqar as sea nomads of the channels between the Gulf of Penas and the Brecknock peninsula.

15. For the Kawesqar distinction between the calmer inner channels and the outer coast. The two terms recorded for these sea areas were not checked against Oscar Aguilera's Kawesqar dictionary for this book.

16. King, *Narrative*, volume I, pages 345 to 346, for the survey meeting fewer than twenty human beings in four or five hundred miles. This is an encounter rate recorded by an armed survey party from ships, not a population estimate, and is not used as one here.

17. For violence by sealers and otter hunters from the late 1860s, the punitive expedition of 27 March 1873 ordered by Governor Oscar Viel to the Rio Agua Fresca, and the removal to Dawson Island on 19 July 1897.

18. For the eleven Kawesqar taken to Europe in 1881 and shown in a circuit of cities, of whom six died, and for the return of five skeletons from Zurich on 13 January 2010. Whether those remains were buried on Karukinka or at an undisclosed site is disputed between sources and is not stated here.

19. Jose Aylwin's survey of the mid-1990s, as reported in the Comision Verdad Historica y Nuevo Trato (2003), for a total of a hundred and one Kawesqar, with twelve at Puerto Eden, sixty-four at Punta Arenas and twelve at Puerto Natales.

20. Joseph Emperaire, *Los nomades del mar*, pages 126 to 128, as quoted in the Comision Verdad Historica y Nuevo Trato (2003), pages 576 to 577, for Lautaro Eden Wellington: sent to Santiago about 1940 at about ten years old, returning in 1947 as an aviation mechanic and the President's godson without recognizing his parents, returning again in 1949 as a radio operator, leaving with a Kawesqar woman under a Kawesqar name, and drowning with his hunting party in the Baker estuary in early 1953. Wellington's own account appeared in *Noticias Graficas de Magallanes* on 22 February 1951 and is reprinted in Carlos Vega, *Cuando el cielo se oscurece* (Punta Arenas, 1995), annex 10, page 184.

21. For SMS *Dresden* lying on the east side of Picton Island on 3 December 1914 for partial bunkering and departing after a commanders' conference on 6 December.

22. For the *Dresden* at Sholl Bay negotiating her stay with a Chilean naval representative, and for HMS *Kent* reaching Punta Arenas within hours of her departure.

23. For the shift in late January 1915 to an uncharted cove on Isla Santa Ines, recorded as Hewett Bay in the German log material, with the German pilot Harry Rothemburg aboard. This rests on a single chain of sources and is flagged accordingly.

24. The claim that the *Dresden* used the Quintupeu fjord rests on local tradition, and the citation trail for the Albert Pagels material leads to a travel website rather than to a document. Neither is carried here as established.

25. Matthias Strauss (2008), working from the report Pagels wrote in 1915, held in the Bundesarchiv-Militaerarchiv at Freiburg, concludes that Pagels never piloted the *Dresden* and never hid her. The ship's own war diary, the *Kriegstagebuch*, is in the same archive and would settle the anchorages and the Pagels question together; it was not read for this book.

Chapter 8: Puerto Montt: Clearing the Ground

1. For Bernhard Philippi reporting Melipulli as having about thirty huts and two hundred people in 1842.

2. For Chilote timber-cutters working alerce at the site before the colonization program.

3. FitzRoy, *Narrative*, for Melipulli as an astillero, a timber-working station, with a descanso every two or three miles. Public-domain primary text.

4. Whether FitzRoy's astillero of Melipulli is the site of present-day Puerto Montt is not established. He gives no coordinates. Chilean local historiography of the alerce trade and the Memoria Chilena material on Melipulli would settle it, along with Perez Rosales's own account.

5. The name Llanquihue occurs nowhere in the six primary texts used for this book.

6. For the inauguration of the colony on 12 February 1853, a date the agent chose deliberately; the naming in homage to the author of the colonization law of 18 November 1845; the site at Callenel, a section of Melipulli on the north shore of the Reloncavi sound; the forest reaching down to the tidal strip; axe and fire clearing room for a poor shed; and the first stone laid in 1852.

7. For the supreme decree of 27 June 1853 creating the Territorio de Colonizacion de Llanquihue.

8. For the ship *Hermann* bringing the first large group of German colonists to Corral, in Valdivia, in 1850, and colonists reaching Llanquihue from 1852.

From the first round of research behind this book, graded moderate; the Chilean colonisation literature would confirm the date and port.

9. For Bernhard Philippi's appointment as colonization agent and his death in October 1852 while governor of Magallanes.

10. Vicente Perez Rosales, *Recuerdos del pasado*, for the offer of thirty pesos fuertes to Pichi Juan to burn the forests between Chanchan and the cordillera. Public-domain primary text; the agent's own account of his own act.

11. Perez Rosales, *Recuerdos del pasado*, for Pichi Juan lighting the fire at several points, the fire burning for three months, the sun over Valdivia being dulled, Pichi Juan surviving in the hollow root pit of a coigue, and the burnt country being reckoned afterward at about five leagues across by fifteen deep north of Lake Llanquihue.

12. Perez Rosales, *Recuerdos del pasado*, for his return to Valdivia to calm immigrants lodged provisionally for want of land.

13. The fire was in the forest between Chanchan and the cordillera, on the route from Valdivia to Llanquihue, and not at the Puerto Montt site, which was cleared with axe and fire for a shed. The two are frequently conflated. The date is given as about 1852.

14. Comision Verdad Historica y Nuevo Trato (2003), for the judgment that most of the German colonization did not directly affect land occupied by indigenous people, alongside evidence that the Llanquihue area was inhabited and that by 1870 or 1880 all the colony's land had been taken up so that new purchases were needed.

15. For Wilhelm Frick's 1850 report on the state lands of Valdivia declaring the north coast to be fiscal land despite evidence of indigenous occupation.

16. Comision Verdad Historica y Nuevo Trato (2003), for the mechanisms of dispossession from the 1870s: drink and signature, fomented lawsuits, the purchase of shares in communal land, and unpayable loans.

17. Comision Verdad Historica y Nuevo Trato (2003), for the thousand and one deeds of which seven hundred were drawn up before 1893; for share transfers rising from three hundred and fifty-four shares in the period 1788 to 1869 to four thousand eight hundred and seventy-nine in 1870 to 1879; and for only forty-one of six hundred and thirty-eight fundos in La Union being indigenous by 1907.

18. For the 1893 prohibition on private purchase and its extension to Valdivia, Llanquihue, Chiloe and Magallanes.

19. Comision Verdad Historica y Nuevo Trato (2003), for the judgment that the Huilliche population around 1850 is one of the hardest things to clarify, with data existing only for Valdivia and none at all for those outside the missions. A figure of about thirty thousand circulates in secondary sources at low confidence and is not used in this book.

20. For Darwin's first period on Chiloe, 28 June to 13 July 1834. These two dates were carried from this book's earlier research and were not re-verified against Darwin's text, unlike the other dates in this section.

21. Darwin, *Journal of Researches* (1845), for Valparaiso from 23 July to 10 November 1834; the return to San Carlos on 21 November 1834 and the boat expedition under Sulivan setting out on 24 November; and Castro on 30 November and 1 December 1834, described as the ancient capital of Chiloe, now a most forlorn and deserted place, with sheep browsing. Public-domain primary text.

22. Darwin, *Journal of Researches* (1845), page 291, for the third visit to San Carlos on 18 January 1835, having sailed from Low's Harbour on 15 January.

23. Darwin, *Journal of Researches* (1845), for Osorno in eruption on 19 January 1835.

24. Darwin, *Journal of Researches* (1845), page 274, for the Chilote barter economy.

25. Darwin did not transit the Sarmiento Channel or the English Narrows. The inside channels do not appear in his account.

26. For the claim that the *Dresden* reached the Quintupeu fjord on 6 February 1915. The date comes from a Spanish-language account resting on local tradition and is not supported by the German log material. See the preceding chapter for the provenance of the Pagels legend.

27. For the destruction of the Angelmo waterfront and shops in the earthquake of 22 May 1960, documented in photographs. No named survivor's account was located for this book. The Archivo Nacional's Memorias del Siglo XX holds a 2009 video testimony by a local architect, and the Puerto Montt newspaper *El Llanquihue* holds contemporary coverage; neither was available here.

Chapter 9: Valparaíso: The First Port on the Other Side

1. For Drake plundering Valparaiso in December 1578, having come through the Strait of Magellan.

2. For the Pacific Steam Navigation Company beginning its Valparaiso to Callao service on 15 October 1840, and for the *Chile* and the *Peru* coming out from Britain through the Strait of Magellan.

3. For the PSNC coal depot at Valparaiso and the hulk *Portsea* bringing four hundred and eighty-five tons of Welsh coal in 1840.

4. Darwin, *Journal of Researches*, for anchoring at Valparaiso late at night on 23 July 1834 and departing on 10 November 1834.

5. Three passages in Darwin's published *Journal of Researches* bear on Valparaiso, alongside the manuscript diary entries for 31 July and 2 August 1834 and the illness of September and October. None of them touches the port's later decline. King's volume I mentions Valparaiso often, but as a supply and refit port for the survey squadron rather than on the port's economy. The absence is stated because this book uses Darwin as a recurring witness and he is silent on the thing the chapter is about.

6. Darwin, *Journal of Researches*, for the townscape of one long street along the beach with houses climbing the ravines.

7. Darwin, manuscript *Beagle Diary*, manuscript page 467, entry of 31 July 1834, Darwin Online transcription, for the remark comparing the English residents at Valparaiso with the English in other South American towns, and for Lyell's geology as the evidence offered. The published *Journal of Researches* carries only an undated line about the English residents. Public-domain primary text, reported rather than endorsed.

8. Darwin, *Journal of Researches*, and the manuscript *Beagle Diary*, for lodging with Richard Corfield from 2 August 1834, and for riding out on 14 August, climbing La Campana and reaching Santiago on 27 August.

9. Darwin, manuscript *Beagle Diary*, manuscript page 490, for returning ill to Corfield's house on 27 September 1834 and remaining in bed there into the end of October. The illness followed the Santiago ride rather than preceding it, which is the order the chapter now gives.

10. For the Ascensor Concepcion opening on 1 December 1883 with a water counterbalance, about thirty funiculars built between 1883 and 1932, the Mariposas dating from 1906 and the Artilleria from 1914.

11. For the declaration of the funiculars as Monumentos Historicos on 1 September 1998 and the inscription of the historic quarter of Valparaiso as a UNESCO World Heritage site in 2003. Chile submitted its state of conservation report on 27 November 2024.

12. No source reporting damage to the inscribed historic quarter of Valparaiso from the wildfires around Vina del Mar on 2 and 3 February 2024 was located for this book. The fire dates and the extent of the fires are verified; the link to the World Heritage quarter is not, and the book does not make it.

13. For the earthquake of 16 August 1906 at 19:55 local time, 00:40 universal time on 17 August, of magnitude 8.2.

14. For the destruction of forty-one blocks of the El Almendral district.

15. University of Chile, for a death toll of about three thousand eight hundred and eighty-two; the United States National Oceanic and Atmospheric Administration, for a range of three thousand eight hundred to four

thousand. The figure of around three thousand, which is widely repeated, understates the toll and is not used here.

16. For martial law declared on the night of the earthquake in response to organized looting, the proclamation of the intendente Enrique Larrain Alcalde placing command with Captain Luis Gomez Carreno of the navy, and sentences carried out publicly on the Avenida Brasil.

17. No named eyewitness account of the 1906 Valparaiso earthquake was found for this book. A lead naming a specific witness was searched for and returned nothing, and no substitute has been invented. Real possibilities exist in the Chilean archives and in contemporary newspapers and were not reachable here.

18. For a smallpox epidemic in 1905 reported to have killed six thousand six hundred and seventy-eight people out of a population of about a hundred and sixty thousand. This reaches the book at second hand and is carried at moderate strength.

19. Alejandro Pattillo Bergen, *El conjunto portuario (Valparaiso, Quintero y San Antonio)*, as reproduced in Memoria Chilena, for the cargo series. The peak is one million six hundred and fifty-one thousand tons in 1912.

20. Pattillo Bergen, for the fall of 22.4 per cent in the single year 1913 to 1914 and about 28 per cent across 1913 to 1915, the recovery to one million three hundred and one thousand tons in 1916, and the figure of nine hundred and thirty-two thousand tons in 1930. Note that 1930 is the lowest year after the peak and not the lowest in the whole table: the same series gives about seven hundred and thirty-one thousand tons for 1899 and about seven hundred and thirty-two thousand for 1900. A summary line in the earlier research behind this book described 1930 as the low for the period and dated the 22.4 per cent fall to 1913 to 1915; its own tables contradict both, and the tables are followed here.

21. The series records cargo tons handled, not register tons and not vessel counts. For 1901 the official register tonnage is three million one hundred and thirty-eight thousand nine hundred and ninety-four tons against a cargo

figure of nine hundred and eighty-seven thousand tons for the same year. The two measures are not interchangeable and must not be compared with each other.

22. No annual series of vessel arrivals at Valparaiso for the years 1902 to 1930 was located for this book. It should exist in the *Anuario Estadistico de la Republica de Chile*, Movimiento Maritimo volumes, and in the Archivo Nacional de Chile's daily register of arrivals. Because that series is missing, the chapter argues from cargo tonnage and says so.

23. Alberto Fagalde, *El puerto de Valparaiso y sus obras de mejoramiento* (1903), printed page 99, for two thousand two hundred and sixty-six vessels of three million one hundred and thirty-eight thousand nine hundred and ninety-four register tons at Valparaiso in 1901.

24. Pattillo Bergen, for the two sharpest falls in the series: 1913 to 1915, which brackets both the opening of the canal and the outbreak of the war and cannot be assigned to either, and 1921 to 1925, which coincides with the nitrate collapse and the rise of San Antonio.

25. Pattillo Bergen, for San Antonio handling two thousand and twenty-two tons in 1912, ten thousand nine hundred and ninety-three in 1914, and seven hundred and fifty-seven thousand in 1930, the last being eighty-one per cent of Valparaiso's nine hundred and thirty-two thousand tons in the same year.

26. Memoria Chilena, for the opening of the port of San Antonio in 1922. This book's first round of research gave 1912, which was wrong; 1912 is the year customs were introduced at Punta Arenas, and the two appear to have been conflated.

27. For Ernesto Ottone's argument that the canal's role has been exaggerated as a cause, because more powerful steamers were already bypassing the port before 1914, while granting that ship numbers fell sharply after it opened.

28. Memoria Chilena, for the list of causes: the consolidation of Santiago, the earthquake of 1906, the canal in 1914, and the port of San Antonio in 1922.

29. Pizzi and Valenzuela, for the list running from a crisis in the 1870s through 1906, 1914, the war and the end of the nitrate trade.

30. Ernest Shackleton, *South!* (1919), chapter XI, for reaching Valparaiso on 27 September 1916 and for the Chilean government placing the *Yelcho* at his disposal to bring his men to Valparaiso and Santiago. Public-domain primary text.

31. Shackleton, *South!*, chapter XI, for everything that could swim coming out to meet them and the crews of Chilean warships being lined up. His crowd figure is his own estimate and is not repeated here as a measurement.

32. For David Trumbull, Protestant minister, born at Elizabeth, New Jersey on 1 November 1819, arriving at Valparaiso on Christmas Day 1845 and dying there on 1 February 1889.

Chapter 10: Santiago: The Capital That Took the Port's Money

1. For the founding of Santiago by Pedro de Valdivia on 12 February 1541.

2. For the inauguration of Puerto Montt on 12 February 1853. The two foundings fall on the same calendar date and are separately sourced; no connection between them is implied.

3. Darwin, *Journal of Researches* (1845), page 262, for the arrival at Santiago on 27 August 1834 after climbing La Campana, and for a stay of about a week, to roughly 3 September.

4. Darwin, *Journal of Researches* (1845), for the reading of the central plain as the bed of a former inland sea.

5. Darwin, *Journal of Researches* (1845), entry of 26 August 1834, for the snow and Aconcagua.

6. Cerro Santa Lucia is not mentioned in the 1845 *Journal of Researches*. The widely repeated claim that Darwin used the hill as a vantage point for viewing the Andes could not be supported from the text, and this book's own first round of research carried it from a secondary source without a primary

citation. Darwin's viewing passage is the approach over the ridge from Guitron. The manuscript *Beagle Diary* entries for late August and September 1834, and his correspondence, were not read page by page for this book, so the anecdote is recorded here as unsupported rather than as disproved.

7. Darwin, manuscript *Beagle Diary*, manuscript pages 553 and following, Darwin Online transcription, for setting out on 14 March 1835 in a covered gig, a birloche, and sleeping at the post house at the foot of the Rado. Public-domain primary text.

8. Darwin, manuscript *Beagle Diary*, manuscript pages 553 and following, entry of 15 March 1835, Darwin Online transcription, for Mr Caldcleugh kindly assisting with the preparations for crossing the Cordilleras. Public-domain primary text.

9. Darwin, manuscript *Beagle Diary*, manuscript pages 553 and following, Darwin Online transcription, for starting on 18 March 1835 by the Portillo Pass for Mendoza with Mariano Gonzales, and returning to Santiago by midday on 10 April, absent twenty-four days. The twenty-four days is Darwin's own count. This book's earlier research describes the route as out by the Piuquenes and Portillo passes, reaching Mendoza and Lujan, and returning by Uspallata.

10. For the Valdivia earthquake of 20 February 1835, and for Darwin feeling a very smart shock aboard off the Chilean coast on 3 March 1835.

11. For the fire at the Iglesia de la Compania de Jesus on 8 December 1863, in which more than two thousand people were killed, most of them women.

12. For the founding of the Cuerpo de Bomberos de Santiago on 20 December 1863, twelve days after the fire.

13. For the judgment, carried at moderate strength in this book's research, that Santiago's rise came partly from a drain of firms and wealth out of Valparaiso after 1906 and after 1914, following Ottone and Rodriguez. No independent figure for the drain exists in the corpus and none is given here.

14. Memoria Chilena, for a page naming several causes of Valparaiso's decline, among them the consolidation of Santiago, the 1906 earthquake, the canal and the port of San Antonio. The ordering of that list reaches this book through a summary sentence in its own first round of research rather than from the page itself, so no precedence is claimed here. Sources in this corpus give San Antonio's port as both 1912 and 1922; the later date is used in the chapter on Valparaiso and neither is adopted as the basis of any ordering.

15. For San Antonio as the port intended to serve Santiago, and for the Puerto Exterior project targeted by the port company to begin operating in 2036. The present state of that project, including the annulment of its tender in July 2026, belongs to the final chapter of this book.

16. Ernest Shackleton, *South!* (1919), chapter XI, for the lecture at Santiago on 28 September 1916 for the British Red Cross and a Chilean naval charity, and for the Chilean flag and Union Jack draped together. Public-domain primary text.

Chapter 11: 1982

1. For the British claim dating to Byron in 1765 and Port Egmont in 1766, continuous administration since 1833, and the absence of an indigenous population.

2. For the referendum of 10 and 11 March 2013: 1,513 votes to remain a British Overseas Territory, three against, turnout about ninety-two per cent.

3. For the leaseback scheme taken up by Nicholas Ridley, his visit to the islands in November 1980, his Commons statement of 2 December 1980, and the twelve speakers who denounced it, as counted by a peer in the Lords debate of 25 January 1983.

4. Franks Report, Cmnd 8787, for islander opinion having hardened against leaseback and the council being unanimously opposed. A 1986 survey figure of 96.45 per cent also circulates in support of islander opinion; it is carried at low to moderate strength and the original was not located.

5. Franks Report (January 1983), for the conclusion that the invasion of 2 April could not have been foreseen, and Hansard, Lords, 25 January 1983, for the

criticism that the conclusion was too generous. Tam Dalyell's Commons attack of 21 December 1982 was directed principally at the sinking of the *General Belgrano* rather than at the foresight finding, and is not cited here for the latter.

6. For the acquittal of Clive Ponting at the Old Bailey on 11 February 1985, following the direction of Mr Justice McCowan.

7. For the Argentine claim by succession to Spain on the principle of uti possidetis iuris, and for the creation of the Comandancia Politica y Militar de las Islas Malvinas under Luis Vernet on 10 June 1829, commemorated as the Day of the Affirmation of Argentine Rights. The Museo Malvinas was inaugurated on 10 June 2014 under decree 809/14 and recorded more than seven hundred thousand visitors in eighteen months.

8. For 1833 as an act of force in the Argentine reading, and for the distances of about four hundred and eighty kilometers from the Argentine coast against some thirteen thousand from Britain.

9. For United Nations General Assembly Resolution 2065 speaking of the interests rather than the wishes of the population; for President Javier Milei describing the islanders as a population implanted in a usurped territory; and for the Argentine senator Daniel Filmus calling the 2013 referendum a trickery. 2 April is a national holiday in Argentina, the Dia del Veterano y de los Caidos en la Guerra de Malvinas.

10. For the Rattenbach Report finding that the junta led the nation to war without adequate preparation, describing the enterprise as an adventure, and concluding that the junta was never willing to negotiate. An allegation by Rattenbach's son that the text was altered is carried at low to moderate strength and is not relied on here.

11. For General Leopoldo Galtieri displacing Viola in December 1981 with the backing of Admiral Jorge Anaya. A key meeting at Campo de Mayo on 9 December 1981 is reported at moderate strength from secondary sources.

12. For Anaya ordering Admiral Juan Lombardo on 15 December 1981 to plan the occupation.

13. For staff being told on 22 December 1981 that the operation was preventive. Moderate.

14. For Lombardo's planned symbolic date of 9 July 1982.

15. For Constantino Davidoff landing workers at Leith, South Georgia, on 19 March 1982 from the *Bahia Buen Suceso*, and the raising of the Argentine flag. An earlier plan, Operacion Alfa, had been shelved.

16. For the withdrawal of HMS *Endurance* in the 1981 defence review, the proposed sale of *Invincible*, and the effect of the British Nationality Act 1981 on islanders' citizenship. The Franks Report's judgment is that these signals made the Argentine assessment seem safe without creating the intention.

17. For Admiral Sir Henry Leach telling Thatcher on 31 March 1982 that he could assemble a task force ready to leave in forty-eight hours.

18. For the all-party Commons debate of 3 April 1982 and the sailing of the task force on 5 April.

19. For alliance credibility and precedent as the arguments that carried the decision, and for domestic political motives being argued both ways. Both the Franks and Rattenbach inquiries record intelligence failures on their own side.

20. For Alexander Haig's account that Argentina demanded an assurance of eventual sovereignty or an immediate de facto role in governing the islands, recorded on 30 April 1982.

21. For the Peruvian plan advanced by President Belaunde Terry on 1 and 2 May 1982, its acceptance in principle and subsequent rejection by the junta per the Rattenbach Report, and Britain's willingness to accept a version on 5 May. Reported lease durations of ninety-nine and thirty years in earlier schemes are unverified and are not given here.

22. For the effort of United Nations Secretary-General Javier Perez de Cuellar continuing to about 17 May 1982.

23. For the *General Belgrano* being outside the Total Exclusion Zone declared on 30 April; the order given by ministers at Chequers; the sinking on 2 May 1982 by HMS *Conqueror* with two or three Mark 8 torpedoes of which two struck; the sinking in fifteen to twenty minutes; and the loss of three hundred and twenty-three men from a crew of one thousand and ninety-three. Published positions differ, one source giving 55 degrees 30 minutes south, 61 degrees 40 minutes west and another 55 degrees 24 minutes south, 61 degrees 32 minutes west; neither is adopted here.

24. For the British sequence: *Conqueror* detecting the oiler on 30 April and sighting the cruiser on 1 May with two Exocet-armed destroyers; ministers agreeing at about one in the afternoon London time on 2 May; the attack at about eight in the evening; and the first Peruvian indications reaching London from Washington at 11.15 p.m. and from Lima at 2 a.m. on 3 May, with Hansard dating the Washington telegram to 22.15 GMT, over three hours after the attack.

25. Whether ministers had informal knowledge of the Peruvian effort earlier on 2 May remains open. The Cabinet Office and Prime Minister's files that would settle it were not consulted for this book.

26. For the *General Belgrano* sailing from Puerto Belgrano on 16 April 1982, docking at Ushuaia on 22 April and sailing on 24 April under Captain Hector Bonzo. A date of 26 April for her departure circulates and is incorrect.

27. For Decree 745/98 making 2 May the Dia Nacional del Crucero ARA General Belgrano.

28. For Operacion Rosario on 2 April 1982 and the garrison of eighty-four marines under Governor Rex Hunt. Figures for the invading force are reported at moderate strength and are not given here.

29. For the fall of South Georgia on 3 April 1982 and United Nations Security Council Resolution 502 of the same day.

30. For the recapture of South Georgia on 25 April 1982 and the disabling of the submarine *Santa Fe*.

31. For the declaration of the Total Exclusion Zone on 30 April 1982 and the first Black Buck raid on 1 May.

32. For HMS *Sheffield* being hit by an Exocet on 4 May 1982.

33. For the San Carlos landings of 21 May 1982 and the loss of *Ardent*; *Antelope* on 23 May; and *Coventry* sunk with the *Atlantic Conveyor* hit by Exocet on 25 May.

34. For Darwin and Goose Green on 28 and 29 May 1982, and the death of Lieutenant Colonel H. Jones. The Rattenbach Report dates the action to 29 May.

35. For the *Sir Galahad* and *Sir Tristram* being hit at Fitzroy on 8 June 1982, with forty-eight dead in the *Sir Galahad*.

36. For the actions from Mount Longdon through to Wireless Ridge between 11 and 14 June 1982.

37. For the surrender signed by General Mario Benjamin Menendez at about nine in the evening on 14 June 1982.

38. For the recapture of Southern Thule on 20 June 1982.

39. For the death toll of six hundred and forty-nine Argentine and two hundred and fifty-five British service personnel, and the three islanders killed by British shellfire in Stanley: Susan Whitley, Doreen Bonner and Mary Goodwin.

40. For British wounded of seven hundred and seventy-seven, and for the Argentine wounded figure differing between sources at one thousand six hundred and fifty-seven and one thousand one hundred and eighty-eight. Neither is adopted. A widely circulated figure for post-war veteran suicides is contested and of low reliability, and is not used in this book.

41. For eleven thousand three hundred and thirteen Argentine prisoners taken. Britain declined to repatriate them in Argentine ships and carried them itself; that detail is carried at moderate strength.

42. For the British force of a hundred and twenty-seven ships and twenty-five thousand nine hundred and forty-eight personnel. Aircraft totals differ between sources and no single figure is given.

43. For bombs released too low to arm; HMS *Glasgow* on 12 May and *Broadsword* on 25 May 1982 saved by unexploded bombs; and *Antelope* lost when a bomb detonated during defusing.

44. For Argentina ordering fourteen Super Etendard aircraft and receiving only five, with five AM39 Exocet missiles, before the French embargo; for those missiles accounting for the *Sheffield* and the *Atlantic Conveyor*, with a shore-mounted launcher later striking HMS *Glamorgan*; and for France lifting the embargo on 10 August 1982. Argentina retired its Super Etendards in 2026.

45. For United States fuel at Ascension, intelligence sharing, and about a hundred AIM-9L Sidewinder missiles supplied at forty-eight thousand six hundred dollars each on a cash and carry basis, against a British request for three hundred made on 13 May 1982.

46. For the British counter-view that at least ninety per cent of the equipment used was British.

47. For General Fernando Matthei's statement that it was he, on his own account, who did everything possible to make Argentina lose the war.

48. For the Beagle Channel dispute as Chile's motive, the opening of airfields to British reconnaissance, a Marconi radar at Balmaceda, and a Royal Navy Sea King landing west of Punta Arenas in the course of a special forces operation. An RAF officer involved described the help as absolutely crucial.

49. For the report that British agents stayed at the Hotel Cabo de Hornos in Punta Arenas. Carried at moderate strength from Chilean press reporting.

50. For Argentine conscripts of the 1962 and 1963 classes being sent to the islands while the best army units were held against the possibility of a Chilean attack, and for the Stanley runway never being lengthened.

51. For the two schools of thought on whether the outcome was close-run or near-certain. The synthesis offered here is labeled as the author's reading and is carried at moderate strength.

52. For the Museo Malvinas on Avenida del Libertador, on the site of the former ESMA, with a silhouette of the *Belgrano* set in water outside and a room of photographs of the six hundred and forty-nine dead.

53. For the *Canberra* landing four thousand one hundred and thirty-six Argentine soldiers at Puerto Madryn on 19 June 1982, for the local memory of the day the town ran out of bread, and for a veterans' centre official recalling a warning that residents might throw stones.

54. For the *Norland* landing a further one thousand nine hundred and ninety-two men on 21 June 1982.

55. For the completion of mine clearance in the Falkland Islands on 14 November 2020, ending at Gypsy Cove and Yorke Bay.

56. For the *Belgrano* at Ushuaia from 22 to 24 April 1982, and for the model in the naval museum and the monument in the Plaza Islas Malvinas. Carried at moderate strength.

57. For the radar, the underground command post and the hotel at Punta Arenas. Carried at moderate strength from Chilean press reporting.

Chapter 12: The Bottom of the Map Now

1. Directemar, *Boletin Estadistico Maritimo*, Edicion 2023 section 6.4 page 87, Edicion 2024 section 4.4 page 54, Edicion 2025 section 4.4 page 66 and Edicion 2026 section 4.3 page 51, for sightings of major vessels: Strait of Magellan 2,664 in 2022, 2,686 in 2023, 2,775 in 2024 and 2,394 in 2025; Cape Horn 437, 617, 799 and 659. Sightings are taken by radio system, vessels crossing Cape Horn are not always identified because it is a free-transit route, and motor launches, sailing vessels and yachts are excluded.

2. Directemar, same editions, for the three end-to-end route pairs summed: 1,381 in 2022, 1,711 in 2023, 1,744 in 2024 and 1,546 in 2025. The 2023 figure is 876 plus 449 plus 386 and the 2025 figure is 927 plus 232 plus 387.

3. The figure of 1,965 Strait transits for 2023, carried in the earlier research behind this book, came from a shipping agency presentation of December 2023 whose own agenda covered the forty-seven months to November 2023. It is not a calendar-year count and is about a quarter below the official figure. It is not used in this book.

4. Directemar, as above, for end-to-end transits rising twenty-six per cent and Cape Horn sightings eighty-three per cent between 2022 and 2024.

5. For the fiscal 2024 loss at Panama of about two thousand eight hundred and forty transits, against which the gain in the Strait of about three hundred and sixty-three end-to-end transits is roughly thirteen per cent. The remainder of the diverted traffic is generally attributed to the Cape of Good Hope and Suez routes.

6. For Strait traffic rising more than seventy per cent in August and September 2026 against the same months of 2025, concentrated in vessels of sixty to sixty-five thousand gross register tons, and for the reasons given: the Panama drought, draught and daily transit limits, extraordinary auction fees and avoidance of the Middle East. The attribution of causes comes from trade reporting and is carried at moderate strength.

7. Directemar, for pilotage in the austral channels: 742 vessels in 2016, 724 in 2017, 798 in 2018, 802 in 2019, 710 in 2020, 832 in 2021, 907 in 2022, 966 in 2023 and 999 in 2024, with 890 vessels in 2025 of which 283 were bulk carriers. The 2024 and 2025 figures come from two series that may require reconciliation, and the discrepancy is flagged rather than smoothed.

8. Autoridad del Canal de Panama, “Panama Canal Reports Growth in Transits and Tonnage in Fiscal Year 2026,” 21 October 2026, for 13,951 transits against 13,404, 521 million PC/UMS tons against 489.2 million, revenue of 6.6 billion balboas up 16.6 per cent, a fifty-foot maximum draught held through the dry season, and the figures being unaudited.

9. For the Canal Authority’s announcement of 20 August 2026 reducing daily transits to thirty-four in early September and thirty-two from 15 September 2026, with rainfall from May to August about thirty-four per cent below the historical average. From trade press reporting of the advisory issued by the authority, carried at moderate strength.

10. For the Rio Indio reservoir being in pre-construction as of November 2026, cost estimates running from about 1.2 billion dollars plus 400 million for neighbouring communities up to 1.5 billion, and a request for qualifications posted on 18 August 2026. Classified here as a proposal, not a plan, because the main works are not contracted.

11. For the Canal Authority’s case that the reservoir would carry the canal through droughts and allow additional daily transits, and for the opponents’ case that it would flood about four thousand six hundred hectares, require at least sixteen hundred residents to be rehoused and submerge cemeteries, and is being contested in the Supreme Court of Panama. Both sides are given and no verdict is reached.

12. For the Canal Authority administrator’s statement in September 2026 that once the reservoir is finished the canal should not need draught or transit restrictions during droughts, with restrictions still possible before then. This is a projection by the authority itself, conditional on completion, read through a syndicated report.

13. United Nations Conference on Trade and Development, 2025, for Suez transits running about seventy per cent below the 2023 average by tonnage.

14. International Association of Antarctica Tour Operators, for 113,518 clients in the 2025 to 2026 season, 4.2 per cent below the previous season, of whom 73,372 travelled by sea, 11,764 by air-cruise, 27,217 cruise-only, 59 by yacht and 1,106 deep field.

15. For the association’s projection of 1,492 deep-field and air clients for 2026 to 2027, about a thirty-five per cent rise on a small base. A projection, not a plan.

16. For Ushuaia closing the 2025 to 2026 cruise season on 17 April 2026 with 495 calls and about 135,000 passengers against an initial projection of 525 calls, more than 590 calls confirmed for 2026 to 2027, and the port's administrative intervention resolved on 20 January 2026.

17. For Magallanes recording 177 calls and about 64,700 people in the same season.

18. For twenty-one countries running national Antarctic programmes through Punta Arenas, up from twelve in 2004, and none through Ushuaia. Another report gives twenty-four countries.

19. the Chilean *Plan Estrategico Antartico 2026-2030*, page 7, for more than thirty-five stations belonging to fifteen countries in the Chilean Antarctic sector, about forty-eight per cent of all stations on the continent. The plan replaces the 2021 to 2025 plan of 30 June 2021.

20. *La Prensa Austral*, 25 September 2026, for the naval pier of two hundred and fifty metres at about fifty million dollars, at engineering stage, and for the Bahia Catalina multipurpose port proposal of 25.6 hectares with four berths. Both are proposals; neither is funded.

21. For Argentina's announcement of the Base Naval Integrada at Ushuaia on 3 September 2026.

22. For the hub framing dating to President Milei on 3 April 2024 alongside General Laura Richardson, for the absence of any agreement text in the sources reached for this book, and for Milei's statement in 2026 that the base is Argentine and not a combined base. The widely repeated claim of a United States and Argentine agreement to build an Antarctic logistics hub at Ushuaia is false as stated.

23. No published count of vessel transits of the Drake Passage was located for this book.

24. For the Haru Oni plant of HIF Global e-fuels demonstration plant near Punta Arenas as operating, with certification under the European renewable fuels of non-biological origin scheme for 2025 and 2026.

25. For the HNH Energy green ammonia project approved unanimously on 26 August 2026 by twelve votes, at about eleven billion dollars, the largest ever to pass through the Chilean environmental assessment system, with construction from 2027 and production from the second half of 2030 on the statement made by the company.

26. For Faro del Sur, a wind project approved in January 2026, of sixty-two turbines and 372 megawatts at about five hundred million dollars.

27. For the TotalEnergies project H2 Magallanes entering the environmental system in May 2025 at about sixteen billion dollars for five thousand megawatts, suspended at the request of the company itself since September 2025, with more than six hundred and seventy citizen observations and a deadline of 7 December 2026.

28. The objections raised against HNH Energy during its environmental evaluation are in the Servicio de Evaluacion Ambiental file, which was not read for this book.

29. For trade reporting that port upgrades are critical for green hydrogen in Magallanes. From a paywalled trade source and carried at low strength.

30. For Chilean salmon and trout exports of 6,549 million dollars in 2025 on 825,192 tonnes, up three per cent, as the second most exported product in the country, and for Magallanes accounting for 597 million dollars. A separate industry body gives 6,552 million dollars.

31. For a hundred and thirty-three approved concessions in Magallanes, about a third operating and a third at rest, per the regional growers' association president, *La Prensa Austral*, 19 July 2026. An industry source.

32. For the harmful algal bloom at two Magallanes sites in October 2026 killing 917.79 tonnes of fish, with the contingency closed on 15 October 2026.

33. For the coastal marine space application for the Ultima Esperanza area declared admissible by resolution of 8 August 2018, freezing pending salmon concession applications; for the customary-use report remaining unissued eight years later, which the regional salmon growers' association puts at

more than thirty-five months past the one month the law allows, with CONADI estimating December 2026; and for two Kawesqar organizations stating publicly that they were not informed or consulted.

34. For the industry position that 99.2 per cent of the Magallanes coastline lies under some conservation category or coastal-space application, that the application blocks forty concession applications of which fourteen hold environmental approval, and that a bill to amend the coastal-space law is before Congress. Industry figures, given in the industry's own terms.

35. For Puerto Eden receiving four major vessels in the whole of 2025.

36. Falkland Islands Government national accounts, Policy Department statement of 8 August 2025, for 2024 gross national product of 288 million pounds nominal up 2.7 per cent, GDP of 175 million real up 3.6 per cent, fishing and aquaculture at 168 million pounds or 58.3 per cent of GDP, and GDP per capita of 85,060 pounds.

37. For the 2025 Illex catch of 85,456.6 tonnes, including 70,362.9 tonnes from 9,057 days of jigging under the B licence class. Carried at moderate strength.

38. For a revenue shortfall reported in June 2026 after a poor 2026 season. The size of the shortfall could not be established; the trade source reporting it is paywalled.

39. For licence allocations frozen at 2024 levels for 2025 and 2026, and a reduction in the A licence class from 22.83 to 22.76 vessel units for 2027.

40. For between three hundred and thirty-eight and five hundred and fifty-four foreign vessels fishing at the line outside the Argentine exclusive economic zone known locally as Mile 201.

41. For Argentina closing the Illex season across its exclusive economic zone and notifying countries operating at Mile 201, for the first time, that Illex capture was prohibited.

42. For joint British and Argentine management of the stock having stalled, and for an Argentine official stating that it could never be possible.

43. For Argentina signing on 16 April 2024 at Skrydstrup for twenty-four former Danish F-16 aircraft at about three hundred million dollars, the first six operational jets landing at Rio Cuarto on 5 December 2025 and a second six on 29 September 2026, making twelve of twenty-four delivered.

44. For four Typhoons at Mount Pleasant with Tranche 2 replacements due between November and December 2027.

45. For Argentina retiring its Super Etendards during 2026.

46. For Sea Lion phase one sanctioned on 10 December 2025 at fifty thousand barrels a day, about 1.8 billion dollars to first oil, drilling from early 2027 and first oil targeted for March 2028, with lifetime government revenue put above three billion pounds including a hundred and eighty-one million in corporation tax.

47. For President Milei’s announcement of 3 September 2026: the Base Naval Integrada, sanctions on firms involved in Sea Lion, a national security council, and about a hundred and eighty formal notes to companies across more than twenty-nine countries.

48. For the British Defence Secretary describing the commitment as unshakeable, for a spokesperson for the Prime Minister using the word unwavering, and for the Commons statement of 13 October 2026 that Britain would not stand by while Argentina used economic coercion.

49. For the Argentine federal court’s temporary suspension of Sea Lion work pending environmental assessment, Halliburton’s confirmation that it and its subsidiaries would not work on the project, and Argentina’s request of 13 October 2026 to the International Tribunal for the Law of the Sea for four provisional measures, on which no ruling has been issued.

50. No current assessment of the military risk from the major British defence institutes or a parliamentary committee for 2024 to 2026 was located. An older reference work, cited in a parliamentary library note of 2012, described the prospect as remote. A defence publication in 2026 judged that Argentina

is not a credible military force able to seriously threaten the Falkland Islands; carried at moderate strength.

51. Temme and colleagues, *Nature Communications* 16, article 2677 (2025), for the advance at Garibaldi of around two kilometres over 2000 to 2023 and for Cordillera Darwin climatic ablation of 4.17 gigatons a year plus or minus 1.48 and frontal ablation of 1.44 plus or minus 0.94.

52. No published model projecting the Garibaldi terminus was located, and no funded monitoring programme or new survey of the glacier was found for 2026 or 2027.

53. Ice-volume percentages under the SSP1-2.6 and SSP5-8.5 scenarios that circulate in connection with Patagonian ice apply to the Northern Patagonian Icefield, not to the Southern Patagonian Icefield and not to the Cordillera Darwin. The authors of that work warn against trusting global models for these icefields. The figures are therefore not applied to Garibaldi in this book.

54. Araya-Osses and colleagues, for the current model generation projecting precipitation changes for Southern Patagonia that do not hold up across models, against consistent reductions for Northern Patagonia and central Chile.

55. For the finding that Western Patagonia would require precipitation increases of between ten and fifty per cent to maintain present ice volumes.

56. the 2024 census in Chile, for 1,244 Yaghan, 1,392 Selk’nam of whom 202 are in Valparaiso and 97 in Magallanes, and 2,153 Kawesqar of whom 813 are in Magallanes. The 2017 census gave 1,600 Yaghan, 3,448 Kawesqar and 1,144 Selk’nam.

57. For Ley 21.606 in Chile, published on 19 October 2023, adding the Selk’nam to article 1 of the Indigenous Law as the eleventh recognized people, reversing the 2003 commission’s description of them as extinct.

58. For the Natural History Museum of Basel approving in September 2026 the return of three Kawesqar ancestors with transfer scheduled for the end of October 2026; for two Kawesqar organizations stating that they were not

informed or asked; and for the president of the foundation involved acknowledging that one of the three may not be Kawesqar.

59. No new language programme was found. Present-day population figures for Puerto Eden circulate as thirteen, twenty and two hundred, all undated.

60. For Decreto 602/2025 repealing Decreto 299 of 5 June 2023, terminal contracts extended to 31 May 2027, a dredging contract of 7.64 million dollars for 550,000 cubic metres over a hundred and forty days pre-awarded on 12 May 2026, and the Parana waterway concession awarded to Jan De Nul in June 2026. No call for the Buenos Aires terminal tender itself could be located.

61. For the Puerto Madryn 2025 to 2026 cruise season beginning 13 October 2025 with thirty-three to thirty-six calls, and works on the Muelle Almirante Storni from May 2026. Aluar throughput figures for 2025 or 2026 were not found.

62. For the 2021 Falklands census counting 3,662 people, of whom 2,974 were in Stanley.

63. Directemar, for 1,220 receptions of major vessels and 1,514,823 tonnes of cabotage at Punta Arenas in 2025; and for the Muelle Prat passenger terminal of about 2,840 square metres tendered in September 2026, enabled for cruise ships up to three hundred metres.

64. Directemar, for 1,722,423 tonnes of cabotage at Puerto Montt in 2025 on 1,582 national receptions, the largest southern port in the table.

65. For the Valparaiso Terminal 2 concession extended to December 2029 from an original expiry of March 2027; and for the Puerto Exterior at San Antonio approved by the environmental service after six years at 4,450 million dollars with a four-kilometre breakwater, a 1,950 million dollar tender annulled in July 2026 and split in two, the breakwater tender projected for the first half of 2028, and operation targeted for 2036 on the figure given by the port company.

66. No published quantified scenario for shipping-route choice in this region was located, and none specific to the Magallanes climate. The absence is reported rather than filled.

Appendix A: Why 1982 Happened

1. For the naval action off East Falkland on 8 December 1914, in which a British force under Vice-Admiral Sir Doveton Sturdee sank four German warships of Vice-Admiral Count Maximilian von Spee's squadron with the loss of some nineteen hundred German lives, and for the 1914 Battle Memorial on Ross Road West in Stanley. Ramsey describes the ships sunk as battle-cruisers; the German squadron's armoured cruisers *Scharnhorst* and *Gneisenau* and light cruisers *Leipzig* and *Nürnberg* are the ships generally identified, and the looser term is Ramsey's.

2. For the cruisers *Ajax*, *Exeter*, *Achilles* and *Cumberland* operating out of Stanley in December 1939, the action of 13 December against the German pocket battleship *Graf Spee*, her scuttling off Montevideo on 17 December, and *Exeter* putting into Stanley for repairs. Ramsey notes the near-coincidence with the twenty-fifth anniversary of the 1914 battle and the coincidence of von Spee's name.

3. For the garrison that surrendered Government House on 2 April 1982. The figures differ by source and the text uses a formulation true on all of them. Chapter 11 of this book gives eighty-four marines, from the gated research behind it. Middlebrook gives Major Mike Norman seventy-nine men under command, being two other officers, sixty-six marines and two officers with nine men of *Endurance*'s survey section, and separately records sixty-seven Royal Marines and eleven men of the Royal Navy taken prisoner. He gives the Argentine Amphibious Commando Company that landed at Mullet Creek as some sixty men, accounts varying.

4. Middlebrook, for the fighting at Moody Brook and Government House continuing until Governor Rex Hunt ordered the British forces to cease fire and surrender about five hours after the first landing, and for several

Argentine dead against no British or islander fatalities that day, which allowed Argentina to describe the operation as a peaceful liberation.

5. Gordon Ramsey, *The Falklands War: Then and Now*, for the islands at some two hundred small islands and two main land masses, about four thousand seven hundred square miles, roughly the size of Wales, some eight thousand miles from Britain and about three hundred from South America; for a mean wind speed about four times the British average; and for the judgment that the strategic value of a staging point near Cape Horn outweighed the limited nature of the islands' economic uses. Page numbers are not recoverable from the text extraction used for this book and none is given.

6. Ramsey, same source, for an average export of about three and a half thousand metric tons of wool a year, ninety per cent of it to the United Kingdom. Ramsey gives this as the average across the islands' heyday in the latter half of the twentieth century, not as a figure for any single year, and the text now says so. Research run I, open question 8, records that Falklands wool tonnage for the 1970s and for 1980 to 1982 could not be established from any usable source, so no figure for the years immediately before the war is given here.

7. Martin Middlebrook, *The Falklands War*, for more than three hundred sheep per islander, and for pasture so poor that a good property carries one sheep to two and a half acres while poorer ground needs three acres or more. Page numbers are not recoverable from the text extraction used for this book and none is given. The same applies to every Middlebrook citation below.

8. For the Falkland Islands Company holding about forty-two per cent of the land of the two main islands, employing about a third of the workforce, controlling the wool export, and being by 1982 a subsidiary of the Coalite group, for whom it represented about two per cent of sales. Research run I for this book, section 4.1, whose open question 14 records that the land-share figure rests on two newspaper reports of 1982, one giving forty-two per cent and the other nearly half, neither citing a source, and that run I could not read the first of them directly. The figure is therefore hedged in the text and should not be treated as an audited holding. Note the ownership chain, which

is often stated wrongly. The company passed to Dundee, Perth and London in 1972, that firm was absorbed by Charringtons in 1973, and Coalite took over in 1977. A Minister declined in 1983 to confirm to the Lords that the holding was total, so this appendix does not say wholly owned. Middlebrook, writing separately, gives the parent only as a coal company based in Yorkshire and gives no name.

9. Middlebrook, for the Falkland Islands Company owning nearly half of the Falklands and holding a monopoly over much of the island trade, for its being a subsidiary of a Yorkshire-based coal company, for the remaining properties being largely held by absentee owners, Yorkshire companies or families, and for the criticism that the owners were interested in the investment and returned few profits to the community. Middlebrook declines to adjudicate the criticism, saying he lacks the standing to do so, and records it as background, with the parent company unnamed in his text and left unnamed here.

10. Middlebrook, for a regular pre-invasion population of about eighteen hundred, more than half of it in Stanley, and an average density of less than four tenths of a person per square mile.

11. Middlebrook, for the sheep industry in decline under rising costs, world recession and competition from synthetic fibres; for all food but mutton and a few vegetables, all building materials but rock and all fuels but peat being imported, much of it from Argentina; for high prices, a low standard of living and a steadily falling population.

12. Middlebrook, for postage stamps as the islands' second largest source of income before the war, for the stamp income overtaking the sheep industry after the war, and for the figure of more than five hundred pounds a year for every islander. The sum is Middlebrook's and the year it applies to is not stated in the source.

13. Middlebrook, for the Stanley airport runway taking only medium-haul jets from South America and the resulting summer tourist trade from Argentina, and for the refrigerated mutton-packing plant at Ajax Bay, financed mostly by

the British government at about one and a half million pounds, ready for production in 1953, never working to full capacity and falling into disuse.

14. Middlebrook, for the observation that many a wounded British or Argentine soldier would later bless the protection of the abandoned meat plant. Ajax Bay served as the British field hospital after the San Carlos landings of 21 May 1982.

15. Middlebrook, for oil under the waters around the Falklands and for no international company being willing to risk an investment in an area of long political tension. The inference drawn in the text, that the dispute is part of what kept the islands poor, is this book's and is offered as such.

16. Middlebrook, for plenty of fish in the water, for British government attempts to send part of the British fishing fleet to Stanley being rebuffed by the local people, and for the only fishing being done by Polish and Russian deep-sea trawlers permanently stationed off the islands. The proportions in that last phrase are corrected later in this appendix.

17. Two different sources, which this note separates because an earlier draft ran them together. For Britain holding 22.9 per cent of world manufacturing output in 1880 and 4.0 per cent in 1980: the standard series of Paul Bairoch, International Industrialization Levels from 1750 to 1980, *Journal of European Economic History* 11(2), 1982, via research run I, section 1.1. For the share of world manufactured exports, the figure of about forty-three per cent in the mid-1880s comes from Matthews, Feinstein and Odling-Smee, *British Economic Growth 1856 to 1973*, page 435, and the later figure from a Commons written answer of 22 July 1980, via research run I, section 1.2. **Bairoch supplies the output row only and not the export figures.** Run I also warns that the 1970s export figures rest on a narrower base, the United Kingdom's share of exports from about eleven main manufacturing countries, which is not comparable with the earlier series; its instruction is not to interpolate between them, and the text now marks the join rather than drawing one smooth line. The output series is graded moderate to high, because run I did not read Bairoch in the original and worked from a secondary reproduction of the table, and the row is labelled Great Britain

rather than the United Kingdom. The distinction between share and level is the point of the paragraph and is the commonest error in this literature.

18. For Britain being thirty-four per cent richer per head than France in 1950 and twelve per cent poorer by 1980, seventy-nine per cent richer than Germany in 1950 and eight per cent poorer by 1980, and about three and a half times richer than Japan in 1950 and poorer per head than Japan by 1982. Research run I, section 1.3, from the Maddison Project historical national accounts. **The German comparison is deliberately not labelled West Germany here.** Run I grades that labelling only moderate, because the Maddison 2023 release carries a continuous Germany series rather than a West German one, and its instruction is to say Germany on Maddison's series rather than assert West Germany off that table. The West German figure in the defence-spending paragraph later in this appendix comes from a different source and is properly labelled.

19. For the devaluation of sterling to two dollars eighty in 1949 and two dollars forty in November 1967, the float of June 1972, and the stand-by credit of December 1976 of SDR 3,360 million, about three point nine billion dollars, the largest the International Monetary Fund had then granted, conditional on public-expenditure cuts of one billion pounds in 1977 to 1978 and one and a half billion in 1978 to 1979 at 1976 survey prices. Research run I, section 1.4, taking the cut figures from Denis Healey's own statement, HC Deb 15 December 1976, column 1527.

20. For retail price inflation peaking at 21.9 per cent in May 1980, registered unemployment rising from one point three seven million in October 1979 to three point zero five million in October 1982, and manufacturing output falling 17.3 per cent from its 1979 second-quarter peak to its 1981 first-quarter trough and standing 15.9 per cent below that peak in the quarter the task force sailed. Research run I, section 1.5, from the Office for National Statistics series. Run I notes that a figure of a one-third fall in manufacturing output circulates on popular economics sites and does not match the official index.

21. For the British net reserve loss of two hundred and seventy-nine million dollars in November 1956, which carried the reserves through the self-imposed two-billion-dollar floor; for the Cabinet learning on 6 November that Washington would not permit a drawing on the International Monetary Fund until, in the record's words, we had agreed to the cease-fire; and for the package of 10 December 1956 of five hundred and sixty-one and a half million dollars drawn plus a seven hundred and thirty-eight and a half million stand-by, together the whole British quota. Research run I, section 2.1, from James M. Boughton's work in the IMF Staff Papers.

22. Boughton's conclusion, via research run I, section 2.1: that if devaluation or floating had been viable, the United Kingdom could have resisted the external financial pressure long enough to wage what would likely have been an effective military campaign. The inference drawn in the text, that the binding constraint at Suez was the commitment to the parity and the sterling system rather than a shortage of cash, follows Boughton and is labelled in the prose as a reading.

23. Two halves with different strengths, and the difference is recorded rather than smoothed. For Harold Wilson's announcement of 16 January 1968 of withdrawal from the Far East and the Persian Gulf by the end of 1971, in a statement whose stated purpose was to make devaluation work: research run I, section 2.3, from HC Deb 16 January 1968 with columns. For the 1966 defence review capping the 1969 to 1970 budget at two thousand million pounds at 1964 prices and cancelling the CVA-01 carrier: research run I, section 2.2, whose open question 11 states that the 1966 Hansard pages were **not** fetched and that these figures come from search summaries without column numbers and should be checked before quotation. They are used here at that reduced strength.

24. Ramsey, for pensioned and retired marines providing deterrence from 1849, for the arrival of Royal Marines with their families in January 1858 as the Falkland Islands Garrison Company, and for the withdrawal of that force in December 1878 as a cost-cutting measure. The phrase is Ramsey's.

25. Ramsey, for the closure of the Falklands naval station and the transfer of the wireless station to the Falkland Islands Government, for the impression this gave Perón that British resolve was lacking, and for the exchange in which the Foreign Secretary Ernest Bevin stated that an armed Argentine invasion would be met by force. Ramsey names the station HMS *Persuivant*; the ship's name is generally given as HMS *Pursuivant* and the spelling in the extraction is probably an error. Ramsey also dates the provocation to an Argentine Navy Antarctic Task Force established in October 1948.

26. Ramsey, for the agreement between Britain, Argentina and Chile limiting ships deployed south of sixty degrees latitude, for the understanding that the Royal Navy would supply a lightly armed vessel to support the British Antarctic Survey, and for this being the level of deterrence that lasted over thirty years until HMS *Endurance*.

27. Middlebrook, for the garrison of two officers and forty men and the lightly armed patrol vessel *Endurance* being intended as no more than a tripwire that would force Argentina to fire first, for the absence of any maritime reconnaissance aircraft, and for the nearest British military base being at Belize, nearly five thousand miles away. Middlebrook also records that a Labour government dispatched a submarine, two frigates and a tanker to counter a threat in 1977, without either public being told at the time.

28. Ramsey, for HMS *Endurance* having been earmarked in Whitehall as a candidate in the next round of defence cuts, for the Argentine destroyer *Almirante Storni* firing on the British Antarctic Survey ship *Shackleton* about eighty miles south of the Falklands in February 1976 and attempting to stop and board her, for the Argentine delegation in New York having then to confirm that the ship could proceed, and for the Foreign Office recommending *Endurance* as an essential tool of British South Atlantic policy, which reprieved her for a further year.

29. Middlebrook, for the 1981 defence review deciding that the ageing *Endurance* should be retired after her current tour and not replaced. Middlebrook sets this alongside the postponement of new barracks at Stanley, the move of the South Georgia scientific headquarters to a smaller

building, which he says was wrongly read as a major cut-back, and the Lords' rejection by one vote of a bill granting full residence rights to islanders. Chapter 11 of this book covers the signals and the appendix does not restate them.

30. John Nott's statement to the House of Commons, HC Deb 25 June 1981, volume 7, columns 385 to 400, for the destroyer and frigate force declared to NATO being held at around fifty ships against fifty-nine then in service, the early disposal of County, Rothesay and Leander class ships, eight Leanders moved to a standby squadron, *Hermes* phased out, two specialist amphibious ships disposed of earlier than planned, the closure of the base and dockyard at Chatham in 1984, work at Portsmouth contracting very severely, a reduction of eight to ten thousand Royal Navy posts by the end of 1986 and fifteen to twenty thousand Ministry of Defence civilian posts, all at column 388 save the manpower lines. Via research run I, section 2.4. **Run I was unable to obtain the White Paper itself**, Cmnd 8288, *The Way Forward*, and worked from the statement that announced it; nothing here is attributed to the White Paper's text.

31. For the three decisions absent from Nott's statement. The two specialist amphibious ships are unnamed at column 388; their identification as *Fearless* and *Intrepid* is uncontested in the secondary literature but is an inference from the wording, graded moderate by research run I, section 2.4, which also records and rejects a single claim that *Intrepid* was to be sold to Argentina. Neither *Endurance* nor *Invincible* appears in the statement anywhere, which is why this note exists, the appendix being barred from saying that Cmnd 8288 said these things.

32. For *Endurance* being due to leave at the end of her 1982 deployment with decommissioning set for 15 April 1982, and for the Australian announcement of 25 February 1982 of agreement to buy *Invincible*, reportedly for one hundred and seventy-five million pounds, to replace HMAS *Melbourne*, with the offer withdrawn in July 1982. Research run I, section 2.4, grades the *Endurance* decision and timing moderate to high and the *Invincible* price and date moderate: multiple secondary sources agree and the figure recurs in

print, but no primary document was located, which is why the text says reportedly. Chapter 11 of this book describes the sale as in train, which is the same caution.

33. Denis Healey, HC Deb 26 January 1983, column 927, for keeping *Endurance* in the area costing three million pounds against a defence budget of more than twelve thousand million for the year; and Lord Buxton of Alsa, HL Deb 6 December 1983, columns 997 to 998, for the objection that the figure claimed was wrong and the true cost closer to one and a half million. Research run I, section 2.4, grades it high that both figures were stated and leaves the conflict unresolved, preferring Healey's because it is the figure the Government used in the exchange while noting that Buxton was arguing a case. Both are printed here. The arithmetic in the text follows from the two numbers: one and a half million against twelve thousand million is 0.0125 per cent, or an eightieth of one per cent, and three million is 0.025 per cent, or a fortieth of one per cent. For the characterisation of the withdrawal as a possible wrong signal, research run I, section 9, item 15, warns that the sentence commonly attributed to the Franks Report on this point could not be verified, and prefers Thatcher's rendering that the decision could have provided the wrong signal to the Argentines, one of a number. The text follows that caution and attributes the description to no named document.

34. For military expenditure as a share of gross domestic product in 1981: United Kingdom 4.98 per cent, France 3.25, West Germany 3.03, the Netherlands 2.86, Italy 1.82, Belgium 3.37, Norway 2.62 and Greece 5.74, with the United Kingdom at 5.38 per cent in 1982. Research run I, section 2.5, from SIPRI data as distributed in the World Bank's World Development Indicators, retrieved 1 November 2026. Graded high for the series and moderate for cross-country comparability, since national definitions differed in this period; run I notes that NATO's own financial and economic data would be the authority for a NATO-definition comparison and was not obtained, but that the ranking is not close enough for definitional differences to overturn it. Note also that the United States spent more than Britain in 1981, at 5.65 per cent, so the comparison in the text is with European NATO members only.

35. The reading in this paragraph follows research run I, section 2.5: that the constraint was the size of the economy relative to inherited commitments and the particular shape of the 1981 cuts, rather than any unwillingness to fund defence, and that the capabilities surrendered in 1981 were the ones the South Atlantic needed. Run I states explicitly that this is a different and harder claim than saying Britain was too poor to defend the islands, and that the latter should not be written. It is presented here as the appendix's argument.

36. For the Franks Report's judgment that the British signals made the Argentine bet look safe without creating the intention, and for the occupation having been ordered in December 1981. Chapter 11 carries the detail, including Admiral Anaya's order to Admiral Lombardo of 15 December 1981. The reading offered here, that this leaves the economics as the reason the gamble looked affordable rather than as the cause of the war, is this book's.

37. Ramsey, for the Argentine Navy taking delivery of the British Type 42 destroyer *Hércules* in August 1977 and for British assurance and oversight of the construction in Argentina of a second, the *Santísima Trinidad*, commissioned in July 1981. Middlebrook independently records that the *Hércules* was built by Vickers at Barrow-in-Furness and the other under licence in Argentina.

38. Middlebrook, for the *Santísima Trinidad* and *Hércules* being sister ships of *Coventry*, *Glasgow* and *Sheffield*. The loss of *Sheffield* on 4 May and *Coventry* on 25 May 1982 is covered in chapter 11.

39. Middlebrook, for the Argentines still owing Williams and Glyn's Bank in London three point eight million pounds for the Type 42 deal, for a British export guarantee scheme under which the British government would have had to pay the bank on an Argentine default, and for the Argentines paying the sum in full one month after the war ended.

40. For the programme of Jose Alfredo Martinez de Hoz from 1976, the financial liberalisation, the pre-announced crawling peg or *tablita* of December 1978 and the resulting overvaluation of the peso, the failure of the Banco de

Intercambio Regional on 28 March 1980 and the banking crisis that followed, and the devaluations of 1981. Research run I, sections 3.1 to 3.3. Run I also records a figure of fifty-five per cent of gross domestic product for the cost of the banking crisis and cautions that the source gives it conditionally; the firmer figure is central bank lending to distressed institutions of about five per cent of gross domestic product in 1980, and neither is used here.

41. For Argentine gross domestic product falling 5.2 per cent in 1981 and 0.7 per cent in 1982 on the World Bank's constant-price series; for real wages falling 9.6 per cent in 1981, 17.1 per cent in 1982 and about forty-one and a half per cent across 1976 to 1982; and for external debt rising from seven point nine billion dollars in 1975 to forty-three point eight billion in 1982, from World Bank International Debt Statistics. Research run I, section 3.4, grades these high and explicitly prints and rejects the falls of eleven and sixteen per cent for 1981 that circulate, which are not sourced to a national-accounts series. Run I could not establish a first-quarter 1982 inflation figure, and none is given here.

42. Middlebrook, for the Argentine position in early 1982: falling industrial output, falling wages, rising unemployment, and inflation well above one hundred per cent and still climbing, with holders of property, goods and overseas accounts cushioned while wage earners became desperate.

43. Middlebrook, for figures between seven thousand and fifteen thousand quoted for Argentine citizens killed in the internal war of the late 1970s, often after torture in military rather than police establishments, and for the relatives of the disappeared constituting a separate and vociferous opposition group. The range is the one Middlebrook reports and is not this book's estimate.

44. Ramsey, for Argentine purchases of aircraft and helicopters from the United States and Israel, an aircraft carrier from the Netherlands and submarines from Germany; for those purchases over a short period contributing to a downward spiral in the economy; and for the sequence of unrest, heavier repression, international condemnation and an embargo on spare parts for

the imported hardware. The closing comment that this was not an ideal situation for a country contemplating armed invasion is Ramsey's.

45. Middlebrook, for a large anti-government demonstration in Buenos Aires on 30 March 1982. Research run I, section 3.6, for the CGT mobilisation in the Plaza de Mayo and the arrests, and for the spread of arrest figures: contemporary press reporting of over a thousand in Buenos Aires against later Argentine accounts of two thousand and seventy-four, three thousand and four thousand, some of which are national rather than city totals. Run I recommends printing the range rather than choosing, and naming Saul Ubaldini and the CGT leadership, Adolfo Perez Esquivel and the Madres de Plaza de Mayo, which is what this appendix does.

46. Middlebrook, for the judgment that there is little validity to the suggestion that a recent increase in internal turmoil was a major contribution to the junta's decision, on the ground that the Argentine troopships and warships were already well on their way by 30 March. This appendix accepts the objection as stated and distinguishes trigger from motive.

47. Middlebrook, for Galtieri announcing soon after taking the presidency in December 1981 that 1982 would be the year of the Malvinas, and for the judgment that Galtieri and his colleagues needed a diversion and that the Malvinas was the one issue uniting all Argentines.

48. For the characterisation of the junta's relations with Moscow as anti-communist pro-Soviet, a formula of the Argentine comedian Tato Bores now used by historians; and for the pattern it describes, in which the dictatorship needed Eastern-bloc markets for its agricultural output and permitted the Argentine Communist Party and a TASS bureau to operate, while joining the Moscow Olympics boycott, condemning the invasion of Afghanistan, and firing on Soviet fishing vessels in Argentine waters in 1977. Research run H for this book, section 1.4, citing Mariano Pablo Sciaroni, *Las superpotencias y Malvinas 1982* (Escuela Superior de Guerra, Buenos Aires, 2015), page 9, and through him Escudé and Cisneros.

49. For Argentina declining to join the United States grain embargo imposed on the USSR after the invasion of Afghanistan, and for the five-year agreement signed in 1980 covering 1981 to 1985 with minimum annual Soviet purchases of four million tonnes of coarse grains and five hundred thousand tonnes of soybeans. Research run H, section 3.2, preferring the United States International Trade Commission statement of the terms, corroborated by Robert Paarlberg in *Foreign Affairs*, Fall 1980, whose five-year totals of twenty million and two and a half million tonnes are the same deal stated the other way. A United States interagency record of 1 May 1980 describes the agreement as five million tonnes annually; run H treats that as the same agreement loosely stated and this appendix follows it. Readers should note the discrepancy rather than have it averaged away.

50. *Foreign Relations of the United States, 1977 to 1980*, volume VI, document 275, Summary of Conclusions of a Special Coordinating Committee Meeting, Washington, 1 May 1980, for the judgment that Argentina is the key, that heavy continued Argentine shipments would make it difficult to convince others to hold the line, and that the United States had little room to bargain the figure below that level without backing away from its own human-rights and non-proliferation policies. This is recorded in research run H at section 3.3.

51. For the Soviet Union absorbing 33.7 per cent of Argentina's total exports and about eighty per cent of its grain exports in 1981, against Soviet sales to Argentina of about sixty-seven million dollars, and for Soviet purchases of about three point three billion dollars. Research run H, sections 3.4 and 3.5, citing Ruben Berrios, *Soviet-Latin American Economic Relations*, Kennan Institute Occasional Paper 227, 1988, page 12, for the shares, and a United Press International dispatch of 9 May 1982 for the dollar figures. Run H grades the dollar figures moderate because the single dispatch they come from is internally inconsistent about the grain share, giving seventy-five and eighty per cent in adjacent clauses. The ratio rather than the absolute figures is what this appendix relies on.

52. For the Argentine foreign minister Nicanor Costa Méndez summoning the Soviet ambassador Sergei Striganov on 2 April 1982 while the Argentine ambassador in Moscow met senior Soviet officials, with the object of explaining the recovery and obtaining a Soviet veto. Research run H, section 1.4, citing Sciaroni 2015, pages 9 and 10, and through him Isidoro Gilbert, *El Oro de Moscú* (2007), pages 474 and 475. One secondary source asserts that Buenos Aires made no advance overtures to veto-capable states; run H prefers Sciaroni, who works from Argentine foreign-ministry archives, and judges the other account probably right about the period before 2 April.

53. For *Pravda* of 3 May 1982 running the British attack under the headline *Dangerous Escalation*; for Radio Moscow the previous day calling it a threat to world peace and security and saying the world community had a chance to see once again where the threat of war comes from; and for Brezhnev's remarks at a Kremlin dinner for Daniel Ortega on 4 May 1982 condemning powers resorting to actions hailing back to the time of colonial brigandage without naming either belligerent. Research run H, section 1.1, citing United Press International dispatches of 3 and 4 May 1982.

54. For the TASS analyst's reply to the West German foreign minister Genscher that the suggestion of selfish Soviet interests was as far from the truth as the Falkland Islands are from Bonn. Research run H, section 1.1, citing a United Press International dispatch from Moscow of 9 May 1982.

55. For the Soviet Union describing the islands as disputed territory and calling for restraint without endorsing the Argentine sovereignty claim; and for the contemporary Western attribution of that omission to a fear of precedent, with Japanese claims to territory taken by force by the USSR in mind. Research run H, section 1.2, grades the withholding of the endorsement high and the explanation moderate, noting it is a journalistic inference with no documentary backing located. This appendix attributes it as one.

56. For no Soviet-supplied weapons reaching Argentina before, during or immediately after the war. Research run H, section 4.1, citing Sciaroni 2015, pages 35 to 39, whose conclusion from the Argentine service archives coincides with that of the Russian journalist Sergei Brilev, quoted by Sciaroni

at page 38: Soviet weapons never arrived in Argentina, and that is a myth. The single apparent exception is the SA-7, which is Soviet-designed and was supplied by Peru and Libya, and which the body of this appendix now names rather than leaving to this note. Research run H, section 4.3, grades the chain high: about a hundred and twenty missiles and forty launchers flown in from Peruvian stocks on 6 May 1982, with three Peruvian officers who trained Argentine crews at Goose Green on 9 May, and a further fifty to sixty missiles with ten to twenty launchers from Libyan stocks from late May; no confirmed kill; sixty missiles and thirteen launchers captured unfired. Run H's formulation, from Sciaroni, is that the Soviet Union clearly did not object to Gaddafi including the missiles in his aid package, but that this does not allow us to speak of a supply of weapons from that country to Argentina.

57. Ramsey, for the Harrier GR3 reconnaissance sortie west of Stanley whose film, on development, showed an Argentine soldier tracking the aircraft with a Blowpipe at very close range and a second soldier on the summit of Two Sisters attempting to bring a SAM 7 to bear, and for the pilot's reaction on being shown the print. Ramsey writes SAM 7; the weapon is the SA-7. Research run H initially reported being unable to find any SA-7 reference in this book; it is present, and the discrepancy is recorded as section 7.7 of this book's research consolidation and as finding F040 in its flag log. The closing sentence of the passage is the narrator's characterisation and not a claim from any source.

58. For the adoption of Security Council Resolution 502 at the Council's 2350th meeting on 3 April 1982 by ten votes in favour to one against, Panama, with four abstentions: China, Poland, Spain and the Soviet Union. Research run H, section 2.1, citing Anthony Parsons, "The Falklands crisis in the United Nations, 31 March to 14 June 1982," *International Affairs* 59:2, Spring 1983, pages 169 to 178, at page 172.

59. Parsons 1983, page 172, for the resolution securing a firm base of international support without which it would have been difficult to persuade partners, friends and allies to join in the economic and political measures

which, with military action under Article 51 of the Charter, formed the three planks of British policy.

60. Parsons 1983, pages 171 and 172, for the delegation knowing ten was its maximum because the three communist delegations could not be expected to support a British draft, for discounting a Chinese veto on instinct, for having no feel for the likely position of the USSR, even less as the Soviet delegation dashed to and from the telephone as the debate wore on, and for not even looking in the direction of the Soviet colleague as the pencils went up. The reading of the telephone as evidence of an absent instruction is research run H's, section 2.3, and this appendix adopts it.

61. Parsons 1983, page 171, for Panama's motion earlier in the same meeting to suspend the session for two or three hours so a rival draft could be considered, defeated by seven votes in favour, China, Ireland, Japan, Panama, Poland, Spain and the USSR, to three against, France, the United Kingdom and the United States, with four abstentions, failing to reach the nine votes required. Research run H, section 2.2, notes that this fact is absent from the popular accounts.

62. For the lifting of the United States grain embargo in April 1981 and an improved Soviet harvest meaning the USSR needed to import less grain by 1982, with Soviet purchases from Argentina then falling. Research run H, section 3.6, citing Berrios 1988, page 12. Run H grades the facts high and labels the inference that this removed any compulsion on Moscow to protect the junta as its own reading at moderate strength. The asymmetry of the relationship, a third of Argentina's total exports against roughly a quarter of one importer's grain purchases, is run H's framing and this appendix follows it.

63. For the reported offer of four Kresta-class cruisers to Admiral Jorge Anaya in April 1982, which Sciaroni calls preposterous if it was real, noting that a Kresta II displaces six thousand tonnes, is a hundred and fifty-nine metres long and needs about three hundred and fifty highly trained crew; and for Anaya wanting Tu-95 aircraft fitted with air-to-surface missiles, offering to pay cash so as to have no dependency, being quoted six months for delivery,

and receiving no reply at all to the point that Argentina needed them at once. Research run H, section 4.2, which grades the cruiser offer low, from a single memoir-derived source, and the Tu-95 account moderate, from Gilbert's interviews with no supporting document.

64. For the four conditions reportedly put to Galtieri by the Soviet ambassador in early May 1982 in exchange for arms: immediate withdrawal of Argentine advisers from Central America; abstention from voting against the USSR at the United Nations on matters such as the occupation of Afghanistan; authorisation for the Soviets to build fisheries facilities at Ushuaia; and an end to Argentine support for General Torrelio's junta in Bolivia. Research run H, section 4.2, grades this moderate: the list comes from one journalistic book, Arthur Gavshon and Desmond Rice, *The Sinking of the Belgrano* (1984), page 101 of the Spanish edition, and is not corroborated from any archive run H could reach, though it is consistent with the independently documented Argentine refusal. It is carried here at that strength and no further. Note also that the order of the four conditions in the body is this book's and not the source's: run H numbers the Ushuaia fisheries condition third and Bolivia fourth, and the text moves the fisheries condition last because that is where it bears on this book. A reader checking the source will find it third.

65. For the Junta's minute of 1 May 1982 recording the political impossibility of resorting to Soviet military assistance, and the perception that direct Soviet intervention would bring direct United States intervention on Britain's side and possibly a third world war. Research run H, section 4.2, citing the Junta de Gobierno minute of 1 May 1982 via Sciaroni 2015, page 13.

66. For Admiral Anaya's statement that he would never, repeating the word, turn to the Soviet Union, and for the air force chief Brigadier Basilio Lami Dozo telling an American interlocutor in mid-May that the Soviets were offering military equipment and assistance at moderate prices but that the money is only part of the price and Argentina will never pay that price. Research run H, section 4.2, citing Juan Bautista Yofre, *1982: Los documentos secretos de la guerra de Malvinas/Falklands* (2011), pages 326 and 382, via Sciaroni 2015, pages 10, 11 and 13. Graded moderate.

67. For the Argentine government receiving the Soviet ambassador again on 31 May 1982, with the military situation already lost, and announcing publicly a willingness to accept help from any country including the Soviet Union, with nothing arriving. Research run H, section 4.2, citing Vojtech Mastny, "The Soviet Union and the Falklands War," *Naval War College Review* 36:3, 1983, page 51, via Sciaroni 2015, page 13. Run H was unable to obtain Mastny in the original and says so; the citation is second-hand and is marked as such here.

68. For Soviet collection against the task force: Tu-95 Bear D reconnaissance aircraft operating from Luanda with over a hundred hours logged in April alone, the intelligence ship *Zaporozhye* stationed off Ascension from 29 April to 26 June 1982, around forty Warsaw Pact fishing and factory vessels in the theatre, and dedicated satellite passes. Research run H, section 5, which notes that the first Bear appearance over the fleet on 8 April came from northern Russia by way of the North Sea rather than from Angola. On satellites specifically, run H section 5.2 prints three findings, all graded high, and all of them cut against the word tasked: none of the high-resolution photographic satellites then in orbit had an orbit suggesting dedicated South Atlantic surveillance; the 1982 ocean-surveillance launches were not reactive to the conflict, such launches normally falling in March and April anyway; and the take from one of them was probably superfluous, with disclosure to Argentina judged doubtful. Against that, Kosmos-1368 passed over the islands daily at two hundred and forty kilometres and the White House thought the photographic coverage unusual. Run H also notes that most Soviet imaging satellites of the period returned film capsules over Soviet territory, which makes practical use in a fast-moving naval campaign doubtful.

69. Ramsey, for Admiral Sir John Fieldhouse's briefing that the force should be careful transmitting when United States intelligence satellites passed overhead and certainly not when a Soviet one did. This is evidence of British precaution in April 1982 and not evidence of any transfer to Argentina, a distinction research run H, section 5.1, insists on and this appendix keeps.

70. Ramsey, for a participant's recollection of sighting a Russian spy ship on Tuesday 13 April 1982 and the resulting order that no rubbish was to go overboard because the Russians were collecting it. This is a recollection of an unidentified vessel on the passage south and is not the same thing as the documented station of the *Zaporozhye* off Ascension from 29 April; the two are not merged here. See section 7.7 of this book's research consolidation.

71. For information reaching the telex of the Soviet embassy in Buenos Aires and being passed by the military attaché, a tank officer, to a liaison officer of the Argentine Air Force; and for no photographs being handed over, for reasons given as technical, with the material taking the form of coordinate figures. Research run H, section 5.6, citing Gilbert 2007, pages 476 and 477, via Sciaroni 2015, pages 13 and 26. Graded moderate to high.

72. For message 582, sent to Fuerza Aérea Sur at 13:40 on 9 June 1982, giving the position as at 23:00 the previous evening of the carriers *Invincible* and *Hermes* with course north-east and speed seven knots, plus wind, cloud, and water and air temperature; and for the carriers in fact being about forty-five nautical miles south of the reported position and steering south-south-east on HMS *Invincible*'s own log. Research run H, section 5.6, citing Sciaroni 2015, pages 27 and 28, who reproduces the message from the Archivo Histórico de la Fuerza Aérea Argentina.

73. For the message of 13 May 1982 at 20:38 reporting a Vulcan taking off and stating at the maximum reliability grade that Ascension held eight Vulcan bombers, eleven Victor tankers, five Nimrod reconnaissance aircraft and Harriers, when no such flight had taken place and the numbers did not match the deployment. Research run H, section 5.6, citing Sciaroni 2015, pages 28 and 29.

74. For the Argentine Air Force on the morning of 30 May 1982 holding external-source data placing *Invincible* and *Hermes* in positions that disagreed by about ninety nautical miles with the Malvinas AN/TPS-43 radar plots of the same day, with neither correct. Research run H, section 5.6, citing Argentine Strategic Air Command plan 2/82 and Directive number 1 of 22 May 1982 and the Fuerza Aérea Sur files via Sciaroni 2015, pages 29 and 30. Sciaroni's fair-

minded concession, that external-source data were used in planning possibly the most important mission of the war whatever its final result, is recorded in run H and noted here.

75. For the Argentine Navy combat-unit commander, unnamed in the source, who received this kind of information four or five times, was once told the source was the Eastern bloc, and judged it useless because it was in every case about twenty-four hours old. Research run H, section 5.6, citing Sciaroni 2015, page 31. Graded moderate as an anonymous interview that converges with the documentary error margins.

76. Sciaroni 2015, page 39, for the conclusion that it is little and nothing that the Soviet Union did militarily for Argentina during the conflict; that it supplied intelligence information, but that this was neither of good quality, nor in sufficient quantity, nor timely; and that no successful Argentine military operation can be attributed to data handed over by that country. Via research run H, section 5.7. Note also the counter-evidence run H records at section 5.6: the Argentine Air Force's official post-war report never mentions Soviet satellite help, and the officer responsible for electronic warfare told the Argentine commission of evaluation flatly that there was no supply of information by the USSR to the Argentine forces.

77. For the impossibility of the most-repeated Russian version of the claim: HMS *Sheffield* was hit on 4 May 1982 and the satellite Kosmos-1365, credited by Sergei Brilev with locating her, was launched on 14 May 1982. Research run H, section 11, item 2, which also notes that Brilev misidentifies the attacking aircraft and that the *Coventry* and *Atlantic Conveyor* versions of the claim are unsupported on their own facts.

78. Middlebrook, for the statement that the Russians were not passing information, and for his related observations that Bear aircraft from Luanda and Soviet merchant ships shadowed the force but that there was never any evidence the Russians were other than curious for their own purposes. Research run H, section 5.8, confirms the shadowing and finds the no-transfer statement too absolute in the light of Argentine Air Force files declassified

long after Middlebrook wrote, while confirming his judgment about the effect.

79. *Foreign Relations of the United States, 1981 to 1988*, volume XIII, document 92, telegram from Alexander Haig in Buenos Aires to the White House, 11 April 1982, paragraph 5, for Galtieri saying he would have to accept the offer of full support made by the Cuban ambassador, for the Cubans implying they were speaking for the Russians and insinuating that the Soviets had offered to sink the British carrier with Prince Andrew aboard, and for Haig's own note that he doubted such an offer was actually made by the Soviets but could not discount it altogether. The misspelling of actually is in the original document. Via research run H, section 5.9.

80. Middlebrook, for the judgment that Galtieri's claim must be considered another of his inventions, and for the related observation that it is most unlikely the Russians would have risked becoming involved in that way. Research run H, section 5.9, finds Middlebrook right in substance and imprecise in attribution, the record showing a Cuban insinuation relayed by Galtieri rather than an invention of his own.

81. *Foreign Relations of the United States, 1981 to 1988*, volume XIII, document 98, Memorandum of Conversation, London, 12 and 13 April 1982, for Haig reporting that the Cuban ambassador returned to Buenos Aires after a year's absence and offered them everything, that Galtieri said he could not turn to the Soviets, and that he did not want to break Argentina's Western involvement. According to the editors, the memorandum appears to be an incomplete record. Via research run H, section 5.9.

82. For Polish vessels taking about a hundred and nine thousand two hundred tonnes of shortfin squid, *Illex argentinus*, in the South-West Atlantic in 1982, of a regional total of about a hundred and ninety thousand tonnes with about eighty per cent of it taken around the Falklands; for Polish southern blue whiting catches of about a hundred and twenty-one thousand eight hundred and seventy-five tonnes that year against a Soviet catch of about four thousand and sixty-three tonnes; and for the Argentine Navy counting seven Polish vessels to four Soviet ones inside five hundred nautical miles on 30

May 1982. Research run H, section 6.2, citing M. L. D. Palomares and D. Pauly, "Fisheries of the Falkland Islands and the South Georgia, South Sandwich and South Orkney Islands," in *Marine Fisheries Catches of SubAntarctic Islands, 1950 to 2010*, Fisheries Centre Research Reports, University of British Columbia, 2015, tables 4 and 5 at page 7. These are a published reconstruction built on Argentine, Japanese and Polish data with surveillance records, and run H says so. The reconstruction does not break out a Soviet squid figure.

83. For the fishery being wholly unregulated before the conservation zone, and for the Falkland Islands Government's own catch reports beginning only in 1989. Research run H, section 6.1, citing Palomares and Pauly 2015, page 7.

84. For the Foreign and Commonwealth Office commissioning Lord Shackleton to chair an independent enquiry, for the survey team coming mainly from the Economist Intelligence Unit under Peter Mould with specialists in fisheries, oil, sheep husbandry and fiscal matters, and for Shackleton travelling in HMS *Endurance*. Research run I, section 4.4, from Shackleton's own account in *The Geographical Journal* 143(1), 1977. **Run I was unable to obtain the report itself**, *Economic Survey of the Falkland Islands*, two volumes, July 1976, and worked from Shackleton's published lecture and from Hansard; that is recorded here so the reader does not mistake a gap in the research for a gap in the record.

85. For capital expenditure of between three and five million pounds, of which the airfield extension was by far the major item, plus one to one and a quarter million pounds for fisheries exploration; and for the recommendation to extend the planned twelve hundred and fifty metre runway by a further nine hundred and fifty metres at some three and a half to four million pounds. Research run I, section 4.4, from Shackleton's team in *The Geographical Journal* 143(1), 1977, and from Lord Boyd, HL Deb 20 April 1977, column 226. Other totals circulate, including five point four million over five years from Shackleton himself in debate and five point one million from another peer; run I prefers Shackleton's own two statements and warns against adding figures across sources, which this appendix does not do.

86. Shackleton's team in *The Geographical Journal* 143(1), 1977, via research run I, section 4.4, for the statement that although they could not with certainty justify the expenditure in economic terms from their cost-benefit analysis, they could say with certainty that without it development in the Falkland Islands was likely to remain limited, and that none of the development was likely to be on any significant scale without improvements in external communications. Run I flags this as the detail most often lost when the report is summarised.

87. For the Government not accepting the more costly recommendations in the Shackleton report, notably the enlargement of the airport and the lengthening of the runway; for the airfield being described by a Minister of State as hard to justify on the evidence then available; and for what was in fact funded out of the aid programme by 1979, which included the Stanley to Darwin road, a school hostel, an aircraft for the internal air service, medical equipment and a fiscal adviser. Research run I, section 4.4. The runway was not extended, which run I grades high and confirms from the other direction through Lords statements of 1983 and 1985 that the main runway recommendation was not implemented.

88. For Shackleton's fisheries enthusiasm being directed at krill, which he called the most important untapped source of protein in the world, and at southern blue whiting, rather than at the *Illex* squid that transformed the islands' finances after 1987; and for his judgment that oil development would require international co-operation, meaning Argentina. Research run I, section 4.4, which notes that the report did not predict the squid and that its treatment of oil is the reverse of how the Falklands oil argument is usually deployed. The report also recommended the wholesale transfer and subdivision of absentee-owned farms.

89. Francis Pym's statement, HC Deb 8 December 1982, volume 33, columns 851 to 860, for Lord Shackleton's post-war proposal of thirty to thirty-five million pounds, for the Government's tentative estimate of about thirty-one million over six years, for a further five million for civilian rehabilitation on top of ten million announced in July 1982, for the assurance that no existing

commitments would be cut to pay for it, and for the rejection of the proposal for wholesale transfer and subdivision of absentee-owned farms in favour of an approach described as gradualist. Research run I, section 4.4. A statement was made in the Lords the same day, which is the source of the fishery passages cited below.

90. Ramsey, for the British commissioning of an economic survey of the islands chaired by Lord Shackleton, for his arrival in Stanley coinciding with the hundred and forty-third anniversary of Captain Onslow's repossession of the islands, and for the withdrawal of both ambassadors as a result. Ramsey also records the Argentine foreign minister Arauz Castex predicting that British intransigence would leave Argentina only one course.

91. Statement on the Shackleton Report read by Baroness Young, House of Lords, 8 December 1982, for the British government's position that foreign freezer-trawlers have fished from time to time in the waters around the Falklands and continue to do so, but that hitherto there has been no concerted effort to develop fishery resources for the benefit of the islanders. Via research run H, section 6.1.

92. Hansard, House of Lords, 8 December 1982, for the government response that a two-hundred-mile fisheries limit required further study, with its implications, not least its policing, and the degree of commercial interest in fishing to be carefully assessed; for about one point three million pounds of a programme of roughly thirty-one million over six years being earmarked for a salmon-ranching pilot scheme and a shellfish survey; and for Viscount Thurso calling it a mere pilot scheme for salmon ranching, saying he thought it unsatisfactory, and noting that the Falkland Islands are situated in one of the richest seas on the face of the entire globe. Via research run H, section 6.1.

93. For the Government's December 1982 account of about seven hundred million pounds in 1982 to 1983 for the operation and the replacement of lost equipment, about nine hundred million over the following years, and a garrison cost of four hundred and twenty-four million for the next year: Viscount Trenchard, HL Deb 14 December 1982, volume 437, columns 496 to 497. For the Commons Defence Committee's figure of two point six billion

pounds of extra military costs across 1982 to 1986: Lord Cledwyn of Penrhos, HL Deb 6 December 1983, column 1006. Research run I, section 5.1, which stresses that at least four official figures exist in three different bases, that all are cash and none is adjusted for inflation, that Nott's pre-surrender estimate of June 1982 is superseded rather than additive, and that the figure of one point six billion in wide circulation has no official source and should not be used. It is not used here.

94. Michael Heseltine, HC Deb 27 June 1983, columns 345 and 351, for RAF Mount Pleasant costed at about two hundred and fifteen million pounds including the Stanley to Mount Pleasant road and the communication and navigation aids, of which the main construction contract was about a hundred and ninety million, Heseltine stating explicitly that the smaller figure sits inside the larger so that the two must not be added; and for estimated savings of about twenty-five million pounds a year from having the airfield. Opened 12 May 1985. Research run I, section 5.3, notes that two hundred and fifteen million is a June 1983 estimate rather than an audited outturn and that figures of four hundred and five million and four hundred million circulate without support, one of them disowned by Heseltine in the same exchange.

95. The comparison in this paragraph sets research run I, section 4.4, against sections 5.1 to 5.5, and the chronology is firm in every element: the 1976 refusal of the airfield and of the fisheries survey, the December 1982 deferral of a two-hundred-mile limit on the stated ground that its policing implications required study, the construction of Mount Pleasant, and the first-year licence revenue from 1 February 1987, which one account puts at about thirteen and a half million pounds and another at nineteen point seven million, against protection costs of about four million. Research run H, section 6.3, prints both revenue figures and has no basis for preferring one, and this appendix prints both for the same reason. Run I grades the causal reading, that the zone followed the garrison and the airfield rather than the reverse, as moderate: the chronology is documented and the causation is an inference it has not seen argued in a scholarly source, and it is offered here on exactly that footing.

96. John Stanley, HC Deb 4 June 1985, volume 80, column 140, for defence provision for the Falkland Islands of two hundred and eighty-eight thousand pounds per islander in 1985 to 1986, two hundred and thirty-four thousand in 1986 to 1987 and a hundred and fifty-six thousand in 1987 to 1988, all cash. Research run I, section 5.2, grades this high.

97. The ratio in this paragraph is derived rather than published, and research run I, section 5.4, states the problem with it plainly: two hundred and eighty-eight thousand pounds per islander is cash of 1985 to 1986 while the islands' national product of four point two million pounds is cash of 1980, so deflating the earlier figure brings the ratio down from about a hundred and twenty to one to nearer eighty to one. Run I recommends the phrase of the order of eighty to a hundred times rather than any single number, and that is what is used. Note also Lord Shackleton's own counter-accounting, that the islanders had never been subsidised and had always paid their way, which run I grades high as something he said and moderate as an accounting claim, and which is attributed rather than asserted.

98. For the Interim Falkland Islands Conservation and Management Zone declared by proclamation of Governor Gordon Jewkes on 29 October 1986; for patrol assets, a Dornier aircraft and two vessels, being in place by January 1987; for the Fisheries Ordinance taking effect on 1 February 1987; and for four hundred licence applications, two hundred and fifteen vessels licensed under two hundred and forty-three licences for the February to June season with eighty-five more for July to December, at fees from twenty-six thousand to eighty-six thousand pounds depending on tonnage. Research run H, section 6.3, grades this moderate to high, from a detailed retrospective drawing on *Penguin News* rather than a primary document. Accounts differ on whether the zone's radius was a hundred and fifty or a hundred and sixty nautical miles and run H did not resolve it.

99. For Falklands gross national product of four point two million pounds in 1980, ten point eight million in 1986 and thirty point three million in 1987; for government revenue increasing by around five hundred per cent; and for the islands becoming self-sufficient in everything but defence and external affairs.

Research run H, section 6.3, grades this moderate to high: the series comes from a Falkland Islands Development Corporation working paper run H could not retrieve directly and knows through its search index, with the revenue figures from *Penguin News* by way of a later retrospective. First-year licence revenue is given as about thirteen and a half million pounds in one account and nineteen point seven million in another; run H prints both and has no basis for preferring one, and both appear in the body of this appendix for that reason. They may be counting different things, one a calendar year and the other a first licensing year.

100. Middlebrook, for the Foreign Office having wished to be released from the Falklands problem by transferring sovereignty to Argentina, and for the stated commercial reason, that the dispute was endangering British relations and trade interests in a large part of the South American continent. The preposition is Middlebrook's and is restored here; an earlier draft had across.

101. For *Endurance* still being on station on 2 April 1982 with her decommissioning date a fortnight away, and for nothing in the 1981 review having been executed by the time of the invasion. Research run I, section 9, item 16, states the constraint directly, which is that no one should write that the Nott review caused the invasion. This appendix declines to, and says so in the text.

102. For the Franks Report's conclusion that the signals made the Argentine bet look safe without creating the intention, and for the planning record showing internal politics and naval ambition as the drivers. Chapter 11 of this book carries both. The gated research behind this book grades the existence of the signals high and their causal weight moderate.

103. For the asymmetry in the literature. Research run I, section 6, records that the case for Treasury-driven retrenchment having been read in Buenos Aires as abandonment is strongest in the Franks Report itself and in political statements, while the objections locating the cause in Argentine miscalculation have the better scholarly backing, naming Lebow in the *Journal of Strategic Studies* in 1983 and Hampshire in the same journal in 2016. Run I states that it could not read Beck, Charlton, Gamba or Freedman and warns against reading the asymmetry as a verdict. For the inquiry's own wording,

run I prefers Thatcher's rendering that the decision to withdraw *Endurance* could have provided the wrong signal to the Argentines, one of a number, and warns that the sentence commonly attributed to the Franks Report about casting doubt on British commitment could not be verified and should not be quoted. It is not quoted here.

104. The two positions set out here are the argument this appendix is making and the strongest objection to it, and both are labelled as arguments rather than findings. The gated research behind this book grades the existence of the British signals as well established and their causal weight as moderate, which is the basis for presenting the dispute without resolving it.

105. The total of nine hundred and seven dead is chapter 11's figure and its arithmetic, being six hundred and forty-nine Argentine service personnel, two hundred and fifty-five British and three islanders. It is given here only as a total, because the casualty accounting belongs to that chapter and is not restated in this appendix.

Appendix B: What a Passenger on This Route Should Actually Know

1. The two briefings are *Perplexity, Silversea Cruises*, and *Gemini, Pre-Departure Operational and Itinerary Briefing*, both dated 27 October 2026 and both held in the project material for this book. Neither is a published source, neither was produced by the authors of this book, and both are treated here as evidence to be weighed rather than as authority. Voyage-specific booking details in both documents are deliberately not reproduced in this appendix.

2. *Perplexity, Silversea Cruises*, for the self-description as a partial, evidence-graded briefing rather than a fully verified route dossier; for the stated method of counting distinguishable firsthand accounts rather than percentages of passengers; and for the explicit high, moderate and low confidence grades applied throughout. The count of roughly a third of questions reaching no conclusion is this book's reading of that document rather than a figure the document states.

3. *Gemini, Pre-Departure Operational and Itinerary Briefing*, for the structure of twenty numbered sections each closing with a source line and a confidence statement, and for the quantified cancellation rates, fine ranges, evacuation costs and segment-by-segment sea state.

4. *Gemini*, same document, for the source lines quoted. The objection raised here is that these name a category of record rather than a retrievable document, and so cannot be checked by a reader. This is the book's own assessment and is offered as such.

5. *Gemini*, citing Silversea's published ticket contract at what it identifies as clause 7, for the carrier's and master's authority to omit or substitute ports, alter scenic cruising and change vessels without liability, and for the limitation of compensation to unspent port charges and pre-purchased line excursions. **This clause comes from one briefing only.** *Perplexity* was searched for it and carries no contract content beyond the medical exclusion at note 6; it says nothing about itinerary deviation, compensation limits, the status of medical staff or the master's power to disembark. Neither the clause numbering nor the wording was read against the contract text for this book, and the body of this appendix now says so rather than implying that the two briefings corroborate each other here.

6. *Perplexity*, citing Silversea's current published booking terms, for the explicit exclusion of medical services and medical insurance from the fare. Graded high in that document on the strength of the official wording, with the separate note that no treatment price or evacuation ceiling is thereby established.

7. *Gemini*, for the classification of shipboard medical staff as independent contractors and the carrier's disclaimer of vicarious liability for clinical care. Not independently verified against the contract text for this appendix; the practice is standard in the industry.

8. *Gemini*, for the master's authority to disembark a passenger judged unfit to travel or a hazard to others, with repatriation at the passenger's expense. Same caveat as the preceding note.

9. *Gemini*, for delivery in 2023, about 54,700 gross tons, about 728 guests, and the asymmetrical horizontal layout.

10. *Gemini*, for the Observation Lounge on Deck 10 forward as the heated indoor forward vantage point, the Deck 11 open perimeter as the position without structural glass, the Dusk Bar on Deck 10 aft as sheltered stern viewing, and the pool deck as subject to wind funnelling that the glass screens do not fully deflect. The underlying claims are about deck geometry and are consistent with the published deck plans.

11. *Gemini*, for the eighteen covers a night at the S.A.L.T. Chef's Table and the limited number of work stations in the cooking classes. *Perplexity* independently records a capacity of eighteen from a separate editorial source and a capacity of twenty-eight for the class from a hosted travel-media account, noting that the latter needs confirmation. The two documents agree on the eighteen.

12. *Gemini*, for complimentary self-service launderettes on the suite decks and per-garment charging for valet laundry, pressing and dry cleaning outside the upper suite categories.

13. *Gemini*, for Starlink as the satellite architecture, the throttling and protocol filtering of the included tier, the existence of a paid premium tier, and signal shadowing in steep fjords. See note 19 for the conflict over the actual speed.

14. This is a deduction from the route rather than a reported fact, and is labelled as such in the text. *Gemini* reaches the same conclusion and ranks it among its top fifteen operational realities; *Perplexity* states that no accessible guest evidence supports recommending either side of the ship or any particular deck. Both can be true: the geometry holds for coastal open-ocean legs, and no guest account verifies what it is like in practice.

15. *Gemini*, for Stanley as a full tender port with the ship anchoring in the outer roadstead and tendering through the Narrows, for the abort criteria of swell at the tender platform and crosswind in the channel, for the absence of any substitute port and the conversion of the call into a sea day, and for the quoted seasonal cancellation rate of twenty to thirty per cent. *Perplexity*, for

the finding that no defensible cancellation percentage could be located and that a claim of the order of half of all calls being cancelled would be unsupported. The rate is reported here as asserted and unverified; the physical and contractual facts around it are not in dispute.

16. *Gemini*, for the pre-arrival sworn declaration, gangway screening at Chilean ports, the strict prohibition on fresh produce, meat, dairy and seeds, the general permission for commercially sealed items when declared, and the quoted fine range. *Perplexity*, for the finding that the exact rules and inspection practice at the Chilean ports were not established in the evidence it recovered, and its consequent refusal to publish a prohibited-items list. The behavioural advice given here is the part that survives both.

17. *Gemini*, for the figure of one hundred thousand to two hundred thousand US dollars for a regional air ambulance charter and for the requirement of payment guarantees before departure. The figure carries no retrievable citation in that document and is presented here as an order of magnitude only. *Perplexity* records that no verified evacuation account or cost estimate for this route was recovered at all.

18. *Gemini* resolves a three-way conflict over one restaurant's cover charge in favour of one hundred US dollars per person for this class of ship, attributing a lower figure to older vessels and a higher one to an erroneous media report. *Perplexity* separately records a guest report of a one hundred and fifty dollar charge in March 2026 and states that prices for a future sailing are not verified. The conflict is reported rather than resolved here.

19. *Perplexity*, citing a dated Cruise Critic post of 28 December 2024, for a firsthand measurement of about 0.12 to 0.2 megabits per second on the included tier against about 10 after upgrading, and for the absence of any comparable verified later measurement. *Gemini*, for the figure of one to three megabits per second. These are not reconcilable and both are printed.

20. *Gemini*, for the described complement of two to three destination specialists and their subject areas. *Perplexity*, for the finding that no verified source

names any lecturer for a specific sailing and that testimonials from other ships do not establish staffing.

21. *Gemini*, for the segment-by-segment table of temperature, wind, swell and route conditions, including the Roaring Forties crossing, the sheltered state of the Beagle Channel and the Chilean inside channels, the williwaws in the Strait of Magellan, and the Humboldt swell on the Pacific leg. The physical geography is corroborated by the research behind chapters 5 and 7 of this book. The specific figures rest on the unnamed records discussed in note 4.

22. *Gemini*, for the clinical capability of the shipboard medical centre and its stated limits, the inadequacy of tertiary care in the region, and the mechanics and cost of aeromedical charter. *Perplexity*, for the official exclusion of medical services from the fare, graded high, and for the finding that no verified consultation fee, treatment cost or evacuation case was recovered for this ship or this route. The recommendation to carry dedicated evacuation cover is this book's own and is the only recommendation in it.

23. *Perplexity*, for each of the absences listed, and for the formulation that the lack of any documented missed-flight case after a Valparaíso disembarkation is an evidence gap rather than evidence that the connection is risk-free. The wording of that finding is preserved because the distinction is the point.

24. *Perplexity*, for the counted guest evidence: at least five critical accounts of the food from 2025 and 2026 with at least two clearly favourable ones, recurring praise for staff and for the butler service appearing even in otherwise negative reviews, and at least three recent accounts of uncrowded public spaces. One serious allegation about food handling from March 2026 is recorded in that document as a single uncorroborated account and is not treated here as a pattern.