

## Salt lake, silver mine, and volcano 2007

*In late December 2006, I start on a long trip through South America with much movement. First to the wild Lauca National Park in Chile's extreme north, then to the mountains, salt lakes, and silver mines of Bolivia, and the wilderness area Pantanal in eastern Brazil. I meet Dorothea in Rio de Janeiro, we go to the Iguazú falls and the mountains of Aparados da Serra in southern Brazil. On to Uruguay and Buenos Aires, the Argentine Andes, the beautiful Lakes area of Chile, and finally home.*

I stock up on a complete terrorist's equipment: dynamite stick, fuse (two minutes), and ignition charge. All of this is freely available, for half a Euro, in store after store on this road leading to the famous silver mines. It is a funny feeling to carry this around in a plastic bag. And later my guide to the mine shows me how to set it all up and then creates a big bang! at a safe distance.

But it was a long way to this mining town of Potosí. Figure 812 presents a map of the western part of this trip. My Turbus to Antofagasta leaves from Santiago de Chile in the afternoon of the penultimate day of 2006. I suffered through many terrible bus rides on my travels, and this is the first comfortable one. In *servicio cama* (first class), I have a full length bed in the front row, with good view of the road and street signs. Food and drinks are served, excellent service. On this trip of 1400 kilometers, the bus stops at a few places right at highway toll stations, but goes into a town only once, to La Serena.

We arrive at 09.30, right on time. I slept quite well—I did not know that bus travel could be this comfortable. A friendly Chilean shows me a nice hotel. Then he takes me to an interesting experience in a temple of Jehova's witnesses. The bishop with his bishopress greets me in a friendly way. It is a loud and wild affair, with much singing and raised arms. A penitent is made to confess his sins, hands up against a wall. Donations flow freely. The temple offers cheap accommodation, but the atmosphere is unpleasant. So I move to the earlier, nice hotel.



Figure 1104. Mass at an evangelical sect. A penitent (pink shirt) confesses.

While riding in my bus through the southern outskirts, I noted a restaurant *Arrecife* (Reef). A carabinero (policeman) guards the adjoining beach and tells me that everything is closed up in this area because of the big New Year's fireworks. In spite of this warning,

I try my luck in the evening and—lo and behold—not only is the *Arrecife* open, but they actually serve wonderful Pisco Sour and ceviche on a terrace with a majestic view of the sea. An enjoyable evening begins. I walk to the nearby beach, equipped with a cool bottle of champagne. Right at midnight, big fireworks go off on all sides. Two Chilean families with small children sit on a low stone wall. They greet me effusively, kisses everywhere and sharing our champagne. Such friendly people!

Happy New Year! Finding a rental car is difficult, because most stores are closed. Eventually I get a Chevy S10 pickup truck instead of the promised Toyota 4WD. The boss asserts that this is good enough for any road, but, as expected, this turns out to be false. I drive north along the Pacific coast. Lunch is in a charming cabin on the beach near Tocopilla. The pleasant young waitress tries her best, but is still learning on the job. Tocopilla is an industrial town, serving the big inland copper mines like Chuquicamata (see Figure 821).



Figure 1105. Tocopilla with the coastal range just behind it, and the Pacific coastline.



Figure 1106. Memorials to traffic fatalities line the highway.

The Panamericana (in Chile: Ruta 5) runs inland, but the coastal highway continuing to Iquique is also in excellent state. Driving in Iquique is difficult for a foreigner, especially



at night. The town is narrow and long, squeezed into a narrow strip of land between the beach and a coastal escarpment, 300 meters high. Almost all streets are one-way, but there are no one-way signs as I am used to. All they have are small arrows on signs with street names, there are few of these, and they are hard to read at night.



Figure 1107. Not the president's, just the Tocopilla Golf Club.  
It's all one bunker.

After a morning stroll on the (unimpressive) beach of Iquique, I drive to the *Oficina salitrera Santiago Humberstone*. This was a center for processing nitrate, a preproduct for fertilizers mined in the Andean area of Cala Cala, and is now a Unesco World Heritage site. It was founded in 1872, originally called *La Palma* and had 3700 inhabitants in its golden era. Now the ruins present a magnificent and colorful reminder of that period of prosperity in northern Chile, which almost had a world-wide monopoly on nitrate. The 1910 invention of catalytic synthesis of ammonia by the German engineers Robert Bosch and Carl Haber allowed the chemical production of fertilizers, and the value of Chile's treasures plunged. It recovered a bit with the introduction of a new process, but was finally given up in the 1950s. The site is a marvellous monument of antiquated industrial hardware that has been rusting here for decades: barrels, tubes, drills, engines, and more. The old schoolhouse is particularly pretty.



Figure 1108. Humberstone: a train car and a class room with a lonely student.



Figure 1109. The big ore crusher and rusting hardware.

The flatlands and coastal ridges on the Pacific coast between Nazca in Perú (pages 648, 819) and Antofagasta in Chile are lined with geoglyphs (sometimes petroglyphs, carved on rock). The largest one in Chile is close by, the *gigante de Atacama*. I drive there and find the exact spot where our little Toyota Tercel got stuck in the sand and heat for an afternoon in 1988; see page 654.



Figure 1110. The Atacama giant at left, and other geoglyphs.



In Árica, the northernmost town in Chile, I fill up with gas and head into the Andes towards Putre, the starting point for the *Lauca National Park*, one of the few natural highlights in Chile which I have not yet seen. I am lucky to find an excellent posada in this colorful Andean village. Dinner is in the *Kuchi-Marka* in Putre, a traditional restaurant with great atmosphere and moderate food.



Figure 1111. Bathing in hot springs, not in the sanitation channel running through the center of the main street.

I start on an exploratory drive into the Lauca Park, a rarely visited beauty. Unfortunately, I can only top up on gas in Putre by very little; this is going to create a problem. My first stop is at the caves in a marshy zone of bofedales (swamps). Llamas, vicuñas, alpacas, and guanacos, all animals from the same family, are everywhere. They graze quietly in herds of ten or twenty in the green valleys of creeks, always guarding their flight distance when they think I approach too closely.



Figure 1112. Buying gas by the ounce in Putre.





Figure 1113. Vicuñas and llamas.

A vizcacha (chinchilla, similar to a rabbit) is not shy at all and allows me to come very close, standing by its hole in the rocks, into which it eventually disappears. More rich feeding marshes are around the Lago Chungará, where many ducks and several flamingoes are spending their morning.



Figure 1114. Picturesque church in Putre.





Figure 1115. Vizcacha sunbathing in front of its home.

I take a turn-off to the small quiet village of Parinacota, over which the massive volcano Parinacota looms with 6348 meters of altitude. It has a few hundred inhabitants and maintains a picturesque church in the atacameño style.



Figure 1116. Parinacota church.

The village has an active volcanic area, with mud puddles bubbling, clouds of steam emerging from the ground, multicolored hills built up from centuries of water containing all kinds of minerals, and warm baths. The salt lagoons in the park are home to large flocks of flamingos. I love to watch their elegant wading and clumsy takeoff and landing.

Here is an unpaid advertisement for the tourist guide book by Turistel and COPEC: it is by far the most complete, accurate, and detailed guide to Chile, richly illustrated with village maps down to the size of Parinacota. It describes the lengthy and complicated trail essentially without errors: Guallatire with its 17th century village church, Ancuto, Viluvio, Salar de Surire. In fact, I am not aware of such a complete guidebook for any other large country.



Figure 1117. The Parinacota volcano.

One of the more adventurous days of this trip begins with a pleasant breakfast. My guide book by Bradt says: “only 4WD, only dry season”. I have a 2WD and the rainy season *invierno boliviano* is beginning. However, carabineros and the park rangers of Conaf (Corporación Nacional Forestal, the large and efficient forest ranger corporation of Chile) tell me that the road is not perfect but manageable. It is a mind-blowing assembly of landscapes, altiplano, bofedales (marshes) with plenty of vicuña and llama, snow mountains, salt mining at the salar. The *termas de Pollorese* (hot springs) invite to a bath in their warm sulphuric waters.





Figure 1118. Go slow!



Figure 1119. Guallatire and the salt flats of the *Salar de Surire*.



Figure 1120. Warm bath in the *termas de Pollorese*.

At 14.00, I have made about two thirds of the way to Colchane at the southern end of the Lauca Park, when I run into an obstacle: a creek with knee-deep fast-flowing water at the end of the *Pampa Enquelca*. Crossing it on my own seems a bit dicey. If anything happens, I might be stranded for days. I wade through it, ponder for a long time what to do, the soil seems too soft to drive on except in the very center. In the end I decide, in spite of my low fuel level, to drive back 80 kilometers to the Conaf station at the Salar de Surire and its ranger, the only person I have seen since early morning. The friendly and knowledgeable ranger there explains that he knows the creek very well and has pulled a number of cars from it (how comforting!), when they tried the soft spots. Going back would mean returning all the way to Putre, but I do not have enough fuel for that. He recommends an alternative ford, about 250 meters downstream, where the soil is somewhat soft but the waters are lower.

Ok, so I try that. In first gear slowly into the floods, the water comes over the hood. After two thirds, the gear jumps out, the engine shrieks at high rpm's, the bow of my car is strongly pushed to portside by the current, gear back in still at high rpm's, playing a bit with the high revolutions, and slowly I creep up the opposite bank. Wow! I made it. The whole exercise takes maybe four seconds, but my adrenaline runs at high rpm's as well. It would have been nasty to get stuck here.





Figure 1121. Chatting with the ranger about the ford,  
and crossing it at a different place.

After this excitement, the remainder of the trip to Colchane is almost boring. Eventually, I even see cars, namely, local trucks. On arrival at 18.00, there is no fuel in Colchane, a godforsaken Chilean town on the border with Bolivia. The reason is that gas is four times as expensive as across the border and there is no business here in selling expensive Chilean gas. I do not have enough fuel to reach Huara, the next town and 120 kilometers away.





Figure 1122. Abandoned dwelling and llamas.



Figure 1123. A truck flattened the crash barrier by the road; memorial and wreck at far left. Miner's statue in Colchane.

The friendly Chilean border guards let me through without exit stamp or the complicated papers for exporting a rental vehicle, but the Bolivians make a fuss. Eventually they let me go to the next gas station, about one kilometer inland. The road wears a surreal Christmas decoration—plastic bags blown by the wind into tall hedges. The station attendant does not want to sell me any gas. There is no electricity to operate the pumps and, after all, the Chileans took away the Bolivian access to the Pacific, at Iquique and Antofagasta, and my rental car has a Chilean licence plate. You cannot help your arch-enemies! And my licence plate incorrectly identifies me to him as a Chilean.

The background to this is the *Pacific War* from 1879 to 1883, also known as the *Saltpeter War*. It was about territorial claims and mining rights for saltpeter (guano (bird shit) and nitrate), sold worldwide as fertilizer. In contravention of a 1874 treaty, Bolivia raised taxes in 1878 on Chilean mining companies. After refusing mediation and the ensuing Chilean occupation of the Bolivian port of Antofagasta, Bolivia declared war. Perú, allied via a secret treaty, joined in on the latter's side. After resounding victories

over its opponents, Chile gained territory with a Pacific coastline of about 600 kilometers from Perú and Bolivia. Access to the sea is a continuing Bolivian dream, actively exploited by unsuccessful politicians who blame Chile on everything that goes wrong. Taking this festering sore on the Bolivian soul lightly makes you an outcast in their society. Regaining this access is officially a high priority, but unlikely to be realized any time. Sadly, this reminds me of Argentina's national trauma about the Falklands; see page 1422. Accepting political realities is not a South American strength, compared to Europe where the massive shifts of borders after the Second World War are now universally accepted, but even there the Balkans and President Putin's expansionist politics are sorry exceptions.

I drive back to the border where I had to leave my passport and explain my plight. The Bolivian officer jumps into my car and accompanies me to the gas station. He talks insistently to the attendant, electricity is there all of a sudden—oh wonder!—and I get 20 liters of gas at the slightly increased price of US\$ 0.50 per liter. Back to the border, where the friendly official gets his US\$ 5, the barrier goes up, and the Chileans wave me through. No corruption or xenophobia on this side. Overall, this is an interesting experience. On the one hand, I drove four times across international borders without having my papers or car checked, on the other hand, the attendant hates anything Chilean.



Figure 1124. Church and cactus wood door. The church is the same as in Figure 816 left, and the door resembles the one on the right, but is different.





Figure 1125. Cactus wood door.

It is 18.30 by the end of these games, and I try to avoid driving at night in these parts of the world. I race down to Huará, from 4000 to 1200 meters of altitude, past the *Gigante de la Atacama*, and fall into my bed dead tired, exhausted from all the adventures of the day. This is travel at its best.

The next day, I arrive around 16.00 in Antofagasta. The steering has become very hard, maybe water entered the steering gears in yesterday's ford. Going straight is no problem, but bends in the road tax my arm muscles to the utmost. Turning or parking is almost impossible. In town, I start already when the lights at an intersection are still red in order to cut the corner. I explain the problem when I return the car, and the lady smiles: "Yes, sometimes the pickup trucks are a bit hard." They will be surprised tomorrow morning, but she signs a slip "car returned in good condition". With a lot of hurrying, I barely catch the last bus to Calama.

San Pedro de Atacama is a beautiful desert oasis, if somewhat touristy. I remember many sites from our visit in 1988.

In the mornings, I have a pleasant breakfast in the *H<sub>2</sub>O* restaurant. Even after going there regularly for a few days, the Indio waitresses still pretend to see me for the first time, as if I was a total stranger. They do not engage in any conversation.





Figure 1126. Statue of the Belgian Jesuit Gustavo Le Paige, who excavated and conserved Indian artifacts from the area. Sign at the town hall entrance.



Figure 1127. The Andean church of San Pedro.

I want to go to the *Tatio geysirs*, but not on one of the many organized tours on offer, nor can I find a rental car in San Pedro. I rush back to Calama, just before agency closes,

and pick up my Nissan Terrano 4WD from Alamo Rentals, a fine car in excellent state. Quite the opposite of my previous rental.



Figure 1128. Colorful impressions from the Tatio geysir: geysir cones and active geysirs, splashing with a lot of noise. Multi-hued sinter terraces.

On my visit to San Pedro in 1988 with Dorothea, Rafaela, and Désirée, the road to the Tatio geysir was not manageable for our small Toyota Tercel, but it has been upgraded since then. It still takes me three hours for the 80 kilometers. The large active volcanic area sits in a valley at an altitude of 4320 meters and I walk around to many places. Everywhere there are bubbling, steaming, hissing steam vents called soffioni, sinter terraces with opal,



often in multicolored hues. Hot springs with a high arsenic content, colorful geysir cones, fumaroles, dark mud pots where I have to watch my steps. A fine sight.



Figure 1129. Someone got hot feet from stepping imprudently on a soft surface.  
Second row at right: evil eye.

From 1920 to 2009 attempts were made to harness these volcanic energies. They set up a plant to generate steam, from which long pipelines led to a generator of electricity. But the energetic entrepreneurs underestimated the corrosiveness of the volcanic liquids and vapors. Even thick steel quickly erodes under their sulphuric action, and today all that remains are tall towers, long pipelines, and large hand-driven valves, completely rusted. This geothermal project was abandoned after a blow-out generating a steam column. It is an interesting display of the power of nature.





Figure 1130. Elephant skin and doomed geothermal plant.

When I come back to my car—a flat tire. Out of the blue, while it was standing there unmolested. I change it and now without a spare tire, I drive back considerably more carefully and arrive at 18.00 at Ñaño's tire shop. "It will be ready by 21.00." Ok. I come back at that time. After loud banging on the closed doors, an invisible voice tell me that Ñaño has already gone home. Probably drinking with his friends. Ok, so I will get the tire tomorrow.





Figure 1131. Tatio. Flat tire. Crossing creeks is easy with this car.

I pick up my tire, all ok, and then go to the *valle de la luna* (moon valley). In 1988, we got stuck here in a sand hole and terribly sandblasted by a ferocious wind carrying sand, see page 657. Now either the road or my car (or both) are better and I see no spot where one might get stuck. The landscape is still impressive, deserted, dry. I hike through a cave and in a canyon. At the end, I try to climb a dune, but the hot sand gets into my sandals and burns my feet, so that I have to give up. It hurts too much.

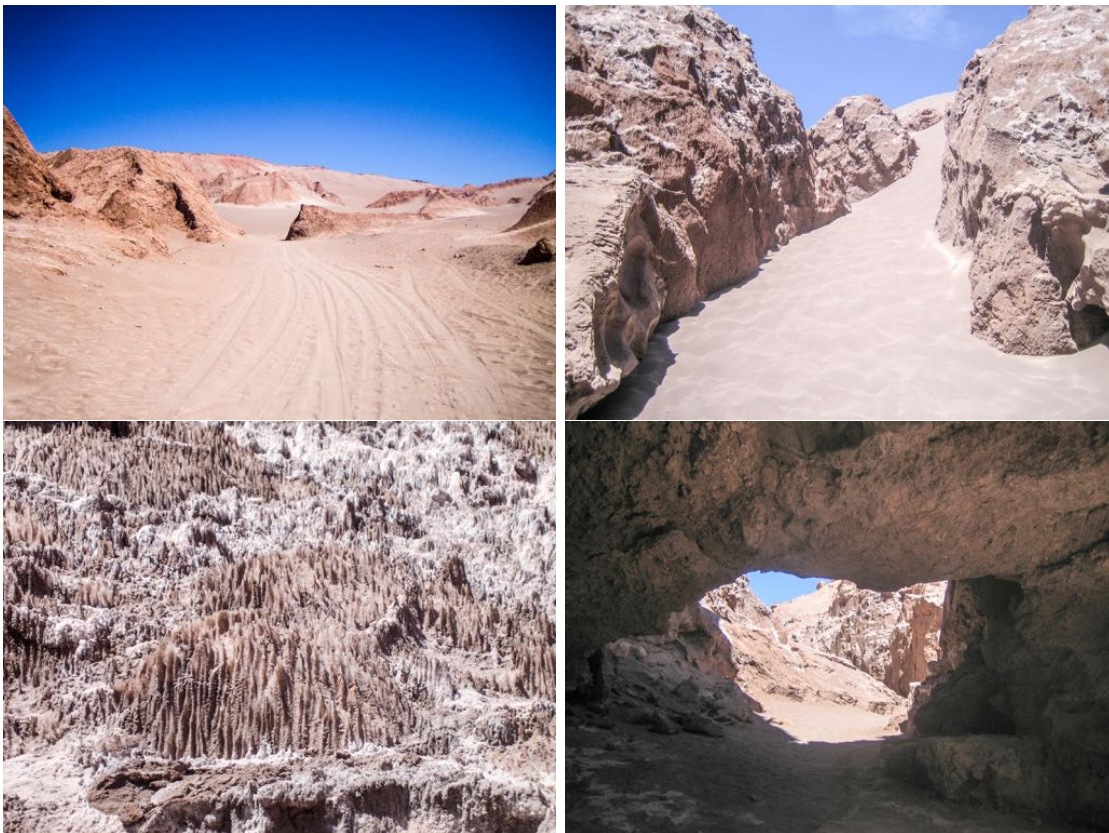


Figure 1132. The valle de la luna looks peaceful, but compare to our sandblasting in Figure 818.

Afterwards, Toconao is a peaceful little village with a nice church that sports a three-storey tower with a bell at the top. Beautiful in its simplicity. All is very quiet, no restaurant, no people. In the *Salar de Atacama* (Atacama salt lake) I see flamingoes and big chunks of crystallized salt.



Figure 1133. Flamingos on the salar and salt crystals.

After the exciting and strenuous adventures in the last days, two days of rest in San Pedro are wonderful. I sit in the garden of my simple guesthouse and spend several hours in the internet, at 800 pesos/hour. Crazy that I have to pay for working! On the other hand, it is marvellous that I can do my work from this desert location of San Pedro. My current work includes a project on factoring an RSA integer, my computer algebra book with Cambridge University press and my Cryptoschool with Springer Verlag, a paper on factoring polynomials with Daniel Panario and Bruce Richmond, counting special bivariate polynomials, approximate gcd with Igor Shparlinski for the Cocoon conference.

San Pedro is full of tourists, mainly Argentines and Chileans, many Germans, some US Americans, Canadians, French, British, Swiss. Very different from my memory of 18 years ago. Very comfortable, good infrastructure, but crowded.



Figure 1134. Pucará of Quito.



A short hike takes me to the Inca pucar (fort) of Quito. It is pleasant to scramble around the hills. Big surprise in the nondescript restaurant: Ricardo Pacheco one of Chile's best chefs, cooks here. He has written a dozen books, I buy two of them with a dedication. He spends between half and one year in each of Chile's regions to get to know the local cuisine. Here in Quito he also instructs his local people in the art of cooking: choose the ingredients, preferably local ones, test them for freshness, prepare them.



Figure 1135. Ricardo Pacheco in Quito.

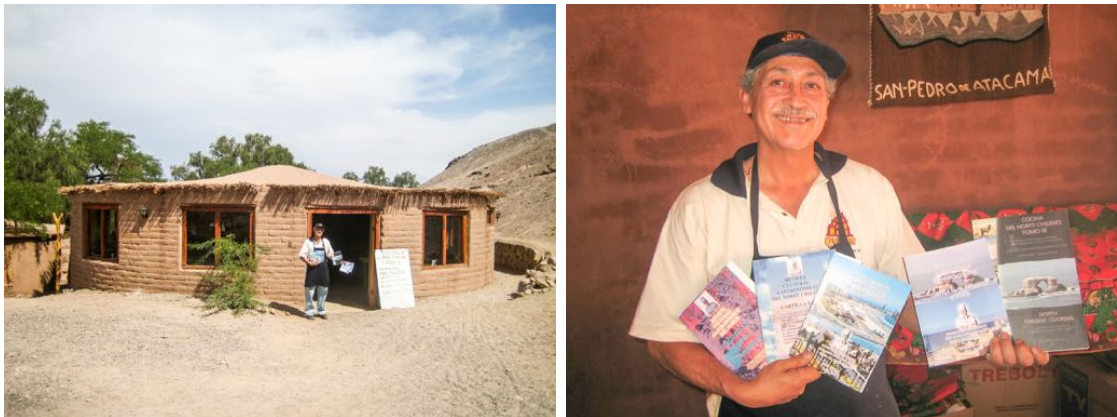


Figure 1136. The famous chef and his simple restaurant in the middle of nowhere.

I want to go to the big salt flat *Salar de Uyuni* in Bolivia, but one cannot take a rental car across the border, as I know from my troubles at Colchane. So I book a three-day excursion with Quintin from Pamela Tours at US\$ 70. It is not a good choice, mainly because of the attitude of his boss Pamela, see below. But maybe all such tours are run like that.

Quintin drives us in a mini bus to the Chilean-Bolivian border. With me travel three Argentine women, 20, 40, and 60 years of age. No travel experience. A further pax has booked but got sick with soroche (altitude sickness) yesterday at the Tatio geysir, so he cancelled. Within an hour we are at 4500 meters of altitude at the pass of Hito Cajón. The border crossing is like passing from one world to another, from the fairly affluent San Pedro to the abject poverty on the Bolivian side. The border post is a simple building, now at 09.30 encircled by several buses and 4-wheel drives, all organized tours driving roughly the same route at the same time of the day. It will be lonely here when they are all gone. The Chilean border formalities are done in San Pedro, the Bolivian ones are also easy. I sit besides Edson, our new driver, in the spacious passenger seat, the others in the back.



Figure 1137. Depressing Bolivian border station, behind the bus wreck. Children waiting for their bus.



Already in Bolivia, we come to a large geysir with many bubbling, squirting, moving holes. I could spend hours here, but the others quickly lose their patience. In the hot springs of *Aguas Calientes*, I sit in the warm waters at 4000 meters, very relaxing.



Figure 1138. Geysirs, mud holes, and beautiful lakes reflecting snow-capped mountains.

I heard only negative comments on the food on these trips, but Jeanette, our cook in chef-size format, disproves these prejudices successfully. Her meals are mouth-watering, only a bit much for me. Alpaca or beef, rice or noodles, salad, delicious and nourishing.

These tours are not made for individual travelers like myself. We drive on dirt roads across the altiplano at the foot of the Andes, through a deserted area. There is no living soul in sight, but about a dozen vehicles are moving along the same trail. We do not see the others as we drive, but everybody stops at the same sights. Alternatives are difficult, because the border opens only at 08.00 and the first overnight option is almost a day's drive away. In your own vehicle, you could camp just about anywhere.

We arrive at the *Laguna Colorada* (red lake) at 15.00, check into the large communal sleeping hall, and go to the lake. The lagoon lies at 4278 meters of altitude. Its waters are ruby red from algae and a high mineral content.



Figure 1139. A bath at 4000 meters.

Thousands of flamingoes form a symphony in pink. These large birds wade through the shallow lagoon, looking for fish that they catch with a rapid movement of their heads diving into the water. Much of the time, they stand still on one leg, posing for photos.



To take off for flying, they take some steps on the water, and then their wings make them airborne. This looks rather clumsy, they are more water birds than air birds. And the landing is even funnier to watch, when they seem to step on the water surface several times, like an airplane putting on its brakes, to settle down in the water. We all go to bed early, but at a table some Argentines play a card game called chaucho (Uno), lots of fun and noise.



Figure 1140. Incredible colors at the *Laguna Colorada*.



Figure 1141. Garbage and laundry behind our “hotel”.



Figure 1142. Llamas at the lakes, with “icebergs” of salt.

Edson announces that it rained a lot and we cannot drive to the promised *Hotel de Sal* in the middle of the Salar de Uyuni. At first, I think that this is the usual lie of these tour companies to cut corners and cheat passengers out of promised side tours. But it turns out to be correct: two 4WDs got stuck and had to spend the night in some mud hole. So after quite some discussion, I agree to drive to Uyuni direct today.





Figure 1143. Jeannette not only cooks well, but can also handle a radio transmitter, the only outside connection from the Laguna Colorada.



Figure 1144. Flamingos at the foot of the Ollagüe volcano.



Figure 1145. Road of the gems of the high Andes.

We pass *Dalí's desert*, whose formations look like his surrealistic paintings, the *arbol de piedra* (rock tree), the *laguna honda* (deep lagoon, not deeper than the others but so called

because of the “deep” view from a hill next to it) and the *laguna hedionda* (stinking, for its sulphur fumes). All these lagoons are full of birds, from flamingoes to geese and ducks, and the plain is populated by alpacas and llamas. It was a mistake not to take Rafaela’s beautiful present, the Nikon F1 with its 300 mm lens. My Canon Ixus 40 is nice, light, compact, but not good enough for animal photography.



Figure 1146. Rock tree, and in a village.

At the Ollagüe volcano, we pass the branch road to Chingara and the Isla de Sal, but continue straight to Uyuni. On the outskirts, steam locomotives have been quietly rusting for decades in a train cemetery. Their decay is fairly advanced and the grandiloquent plans for a museum sound quite unrealistic.

In our hotel, a young Canadian comes to me: “Hey, another Canadian wearing MEC<sup>28</sup> clothes”. She has done a tour similar to mine, but got stuck somewhere, spent the night in the mud and is now covered with it.



Figure 1147. The Uyuni train cemetery.

<sup>28</sup>The Mountain Equipment Cooperative is a Canadian cooperative selling excellent outdoor equipment.





Figure 1148. They need an experienced mechanic—  
Einstein did not accept the job offer.

The town of Uyuni is rundown, dirty, unpleasant. It has rained recently and the majority of the streets are under water. You have to plan ahead every step in order to go somewhere without getting wet. Large piles of garbage adorn the streets and intersections, dogs cull through the muck and ruck. The municipality leaves the people alone with this, they either have no money or different priorities. The announced plan is to start at 09.00, but first the vehicle's undercarriage must be covered with plastic sheets and bushes against the salt water. This could not have been done earlier . . . Our spare tire is given to another car and we drive without one. The culmination of these annoyances happens at the gas station: the grumpy old owner Pamela gives money only for 13 liters. I complain loudly about the irresponsibility of sending us without spare tire and with too little gas onto the Salar. In the end, she gives a bit more money for gas. These tours always try to minimize their cost and the passengers' pleasures, and the constant fights about this are annoying.



Figure 1149. The dismal streets of Uyuni, here a dog cleaning up the garbage.



Figure 1150. The unpleasant owner Pamela of the tour company, refusing to pay for sufficient gas. Decorating under the hood like a Christmas tree.



Finally, we take off at 11.30. It takes half an hour to the famous *Salar de Uyuni* at an altitude of 3650 meters, with 10 000 square kilometers the world's largest salt flat. After a rain, a thin flat layer of water creates the largest mirror on earth, 130 kilometers across. Just before arriving, the driver chooses to drive besides the road for some unfathomable reason and gets bogged down in the mud. Eventually it dawns on me that he probably got stuck on purpose, unable to continue, and thus saving on gas. Another mean trick. Well, his plan seemed to work out, but then we all get out, push energetically for about an hour, until the van is out of the mud. I say some clear words to the driver, but the proper addressee would have been the company owner.



Figure 1151. This road is too muddy, let's try the ditch!

Soon the immense flat of the Salar extends in front of us. Its bottom consists of large flat salt blocks, typically about a square meter in size, with irregular fissures between them. Above these blocks are about 20 centimeters of highly saline water; this depth depends on the season. The brine contains five million tons of lithium, over 50% of the earth's known reserves, as LiCl. This is a basic ingredient of electronics and batteries, and prices continue to rise accordingly. Intended exploration by foreign companies has so far been stalled by local opposition for fear that the royalties would not reach the population—probably justified.



Figure 1152. Cruising and the island from a distance.

The calm flat water surface extends to the horizon and produces brilliant reflections of the sunny sky and a few clouds. A miracle to see. We cruise over this unreal surface, wheels on the blocks and splashing in first gear through the salty water towards the Incahuasi island, a volcanic outcrop with the *salt museum*. This is not a museum, but a restaurant and souvenir shop, all made from blocks of salt including tables and chairs. This tiny island is crowded with 4WDs and the tourists they transport.



Figure 1153. A double sky on the salar. Salt slab furniture on the island.





Figure 1154. Salt formations under a layer of water.

I walk briskly away from the island and after a few steps, I am alone. The flat salt surface makes for a nice walk, the saline water is at the same level everywhere, pleasantly warm. A symphony in white, mixing with the gray clouds above, and I emerge with white socks when the liquid dries on my bare legs. Some spots have holes in the surface or soft salt. It is cloudy and a massive rainstorm comes down in the northeast. The reflections in the water are fascinating. I could stroll around for hours, but the ladies in our company soon are fed up.



Figure 1155. Brine-covered legs and a fancy soccer field nearby.

We are back at 17.00 in Uyuni, and my bus for Potosí leaves at 18.00; no more seats for tomorrow. After a long and uncomfortable bus ride, I arrive in Potosí at 02.00. Not the best time to find a hotel. Most do not even open their door or are full, until finally I find one and crash into my bed immediately.

Getting up at noon, I find a pleasant guesthouse in a beautiful former Jesuit monastery. The old town is full of such colonial buildings, churches everywhere, richly decorated in the Spanish style. Many doors are nicely carved, attractive balconies hang over the streets.



Figure 1156. A monastery? No, entrance to a rather simple restaurant.  
Where else do restaurants bid you such a formidable welcome?



Figure 1157. Streets of Potosí, my hostel at right.

Potosí is a mining town at the foot of the *Cerro Rico*, a rich mountain “made of silver”. Looming 800 meters above the city, itself at 4000 meters of altitude, this was the major source of silver to the Spaniards from 1545 on. Working the mines was dangerous, due to noxious gases like arsenic and the silica dust in the air; most miners died within 10 or 15 years of forced labor, mainly from silicosis pneumonia. Estimates are about eight



million dead indigenous people and African slaves. There was a nigh incredible content of 40% silver in the ore. These riches were carried by mule to Pacific ports and shipped via Panamá to Spain—unless taken by pirates, see page 615. Potosí became one of the most splendid towns in the Spanish empire.



Figure 1158. Open air electrical wiring Bolivian style.

After the Spaniards, the Bolivian government took over. Silver was almost exhausted in the early 19th century, and today tin, zinc, and lead are the main metals produced. Exploitation is now by miners' associations only. They sell the ore themselves and the miners share the proceeds. They are now much better remunerated than before but have to buy and bring all their tools and implements themselves: axes, hammers, helmets, torches, etc. The *mercado de los mineros* (miners' market) is an incredible affair.

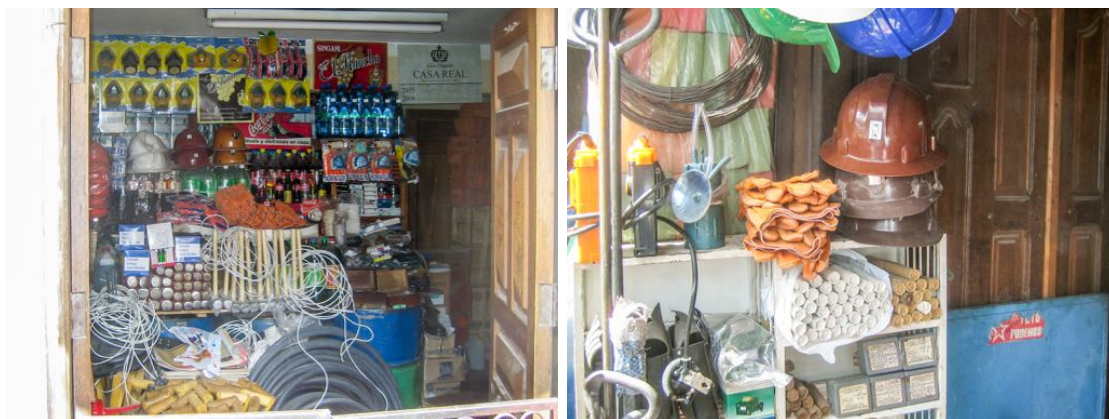


Figure 1159. Stores selling the miners' goodies.

Both sides of this long street leading up to the silver mountain are lined with shops selling the required hardware. I look into some of them and chat with the owners. And what are those gray plastic cylinders? He explains that this is dynamite, shows me his stock of fuses and ignition charges, and tells me how much of each is needed. I cannot resist purchasing a complete terrorist's equipment: dynamite stick, fuse (two minutes), and

ignitor. All of this for half a Euro. (I hope that minuscule particles of dynamite sticking to my clothes will not cause a problem later at the airport . . . and they do not.) Carrying all this for an hour in a plastic bag is an eerie feeling. It is certainly the first and probably the last time I hold dynamite in my hands. Wow!



Figure 1160. Fully equipped with dynamite stick, fuse, ignition cap, helmet.



We are about 20 people on the tour in the *Mina San Miguel* of the *Cooperativa 1 de abril*. Our guide welcomes us at the entrance and provides dirt proof clothing, including helmet and torch. Outside the entrance, the rich ore is piled up in large mounds. It contains silver, gold, zinc, lead, and tin, but looks to me just like ordinary lumps of rock.

We walk through the low narrow shafts of the mine, with sides, floor, and ceiling of slippery mud. No fixed lights are installed, but the workers plow through the mud, illuminated by their headlights, pushing carts of ore on the narrow-gauge rails. It is a fascinating (and scary) look at working conditions that have barely changed over the centuries. Our tour group advances slowly, there are several rather stiff-limbed people with us. It is a long walk through the galleries, up and down, the air is thin, temperature rises. Quite difficult in parts, with steep inclines on wet mud, sometimes just bending over for the low clearance, sometimes crawling on all four.



Figure 1161. Emptying a wheel barrow and pushing it back inside the mine. Workers in the mine and a rusty clapboard construction holding up the roof.

At one point, we have to climb down three meters of an almost vertical wall of mud. It is hard not to slip, basically sliding down on your bum. One girl, about 12 years old, is rather scared in this oppressive environment. In the light of our headlamps, we see hundreds of asbestos fibres dancing. I hope to not inhale them—my autopsy will show.



Figure 1162. The miners' devil *El Tío*.



One cave is an underground sanctuary dedicated to *El Tío* (The Uncle), the miners' devilish *god*, whose adoration did not please the Catholic church. He is represented as an aggressive statue of black rock, with a grim face, horns, glowing eyes, cigarettes in his mouth, beer bottle, and a humungous penis. Our guide makes sacrifices: cigarettes, soft drinks, and alcohol—the purer, the purer will the ore be. All this makes for a haunting experience. About 30 miners per year come to death in accidents, and most of the others die early from silicosis.



Figure 1163. El Tío's cave. Difficult walking, especially down this hell hole.

After two long hours, we emerge to the sunlight again. I ask our guide to explode my dynamite. He shows me how to mold the soft stick, like playdough, to a round ball, and embed the ignition charge in the middle with the fuse connected to it. He climbs up the hill, shows the assembly around, lights the fuse, and scrambles swiftly away downhill. Bang! This is the first time that dynamite of my own explodes. In a mighty bang, stones flying around in a cloud of dust, but no-one is harmed.



Figure 1164. The guide molding my dynamite and inserting the fuse.



Figure 1165. Lighting the fuse and exploding the dynamite at a safe distance.

My next destination is the lowland area of Bolivia, from the million-inhabitant city of Santa Cruz de la Sierra to the Brazilian border. But political problems complicate my plan. Evo Morales (\* 1959) used to be a leader of the *cocaleros* (coca farmers) and has been president of Bolivia since 2006, the first person of indigenous origin in this position. The governor of the province of Cochabamba, half-way up in the mountains between the capital of La Paz and the lowlands around Santa Cruz, has proposed a law that displeases the *cocaleros* and other farmers. He fled to Santa Cruz, hiding in the bishop's palace, and eventually withdrew the law. In the meantime, the *cocaleros* elected a new provincial government, completely illegally. Morales supports them: "I accept the decisions of the comrades". One of the consequences of this political turmoil is that roads are blocked by the farmers, and buses do not run from Potosí to Cochabamba. So I go to Sucre and buy a plane ticket on AeroSur at a friendly travel agency, which turns out to be incompetent.

Sucre is the sixth largest city of Bolivia and its capital according to the constitution, although La Paz is larger and the seat of government. The movement for the independence of Latin America from Spanish rule started here. I take a taxi to its airport, arriving at 14.30 for my 17.15 flight. "To Santa Cruz, please"—"Santa Cruz?" Sheepish smiles: the plane left on time at 14.15, but the hopeless guy in the travel agency showed me an outdated flight schedule which said 17.15. Fortunately they add that, pretty soon, at 16.30, the delayed 09.00 (!) flight from La Paz will arrive and I can take it to Cochabamba and Santa Cruz . . . if there was not that menacing black cloud in the distance. Announcements at 16.00: "the flight from La Paz will soon land", at 16.20: "the flight is cancelled". It starts raining heavily, and they have to close the airport which is not equipped for bad weather.

Jaime at the AeroSur counter has been friendly before, and I ask him if his airline will pay some accommodation for me. Of course not, since according to the international regulations, force majeure like this rainstorm does not imply an airline's liability. He is right, I am disappointed but not angry, and we continue chatting amiably. In the end, he tries again and gets me a hotel plus taxi fare. Wonderful! Very generous, and I thank him profusely. So I spend the night at a fancy hotel in a splendid colonial building, getting completely soaked on my short walk to a restaurant. The ups and downs of travel.



The next morning, my check-in at the airport is successful. After a pit stop in Cochabamba, we arrive in Santa Cruz. Already before leaving the airplane, I feel that I have come from the Andean highlands, Sucre at 2800 meters, to the tropical lowlands. The leaden air is heavy with humidity, just enough to breeze and more than sufficient for sweating.

My next destination is Quijarro on the border with Brazil. The *fast train* takes only 12 hours but is booked out, so I take the *slow train* at 17.30, traveling for 21 hours. There is time for a short stroll through the city, where I had passed in 1982 coming from Brazil, see page 814. After a *pisco sour* on a balcony overlooking the main square, it is time to go to the train station. My seat is excellent, comfortably upholstered and reclinable, much better than other trains in the Andes. There is interesting company: a large group of Mennonites, whose families emigrated from Germany in the early 20th century, just as they did to Paraguay; see page 838.



Figure 1166. Untrained driver of a steam locomotive, and a well-functioning modern train.



Figure 1167. Comfortable seat in the train.

They live here but hardly speak Spanish, and I do not always understand the antiquated German they speak. That does not really matter, because they have, unfortunately, no

interest in communicating with me. They live in a closed world and are not up to chatting with a stranger like myself. The dress code of the men consists of uniform boiler suits with broad suspenders and freshly ironed white shirts. It gets dark soon. Ambulant vendors circulate through the train and offer all kinds of delicacies: steak and chicken on a stick, fruit, drinks, and much more. Excellent.

The next day passes quickly, we drive through the interesting countryside. Agriculture everywhere, small stations with people idling about, all waiting for the event of the day: my arrival. Or rather that of the train. It is like a slow-moving day from a magically realistic novel by Gabriel García Márquez.



Figure 1168. Train stations.

We arrive in Quijarro at 15.00. Already since the last station before it, vultures are passing through the train: touts for Pantanal tours. I fall for one of them, and their boss, a 60-year old Swiss woman, drives their Volkswagen bus across the border. The Brazilians closed it earlier at 17.00, but everyone just passes through. Entry stamps are tomorrow's business. Relax! Manhana! And then I find a marvellous hotel in Corumbá and a delicious dinner right over the Paraguai river. My first caipirinha on this trip. And the first time that I can withdraw money from an ATM this far away from Germany. For the Brazilian part of this trip, see the map in Figure 1064.





Figure 1169. The train is so slow that I can pick coffee beans from my window as we chug along.

As agreed, I wait at the bus stop *Buraco das Piranhas* for the jeep to my lodge *Indiana Tours* in the Pantanal. A lonely place, no kiosk, no hut selling drinks, no car in sight. After half an hour an old truck rumbles around the corner. Their jeep is broken, and so the five of us hop on the flatbed: two couples, one from Holland and one from England and Perú, plus myself. The lodge is a large simple wooden structure, with mosquito netting at the windows but not over my bed. I get bitten a few times, but it is not bad. I enjoy quiet sunsets over the river.



Figure 1170. Right in front of my lodge: cayman and stork.

The Pantanal is the world's largest tropical wetland area and boasts a rich wildlife. On our excursions by boat, jeep, and on foot we see yacaré caimans lazing on the banks, many parrots, vultures, and more. An anaconda is about five meters long, a huge animal. But it must be severely wounded, sick, maybe in its death throes, because our ranger can handle it as he wishes. When in good shape, these are very strong animals, able to swallow a pig. But adult humans are not on their menu.



Figure 1171. Quiet sunset.



Figure 1172. Anaconda and a bleeding rubber tree.



The highlight is our boat excursion. We see a capivara (capybara, *Hydrochoerus hydrochaeris*, river pig) on the river bank and drive slowly towards it. They are actually two animals. When we are almost there, an explosion happens: a puma (*onca parda*) jumps out of its hiding place in the bushes onto the back of one of the capivaras. It turns in a flash to the water, jumps in and rams our boat in its hurry. We all understand the need for speed. It dives under our boat and gets away. The second capivara also escapes into the river. The puma retreats into the forest. Sorry, my friend, for spoiling your lunch. This wonderful experience just takes a few seconds, too fast to take pictures. Afterwards, total quiet, as if nothing had happened. Our guide later tells me that one rarely sees pumas at all, and he has never seen such an action.



Figure 1173. Capivara. Invisible behind it: a puma. Surprise, surprise.

In a forest, some 40 or 50 coatis (or coatimundi, hog-nosed raccoons) jump around noisily on the ground and in the trees. Looks like a wild kindergarten on the loose. A colorful red and blue young *arara vermelha* (red and green macaw) fell out of his nest and limps around helplessly. Our guide puts it on a stick and sets it down on a tree branch, but all this is unlikely to do the bird any good. Its parents complain loudly and make diversion flights. In the evening, dangerously red pairs of crocodile eyes threaten from the river. The lodge offers little culinary change through the three days of my sojourn: buffet with chicken, beans, spaghetti, salad. Cold beer for sale.



Figure 1174. Coati and a young macaw.

After three days of wildlife, I arrive in the bustling metropolis of Rio de Janeiro. The apartment of our friends Maria and Frank from Zürich is wonderful, a beautiful three-storey penthouse condo just minutes away from the famous beach of Ipanema. They acquired it under circumstances rather special to Río, see page 1089. We have dinner in the bar where the famous bossa nova hit *A garota de Ipanema* (The girl from Ipanema) was written, see page 1106. Dorothea flies in from Germany for our month-long trip in other parts of South America.



Figure 1175. Myself, Maria, and Frank in their apartment, Dorothea took the picture.





Figure 1176. Dorothea and myself at the *Cristo Redemptor*.

The days pass quickly with walks to Ipanema beach, Arpoador, Copacabana. Here a caipirinha, there a little something to eat. Easy and relaxed. Rio's geography is marvellous: the wonderful beaches with beautiful people, the *quiosques* (food and drink stalls) with coconut juice and caipis, behind them the busy beach road, then rows of hotels and restaurants, and behind those the hills of the favelas, full of poor people, drugs, and criminal gangs. Together this is attractive and repulsive at the same time.

We enjoy the time with our good Swiss-Brazilian friends, trade stories about our joint travels, overland to India and to south-east Asia (pages 1180 and 1371), and eat and drink fabulously well. A special place is the *Churrascaria Porcão* at the Botafogo bay. Wonderful views over the bay, where the boat races of the 2016 summer Olympic Games took place, over to the *Pão de açúcar* (sugar loaf). And inside it gets even better: mountains of salads and sea food at the buffet, and the main reason for coming here: the churrascueria. Large quantities of all kinds of meat are barbecued on a huge open grill that used to be charcoal heated but now are run by infrared light, allowing a finer dosage of heat. The waiters pass through the restaurant offering this or that type of meat from a sword-like skewer, and you choose what you want. All you can eat at a flat fee. You have a beer mat on your table with colors on each side: green means *pode servir* (you can serve me some more) and the waiters rush at you with huge skewers and sharp knives. Red is *aguarde* (hold it) and they leave you in peace. *La grande bouffe*. Large families celebrate some birthday or other event, and children run around freely. A truly convivial atmosphere. Unfortunately, they

closed in 2016.

Frank plays the tourist guide for us in the city center. He shows us the marvellous old library *Real Gabinete de Leitura Portuguesa* (Royal Library of Portuguese Literature), a marvel of baroque architecture with a rich collections of books and artifacts from Brazil's history.



Figure 1177. Frank and myself at the *Real Gabinete de Leitura Portuguesa*.

The *Paço Imperial* (imperial palace) was built for the Portuguese governors in 1743. Napoléon chased the Portuguese kings out of their country in 1808, and the building was converted into the palace of the newly arrived King João VI (John VI.). When he returned to Lisbon, his son Pedro I was ordered to follow. But he liked the country so much that he disobeyed this order and decided to stay: *digam ao povo que fico* (tell the people that



I am staying). Since then, the *dia do fico* is a holiday and João I *the magnanimous*, a wise and cultured man and victor in three wars with Brazil's neighbors, is often considered the best politician Brazil ever had. The palace was named *Imperial* in 1822, when Brazil declared herself independent. Following the royal tradition, Maria now runs her successful café *Bistro do Paço* in the historic building. The setting is beautiful, in an old portico with lots of staff, delicious food with plenty of healthy and vegetarian options.

The four of us spend a pleasant weekend on *Ilha grande*. From our small pousada in Abraão, we walk to one of the beaches. It is at some distance, hiking up and down hills and through forests in 30°C of tropical heat. Frank is well trained from his visits to the gym, much fitter than we two are. Maria does not come because she broke her arm recently while skiing in Switzerland. Passing the first beach, Frank waits for us impatiently at the second one. Dorothea is quite exhausted. Such a Saturday morning exercise is not quite to her liking. The women on the beach wear the skimpiest of bikinis, and Dorothea wonders why one has to change under a towel. Is total nudity unerotic? We have dinner and some caipis right on the beach in front of our pousada. Just as I like it.



Figure 1178. Boat from Mangaratiba to Ilha Grande . . . and back.  
The beach in front of our pousada.



Figure 1179. Fatigue showing on our hike.

A longer hike takes us to the other side of the island the next day, across hills that are difficult for me but not for Frank. Maria can come along, because this trail does not require any climbing where you have to hold on with your hands. Slowly, slowly we make our way up the steep path in the heat. At some view point, Dorothea has enough of yesterday's and today's muscle ache, and she and Maria return, while Frank and I push on. Everybody is happy with Dorothea's decision. It is quite strenuous for me. We stroll around the ruins of the jail colony *Dois Rios*, where up to a thousand prisoners were kept between 1930 and 1980.



Figure 1180. Pão de açúcar (sugar loaf) and the Lagõa with the Ipanema beach behind it.



My colleague Arnaldo Garcia has invited me to his IMPA institute (Instituto de matemática pura e aplicada), the leading mathematical institution of Brazil and well funded. Its picturesque location is above the Lagõa and behind the jardim botânico. Exuberant tropical vegetation grows into the courtyards. My talk on “who was who in polynomial factorization?” goes over well.



Figure 1181. The famous statue of *Cristo Redemptor*, and colorful plants in the Botanical Garden.

Dorothea and I fly from Rio to Foz do Iguacú. It rains so heavily in São Paulo that the incoming airplane cannot leave. We have to wait in Curitiba for our flight to Iguacú, where we arrive five hours late at 06.05. According to the rules, our airline Gol would have to pay a hotel for us, but they refuse. Even a complaint to the Brazilian air authority ANAC does not help. Bastards. There is a furniture exhibition at the airport, and Dorothea sleeps comfortably on one of their kitchen benches.

Exhaustion does not excuse a tourist from his tourist duties, and so we get up at 11.00 and take a local bus to the gates of the famous Iguacú Falls, then a colorful special bus to the Falls themselves. Much has changed since my last visit in 1984, see page 832. Along the trail, a bunch of half-tame coatis are playing. Right in front of us they attack a helpless tourist and frighten her to death. They grab the plastic bag she is holding, tear it apart and also the bag with chips inside, and run off with their loot. Quite insolent.

We do not yet see the falls, but they announce themselves by louder and louder thundering. And then finally the view of the waters. Kilometer-long cascades of 70 meters of height, the tropical vegetation, and the blue sky above make them the most impressive falls in the world. Certainly more beautiful than the Rhine Falls near Schaffhausen, and also Niagara, Victoria, and Angel Falls cannot quite compete.



Figure 1182. Iguacú falls.





Figure 1183. Dorothea before boarding a boat.



Figure 1184. At the devil's throat. Caiman. Relaxing at the *Hotel das Cataratas*.

The most spectacular sight is the multimedia show from a viewing platform right above the *garganta do diabo* (devil's throat). The waters thunder down, the earth trembles when hit by their power, white spray and rainbows dance all around us, and directly below our feet is a 40 meter drop. A fantastic experience.

After getting our fill (and soaked) in this marvellous place, we walk to the venerable *Hotel das Cataratas* for a caipi on their old-fashioned tropical terrace. Then I have a great idea: remembering my nice jungle walk twenty-three years ago, I suggest we try that again. We walk along an asphalted road, bus after bus thunders past us, and still no trail in sight. On the map, it looks like five minutes, but it is drawn in a funny perspective. When we finally get to the trailhead, it is too late in the day. Dorothea is mad at me. Her left knee hurts, and we did not yet have dinner . . .

The next day, we take a bus to Puerto Iguazú on the Argentine side. An open electric railway brings us to the falls, traversing a tropical jungle. Butterflies flutter all around us. We walk across many small bridges to the *garganta do diabo*. We stand directly across from this thundering spectacle. When you gaze long enough at it, you get the feeling of being drawn into the chasm. We could stand there for hours. Then we want to get really wet and take a tour in a dinghi. They drive us right below two falls and we get soaked to our underwear. Annoyingly, the dinghi does not go all the way to the Devil's Throat, as promised for our "grand tour". Of course, my complaints fall on deaf ears. Anyways, it is



a grand experience. In the evening, the *Biergarten* serves big portions of meat, delicious draft beer in large mugs, caipis, and fruit salad.



Figure 1185. Dorothea's new ear ring.

Our flight arrives at 08.40 in Porto Alegre, more precisely, above Porto Alegre. Dense fog, the plane cannot land and circles and circles until it runs out of kerosene. Almost, it still makes it to Florianópolis. It fills up at the gas station there, and at 11.00 we finally land in Porto Alegre. My colleague Vilmar Trevisan has invited me and picks us up, after a long wait. Our hotel is a soulless modern box in a soulless modern city.

Vilmar takes me to his UFRS (Universidade Federal do Rio Grande do Sul), far outside the city. He has advised me that I should not give a talk, but then there are 20 people in the lecture hall. At general request, I tell them off the cuff some stories about polynomial factorization. Slightly less than perfect organization, but it goes over well.

With a rental car, we drive to the Aparados da Serra, a mountainous area here in Southern Brazil. Through Gramado to Canela. We find a wonderful pousada, the *Volta ao mundo* (tour of the world). The owners have traveled a lot and offer wooden huts with up to four apartments, each decorated in the spirit of some country. Ours is Australia, even the power outlets are painted with an Australian flag—but fortunately they do not have the Australian shape of plugs. Lots of wood, naive paintings on wood, a rocking chair and hammock. We love it, because a lot of love has gone into creating this little world to itself.



Figure 1186. Our pousada and Tom's open-air churrascaria on two square meters.

We drive to a viewpoint from where a comfortable chair lift goes up the mountain. It does not have one third of the speed of ski lifts in the Alps, but the staff is very worried about each passenger getting on or off. After hiking a bit, we have a lovely view of a waterfall in the distance. Dinner is in a fancy place in a not so fancy location, in the center of a traffic triangle. Fondue with heaps of tender fillet and 15 sauces, all you can eat, not for vegetarians.



Figure 1187. Chairlift and the canyon.

From Canela to Cambará do Sul it is only 150 kilometers, but the road is not asphalted, it takes forever, and is a lot of fun. All that a rally driver's heart desires. Potholes, corrugated road, boulders on the road. We drive through a landscape of gentle hills, large wild hortensias cover the sides of the road. Far views, farmsteads, cattle herds, and practically no cars. In Cambará do Sul all pousadas we see are full. We land in the worst of the lot, with a tiny room full of flies. The start of our hunting season. Later mosquitoes face our wrath and our coil. Our hike along the *trilha do vértice* (trail of the abyss) in the Canyon de Itaimbezinha is impressive. Steep valleys drop 600 meters into the chasm, many waterfalls. And deep down flows the river that has kindly arranged this spectacle



for us. In the Brazilian rhythm, of course, things here sometimes take a few million years. *Manhana*.



Figure 1188. Bromelias grow high up on the trees. One of many waterfalls.

Next day, we drive the 30 kilometers to another gorge of the Aparados da Serra, taking two hours on a challenging gravel road. On a fair, you have to pay for this kind of gruelling trip. We walk along a creek, it gets a bit muddy, but General Joachim marches fearlessly ahead of his troops, in spite of warning shouts from the rear guard. First to my ankles in muck, then another step and I sink to my knees into deep black mud. If someone had pulled from below, I would probably have sunk to the center of the earth. With great effort, the engineers in our army of two and I pull myself out of this sticky goo. My sandals almost break. The rear guard first watches from a distance and is visibly amused. Not the General. Later Dorothea's complains: "Why do you idiot always have to run ahead?" Well, who else will?

I have barely escaped the fate of becoming a bog mummy, but at least look like one. Black mud to my underwear. At the first creek, I strip naked and wash the clinging goo from my body and clothes. Feels wonderful afterwards, and the weather is warm. The waterfall is exciting. We walk in a peaceful slow creek, just a meter away from the ridge which descends deeply into the valley. From another viewpoint, we look straight down into a canyon 600 meters deep, most impressive. This is a wonderful excursion.





Figure 1189. General Joachim emerged from the mud and gets clean again.



Figure 1190. Dorothea taking wings and proud of overcoming her fear of heights.

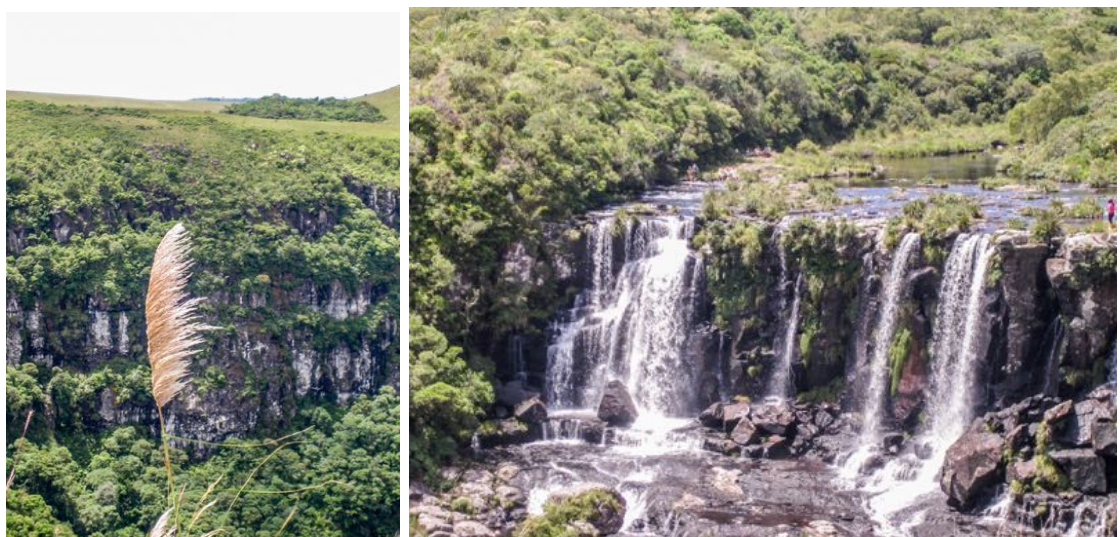


Figure 1191. Reed and waterfall.





Figure 1192. The impressive canyon.

Driving to the Atlantic coast, the grandiosely named town of Praia Grande (Great Beach) does not have any interesting beaches. Even worse is the popular resort town of Torres, whose many highrises fill the sky already from a distance. Not our place. It is already getting dark, but we drive south on the Costanera. After just 12 kilometers, we find a room in the small *Pousada Encosta da Itapeva*. This pleasant villa is close to the beach, we have a large room, hammocks outside. A pleasure to stay here, and the second best rental place after my Jesuit hotel in Potosí. The owner is a landscaper and proudly shows us his two-months old daughter.



Figure 1193. Killer meal and food store.



Our landlord recommends a restaurant, where we order *rodizio de mariscos* (seafood platter). About 15 trays of various delicacies fill our large table, but the sight of so much food spoils our appetite. We like the shrimp and fried sardines, but the rest is covered by thick gravies of various types. Too much for us, and Dorothea is sick afterwards. I carry her to our room and overnight, she can avoid vomiting, but only barely so.



Figure 1194. Fresh delicacies.

We take an afternoon stroll on the Itapeva beach, very pleasant, few people. As we are having a bite on the terrace of a small restaurant, dark clouds close in with strong winds, and just in time we can flee to the inside of the wooden hut.



Figure 1195. Don't drink when you drive!



The heavy tropical rain on the beach is quite a spectacle, and the next disaster is looming. Namely, they make fantastic caipirinhas, very strong and about three times the volume of a normal one. We each have one, and then a second one, they are so good. And a third one in the car, because we probably could not walk the 100 meters to our pousada. *Don't drink when you drive—you might spill some!*

A comfortable bus ride in class *leito* (bed) takes us from Porto Alegre to Montevideo. Food and drinks are served at our seats, the bed folds out almost completely, and we sleep very well. It is a huge contrast to my African bus rides.



Figure 1196. Market in Porto Alegre.

I go for lunch in the nice *parrilla Don Trigo* (steak house) with my friend Alfredo Viola, a computer science professor at the university and called “Tuba” for his loud voice, I am invited to give a mini-course on *Elliptic curve cryptography* at his *Facultad de Ingeniería* (Engineering department) of the *Universidad de la República*, the only public university in the country. Tuba is a professor of computer science there. The building is a large ugly concrete block from the 1960s. Our offices are on the top (ninth) floor, formerly storage place. The elevator does not go up there, and toilets are two floors down. The windows are so high up that you cannot see the ground outside, the beautiful bay is just outside but invisible. I get introduced to all kinds of people, from director to student, without any chance to remember all those faces and names.



Figure 1197. Montevideo: the square with the Artigas monument, the renovated port area with its market, in the streets.



Figure 1198. Streets of Montevideo.

My course at the university goes from 14.00 to 17.00, for three days. An impossible schedule in North America or Europe, but here it is appropriate. Some students have a daytime job and can only attend classes in the evening. The audience numbers over twenty people from mathematics, computer science, and engineering; several are from the major local telephone company Antel. Every day, I teach a different type of material: first protocols from Diffie-Hellman to ElGamal, then algorithms, and elliptic curves on the last day. Everybody is very attentive, some students collaborate pleasantly by asking or answering questions. The whole course is held in Spanish.

Carnaval is an important event in Uruguay, just as in its big neighbor Brazil (and in Bad Godesberg). Tuba takes us at 21.00 to the *llamada* (parade) in his quarter *barrio Palermo*. Cars are blocked from many streets. Groups of about two dozen carnival associations pass by us. They carry large banners with their names. Flag wavers make their huge flags pass just over the heads of the audience on the sidewalks; the challenge is to touch the flags. In reference to the slave history, *candomblé* couples of *viejos negros* (old blacks) walk in the groups, dressed in exulted elegant clothes and moving with an exaggerated stiffness; political correctness has not yet killed their traditional designation. Female dancers, from age 7 to 70, in skimpy dresses pass by, then the most artistic ones in even skimpier clothes. A large band of drummers, about ten rows of six people each, makes a lot of noise, and after that comes the public, marching and dancing along. The sound of the music is very deep, almost menacing, and reminds me of *Fasnacht* in the cantons of inner Switzerland. There is plenty of space, no jostling and pushing, and we even find seats in the first row. Tuba animates one of the sparsely clad young ladies to dance a temperamental round with



me. Everybody is having fun. Another year, we even sat next to the country's president at a carnival event; see page 1158.



Figure 1199. Street carnival in Montevideo: waving the flag and *viejos negros*.

A bus takes us to the seaside resort of Punta del Este, the south eastern point of Uruguay. Its geography is fantastic: on one side of the peninsula is the *playa brava* (“wild” beach, facing the Atlantic), on the other side the *playa mansa* (“tame” beach, towards the large bay of the Río de la Plata).



Figure 1200. Dancing in the street.

We go for long walks on the *playa mansa* and later enjoy *Punta by night*. Fascinating. It is, and has been for a long time, a top destination where rich Argentines spend their summers. In the beach restaurant for our next dinner, the waitress recognizes me from a bar we went to in the afternoon. Dorothea: “You really cannot go incognito with Joachim”.

A bus from Punta del Este takes us to La Floresta, a beach town halfway towards Montevideo. My friend Alfredo Viola, a computer science professor at the university and called “Tuba” for his loud voice, owns the beautiful holiday residence *La Lapinière* in La Floresta. This is our first stay in in this place to where he has invited many foreign scientists. His guest book is full of illustrious names in mathematics and computer science. And we meet his wife Graciela and teenage daughter Manuela (Manu) who controls the family. All of us become good friends and will meet many times again in the future. And, yes, we did some good research in that peaceful environment. The huge parrilla (barbecue) is already started, the beer is cold, and the wine ready. Lidia (Popi) and Gadiel Seroussi arrive. Gadiel works at Hewlett-Packard Laboratories in Palo Alto CA and we wrote a joint paper on *Boolean vs. arithmetic circuits* in 1985 at the Technion in Haifa; see page



279. Our result has still not been improved in 2020. He has Uruguayan origins, visits here regularly, and teaches courses at the university. On the beach, we all play the boccia-like game *Tejo*, with rounded wooden boards instead of balls. Dorothea surprises our hosts by being more successful than anyone else, although she has never played the game before.



Figure 1201. Setting sail on the beach in La Floresta, with a red flag pointing to a clear and present danger (peligro).



Figure 1202. My friend Tuba with a guest, both freshly decorated.



Figure 1203. Playing Tejo and in the living room:  
myself, Dorothea, Graciela, Tuba, Manu, Popi, Gadiel.

While I teach my course in Montevideo in the afternoon, Dorothea buys and writes forty postcards to friends and family. Not only that—she actually posts them. Sometimes, she leaves out this last step. Colorful postcards with fancy stamps are a thing of the past. Today it is just email, facebook, YouTube, and the like. I miss the physical touch of letters that have actually gone through human hands in a foreign country.

Tuba wants to take us to a carnival show, but it rains heavily and the performance is canceled. Instead we have a drink here and there, drive along the Pocitos beach, and later Dorothea and I share a bottle of champagne at midnight—my birthday. And more is to come.

We invite Tuba, Graciela, and Manuela for dinner in a restaurant in a small lane of the Old Quarter. Food and wine are excellent, our table is on the sidewalk, we talk and laugh a lot and loudly. Good fun in sympathetic company. Dorothea gives me an enormous Havana cigar as present. It goes up in smoke—one present that she does not have to carry far.



Figure 1204. Our favorite restaurant: *Posada de 1820*:  
gourmet heaven, vegetarian hell.



After finishing my lectures, we go by taxi, bus, and ferry to Buenos Aires in Argentina. It rains, we have no Argentine cash to pay for a taxi, the ATMs I try refuse to co-operate, so we have to walk to our lodgings. It is only ten blocks and Dorothea complains bitterly about *the real gentleman*. My friend and colleague Guillermo Matera has reserved an apartment for us right downtown. The noise on the wide Avenida Córdoba is deafening, even on the eighth floor, day and night. Cars, buses, sirens of police cars, ambulances, and sirens at garage exits form a never-ending cacophony. But the location is central . . . For dinner, we splurge in one of our favorite restaurants in the world, the *Posada de 1820*.

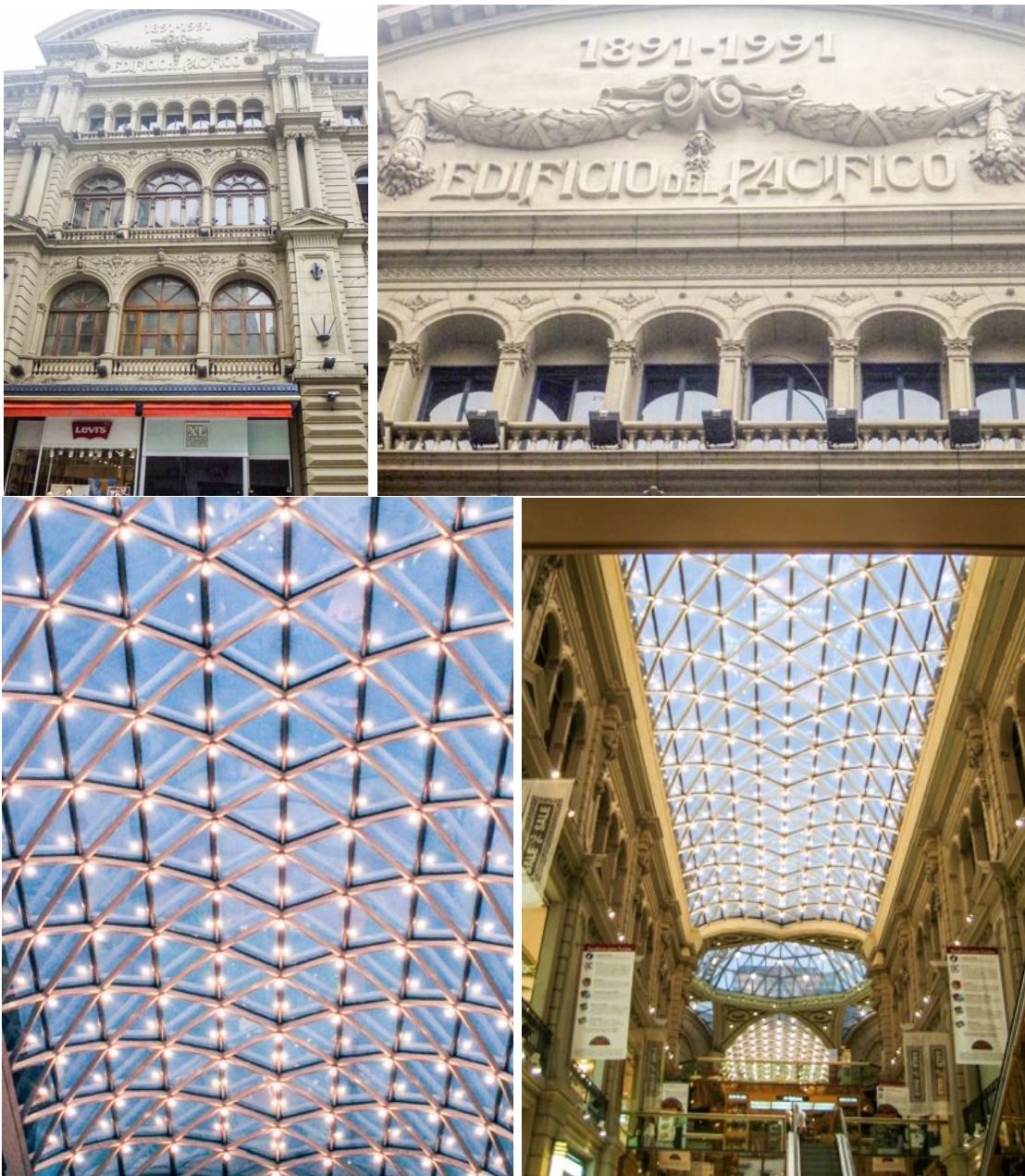


Figure 1205. The art deco shopping mall *Galerías Pacífico*.



I work with Guillermo during the day, while Dorothea tires her feet on a shopping spree. The *Ecological Reserve* on a small island off the harbor offers a pleasant hike and beautiful views of the city. On my last visit in 2020, the Reserve has been “upgraded” and this view does not exist anymore.



Figure 1206. Inside the *Galerías*.

After working during the day, Guillermo and his wife Nancy take us to the fancy parrilla restaurant *El Rodizio* up the Río de la Plata. The buffet is marvellous: salads, seafood, cured ham, pies. The meat is not quite to our liking, too much cooked, too dry, too much fat. Such tastes vary from country to country. Sometime our waiter approaches and we say *Pobre Pablo*, meaning that we do not take any of the delicacies he offers on his spits.

Our Sunday excursion is to the famous Tango quarter of San Telmo. We get off the bus and see an empty street. No-one around. Second street: lots of people, humming with happy worry-free Sunday revellers. There is a flea market on a shady square, couples dance the tango for show and for fun, buskers, and then a covered market with all kinds of goodies. I discover some old letters in a book stand and study them. The shop owner talks to me at length, although I say from the beginning that I do not want to buy anything. But he is so glad about anyone who is interested in his exotic bibliophile holdings, hardly anyone ever stops, let alone a foreigner. Oh well, a university professor!



Figure 1207. A churrasquería. Tall reeds on the island *Ecological Reserve* in front of the Buenos Aires skyline.





Figure 1208. *El Rodizio* with Nancy and Guillermo.



Figure 1209. Hippie jewellery and hippic equipment.

We walk to *la Boca*, a port quarter with rather dim reputation, but the home of the *Boca Juniors*, the soccer club of Diego Maradona, *la mano de dios* (God's hand) as he calls his irregular goal against England in the 1986 soccer World Championship. A young couple in front of us has a big fight, the woman pulls a sweater from her bag, presumably a gift from him, throws it on the ground and tramples on it. The young guy picks it up and shakes his head. Dorothea tells me that sometimes she feels like doing that as well, so



I start pulling at her T-shirt and say “just do it”—“It’s not that bad at this moment.” All the better.



Figure 1210. Mr. Stoneface and child musicians with an icecream trophy.



Figure 1211. Trinkets at the market.



Figure 1212. Colorful San Telmo.



One street in San Telmo has garishly painted houses, some with lurid paper maché figures leaning out of windows. On a small square, expert couples show off their sexy tango moves. Ages ago, Dorothea and I took tango classes, but these performances put our clumsy attempts to shame.



Figure 1213. San Telmo: real bread and *La Gran Flauta*, meaning big sandwich or big disaster.



Figure 1214. Knees with 40/40 sight.





Figure 1215. Tango in San Telmo, draw bridges in La Boca harbor.

In the evening, we go to a tango musical, based on *Mack the Knife*<sup>29</sup> in the tango theater *El Nacional*. Small tables where drinks are served, as in central Europe in the 1920s. The tango is lurid and full of sentiment, younger and some older dancers perform. A fantastic show. Besides us sits a couple from the USA. They have spent many years in Panamá and surprise us by speaking Spanish very well—quite a rarity among US Americans, even if they have been in Latin America for a long time.

As we exit the theater, I spot the main performer and Dorothea gets an autograph from her. We go to a restaurant for some more: an elderly gentleman with a good voice sings Argentine folk songs. Not my style, but live music is always good. When we get home at 02.00, we are dead tired from this lovely evening.

<sup>29</sup>Macky Messer, famous under Bert Brecht's direction.





Figure 1216. Tango show and an autograph for Dorothea.



Figure 1217. San Martín and its lake.



Our next destination are the Argentine Andes. Bariloche has the reputation of being a *gringo city*, so we eschew it and take a bus to San Martín de los Andes, at 640 meters of altitude. After months in tropical heat, the Patagonian cold up here bites our skin. We drive by the *siete lagos* (seven lakes), through dense forest and over mountains.



Figure 1218. A common way of garbage disposal in Latin America, and a truck vending wickerwork.



Figure 1219. Hiking around San Martín.

Dorothea finds a nice cabin in San Martín. We wear all the clothes we carry against the cold. In our pizzeria for dinner, a large family sits at the table besides us. It is wonderful to see how the parents treat the children, and even more how the children



are patient and empathetic with each other. This reminds us of our own travels when our two daughters were small, and is quite different from the central European or North American way of dealing with children. Here they are little adults, left to themselves under loving supervision, while there they are subjected to all kinds of rules, regulations, and expectations.



Figure 1220. They still have public phone booths in San Martín.

Most of the interesting hiking trails around San Martín require first a drive and then either a long day or several days of walking. We discover the only one that we can easily reach on foot. It takes us along a ridge high above the lake, with marvellous views. Green forests, blue lake, white peaks in the distance, us two all alone—what more do we want?



Figure 1221. Los tíos malos.



We liked our hike so much that we do it again the next day. The reward afterwards is a fat ice cream. In the evening, a different type of amusement: a rock concert. The lead singer of *Los tios malos* (die bösen Onkelz, the evil uncles) knows how to animate the audience, everybody has a lot of fun. And we think of some heavy metal friends of ours back home who would have enjoyed this as well.



Figure 1222. Two bearded gentlemen in town.



Figure 1223. Our comfortable night bus from San Martín to Pucón. A village on Lago Villarica with a view of the volcano.

Finally, our lengthy home run starts, via southern Chile. Our bus crosses the Andean chain and descends into Pucón, in the lovely Lake District. Dorothea finds a nice *cabaña*



(cabin) where we relax a bit. The beach of the *Lago Villarica* is black volcanic sand, *agua rica* (cold water), blue lake, the snow-covered *volcán Villarica* towers at 2847 meters in the background, colorful umbrellas everywhere. Very pretty. We find a pleasant restaurant by the waterfront. We cannot get enough of the spectacular beauty of this place: lake, forests, snow-covered volcano.



Figure 1224. At the lakeshore.



Figure 1225. The only shopping I like to indulge in: old books.



Figure 1226. Villarica: working in our garden, and a bakery with names that illustrate the German influence in this area.

In a rental Fiat Panda, we drive to the volcán Villarica, where nineteen years ago we taught our daughters how to ski on bamboo sticks, see Figure 850. As we hike up the mountain, Dorothea gets tired at around 2000 meters from her cold and inappropriate footwear, and I continue on my own. The walking is tough in the soft pumice and later the snow, two steps ahead, one step back. Our legs are completely covered in the fine black volcanic dust. Down by the parking lot, we walk through the rather unimpressive volcano tubes; the ones on Halemaumau in Hawaii are more interesting, see page 1416.



Figure 1227. Dorothea summer skiing, ski runs on black volcanic sand.





Figure 1228. Ski lift with a rustic power supply, views from Villarica volcano.





Figure 1229. Hiking on Villarica volcano.

A day's excursion takes us to volcanic hot springs, the *pozones*. After the *Lago Caraburga*, a dirt road challenges our little Fiat. We pass some small waterfalls, no comparison, of course, to Iguacú.



Figure 1230. Waterfall, and walls of hortensias growing along the road.



Figure 1231. The *pozones* from above and Dorothea in the warm waters.



At the springs, long stairs cut out of the rock lead down past several water basins, with very different water temperatures, hot at first and then cooling off as we get down the hill. Very pleasant, and afterwards we cool off in the breeze.,

Our bus drive from Pucón to Santiago through the night is pleasant, a *semi cama* (half bed) car with luxurious reclining seats. Dorothea confirms that I snore really well after a beer or two. Our hotel is in the old quarter *París-Londres* of Santiago, with a lovely view of the square in front. After a short rest, we go to the *Plaza de Armas* in the city center. Not much has changed since our last visits, except that there seem to be more people about. The *Club Radical*, just around the corner from our hotel, welcomes us with photos of socialist heroes, good food and excellent pisco sour.



Figure 1232. I salute the statue of the Chilean writer José Toribio Medina from our hotel balcony, and a kiosk in the wine village of Santa Cruz,

Over the next days, I meet regularly Marcos Kiwi from the Universidad de Chile who has invited me for a visit. José Verschae, a student of his, is to write a Master's Thesis on differential and linear cryptanalysis of a mini-AES version that he will design. We discussed our project at the beginning of this trip. In the meantime, José's has made decent progress. Marcos and I start a small new project on arithmetic codes, which eventually comes to naught.



Figure 1233. Old steam locomotives in Santa Cruz.

We rent a car, a Chevrolet Calista. A few kilometers after starting, it starts beeping. We are lucky: a gas station turns up soon. So the rental bastards gave us a completely empty tank, without even telling us. I will certainly try to return it even emptier, if that is possible.

Our destination Santa Cruz—not the Bolivian drug capital of the same name—is in the *Colchagua valley*, one of the large wine producing areas of Chile. We have pisco sours and dinner in a nice pavillion. Our visit to the winery *Bisquertt* in Palmilla is disappointing. We regularly go to the small cave with wooden kegs of our vintner in Gevrey-Chambertin, Bourgogne (Burgundy), and expect something similar here. Instead, we see monstrous steel containers with 30 to 50 thousand liters. All is spic and span, but simply not our idea of a small winery. Only their premium wines are produced in wooden kegs, as it should be. They give us a glass of white wine, which almost tastes like sherry, and a red Reserva Cabinet Sauvignon. Both are of moderate quality. We buy two bottles for my colleagues that we will see the next day.



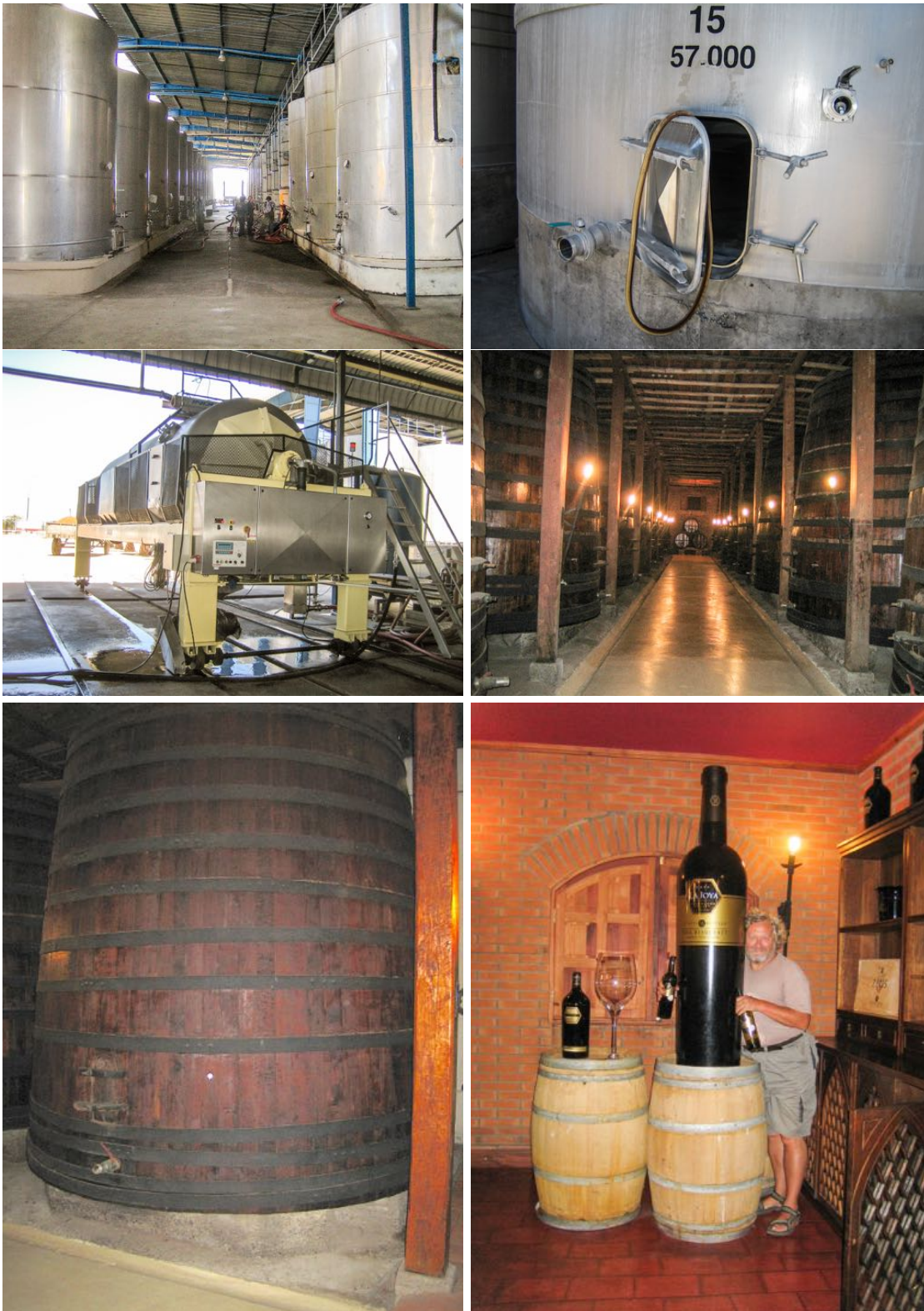


Figure 1234. At the *Bisquertt* winery. A wine container laid horizontally for transport looks like a space rocket, and the wooden kegs are mainly for show.



Dorothea suggests a wonderful drive through mountains and valleys to the Pacific Ocean. Just before Pichilemu, the view widens over the ocean and the *Punta de lobos* (seal promontory). Dorothea is fascinated by the many seals in the water, until a big wave comes in and they all turn out to be surfers. So much for her seals! We walk on the black volcanic beach, with ice-cold water, full of stranded seaweeds and of visitors. At the waterfall *vela de la novia* (bridal falls), the guardian tells us, with a twinkle in his eyes, that we will not want to go if we know the price: 3000 Pesos (9 Euros) for two. I twinkle back and ask about a seniors' rebate. And then he gives us those tickets, at half price. We also see the *siete tazas*, seven pools filled by small waterfalls of volcanic water from above.

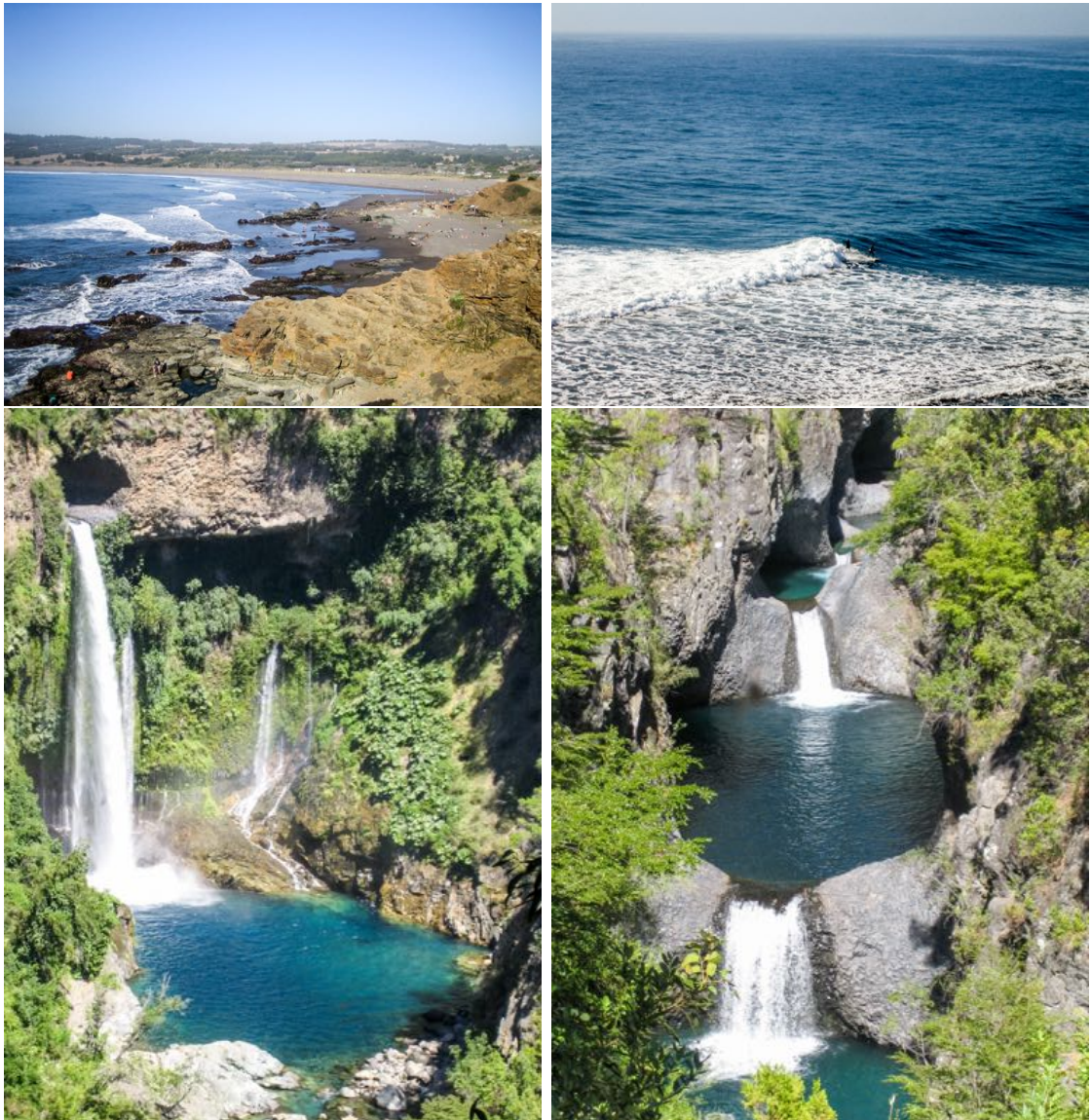


Figure 1235. *Punta de lobos*: seals turned into surfers and the *Seven pools*.





Figure 1236. Our hike under bamboo trees.

In Talca, my friend Nicolas Thériault already waits for us in our hotel. He is originally from Québec and has been working since two months ago at the Talca university. Some years later he will move to Concepción with his charming Chilean wife Claudia; see page 1033.

I spend an interesting day at the university, meeting many of Nicolas' colleagues. The math department has a friendly and convivial atmosphere, everybody wants to talk to me. They do not host many foreign visitors here. Their chairman Ricardo Baeza studied and lived in Germany for twenty years and speaks excellent German. My lecture in Spanish is well-attended. Then it is off to a pleasant dinner with Dorothea and a whole gang of mathematicians.

After another day at the university, Nicolas picks us up late afternoon to go to Ricardo's ranch, a huge property whose boundary you only see in the distance from the house. Ricardo's teenage daughter Ignacia is practicing four hours a day for some gymnastics competition and fairly tired. The five-year old Amelia is very shy and hardly shows herself. We have a fun evening, with good food, plenty of excellent wine, and interesting discussions about science, math, and life. They ask Dorothea whether she is also a scientist—"no, someone has to peel the potatoes". And more good-humored laughs.





Figure 1237. Driving onto Ricardo's huge ranch and enjoying the day with Ricardo Baeza, Mokhtar Hassain, Luc Lapointe, Ana Cecilia de la Maza, María Inés Icaza, Manuel O'Ryan, and others.

Back in Santiago, I drop our rental car, with practically no gas left in the tank. As promised. Our night's sleep is bothered by a gang of Argentine models, who keep drying their hair and shouting across the corridor. The night porter intervenes at our request, but that does not help much.

Marcos invites us to his home for a wonderful dinner the next evening. His two children, two years and two months old, respectively, are delighted with our presents. They have a large and beautiful apartment. Marcos' grandfather was the first maker of marzipan in Valdivia. The truly Chilean dish of *pastel de choclo* (sweet corn pie) is vegetarian, good, but not quite my style.

The port town of Valparaiso (colloquially Valpo) is beautiful, decorated around a large bay, with views of the harbor and city from higher up. We walk around the streets near the harbor, with small lanes, stairs everywhere, corners and angles. Many murals decorate the walls, and the houses on the hills are painted in vivid colors. A delight for the eyes. We take a steep funicular up one of the hills, for a drink with a fantastic view. A few years later, I will spend again a few days here, with Anton on our bike tour; see page 946.



Figure 1238. Valparaiso: open air flea market.



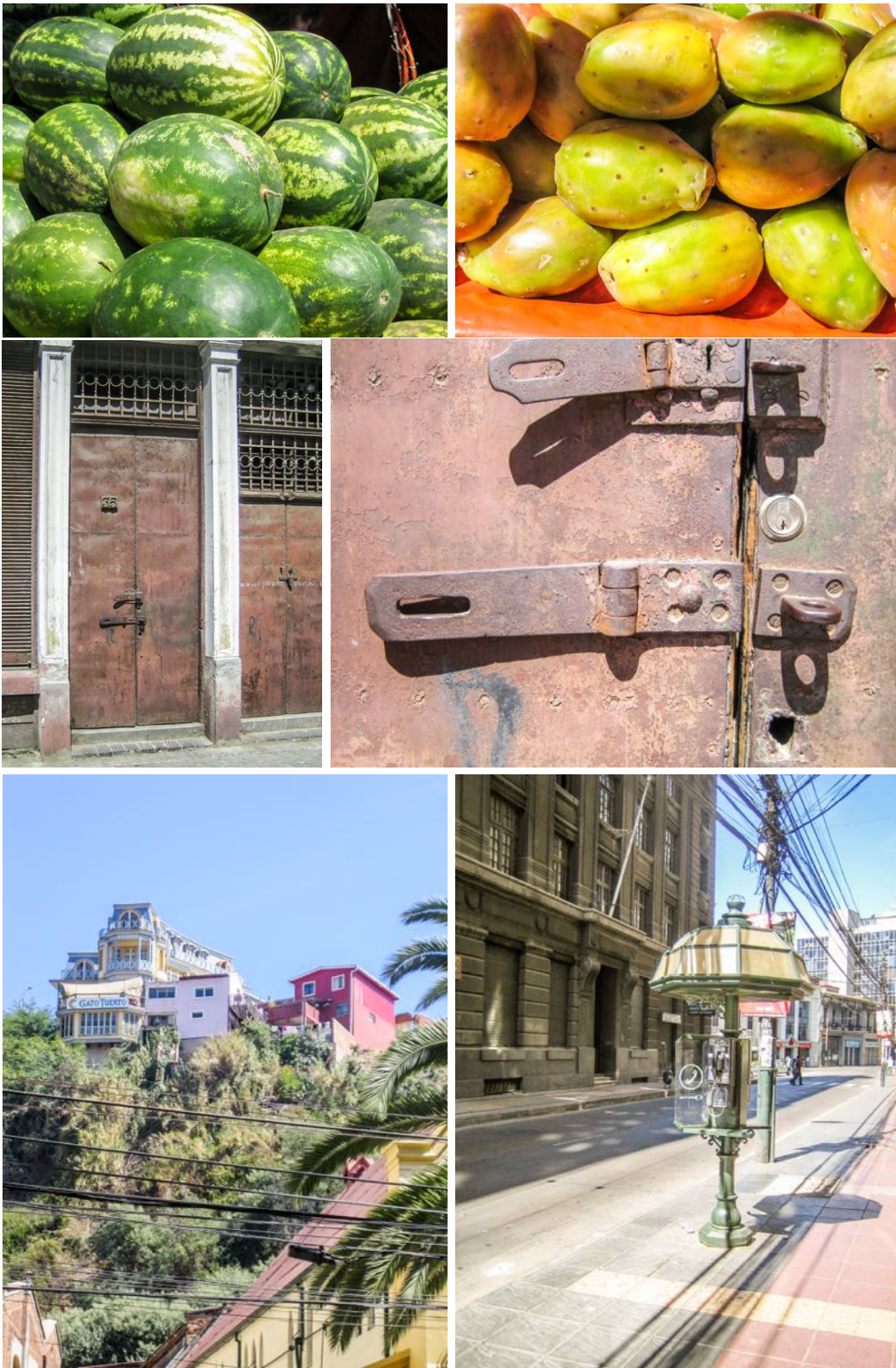


Figure 1239. Market, steel doors, villas on the hill, wonderful old phone booth.





Figure 1240. Doors. Take the cable car or walk up? Decorated wiring.





Figure 1241. Impressive murals.

Two days later, it is 11 March and our daughter Désirée's birthday. We search in vain for a way to call Désirée, most places are closed on Sunday. By the time we find one, Désirée has left home and all we can do is leave a message. Happy birthday!

Back in Santiago, Dorothea successfully completes her shopping spree, in the *Pueblito de Los Dominicos* and the malls *Las Condes* and *Parque Arauco*. Now everybody is happy. It is mid-March by now and the end of our first summer this year. We fly home to start our European summer.

An amusing incident took place at the LATIN 1995 conference in Valparaiso. I arrive only on the second day of the meeting, directly from Spain and rather tired. So I get to the conference location in a great hurry and right on the time when my talk is scheduled, about work with Daniel Panario and another co-author. Eric Goles, the session chairman, gives me a super-friendly welcome as I enter the lecture hall, almost exaggerated. I return his friendliness and then ask loudly into the audience: "Daniel, are you present? Who will give our talk?" Great amusement in the hall, half of the people bend over with laughter, the other half is confused, because they do not follow our dialog in Spanish. I do not quite understand the situation, unpack my slides after Daniel says he has nothing prepared, and calmly present our results. Later I learn that there was a discussion about my absence (so far) and even a suggestion to move our talk to a later day. Not knowing this, I stay calm and carry on, but to the others I must have appeared like a jack-out-of-the-box. "Talk of the devil, and he is bound to appear." Daniel tells me that he learned that day to always come prepared with a talk, no matter what your co-author agreed to.

## Canyon in Perú 2012

*This short trip takes me to Arequipa in Perú, with its rich colonial atmosphere, and on a weekend excursion to the impressive Colca canyon.*

Figure 812 places Arequipa on the map. In April 2012, I am in Perú for the LATIN conference taking place in Arequipa. On our Grand Tour, the four of us were impressed by the monastery Santa Catalina, see page 650. During the meeting we not only visit the monastery, the organizers have actually arranged the usual dinner in one of its spacious courtyards.



Figure 1242. Flying over the Andes always presents a beautiful mountainscape, and the mighty volcano Misti towers over Arequipa.



Figure 1243. Arequipa.





Figure 1244. On the streets of Arequipa, myself with two organizers, and Frédérique Bassino, Conrado Martínez, Eda Cesaratto, Tuba, and someone else at the second-floor restaurant in the picture to the left.

We walk a bit around the monastery. Much of it reminds me of our visit in 1989, there is little change. Even the potty looks like untouched since then. Do the nuns now have fancier facilities?





Figure 1245. Impressions from the Santa Catalina monastery, fancy dinner in a courtyard, and Igor Shparlinski with an essential research lubricant.



Figure 1246. Relaxing and selling along the road.



Over a weekend, I drive in a rental Toyota Landcruiser to the *Colca canyon*. With a depth of one kilometer, it is an impressive sight. It is famous for the condors sailing elegantly over it, but these large birds have their day off when I am there. However, on the village markets, stout women in colorful clothes sell all kinds of things.



Figure 1247. Market in Chivay and children playing.

The road is fascinating, winding zigzag along the rim of the canyon with wide views into the valley, overhanging basalt columns, and many crosses remind the driver of its dangers.





Figure 1248. The road along the Colca Canyon.



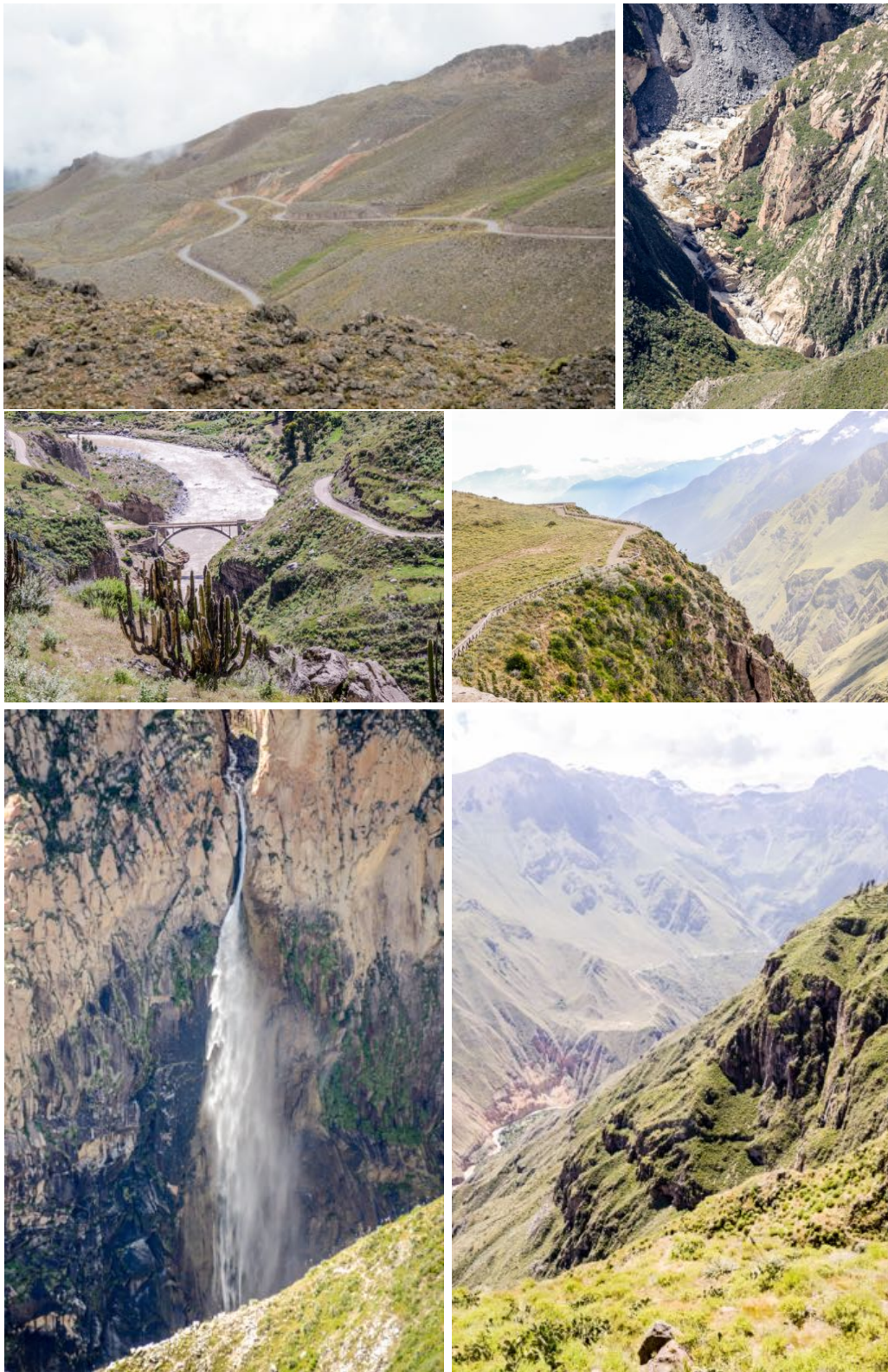


Figure 1249. Views into the canyon.





Figure 1250. Flowers and grisly reminders.



At one point, I stop to change the lens of my camera, sitting on a rock ledge by the canyon. My wide angle lens manages to escape my hands and tumbles down the abyss, happy as a mouse unexpectedly set free. Jumping and turning with joy, until it comes to rest after a fall of some 20 meters. I make the dangerous and difficult climb down—I am not as agile as a mouse. Instead of a wrecked mass of tortured metal and glass, I find my lens almost intact. Only the filter is shattered; after all, that is the purpose of a filter: protecting the more valuable lens.



Figure 1251. Villages: Welcome to Cabanaconde, land of the cabanita corn and birthplace of Princess Juanita. My shattered lens.

Unfortunately, the condors that usually circle above the canyon have a holiday today, but many llamas show up as substitutes in the flat and swampy areas.



Figure 1252. Llamas in the marshes.





Figure 1253. Llamas galore.

The end of the afternoon holds an unpleasant surprise: after a full day of sunshine, I get caught on the Patapampa pass in a snowstorm at 4900 meters. They must have felt like including some challenge in my drive.



Figure 1254. Snowstorm.

My return trip to Germany goes via Lima and Caracas. I am at the airport in Arequipa on time at 06.20, friendly check-in, my luggage is checked through to Frankfurt. Time for a small breakfast, short stop-over in Lima, three hours in the lounge at Caracas, I get a lot of work done, and then a quiet flight home.

Well, it could have been that way, but it wasn't. At 06.20, the TACA check-in counter is deserted. I run around like mad and eventually learn that my flight is delayed by two



hours. So I will miss all my further connections. I try to purchase a ticket from a different airline, but the machine does not accept my credit card. A young woman from TACA comes running, I tell her my story but have the impression that she already knows it. She books me for free on the flight that I had tried to buy and which is now ready to leave.

There is no time to check in my backpack and I lug it into the plane, running most of the way. I am too exhausted for work. In Lima, I run to the TACA counter: “Your flight to Caracas is closed.” I explain that all this is TACA’s fault. They open the flight for me and a ground hostess runs in front of me to the gate, clack clack clack on her high heels. Wrong gate, back through half the airport.

In Caracas, they also ruin my three-hour stopover. I have to go to the Lufthansa check-in counter, landside through passport control. “Your flight is full.” After a long discussion, I finally get a boarding pass. But I first have to pay the airport fee, a whopping 500 Bolivares (US\$ 110). Although I am in transit and arrived just an hour ago.

I go to a different counter with a bully responsible for this payment. He checks my itinerary and says that the amount is wrong, I only have to pay 75 bolivares (US\$ 18). Ok. I give him my credit card, but he wants bolivares in cash, which I do not have. I offer him my remaining Peruvian soles. He does not take those either. I can see a lengthy process of reflection starting in his brain, its convolutions getting hot. At the conclusion, he bangs his fist on the counter and tells me that I do not have to pay anything. Fine with me, but one wonders where all that money goes when it does not matter that occasionally someone does not pay.

After the security check, passport control demands a form that I do not have. “Where do I get it?”—“At the check-in counter.” The Lufthansa idiots forgot to give it to me. Now going back through security is strictly forbidden, as in any large airport. I ask an official to open the door for me, but he refuses. From the corner of my eyes, I see someone approaching from the outside, the door opens, I dive half through it before it closes completely, resolutely push it open again, and am outside. The security guard outside mutters “The doors do not open like this” and off I am to the Lufthansa counter. They give me the form without any comment, let alone excuse. Again through security, now also through passport control, and then—finally—to the airplane. I arrive on time in Frankfurt, catch my train and get to my office just in time to give the day’s lecture. Total stress.

## Motorcycle around South America 2014/2015

*In 2014/2015, I take an exciting trip around the cono sur, the southern tip of South America, comprising Argentina, Uruguay, and Chile. With my friend Anton Cavin, we ship our two motorcycles Honda Africa Twin to Valparaiso in Chile and then start our tour. Riding our bikes is often tough, on terrible roads and under attack by ferocious Patagonian winds. But we meet many wonderful people and see impressive things: lakes and glaciers of the Andes, ancient painted caves, Magellan's ship, steep walls of an erosion valley painted red by the sun, crossing the Andes at over 4800 meters, and a visit in a Chilean copper mine. A high point (low point on the map) is a bay in Chilean Tierra del Fuego, where the road disappears into the southern waters. Literally, the end of the (bikeable) world.*

Figure 812 presents a map of this part of our trip. Anton Cavin is a fellow undergraduate student of mine at ETH Zürich. We rode in 2011 on our motorcycles through Siberia and Mongolia to China, and back along the Silk Road; see pages 1213ff.

Our voyage is quite different from Ché Guevara's 1952 expedition in his *Diarios de Motocicleta* (Motorcycle diaries), but we intersect his route on several legs.

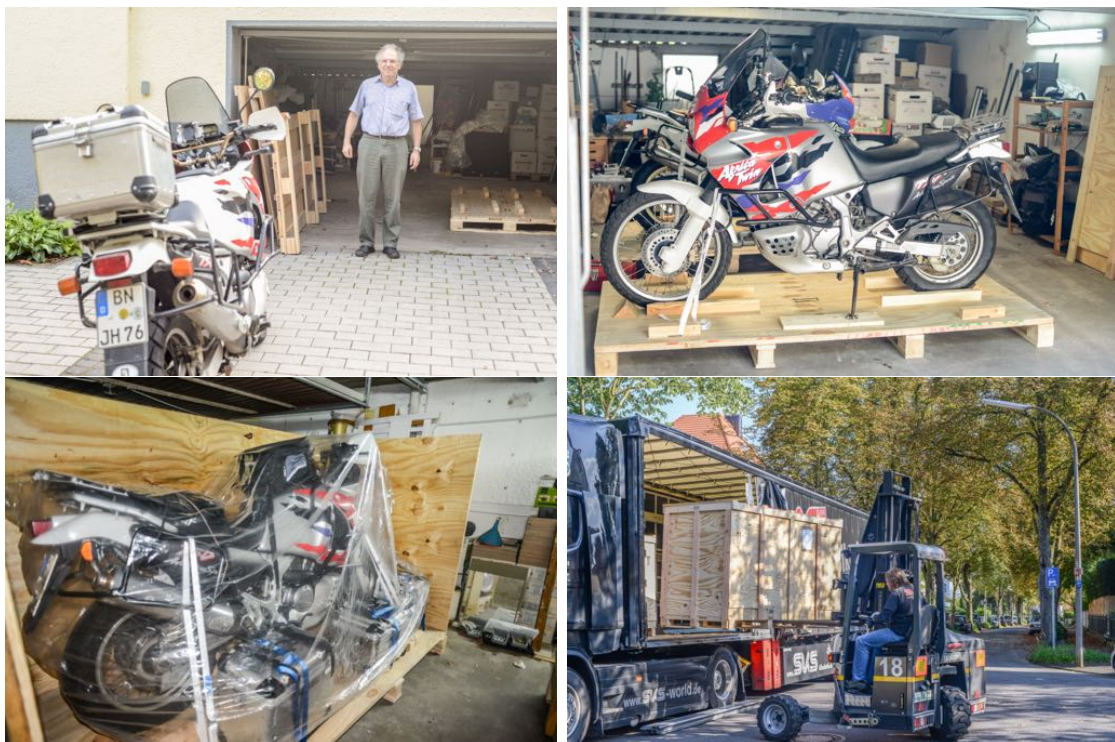


Figure 1255. Packing our bikes into crates in Bonn and loading them onto a truck.

On the large container ship *CMA CGM Herodote*, I cross the Atlantic from Rotterdam, Netherlands, to Fortaleza, Brazil, with several stops on this one-month sea voyage; more on page 1532. By plane and bus, I arrive in Chile's major port town of Valparaiso. Martina from Germany runs the hostel *Kunterbunt* with her partner Enzo Tesser. Villa



Kunterbunt (multicolored, Villa Villekulla in the Swedish original and in English) is Pippilotta Långstrump's (Pippi Longstocking in English, Pippi Langstrumpf in German) house in the famous children's books of Astrid Lindgren. Happy meeting with Anton and nice Pisco Sour, the Chilean national drink, in town; see page 1031 for more on the drink. Several other motorcycle enthusiasts are lodged here. The house is charming, with lots of old wood and wooden floors, but not well taken care of. It reminds me of our student shared rental apartments in the 1970s, with stuff scattered everywhere, dirty dishes piled up in the kitchen, beer in a cupboard rather than in a fridge, and two large dogs. There is a shared bathroom; its door is so narrow that I can barely squeeze through. Martina is rather frantic, they have trouble getting some BMW bikes out of customs at the Santiago airport, and two of her customers had a major accident in Argentina, one of them broke both her arms.



Figure 1256. Anton helping with my bike, Martina, Enzo, and dog in the back.  
The kunterbunt kitchen.

Then comes the big day after two months away from our bikes: we recover them in good health. Enzo drives us to the port. He knows everybody there and without his help, the jungle of customs and immigration formalities would be virtually impassable to us. We have to wear helmets, safety vests, and metal toe protectors. We are lucky and the latter do not have to protect us, but they make a nice sound like horses clattering. In the afternoon, our steel horses are in front of our hostel. Parking them is difficult on these steep cobblestone streets.



Figure 1257. Unraveling our bikes from their wooden transatlantic boxes.

The next day is the start of a marvellous three-month trip through southern South America. Yeah! On the Panamericana (Ruta 5 Sur) our adventure begins. But it is already late in the day and we do not get far south of Santiago. From our quixotic hotel, it is a short walk to the Argentine *Parrillada Los Buenos Aires de Paine*. Mountains of barbecued meat, but Anton and I just share one steak. Delicious. Actually, I dined here in 1989 with my family (page 712), but remember that only afterwards. At a neighboring table, a slapstick comedy unfolds. A young couple is heavily into flirting and kissing, also into drinking. As they leave, the guy has his arm around his sweet prey, sways heavily with pisco and wine, and crashes in full length to the floor, pulling her with him. Nothing bad has happened, she untangles herself and flees the site, he follows slowly with heavy steps. But gone she is.



Figure 1258. Cervantes' *Don Quixote de la Mancha* at our hotel, and the friendly quixotic manager.

Then comes our first real driving day, the Andes to our left and the *Cordillera de la Costa* (coastal range) to our right. At every stop, friendly people inspect our motorcycles. They want to know where we are from and where we go, how old we are. Encouraging remarks and thumbs up. On all my bike trips, this mode of traveling bestows a bonus of sympathy on the drivers. People are impressed by the courage to travel basically in the open, exposed to the vagaries of nature. And also by our age, too advanced for themselves to imagine similar things at a similar age. But, hey, we are young at heart!





Figure 1259. Fantastic rides through a beautiful landscape.

In the spring of this year, I spent several months in Concepción, 430 kilometers south of Santiago. Our companion Andrés Polymeris, a Chilean of Greek origin, from our student days at ETH Zürich has been a university professor here for decades; see page 1034. My GPS device finds the street where he lives, but it is dark already and I am not sure where his house is. Two boys of about 14 and 16 years point us to the sign “hier” (in German) in front of Andrés’ house. We do not have to say anything, everybody in this neighborhood of Chiguayante seems to expect two motorcycles for Andrés. I drive into his steep and curved driveway, stop, and bang! my bike tips over. Nothing happens, and we have it upright again within seconds. Afterwards we can park them in his garage. Andrés cooks a delicious dinner and we chat through a pleasant evening. So many common memories and friends and so much to tell!



Figure 1260. Slightly worn car and a supermarket in Chiguayante.

During our six days in Concepción, we meet many of my friends from half a year ago, share good food, good wine, and interesting conversations. Nicolas Thériault invited me back then (pages 1033ff), and we have dinner with him, his charming wife Claudia, and their sons Roberto and Pierre-Anton. We also have an appointment with Alejandra Parada and her eight-year old daughter Scarlett, with whom Dorothea and I had a great time months ago, Figure 1401. Unfortunately, she does not show up. I present a survey talk on cryptography at the university.



Figure 1261. Anton, Andrea Guerrero, and Andrés.

The Chilean university system is in dire straits or doing extremely well, depending on your point of view. Tertiary education has been largely privatized and charges outrageous tuition fees. The banks love it, because they make good money from their student loans. By now, they have taken over, in more or less subtle forms, many such institutions. This manifests itself in appropriate curriculum changes or grants and positions only to politically convenient persons. In our own university days in Switzerland, leftist leanings were dominant in student circles, except for people who did not care at all about politics. Andrés' opinions have not changed by much since then, and he is an outspoken critic of the financial dominance over universities in Chile. Not surprisingly, the university leadership is upset with this. In many countries, the standards of academic freedom would protect someone like him, but the rules are different here. Andrés is eventually kicked out of his tenured position, after lengthy proceedings, some of them in civil court. Shame on the University of Concepción!

A few years later, in 2020, the middle-class student protests erupt into something much larger, also fuelled by the Corona pandemic. Large-scale and sometimes violent demonstrations rock the country and the government reacts with even more violence.

Eventually, our pleasant sojourn comes to an end. Via Los Angeles and Santa Bárbara, both not in California, we drive to Ralco along the upper part of the *Río BioBío* which gives its name to the whole province. We are well received at a pleasant hotel with cabañas. The owner drives a motorcycle Gasgas 300 Enduro and participates in local races. But



most astonishing is his eight-year old daughter Nadia. She and her sister have been riding quads since they were two years old—claims the father. She impresses us by wild circles around a central square at high speed, in total mastery of her machine, hair flying wild and an impish smile on her face. Very confident, a very strong girl.



Figure 1262. Nadia as Suzi quadro.

The central plaza in the small town follows an indigenous Pehuenche fabric pattern, the tower next to it provides a good view, and a restaurant on the plaza a pleasant dinner. We walk home under a magnificent starry sky. After a nice breakfast in Nuria's garden, we drive to the unimpressive Termas El Avellano for a bath in warm water. Our attempt to drive up to the mountain fails after three kilometers, the road is too difficult.



Figure 1263. Relaxing in a hot pool.

Again a breakfast at Nuria's, and then a drive to Pucón. We do not find nice accommodation, the tourist office is helpless. The next day, we start to drive up the *volcán Villarica*, but again have to give up on the tough gravel road.

From Pucón via Villarica and Lican Ray, we arrive in Coñaripe. I spend an hour running around in my heavy motorcycle gear, until I see a sign pointing to the *L'escale*. Yvonne (from Chile) and Michel (from France) give us two nice rooms with a large living room. Very comfortable, very relaxing, and this is the first time I sleep really well since leaving my freighter *Herodote* two weeks ago. We can even use their washing machine—urgently needed given the state of our clothes. The beach on Lake Calafquén offers nice views up to the *volcán Villarica*.



Figure 1264. Driving up to the Villarica volcano. Walkway sinking into the lake.



Figure 1265. The perfect cone of mighty Osorno above the clouds.

After two days, we get on the way to Puerto Montt, around *Lago Calafquén*. Only eleven kilometers of gravel, but that is already too much. On a steep incline, a car comes down the other way. As is our habitude, I stop by the edge of the road. But the gravel is wet and slippery, I have to stand with both feet on the ground and thus cannot use the rear brake, only the front one on which there is no weight. My right foot slips on the wet stuff and bang! my bike tips over. The right mirror hits the steel crash barrier and breaks



off right above the brake fluid container. Anton stops at a convenient place and runs back to help me. We cannot even lift the motor bike with its heavy load, but three strong guys from an oncoming car help us. We are both heavily dressed and sweat a lot. Nothing happened except to the mirror. We both have large aluminum luggage cases on the rear sides that prevent a leg from being squeezed in after a fall.



Figure 1266. Osorno above the beach. Two of my home countries  
—too bad they do not have a Swiss flag.

On the *Ruta de los siete lagos* (road of seven lakes) we enjoy beautiful views in brilliant sunshine. Late afternoon, we arrive at our *Holiday Inn* in Puerto Montt that Anton has reserved. It is, as most such hotels, a soulless concrete box, a temporary depository for tourist bodies. Fortunately, almost all of our accommodations in the next months have more individuality. As planned, two friends of Anton's, Ali and Hasan, join us for a few days. They rented their motorcycles in Osorno and already wait for us. We will enjoy the next days together, in good company. Figure 858 shows a map of the Patagonian part of our trip.



Figure 1267. Puerto Montt with Ali and Anton.



Figure 1268. On the road. Anton, Ali, and Hasan at right.

Past pleasant fishing villages, we drive along the coast to Caleta Arena for the ferry to Puelche. We almost miss it because I got up too late in Puerto Montt. Sorry, guys! So I am back on the *carretera austral*, one of the most beautiful highways in the world; see page 710 for my first trip along it. It was then just finished and a poor gravel road. I am pleasantly surprised to find it in a similar state, or worse, decades later. I feared a smooth and boring band of asphalt, but it is rather the opposite.

With a total of three ferries, we ride southward on gravel through a lonely area, at a speedy 20 to 30 km/h. Fräulein Rehbein in Hornopirén rents us two nice cabins, not quite as good as in Coñaripe. “Fräulein” is an old-fashioned German term for an unmarried young lady, but this young lady is a spinster in her sixties or so. She does not speak her ancestral German anymore. Hasan is justly proud of his achievement today. It is a challenging road, with steep ascents and descents along wet gravel roads, and he managed without problem. Only his teeth hurt from his grinding them whenever his rear wheel slips—which happens here regularly. We sit around a welcome fire and chat through the evening.



Figure 1269. Main street of Hornopirén and Fräulein Rehbein’s cabaña.





Figure 1270. Motorcycle park at Fräulein Rehbein's and on the ferry to Caleta Gonzalo.

Our next two ferries take us to Leptepú and Caleta Gonzalo. I spend those 3.5 hours on the rear deck in the sun. Beautiful, incredibly wild landscape with steep coasts, densely forested, waterfalls around each corner, no wind, and the clouds seem to rest between the mountains without any movement.



Figure 1271. Fresh streams along the road, but our bikes accumulate only dirt.

After 10 kilometers of gravel we arrive at the Fiordo Largo, where there is—nothing. We get onto the second ship to Caleta Gonzalo. The half-hour ride is quite uncomfortable. The heavy rain soaks us to the bones, we stand outside with helmet and bike jacket. The cars are packed so densely that we cannot move around on the ferry. Back on the road, a bridge is closed at one point by a teachers' demonstration demanding more government subsidies for the schooling system in the Hualaihué commune. They are happy, sing and dance, rather different from the embittered and angry faces one often sees at such events. We have to wait for a while, without getting mad at this crowd in a good mood.

The rain continues on our drive from Caleta Gonzalo to Chaitén, we get wetter and wetter. Even things in my tank backpack suffer, although it is in principle watertight, but only in principle. For a short stretch, we drive on the airstrip of Santa Bárbara—fortunately without taking off on its wet rubble.



Figure 1272. Driving on an airport runway in pouring rain.

In Chaitén, I want to power up my MacBook Air and discover that I lost my charger. Disaster! I will not be able to continue my diary, the basis of this tale, or download my pictures when the memory cards are full. What to do? Panic? I sit down and think where this might have happened. I finally call Fräulein Rehbein in Hornopirén and lo and behold! she has already found my charger and will send it on the next bus. It arrives two days later.

Ali's and Hasan's time is running out and I bid them goodbye. Good companions on this part of our trip. They drive a bit further south, to Villa Santa Lucia, and then back through Argentina towards Osorno. Anton accompanies them for part of the way and returns to Chaitén later in the day.



Figure 1273. Chaitén: Town and beach.

Yesterday's dinner was in the restaurant Flamengo. The boss's friendly son, a student, speaks some English, which makes it easier on my friends. Today a waitress of some fifty years serves us. She seems slightly drunk and explains a lot of the area's recent history. During the volcanic eruption in 2008, when roads became unusable, people remained calm also while being evacuated on ships, a big mud avalanche twelve days later caused large damage but no deaths. She talks about her Jewish grandfather who allegedly founded Chaitén and the current widespread antisemitism (although there are hardly any Jews



here) because of the Jewish US company Tomkins, which buys up land for trading CO<sub>2</sub> certificates and gets land titles within three months while long-time residents do not get one even if they lived on the land for decades. She is a simple woman, but with firm points of view, information, and perspectives. Anton and I are highly amused.



Figure 1274. In Chaitén.

My Swiss publisher Birkhäuser Verlag, now a subsidiary of Springer Verlag, phones me. I have been founding editor-in-chief of their journal *computational complexity* for twenty-five years, but now hand in my resignation in view of my planned retirement in 2015. We agree on all points. A journalist from the German *Handelsblatt* calls me for information about quantum cryptography. I tell her that I do not think much of the hype around such things. That was that.

The next leg of our trip takes us through dense forests, along and over glacier-green rivers with solid bridges and snow-capped mountains in the background. The gravel is tough, but there is little traffic. Except that three trucks cough up one small pass. We have to overtake them. This is not so simple. One of them drives on the extreme left, I pass it on the right, and it swings to the right. Ouch, that almost hurt. There is little forward visibility with all the dust in our faces. In deep gravel, my bike sways to and fro like a sail boat in the wind. It takes an iron grip and a bit of luck to keep it straight. All this goes well but is highly strenuous. Just before reaching today's destination La Junta, the highway maintenance department adds a few challenges in the form of construction sites, and loose gravel makes for a rather shaky drive.



Figure 1275. Impressive mountains and less impressive road works.

The universally hated (outside of Chile) dictator Augusto Pinochet makes a spectral appearance on a road sign in La Junta. Oh well, the Carretera Austral, lifeline of this area, was constructed during his dictatorship. But a memorial? It reminds me of the admiration that Josip Stalin enjoys in today's Russia.



Figure 1276. The araucaria is Chile's national tree. The only sign referring to the dictator Pinochet that I ever saw in Chile.

In the village, the wooden houses with wooden roofs and wooden windows with curtains remind me of Siberia, see page 1201. The restaurants are all closed, but in one of them, hidden in a backyard, the owner is kind enough to fetch a key and open up for us. The food is of moderate quality, but the long stories about her family make up for this.

The next day is interesting, with ups and downs. We have been warned about road works and the copec gas station tells me: "If you leave before 13.00, you will get through.". Unfortunately, this is wrong. We leave at 12.15 in a driving rain which does not stop the whole day. Road signs point to hot springs and a glacier, but this is not the weather for them.





Figure 1277. They call this an “urban zone” in Southern Chile.  
Cabaña in Amengual.

The low point of the day is a construction site on our Ruta 7 between Pangué and Puyuhuapi, where we arrive at 15.30. They are dynamiting rocks to broaden the way. We suffer a long wait until 17.00 at a lake, pouring rain, we are soaked, there is nowhere to sit down. When they open the road again, we have to drive over the fresh debris from blasting those rocks. This is quite dangerous for us, although it would not be a problem for a car. The permanent rain makes the road even more difficult and our mood gloomier. Always slippery gravel soaked from the rain and interspersed with larger rocks, mud, deep puddles. This needs an iron grip on the handlebars, there is a constant danger of slipping sideways. Part of the drive goes through the Parque Nacional del Queulat, almost a jungle with dense forests and pretty red flowers. But we hardly have an eye for those beauties.

In the village of Amengual we do not find agreeable accommodation. Someone points us to the *Lodge Lago las Torres*, three kilometers away. Several signs are posted, but it is hard to find: I have to scramble up a steep dirt trail, impassable for our bikes. But eventually we get a pleasant cabaña, far away from everything, totally quiet.



Figure 1278. The landscape is enticing, the drive challenging.

We drive back to a *hostería* that I saw from the road. It looks shabby and deserted, but then turns out to be a wonderful place. The owner Victor prepares tasty Pisco Sours

for us, with pica, a rich lime from the Árica area. We sit in comfortable upholstered chairs while our outer clothing tries to get dry near the fireplace. Our conversation with Victor is animated, later his wife and seven-year old daughter join us. They introduce me to her as *papito pascuero* (see Figure 1285) and tell her that I will return for Christmas.

Back in our hut, we chat until 01.30. There is so much to discuss after this exciting day: rain, gravel, mud, puddles, almost tipping over, and then the pleasant interlude with Victor. First down, then up.

After a sumptuous breakfast at Victor's, we leave for Puerto Aisén. Victor has booked a cabaña for us at the *Patagonia Green*, very pleasant. I sit outside and drink a beer: *Roter Teppich* (Red carpet) from Hopperdietzel in Puyuhuapi—I cannot resist to taste that combination of names.



Figure 1279. Tanks for raising fish and crustaceans, and the Hopperdietzel *Roter Teppich*.

We get a ride to Puerto Chacabuco, where we board at 08.00 our catamaran to the Laguna San Rafael. We took a similar ride in 1989, see page 707. That two-day trip was on a slower boat, much more to my liking. I am not a fan of fast boats as ours today where you are confined to a (large) cabin, without much feeling for what is happening outside.



Figure 1280. A boat similar to ours, and our navigation screen showing the position shortly after departure. The glacier is at bottom right.



At 13.00, we arrive in the lagoon. The boat is quite full and the jostling and pushing makes it hard to take pictures. They drive us in small rubber dinghis to the edge of the glacier. It has retreated by about one kilometer since 1989 but is still as fascinating as then. Huge chunks of ice thunder into the bay all the time, splash into the water and create waves that rock our tiny nutshells. The dinghi driver fishes a piece of *hielo milenario* (thousand-year old ice) from the icy waters, something very special.



Figure 1281. Lazy sea lions eyeing us warily . . . and then we are at the glacier.  
Towers of ice tumbling down and a dinghi moving close to the ice front.

Back on board the catamaran, we get delicious hot chocolate. But this is only the warm-up for an unexpected treat: drinks, all you can drink. The classic is whisky with *hielo milenario*. After two hours in the lagoon, I fall asleep on the ride back.

The next day, I ride into town. At the Bank of Chile, I transfer a generous amount to Fräulein Rehbein for sending my Mac charger. My broken right hand rear view mirror needs

to be repaired. People tell me that Pierre the Frenchman is the person I am looking for. After two failed attempts, I find him in the evening. He is 70 or 80 years old, immigrated a long time ago to Chile, and speaks Spanish with a charming French accent. He is the only welder in Puerto Aysén and a true expert; most of his work is in ship repairs.

His workshop is a marvel from times long gone. It is crammed with an army of well-ordered tools, standing at attention in front of General Pierre, and also junk haphazardly piled in the corners. A sofa floats under the high ceiling; the workshop serves presumably also as a bedroom. Pierre's son Juan (Pierre calls him Jean) takes the container of brake fluid expertly apart; the rear view mirror sits on top of it. This is a delicate job, especially a tiny retaining ring for the brake piston. Pierre welds the aluminum rod that holds the mirror. Welding aluminum is not easy, but he really knows what he is doing. Red hot pieces of metal fly through the air like an aluminum fountain and the solid material glows brilliantly. After this is done, Juan reassembles the brake fluid container. Not a single screw is left over. Then we operate the brake handle, Juan and I in turn. After about a hundred times, the fluid still has not reached the brakes. I am slightly worried: do I now have a functioning mirror but no front brake? But in the end, everything is fine. They charge a pittance compared to what it would cost in Europe.



Figure 1282. Pierre the Frenchman welding my brake fluid container in Puerto Aysén.

Above all, it is pure fun to watch an expert craftsman for four hours at work. All this with traditional tools that probably come from the 1950s. This illustrates the advantage of our Africa Twins, almost twenty years old. New fancy motorcycles, say from BMW, are



more powerful and help the driver with all kinds of gadgets, from ABS to selecting drive modes. Most parts cannot be repaired but only replaced, and often you need a special workshop computer to get the electronics installed. On our kind of trip, almost inevitably, something breaks. And then we might be several weeks' travel away from the nearest properly equipped garage. Hurray to old-fashioned solid hardware! Down with solid-state!

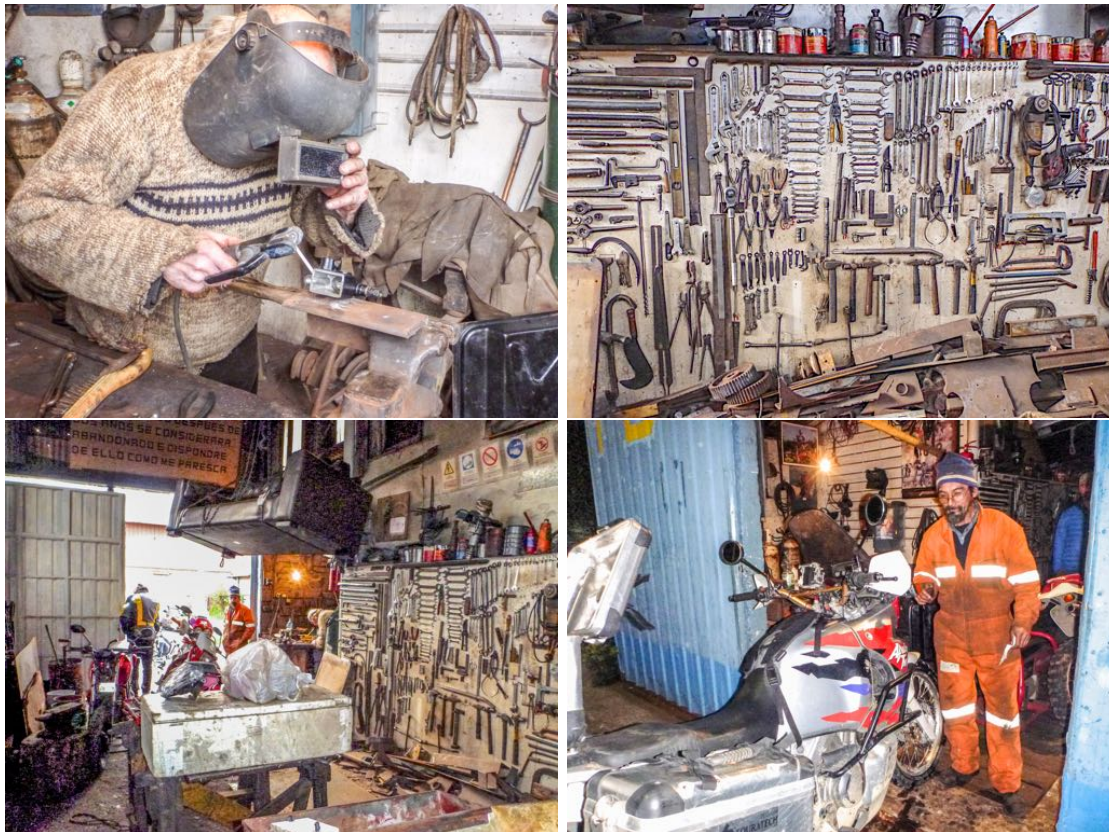


Figure 1283. Pierre's workshop with an army of tools and a sofa for the night.  
His son Juan making a final check.

It is often hard to withdraw cash from ATMs, their internet connections are rather unstable. But the next day, we are successful in what we call our "bank robberies". Our next destination Argentina has had a black market for currency exchange for a long time, now designated euphemistically the *mercado blue*. It offers almost twice the official rate. From our conversations with other travelers, we get the impression that this is at least semi-official and so stock up on Chilean pesos.

In the early afternoon, we leave for Coyhaique. The office for our next ferry is on the main street *Baquedano*, but hard to find. The only sign is in a small side alley and almost impossible to read for lack of contrast, yellow writing on white. Eventually we can make our reservation.

A marvellous bike ride takes us through the mountains with remainders of snow, wild rivers, and yellow trees to the *Lago General Carreras* and the village of Puerto Ingeniero Ibáñez on the lakeshore. The owner José of our *Cabañas Borde Lago* gives us a nice



cabaña with wood stove and hot water heated by gas. In some of our previous simple accommodations, we had to take cold showers.



Figure 1284. Riding along towering rock walls and casting long shadows.  
 Our cabaña and tough flowers pushing through the concrete.  
 The lakeshore and our bikes on the ferry.

Of several restaurants in the village, only the *La Cata* is open. We have all our meals there today and tomorrow. The lake beach offers nice walks on boardwalks above the boggy ground. Our ferry *La Pehuenche* to Chile Chico leaves at 20.00. It is crammed full of people and the loud noise from the action videos on a large screen floods my brain. Still, this turns into a memorable journey.



The table next to ours is occupied by a school class from Coyhaique, grade 8, with two teachers and two mommies. They are highly entertaining and in an exuberant mood, enjoying their trip. On the deck, I explain to three curious boys that you have to learn languages and save some money to make long journeys like ours. Or maybe you get a scholarship for studies abroad. It is 15 December and a teacher explains to her children that I am *papito pascuero* (Santa Claus). My beard and full white hair fit, but actually this is not my main job. They all want to take pictures with me. A mother brings her four-year old Laura. I explain to her that I am not Santa Claus, but his brother, that we all work really hard to get our presents to millions of children all over the world, and that we get a lot of help from others, often in the family. She listens attentively, is all excited and whispers me her Christmas wishes to me: a pastel (cake), a dress as bruja (witch), and something else. Out of the corner of my eye, I see her mother nodding and explain to Laura that I am very busy with all those kids in the world, but that I have many helpers and will take care that her wishes are fulfilled—provided she remains a buena hija (good daughter). She looked me in the eyes, explodes with joy and gives me a tender little kiss on my cheek. So sweet, I have to think of my two daughters at that age. It feels so good to make a child happy, and I am sure that her mother will keep her implicit promise of delivering the goods—my brother and I were busy working elsewhere on Christmas eve.



Figure 1285. Sweet kiss on the ferry for *papito pascuero* from Laura  
—a magical moment.



Figure 1286. The school kids hang around us even after leaving the ferry.

We arrive in Chile Chico at 22.10, all students in the class take some last pictures with me. All very sweet. Nice kids. Our *Hostería de la Patagonia* is not easy to find and a big surprise on arrival. The owner Leslie told me on the telephone that our cabaña is on a ship, but I did not understand what she meant. And it is a ship, a cute little fishing boat, now on a wooden framework high above the ground. It is comfortably furnished, even if the space is rather tight. I sit outside on the deck until 01.00, then it gets cold.



Figure 1287. Shipshape accommodation.



We make the first of several border crossings between Chile and Argentina. Formalities take an hour, mainly for filling out all forms for the temporary importation of our vehicles. At Anton's suggestion, we took out a fairly expensive third party liability insurance for Argentina, but neither here nor later does anyone ask to see it.

On fine asphalt we drive comfortably to Antiguos. After lunch in the café *Viva el viento* (Long live the wind), we continue on the famous *Ruta 40* to Perito Moreno, where the streets are empty. This highway in Argentina stretches over a whopping 5200 km from Cabo Virgenes just south of Río Gallegos, near the island of Tierra del Fuego, to the Bolivian border at La Quiaca. On our motorcycles, we ride almost the full extent of it. An armadillo runs across the road in front of us. At the *Estancia Cueva de las Manos* (cave of hands farm), the friendly manager Laura shows me two options for rooms: a nice double room with ensuite bathroom in the main building, and a dormitory with bathroom down the corridor for half the price in an extension building. We are the only guests and I take the latter, but point out to Laura that it is expensive for the Estancia to heat the large building just for us. After a moment of reflection, she graciously gives us the double room at half-price. Our dinner of steak and wine is absolutely delicious. Afterwards I sit in their large hall and work on my computer. Laura tells me that it is forbidden to smoke here. I point out that it is cold, windy, and rainy outside, and eventually she lets me continue. I love South America for this attitude: bending rules when there is no harm to anybody. In Central Europe or North America, you rarely see this kind of human flexibility.



Figure 1288. Oldschool selfie on the Ruta 40.

Our next day is marvellous and challenging. Twenty kilometers of difficult gravel to the *cuevas de las manos*, corrugated surface, big boulders, steep inclines up and down. Five horses gallop across the road, tightly together with manes blowing in the wind, a fantastic sight. The parking lot by the caves affords a spectacular view into the canyon *Cañadón del Río Pinturas*, on whose opposite side the cave paintings are located. It is a steep 120 meter descent into the canyon, then over a pedestrian steel bridge crossing the river, and

up on the other side. Some stupid rock trips me and I fall on my nose. Nothing happens except a few thorns in my hand. But then I lose the trail. I scramble up a naked rock face, no problem. Then comes loose gravel, working like ball bearings under my boots. I slip and slide, eyeing the steep incline below me with nothing to stop a falling person. Scary. Anton has walked ahead on the trail. When I am about a meter below safe ground at the top, he grabs my jacket and pulls me up. Thanks for saving me!



Figure 1289. Valley with the *cuevas de las manos* on the other side.  
The cliff hanging over the paintings.

Our guided tour of the paintings is pure pleasure after this near-disaster. A nice trail, partly on a wooden boardwalk, the ancient artwork is protected by an overhang and fenced in. Our student guide does an excellent job. The hands, about 800 in number, were probably painted between 7300 and 1300 BC, according to dating of fireplaces and animal bones. The nomads and hunters at that time put powdered red pigment into their right hand, placed the left one on the rock with fingers stretched out, and blew the particles on it, either directly or through a hollow animal bone. The rock is light in color, almost white. They mainly created “negative” images of single left hands, sometimes a few together, but most impressive are areas with one or two dozen hands. They remind me of an enthusiastic audience celebrating a rock star at a concert—and perhaps the ancient painters had a similar mental image, just replacing the rock star by some other deity. There are also hunting scenes, mainly with guanacos. One of them shows a guanaco and above it a small hunter with vertical lines having a dot at their upper and a cross at their lower ends. This might represent a *bola*, a kind of lasso still used by *gauchos* (cowboys)



today, ropes with small rocks at one end and a piece of wood at the other end; see Figure 1352. Guanacos run faster than humans and can only be caught with some means like this.



Figure 1290. Multitude of hands, and hunting scenes.

After our tour, my slightly shaky legs take me down and up the steep inclines once more. The wind is strong, but fortunately has not tipped over our bikes. Over difficult gravel, we ride to our Estancia and then to Ruta 40, whose excellent asphalt brings us to the small village of Caracoles. In an amusing interlude, some guanacos jump a fence; some almost fly over it, others have trouble. The following afternoon, the friendly tourist office in Gobernador Gregores gets us a nice cabaña.



Figure 1291. Guanacos jumping a fence—and stumbling.

Our next destination is El Chaltén, not very far but a day of drudgery on difficult gravel, interspersed with sections of smooth asphalt. Many roadworks are going on, in a few years such a ride will be more comfortable. It is hard work to keep our bikes straight on the deep gravel, but even worse is a problem with the engine of my bike: it keeps stopping, then after a short interlude of drifting along, comes on again. 5.6 kilometers before El Chaltén, it ends playing this ugly game with me and stops completely. Finally. Nothing works. It is 22.00 and slowly getting dark. There is no traffic on this lonely road. I ride on Anton's bike into town and try to organize my rescue. After two failed attempts, salvation arrives at the *vialidad*, the highway maintenance department. No light is shining in the dark compound. Except through one door on which I knock. The burly guy appearing from inside turns out to be Marcelo, the boss of the compound. He is very helpful. It is my particular luck to catch him on the last day in his job, since he leaves into his retirement the next day!



Figure 1292. Gravel road with a lot of sand ahead and strong side winds.

We tie my motorcycle behind Marcelo's Toyota Hilux Pickup truck and slowly roll towards El Chaltén. At one point, the fat rope slackens and gets under my front wheel. In the darkness, I do not see this and bang! my bike tips over. Nothing bad happens, there is just a flash of pain in my chest and my windshield is grotesquely bent. Eventually, we leave my vehicle at the vialidad and check into a hotel.

The next day is quite busy. We move from our hotel into a more pleasant cabaña. Marcelo has recommended Oscar as the only guy who might be able to fix my bike. He used to repair cars, but now only works on washing machines and lawn mowers. Oscar has had a tracheotomy (windpipe incision) and is hard to understand, you can hear the air passing through his lungs. After some mild persuasion, he agrees to look at my problem. Marcelo tows my bike to his workshop. I catch him at the vialidad just as he is leaving—forever. With his 52 years, he is pensioned since two days ago and now drives to his home in Calafate. Five minutes later, and I would have had another problem, self-created.

Late afternoon, I go to Oscar's again. He has checked everything relevant but is now resigned. Most probably the electrical contacts of my fuel pump are damaged. There is no way to get a spare part here in El Chaltén and he cannot help.

But Anton can! We had a different but related problem on our 2011 bike trip on the Silk Road, see page 1229. The fuel pump is the only part of the Honda Africa Twin that



is known to fail from time to time. Taught by experience, Anton has brought a spare kit of electrical contacts for it. Our decision, a long time ago, to ride (almost) identical bikes pays off. Oscar will fix everything tomorrow.

The next morning, Anton goes on a hike. I do not feel like doing that, my head is full of other things and I have a lot of things to take care of. Among them the final touches on my book *CryptoSchool* which will appear in exactly one year from now. Internet access is difficult, at one point, sending three small emails takes two hours. But most of my work is locally on my computer. I pick up my repaired bike from Oscar, he charges a very reasonable amount. I have no more trouble with the gas pump on this trip.



Figure 1293. The broken electrical regulator of my gas pump, and getting my windshield fixed in Calafate. Chaltén and the Fitzroy range.

The next day we enjoy four hours of pure riding fun through Patagonia. Starting in a slight drizzle, we have beautiful sunshine for the rest of the day. Hills, mountains, lakes, glacier-green rivers present a marvellous landscape on our way to Calafate. This is not isolated from the tourist crowds as our previous places have been, but attracts many visitors. We get a nice cabaña in a fairly large tourist complex. Not quite to my liking, but acceptable. Two guys in a repair shop around the corner fix my damaged windshield expertly. Their well-done work lasts until today.

The glacier *Perito Moreno* is one of the highlights of this trip. The landscape along the Lago Argentino on smooth asphalt is fascinating. But the Patagonian winds make the 70-kilometer ride shaky and difficult. Much of the drive is through a wide open valley, and

the side winds come at us forcefully. The highway is lined with tall poplars for protection against the wind, but every now and then there is an opening in the row of trees. Then strong gusts try to wrestle our motorcycles to the ground. When such a blast threatens to throw my bike over, I have to lean strongly against the wind direction. Then the gust stops and I have to get the bike vertical again, holding tightly on to the handlebar all the time. The continuous iron grip gives me cramps in my arms. At wind speeds of about 100 km/h, we often have to slow down to 40 km/h or less.

From a large parking lot, a bus takes us up to a view of the glacier and the Patagonian icefield. Compared to my 1988 visit (page 694), the current steel ramps and stairs are more comfortable. We go down to the lowest level and let the magnificent glacier view sink in. Large ice towers tumble into the lake all the time, creating waves and a lot of noise. The cracks in the glacier gleam in the beautiful sunshine, dense fog covers the ice field high above. A spectacular sight.



Figure 1294. Mr. Moreno, this wall must come down!



We rest in Calafate for a day. This is a lucky decision, because the next day we learn that winds of up to 120 km/h have even overthrown electrical power poles. As I sip a beer on the sidewalk in front of the *LibroBar*, a bearded guy in a motorcycle jacket sees my similar jacket and joins my table. Rodrigo Gallardo becomes a good friend. He runs a jewellery shop cum café in Puerto Natales and has traveled widely. He is here to pick up the sister Klaudia of his Polish girl friend Emilia, and returns home the next day. We chat about our experiences, the winds, the tourist crowds in the Torres del Paine national park, and the rest of the world. I end up with an invitation to his place in Puerto Natales, where indeed some days later we will spend a happy and entertaining week; see page 979.



Figure 1295. Perito Moreno glacier.

After this pleasant sojourn, we ride further south via La Esperanza to Chile. Border formalities are easy. The only accommodation in Cerro Castillo is full with workers from a nearby plant. Nowhere to stay. It is getting dark and the friendly owner has pity on us.

Her two daughters, four and six years old, evacuate their bedroom and we can use it. I pass a peaceful night with armfuls of dolls, teddybears, and stuffed elephants in my bed. Araucanía is the Chilean part of Patagonia, mainly populated by indigenous Mapuche.

They have been striving for autonomy, so far without success. But a surprising sight is the flag of Araucanía, a starry blue sky above yellow mountains, fluttering peacefully next to a Chilean flag. It is a sign of Chilean tolerance, while most countries do not show this kind of magnanimity towards their local autonomy movements.



Figure 1296. Monkeying around in Calafate. The bar where I met Rodrigo.



Figure 1297. Unexpected vintage car truck at La Esperanza.  
The highway meanders between Argentina and Chile.





Figure 1298. The girls who gave up their bed and stuffed animals for me and Christmas decoration in their home.



Figure 1299. Wide sky over an Andean lake.

The next day's drive to the National Park *Torres del Paine* is again challenging. Strong gusts shake our bikes like autumn leaves on a tree. At a photo stop, one of my sunglasses lenses is blown out of its frame. Wow! The warning signs *vientos laterales* (lateral winds) are well meant but do not stabilize our fragile vehicles. Cars and trucks have carved two parallel tracks into the gravel, each about 20 centimeters wide. The strong winds threaten

to drive the bike into one of the sides where it buckles like a rodeo horse, shaking off its driver. Tough going.



Figure 1300. Wooden café *Ovejero* (Shepherd) and two flags.

But worse than that is the only hotel in the Park that we find. A soulless huge ensemble of rooms for storing several hundred tourists, wealthy elderly all-inclusive people from around the world, and whose unfriendly staff has plastic smiles frozen on their lips. By far the most expensive lodging on this trip, and one of the worst. Oh, how I dream of our beautifully simple and friendly *Hostería Río Serrano* in 1988, see page 687. Overall, this visit to the glorious National Park of Torres del Paine is a disappointment. This may have been because of the large number of tourists, something that I am allergic to, or possibly to my own exaggerated expectations, based on my previous experience in the park. Adding insult to injury, the Patagonian winds topple Anton's motorbike, which is properly parked in front of the hotel. In the evening, I squeeze into the tiny idyll of our washroom and work on my laptop, feet on the toilet seat cover.



Figure 1301. Unpleasant hotel in Torres del Paine and a wall of prohibition signs, unexpected in this area.





Figure 1302. Torres del Paine.



Anton and I take small hikes. The tops of the famous *torres* are hidden in the clouds. My back starts hurting from lugging around my wonderful but heavy Nikon D800 camera. Decades ago, I carried heavier loads without any problem. At age 64, my body does not co-operate that well. Annoying, but I have to accept it. I had a lot of adventures in the past, but some things do not work anymore. In the coming decades, this will get worse. That is ok, I have to live with it and retain my memories. More than most people.

Two fighting guanaco bulls present a wild spectacle. It ends with the older guy chasing his younger competitor from the grounds. The ladies watch from a distance pretending to not be interested.



Figure 1303. Guanaco bull fight.





Figure 1304. Guanaco bull fight: the final chase.

We leave in a mild breeze towards Puerto Natales, but then the Patagonian winds slam us again. At times, it blows me out of my track. It is hard to steer back, requiring a lot of strength and concentration. Even when we get onto a smooth band of asphalt, the wind limits our speed to 40 km/h.

We come past a road sign that translates as: *Road to the End of the World. Welcome. Province of the Last Hope.* See the frontispiece for an explanation.



Figure 1305. Road to the end of the world.



Figure 1306. Rodrigo's café and jewellery manufacture, with Rodrigo at work.

Rodrigo Gallardo, whom I met in Calafate (page 972), gives us a cordial welcome in his *Café eterna Patagonia* and we spent a wonderfully relaxed week with him. His friend Fernando rents us two rooms in his large house. The rest of the place is only used for storage of mountains of kayak, motorcycle, and mountaineering equipment, which they use for tours offered to tourists. Very comfortable with lots of space, and not expensive. The exact opposite of yesterday's nightmare in the Torres del Paine Park.

In town, I recognize the old locomotive on which I photographed our children in 1988; see Figure 863. The square and the locomotive look the same as back then, but it is fenced in and the open view to the surrounding hills is now blocked by new buildings.



Figure 1307. Our rental apartment in Puerto Natales. The old steam engine.

Rodrigo invites us to a motorcycle ride to his *campo* (country estate) above the bay's shoreline, with a great view over Puerto Natales. As an ecological effort, he has planted over a hundred endemic trees and now tries to get support from conaf or the government in this conservationist enterprise. We drive on to the *cueva del milodón* (mylodon cave). These giant ground sloths lived about 10 000 years ago. The cold and dry climate has preserved their remains so well that they look quite fresh and on their discovery around 1900, searches were undertaken for living samples.



Figure 1308. View over the bay from Rodrigo's campo and his self-built dome.





Figure 1309. Anton and Rodrigo at the campo.

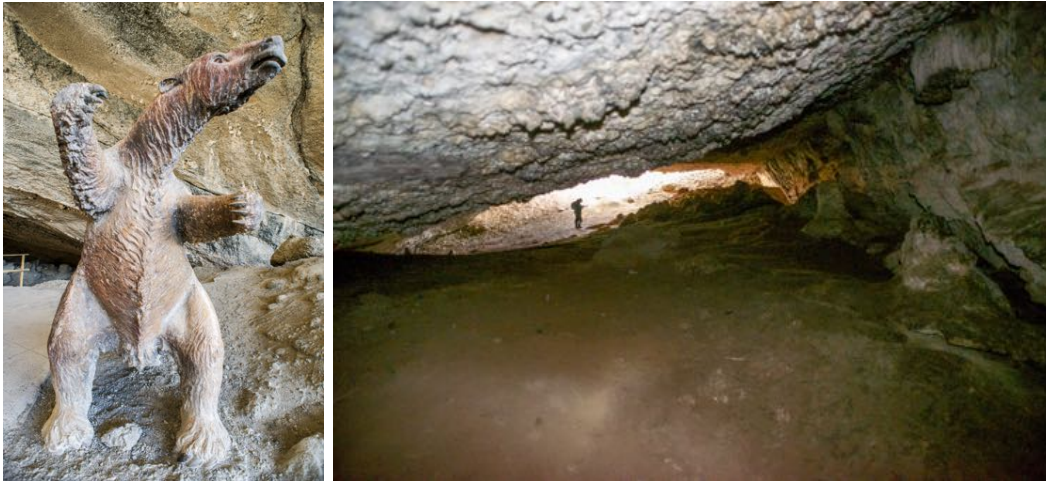


Figure 1310. Statue of a giant sloth and inside the cave.

Anton and I go to a loud rock concert in the *erratic rock patagonia*, more like a school band practicing for the first time, but a lot of fun and beer. Rodrigo's Polish girl friend Emilia has organized, together with her visiting sister Klaudia, an intimate concert at their café. Starting at 22.00, we are presented soothing relaxing guitar sounds with the Australian singer Cicilia Kemezys. There is plenty of good food and drink, and we sit around chatting until 03.00. Cicilia tells me that she is from Canberra and I ask her if she knows the suburb of Garran. Silence. Then she laughs out loud and almost cries. It is her



hometown! Imagine meeting a German (or anyone, for that matter) in South America who is familiar with your small neighborhood in Australia! We lived there for a few months in 1989, see page 1403. We spend a wonderful evening in a large group, everybody is having fun. Emilia gets a big round of thanks from everyone for arranging all this.



Figure 1311. Barbed trees and a hare.



Figure 1312. Wild rock and soft flute.  
Comfortable get-together after Cicilia's concert.





Figure 1313. After the concert.



Figure 1314. Rodrigo's handcrafted silver pendant, lapis lazuli with embedded Mapuche emblems.

Rodrigo makes jewellery based on Mapuche motives, the indigenous settlers in Southern Chile. I buy a beautiful turquoise, lapis lazuli and silver *cultrún* pendant for Dorothea. His artwork is based on the ceremonial *cultrún* drum of the Mapuche culture, where it was used by the *machi* (shamans) in religious rituals. Its design represents *kai kai* (water), *tren tren* (dry earth), sun, and moon. Mapuche silversmithing flourished in the 18th and 19th

centuries, taking their raw materials from Spanish silver coins melted down. It is nice to see these traditions revived.



Figure 1315. A fire hydrant keeps watch in front of the café, and eventually we have to leave.

All good things come to an end, and so does our thoroughly enjoyable stay with good friends. On our ride in the sunshine towards Punta Arenas I see again the road sign *Ruta al Fin del Mundo*. In downtown Punta Arenas, we have a hard time finding any restaurant, but then hit the jackpot. The *Taberna Club de la Unión* is located in the *Casa Sara Brown*, a jewel of early 20th century architecture. Its original interior would well fit into an old-fashioned restaurant in Germany, a lot of dark wood resembling a ship design, fat waiters like in Cologne, wonderful Schop beer, draft served in a large mug.



Figure 1316. Driving towards the end of the world. Tavern in Punta Arenas.





Figure 1317. *Casa Sara Brown*, housing the tavern.



Figure 1318. Antique sheep-shearing apparatus (“in cold weather, the water has to be emptied from the cylinder in the afternoon”) and marine equipment rusting on the beach in Punta Arenas and in the waters.

50 kilometers south of town we drive past the “most southerly ship wharf in the world”, with many wrecks on the beach, to *Fort Bulnes*. It was founded in 1843 in order to manifest the Chilean presence here in the south. This is an ongoing concern even today and one of the reasons for building the *carretera austral*.



Figure 1319. *Fort Bulnes*: courtyard with prison tower.  
Gun facing *Tierra del Fuego*.



However, the fort was given up after two years because the soil did not support agriculture and the imported food rotted for lack of conservation. The current buildings were erected in 1943 following the old plans. The 70 year old wooden posts and planks would also pass as having been exposed to the elements for 170 years. The site is fairly large, with watch towers, large empty halls for officers and soldiers, prison, and a chapel. The island of *Tierra del Fuego* is well visible across the wide Magellan strait.



Figure 1320. *Fort Bulnes.*

The island of *Tierra del Fuego* (Fireland) is divided into a western Chilean part and an eastern Argentine section. Our ferry takes us in three hours across from Punta Arenas to Porvenir on Fireland. Main street is lined with large Christmas trees decorated with inscriptions and figures.



Figure 1321. Gaudy Christmas decoration all over Porvenir.



Figure 1322. Crossing the Magellan Strait. Murals with Mapuche designs, a kissing couple, and “No mas Violencia en el Pololeo” (No more violence when flirting).

This is the starting point of a wonderful excursion all the way to the southern end of Chilean Tierra del Fuego. I have never heard about the possibility of going there. In fact, no road is on any map, not even on maps.google or the like. Rodrigo’s enthusiasm about this road further to *Caleta Maria* incites us to try going there. For interesting travel to places off the trodden paths of guidebooks, it is essential to have good and knowledgeable friends who tell about such things.

The next day, we drive along the aptly named *Bahía Inútil* (useless bay, another “dead end”) on a reasonable gravel road, passing many isolated fishermen’s houses that look deserted. The beach consists of large pebbles, the water is cold and so is the wind. Nothing for a beach holiday. As we leave the coast in Camerón, the wind hits us. Ice cold, shaking our bikes mercilessly, shifting them right and left. Not for chickens.

In Russfin, a large lumber mill, the company has started renting rooms to visitors since last year. In fact, it is the only accommodation in a wide radius and the friendly señora Yanés welcomes us heartily. They have always housed their workers from other parts of Chile here, but we are probably among her first tourist guests. Alas, today you can even book it through the usual hotel portals. There go the last traveling secrets ... A red fox amuses us, and next morning we start a wonderful biking day.

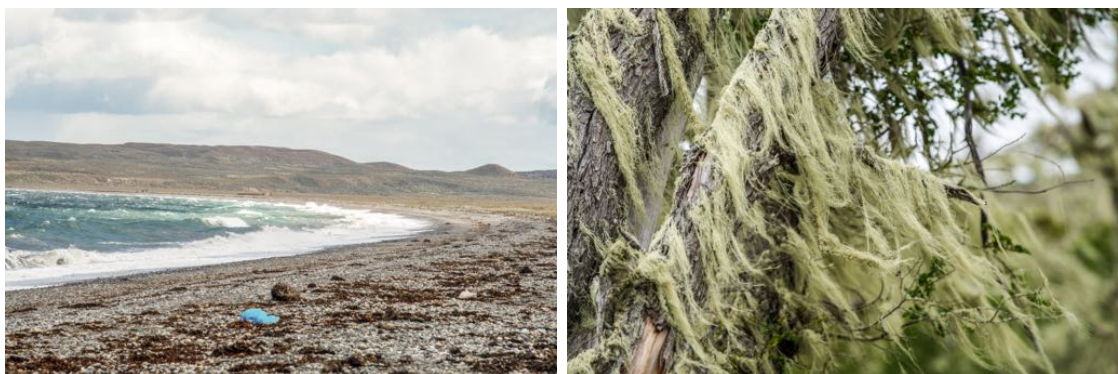


Figure 1323. Useless beach and barbed trees.





Figure 1324. Fishermen's abodes.

The road further south has recently been built as part of an effort to assert Chile's sovereignty over its Fuegan territories. A border dispute with Argentina over some islands in the Beagle Channel was resolved by an agreement in 1971, but apparently the Argentines still pursued aggressive plans after their (ultimately failed) invasion of the Falkland Islands.

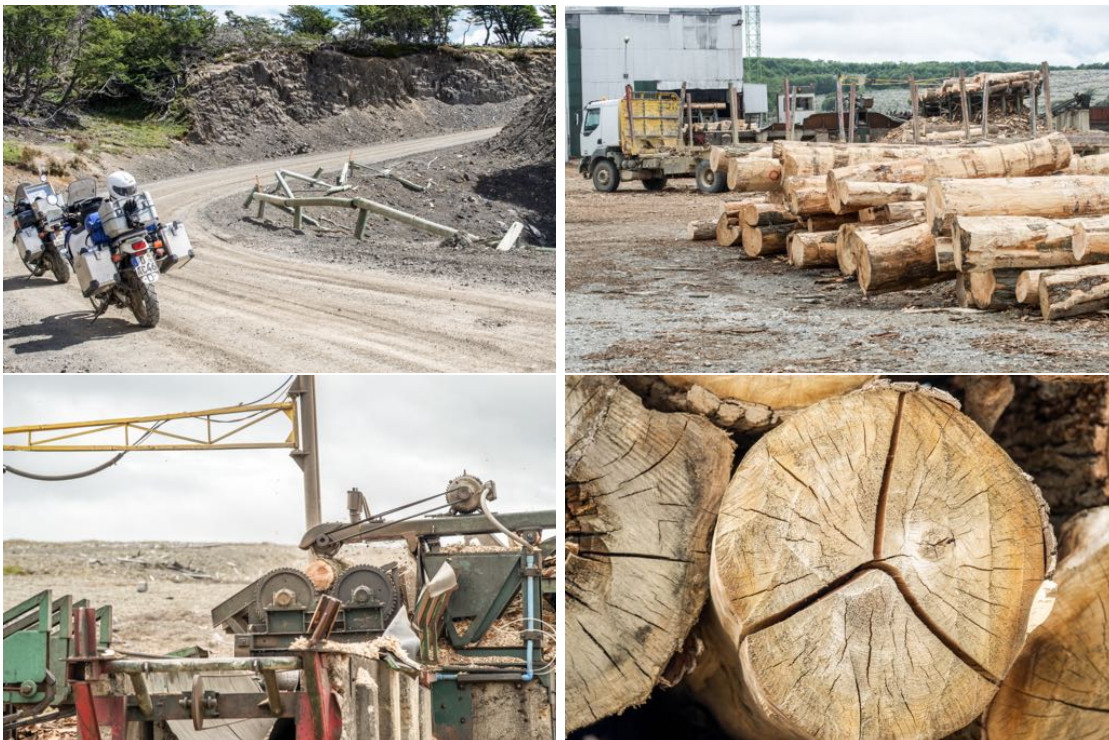


Figure 1325. Keep on driving. The Russfin lumber mill.  
Third picture: stripping the bark.

The long flat valleys offer grandiose views of mountains, lakes, and forests. The whole day, we see practically no other vehicle. It is great to be the king of the road. Not being exposed to heavy truck traffic, the gravel surface is in reasonable shape, and sunny days

help us: in rain this would be more difficult. The Lago Deseado is lined with beautiful forests and has large swamp areas created by beaver dams.

At this southern latitude in Tierra del Fuego, the Andes have sunk to a height of about 800 meters. While they run north-south most of the way, here they turn west-east for the remainder, like a coccyx veering off the spine. Even at 600 meters of altitude, there are still patches of snow, their meltwater irrigating the road and making bike riding a bit more of a challenge. Finally we descend over the last pass towards Lago Fagnano. Most of the lake is on Argentine territory, but this western end belongs to Chile.



Figure 1326. Lago Deseado and the end of the Andean mountains.  
Beaver dams create swamps. Descent towards Lago Fagnano.

The *Estancia Lago Fagnano* of Hermann Genskowski is one of the most tranquil places of our trip. He emigrated from Germany some sixty years ago and built up a large *estancia* whose main source of income is husbandry and fishing in Lake Fagnano, just in front of the lodge. No road existed then and Hermann had to bring all building materials and foodstuff on horses on long arduous trips across the mountains, or by boat. After a fall from a horse, he reduced his animal herds and during our visit has just a few horses left. During a whole day's drive, we do not see any other accommodation except an unused fishing lodge. We park our bikes on the soft ground of a forest, under dark trees.





Figure 1327. Crossing the low Andes.



Figure 1328. Hermann Genskowski.

Our cabaña is ultra-simple, totally charming, in the middle of a forest with a toilet

hut at a distance and no other human around. We immediately continue, before nightfall, to the *Caleta Maria*, a bay connected to the Pacific ocean. The road does not just end, it simply sinks into the ocean and vanishes, a physical illustration that this is the *end of the world*, certainly the southern end of roads in Chile. An unforgettable sight: the dark waters of the bay, snow-dotted mountains around it, and the road just falling away onto the beach and into the Pacific waters.



Figure 1329. The end of the world: the road sinks into the Caleta Maria.



Figure 1330. View across the Caleta Maria,  
and our bikes parked in a forest garage.

Hermann does not provide meals. His usual guests know this and bring their own food. We do not and so face the prospect of a frugal dinner of nuts and dried fruits. A young



man working on the estancia hears me talk to his boss and shortly after shows up at our cabin with two trouts that he just caught in the lake. He adamantly refuses any money or gift for this, it is the traditional southern hospitality. Anton fries them to perfection. A yummy dinner in a marvellous location. The feeling of being out here at the end of the world, relaxing after a nice dinner, is just great.

Hermann invites us for a simple and delicious breakfast of coffee and toast. His living room reminds me of that of my grandparents. Two comfortable upholstered chairs are arranged in a quarter circle around—no, not a TV set—the wood stove. They do not have a TV, no phone, no internet, their only connection to the outside world is by expensive satellite phone. A charming hermit's world of yesteryear.

After these wonderful impressions at the end of the world, somehow the ride back along the same (and only) road is less exciting. After overnighing at Russfin, we drive to the Argentine part of Fireland. My bike misbehaves again, maybe a loose contact at the battery. But we get it back to work easily. The strong wind drives me twice into the high soft gravel outside of the truck tire tracks, and I can barely recover. The area is sparsely populated and we see only two cars within three hours. We cross the border at San Sebastián, no problem.

In Río Grande, we do not find a pleasant hotel. We leave the next morning at 11.02. Check-out time is 11.00 and the impertinent receptionist asks for half a day's rent for those two minutes. No thanks. Over good asphalt, we ride towards Ushuaia, our most southerly destination. The driving rain is bitterly cold and Lake Fagnano is covered in fog. But the Lago Escondido has a more benign microclimate. We can finally stop for a moment, the powerful winds have made this impossible until now.

In Ushuaia, almost all places are booked out, now in the high season just before Christmas. At the friendly tourist office, we reserve a cabaña at the *Aves del sur* (Southern birds). Its owner Francis is from Buenos Aires and speaks English and French very well. In a nearby restaurant, we meet two Germans, Margrit and Julia, who travel around in a camper van and fly home tomorrow.



Figure 1331. Finally there: the end of the world. Ushuaia and *papito pascuero*.



Figure 1332. Another end of the world.

The next day is Christmas day, 24 December here. We take the compulsory photo at the sign “Ushuaia, fin del mundo”. It is more colorful but less precise than the sign we saw in 1989 (Figure 887), but it carries the title of the present book. Thank you!



Figure 1333. Lapataia National Park: beaver dams.

We spend the afternoon at another end of the world, the Lapataia park, the end of Ruta 3, some three kilometers further south than Ushuaia, and 17 848 kilometers from Alaska. By some magic, the distance from Buenos Aires has shrunk from 3202 km in 1989 (Figure 888) to just 3079 km in 2015, while the distance from Alaska remains the same. I



conclude that Buenos Aires has moved south by 123 kilometers, something that the news media never reported.



Figure 1334. Lapataia National Park. Motorcycles forbidden. Hawk and fox. Tranquil bay at Puerto Arías and a beauty salon sporting my daughter's name.

This is the end of the world for motorcycle riders (and car drivers) and we made it safely here! We pass beaver dams and go for some small hikes on the shore of the Beagle canal, with snow mountains in the background. A sign says “no motorcycles”, so I cannot resist to take a picture of my bike and me behind it.

Finding a restaurant for dinner is difficult. Most are closed today, and the others only offer a special Christmas dinner at elevated prices. Not having a choice, we go into one of them. The food is not worth the money, but the fun is. At midnight, there is general cheering with champagne, “feliz navidad” (happy Christmas) and kisses to everybody, as we do at home for New Year. On our way home, more kisses from lovely women in the street, people cheer from their windows. Such a merry atmosphere!

We come across many signs dealing with Argentina’s national traumata: the lost war over the Falklands/Malvinas islands, and the integration of large tracts of Antarctica into the national territory, which is forbidden by the Antarctic Treaty. Six other governments make similar claims.



Figure 1335. Ushuaia as gateway to Antarctica.  
 “Landing of the English pirate vessels is prohibited”.

We book a boat to Puerto Williams, yet another “most southerly town in the world” in Chile. When we get to the port, it is canceled.



Figure 1336. Upland geese (cauquén) by the beach.



Two days later comes our turn-around point: we drive north, the only possible direction out of Ushuaia. Starting after the Argentina-Chile border, the road gets really bad. We stumble over loose gravel with fist-sized rocks in our way, one pothole after the other. The heavy truck traffic quickly ruins such roads. A skunk running across the road and guanacos by the side provide some entertainment. We see a construction site with its own concrete factory. This will be used for a new road surface, the best material to resist the atrocious climate here. Pretty soon, the gravel fun will be over.

Across the strait of Magellan, we arrive on the continent again, and the next day at our next border into Argentina. The rain is pouring and a stream of water flows over the gas tank into my pants, which unfortunately are not waterproof anymore. Highly unpleasant. The tourist office in Puerto San Julián is still open at 20.30 and a friendly elderly guide calls the *Hospedaje La casa de Marina*. The young manager Adriana picks us up and we drive behind her to one of the most comfortable accommodations on this trip. Three bedrooms, two bathrooms, large kitchen and living room. We enjoy this luxury for two days. We carry our gear only to the entrance, where large puddles quickly form. Walking in the small town is difficult, huge waterholes block many passages.



Figure 1337. Driving north through Tierra del Fuego, an accident-prone road. Crossing the Magellan strait.



Figure 1338. Moderate accommodation in Chile, just across the Magellan strait. And a wonderful place in San Julián.



Figure 1339. Murals in San Julián: Mate tea and tango.

The Portuguese explorer Ferdinand Magellan (Fernando de Magallanes, Fernão de Magalhães, ca. 1480-1521) passed here on a voyage for the Spanish crown westward to the Molucca spice islands, now in Indonesia. He made a winter stopover at Puerto San Julián in March 1520, quelled a mutiny, and continued months later. A carefully made wooden replica of his three-masted nao (carrack, ship) *Victoria* lies in the harbor. It was one of Magellan's five ships and the only one to eventually return to Spain and thus the first to circumnavigate the earth. Magellan himself was killed in the Philippines.



Figure 1340. Frozen in time: sailors aboard Magellan's ship *Victoria*.





Figure 1341. Replica of Magellan's ship *Victoria*.

On the downtown square of the “Heroes of the Malvinas”, a monument displays the original Mirage IIIEA by the French Dassault company that flew the first attack in May 1982 on Port Stanley, Falkland Islands, out of Puerto San Julián. The Argentine defeat in the Malvinas/Falkland islands war eventually led to the downfall of its military government. But in this country, you only read about the glorious victories of the Argentine forces. The failed occupation is still a national trauma and few people can rationally face reality. You see many graffiti and posters everywhere in Argentina about this trauma. Besides my trip to the islands (pages 1392ff), I come in touch with it in two other locations: the Argentine navy ship Bahía Paraiso that took me around Antarctica in 1989 (page 1538) served as a

hospital ship in that conflict, and the RAF flew most of its excursions in the war out of their *unsinkable aircraft carrier*, the base on Ascension Island (page 485).



Figure 1342. Magellan's guns and the original Argentine *Mirage* plane.

Back on the road again, we come through a lonely deserted area. Just two houses on our first 200 kilometers. Sheep, cows, and horses behind fences, over which nimble guanacos hop elegantly. In Comodoro Rivadavia we only find a modern hotel, quite ok but far from the charm of yesterday's cabaña. On New Year's eve, we get to the nature paradise of Peninsula Valdés via Puerto Madryn. Now in the high season, we have trouble finding a hotel in Puerto Pirámide and a spot in a restaurant.

The year 2015 starts miserably. At 01.30 all lights in town go out. My flashlight is still with the bike, storm and rain make the outdoors highly uncomfortable. The hotel stands besides a dune and our room blows full of sand.



Figure 1343. Right of way for seals. Their colony.

Abundant wildlife has made the peninsula famous. At the beginning of our drive, we meet two BMW riders from the Black Forest whom I saw yesterday in a restaurant and of whom we will hear more tomorrow. About a hundred sea lions and seals chill out in the *lobería* (seal reserve) at the *Punta norte*. The seals have pups, black and small. Mr. Seal protects carefully his harem of a dozen consorts. This must be quite stressful, I am glad to not own a harem. A young male tries a cautious approach which is quickly repelled. The seals wallow in the sand, yawn, burp, and fart continuously, but there is not much



other action. At the Caleta Valdés, hordes of tourists crowd around hordes of Magellan penguins. Some mothers have pups. The young ones scratch their bellies and shriek with their heads raised high. I wonder why these animals breed so close to the tourist trails, when they can have tranquility just a few meters away. Oh well, I'll never make a good seal or penguin, as their Galápagos colleagues already pointed out to me (page 1416).

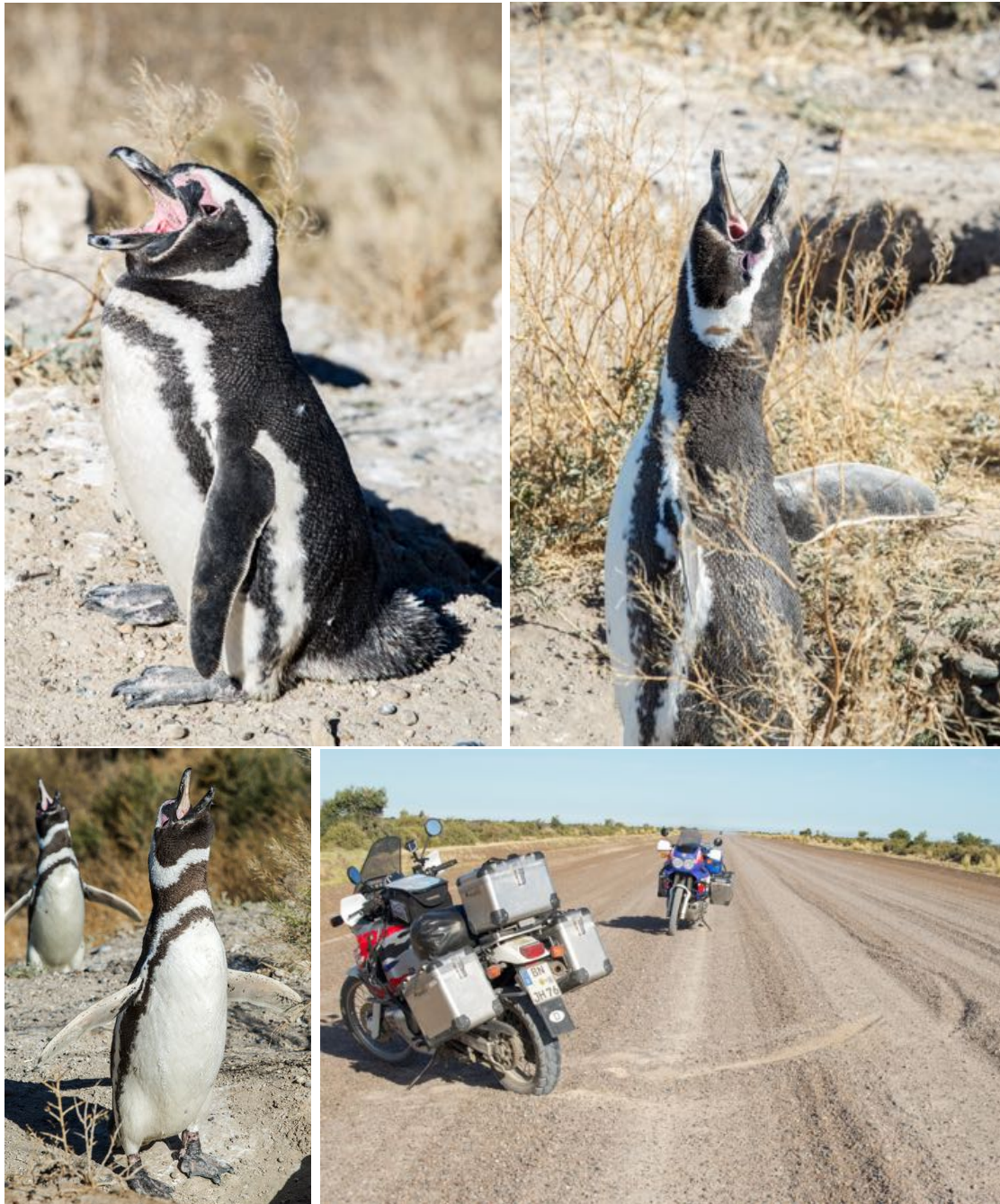


Figure 1344. Penguins in shouting matches during mating season.

On returning, I get blown out of the deep tire tracks into the shoulder of high soft

gravel, and my bike and me kiss the ground. Softly. I was driving at walking speed. No harm done.



Figure 1345. Seals and pups.

Headed further north the next day, we meet in Sierra Grande two Brazilian couples from Porto Alegre, traveling on two Yamahas. They passed the two German BMWs just after a serious accident, possibly due to fatigue just as my soft kiss. His bike's chain had come off, at much higher speed than mine. With strong pain in shoulders and ribs, an ambulance took him to Puerto Madryn. His wife apparently escaped unscathed. The Brazilians took care of them for two hours, until the ambulance arrived. Nice people.

The owner Ricardo "el Gordo" (the fat one) of our cabaña in General Conesa is not friendly, but we like the hut and stay there for three days. We are now sufficiently north to finally have some sunshine and put on shorts and T-shirts rather than having to wring out our soaked underwear. And we finally got rid of the Patagonian winds. An old steam locomotive with tender is parked right in town.



Figure 1346. Steam loco in General Conesa.

One morning, a huge black cloud covers a quarter of the sky. People venture guesses about the origin: parts of a lumber mill burning, a cigarette butt put a field afire. On inspection, it turns out to be the common slash-and-burn practice.

I think of Dorothea who flies back today from Canada to Germany after visiting our daughter Désirée and her two sons for three months. The landlady, a psycho, made her



stay highly unpleasant. But now Dorothea will miss the two boys. I would have loved to have such a granny.

After some quiet days, we get going again. In Choele Choel we buy gas. Another huge black cloud from slash-and-burn. An Argentine family stops besides us and takes pictures of us, our bikes, and their children sitting on them. Also at gas stations, it happens again and again that people photograph us, inquire curiously about our itinerary, and congratulate us on our courage—whatever that means.



Figure 1347. Black clouds from slash-and-burn. Often people ask to have their picture taken with us and our bikes—I am sure mainly of the latter.



Figure 1348. No gas and no smoking.



Figure 1349. Friendly young lady pouring gas, and my boots after a day's ride.

My original plan was to leave my motorcycle with friends in Uruguay, pick it up next year, and then ride to Canada to see my daughter. This turns out to be unworkable, mainly because of the ubiquitous violence in Central America, also because I have agreed to co-organize a conference right in that planned travel period, and for customs problems with leaving a motorcycle without its owner for a year in storage. So Anton and I will drive to the north of Argentina, then to Chile and south to Valparaíso, from where we ship



our bikes back to Europe. Anton had meant to do this anyways.

Via Neuquén we get to our nice cabaña *El Rinconcito de Ingrid* (Ingrid's little corner) in Villa El Chocón. I sit on a comfortable chair in the garden with a view and work. The sun is hot—wonderful change compared to the last two weeks. The grandiosely named *centro comercial* is just a modest row of some small shops, close by and closed. Nothing moves. Few people sit around, apathetically. A feeling of a Mediterranean siesta, quiet, totally relaxed.

The town is famous for dinosaur skeletons discovered in 1993. The actual site is now inaccessible, partly washed away by torrents, but the excellent *Museo paleontológico Ernesto Bachmann* exhibits five restored skeletons of various sizes. One is on the ground, the others are standing. These were the largest carnivorous dinosaurs and I have never seen animal remains of this size.



Figure 1350. These guys must have excellent dentists.

On the terrace of the *Hostería de los Dinosaurios*, the glorious colors of the sunset over the water reservoir accompany a lovely dinner. What a nice day!

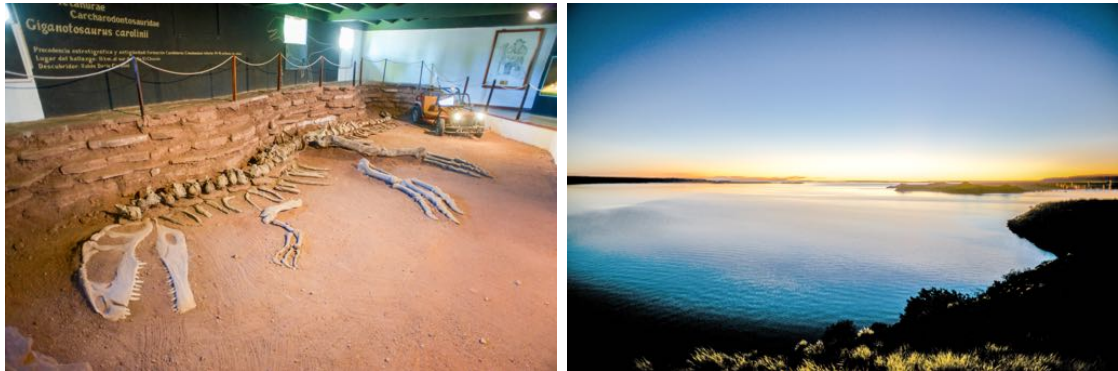


Figure 1351. Dinosaur and sunset.

The next morning sees us on the famous *Ruta 40* which we will have under our wheels for the next 2000 kilometers. Today is 8 January, the anniversary of the death of Gauchito Gil (ca. 1840-1878). He is fervently revered all around Argentina, and we regularly pass sanctuaries by the roadside dedicated to him. They are painted red and decorated with red streamers, and contain figurines of the gaucho (cowboy) and sacrifices like candles, food, drink bottles, cigarettes. He always holds a *bola* in his hand, a long rope with two pebbles tied to its end for catching cattle. They remind me a bit of the small Buddhist stupas in Bhutan or Mongolia.



Figure 1352. *Gauchito Gil*.





Figure 1353. Sanctuaries for *gauchito Gil*, some elaborate, others simple.

In Las Lajas, we are at 1000 meters of altitude and the wind picks up a bit. As I sit in front of our cabaña at night, my papers acquire wings and I have to run after them. ¡Viva el viento! This is the northern fringe of Patagonia, and we will soon have to do without such windy interludes.

Continuing on the perfect asphalt of Ruta 40, we get via Chos Malal to Barrancas, a depressing place. The drive is beautiful: little traffic, leaning into one bend after the other is pure bike fun, multicolored mountains with impressive stratigraphic geology. At our cabaña, Fabián from San Juan explains many interesting detours to take on our ride further north.

The next day holds some challenges. A construction site on Ruta 40 presents first a badly corrugated stretch that shakes my bones like a blender. The narrow navigable track in the wide road is hard to recognize. Total concentration is required to stare ahead and



figure out the right path. Then come two sections, each about 100 meters long, of 10 centimeters of soft sand over hard soil. After inspection on foot, we decide to cross this one at a time at walking speed, the other guy running besides the driver to hold on to the bike if necessary. All goes well.

We cross the impressive canyon of the Río Grande. Via Malargüe and El Sosneado we get to San Rafael, in whose vicinity we do not find any accommodation.



Figure 1354. Marvellous and challenging driving.  
Third picture: a car got into sliding trouble.

It is a weekend in high season with fiestas in almost every village, and passing Tunuyán,



there are even fewer options for lodging, and those are all full. We approach the cordillera (Andes foothills) and I am frantically on the lookout. Finally a sign. we ride over a long long gravel road, but nothing shows up. As we return after this failure, I ask an oncoming car whether the announced *cabañas TruchaTranqui* (trout and tranquility) really exist. Yes, they do, but are over a kilometer away via this difficult road. Ok, so we drive there: they are full. Nothing for us. Visibly disappointed and facing a real difficulty of finding accommodation for the night, we start to return. In my rearview mirror, I see the owner's daughter running after us. Yes, they still have one cabaña free. Wow! Saved again.

And more than that. Our cabin is indeed the promised oasis of tranquility. An idyll surrounded by forests and a lively creek that feeds the trout basin, far away from everything. No cars, no people, no blaring TV, a comfortably furnished cabin. What my heart desires. We decide on the spot to stay for another day. The friendly Miguel brings us food and drink. For our meals tomorrow, we will have to walk ten minutes to the main building. This is our 36th wedding anniversary, and Dorothea and I exchange loving emails.



Figure 1355. TruchaTranqui.

Eventually, we have to leave this pleasant place and drive towards Mendoza. This region is famous for its wines. We pass huge vineyards, with stately buildings that house the wineries, actually wine factories. Rows after rows of vines behind grandiose entrance gates. Reaching the city center takes forever, with big traffic jams on Ruta 40.

I have to do some shopping. My videocam is broken and I buy a “cheap” Chinese version of the GoPro. As expected and usual with such things, it costs little money but is very expensive, because it breaks after little use. When I put my ridiculously tattered

old pyjamas on, my foot often goes through the large hole at knee height. A gentlemen's outfitter has exactly the right replacement—it lasts until today.

At the gas station: no gas. Strike of the truck drivers. Our friendly hotel owner Luis telephones the relevant authorities—nobody knows anything. Eventually a friend tells him about a gas station. We take off there right away, and lo and behold! they have gas and there is not even a queue. We leave late the next afternoon and get to San Juan.

Really early the next morning, workers start hammering down a roof next to our place. Impossible to sleep. Past San Juan, we drive through a savannah landscape, sand and rocks, our first acacias and cactuses. The many fords are like rollercoasters, down, up, down, up. In San Agustín del Valle Fértil, we take the simple cabaña *La Hilda*, with furniture like from a 1970s Goodwill store.



Figure 1356. Roller coaster road and some survivors. Nighthawks.

After resting for a day, we go on an exciting outing to the *Ischigualasto* Triassic national park. The museum at the entrance shows replicas of dinosaur skeleton, less impressive than those at Villa El Chocón. Park rangers guide a convoy of twenty vehicles. At each of our five stops, our guide explains expertly the geology and paleontology. Millenia of rainfall have sculpted the erosion landscape of the *valle pintado* (painted valley) into fantastic multi-colored hills and promontories.

The rock formations look as if a landscape painter had poured all his remaining paints over them: limestone cakes made from light cream, chocolate and nut layers atop. Some of these natural figures now bear descriptive nicknames like *submarine*, *mushroom* or *cancha*



*de bochas* (field of marbles) with its head-sized marbles. The tour group is quite nice, we talk briefly with an Argentine who speaks German fluently, and Marina and Carolina from Buenos Aires. As usual with organized tours, I find too little time to admire the scenery and take photographs; the others' patience is smaller than mine.



Figure 1357. Ischigualasto—a colorful day.



In the hour before sunset, we drive for 20 kilometers along a tall red limestone cliff. In the setting sun, it explodes in color, from bright red to dark red, blue, and purple, showing imaginary castles with turrets and crenellations. It is a beautiful scenery, but the sunset reminds us that we have an hour's drive ahead to get to our rented cabin in *Valle Fértil*. We ride home, the last ten minutes in the dark, which otherwise we try to avoid. Two birds hit my windscreen and helmet. In most countries, driving at night is not advisable because of unlit obstacles in the streets: pedestrians, children, cows, horses, cars, trucks, buses. And now even birds. Sadly, a friend of mine died in a night-driving accident in Afghanistan; see page 1183. But we arrive safely.



Figure 1358. Ischigualasto: marvellous formations and colors.

In Chilecito, an aerial cablecar used to transport ore between the city at 1080 meters of altitude and the gold mine *La Mejicana* at 4400 meters. It worked from 1903 to 1926,



now looks rather broken down, but its lower section still functions. The cables stretch high up the mountain, as far as you can see. A German engineering marvel. The environs of the bottom station are pretty much in ruins, but people still live in these dilapidated houses and drive their rusted vintage cars with current licence plates. Heavy rains and thunderstorms are announced for the next day. Lightning is the arch enemy of motorcycle riders, because you sit out in the open on a heavy chunk of metal. In contrast to a car, you do not have a Faraday cage around you. So we stay one more day in Chilcito.



Figure 1359. Chilcito cable car.





Figure 1360. Vintage cars at Chilecito. The blue one with valid licence plate —no engineering marvel. Railroad tracks leading nowhere.

In the café *Roberta* on the plaza, I chat amiably with a Spaniard from Logroño, 71 years old and immigrated here in the 1950s.



Figure 1361. My friend from Logroño orders his bill. My purse under my chair.



When I get up after paying my bill, I do not notice that my purse falls on the ground. With Anton, we sit in a different part of the café, higher up, and I take a picture of the gentleman. Back home much later, I see in the photo my purse lying there. I go to a nearby store for some provisions, and he comes running after me to hand me back my treasures. Many thanks! He does not accept a finder's reward. His wife and brother join him later and we chat pleasantly through the evening.

We visit the Inca ruins of ShinCal in the Sierra de Quimivil, which flourished between 1481 and 1536. Our two-hour walk first goes up a hill, then to the *plaza*, with reconstructed walls of a house. An Inca staircase leads up to the Inti (sun god) temple with a good view of the whole antique village which had 600 to 800 inhabitants. A longhouse, *kallanka* in quechua, with restored walls and two gates is divided in family sections. The masonry is Inca style, but a far cry from building marvels as in Cuzco. The boulders are roughly cut and do not always fit together well.



Figure 1362. ShinCal Inca ruins.

In Belén, the helpful YPF gas station manager Yonatán recommends first a *cabaña*, then a restaurant. He not only recommends one, but actually takes us there by driving ahead on his moped. We invite him and his wife for a drink. She has her first job at a teacher, in a village at 4000 meters and 84 kilometers away. She had to accept that against her wishes. We spend an entertaining evening.

The next day's ride on the Ruta 40 is another perfect bike day. Through the *Quebrada de Belén*, a narrow gorge, then in long valleys at over 2000 meters of altitude. At one point, the road goes in a straight line for 30 kilometers towards the mountain. At our first major river crossing, we put our luggage into a minibus and drive with reduced weight through the waters. A strong current over a bed of soft sand, I barely avoid tripping into the river. For the second crossing, we can do without help.

Near the ruins of Quilmes, we find the nice *cabaña Río de arena* (sand river). It is a large estate with its own vineyard and a llama enclosure, our rooms are spacious with a pleasant terrace. A frog (maybe a toad) hops across it and waits expectantly in front of my door. For a kiss? Not today! But we are sufficiently happy with the place, especially compared to others we tried before, to tell the owner Roberto that we stay for another day.



Figure 1363. Crossing a full river and at an empty gas station.

Quilmes is a large settlement which gained importance in the 10th century, before the times of the Incas, and also gives its name to the most popular Argentine beer. Every Argentine knows this brand of beer, but few of them have ever visited this place. The 6000 locals rebelled in 1667 against the occupation by the Spaniards, who then laid siege to the city. After their victory, they force-marched the 2600 survivors over 1000 kilometers to the borders of the Río de la Plata; 400 of them arrived in the new town of Quilmes, 35 kilometers southeast of Buenos Aires. I find it hard to understand the ancient site, what the purposes of the ruined buildings were. Roberto tells us the story of Héctor Cruz, an artist and carpet weaver from nearby Amaicha. He runs the restaurant *Pachamama* in his village and also had a hotel in the ruins from 1992 to 2002. It made good money, the locals got envious, took over the site and blocked all access in 2007. Then some Cruz fans drove them out by force. They have the say for now, but the hotel is closed, the case in a court of law. And in two days a new *cacique* (village chief) will be elected, presumably an anti-Cruzista. The whole affair damages the local tourist business substantially.





Figure 1364. The *Río de arena*, its owner Roberto, vineyard and winery.  
Quilmes ruins.



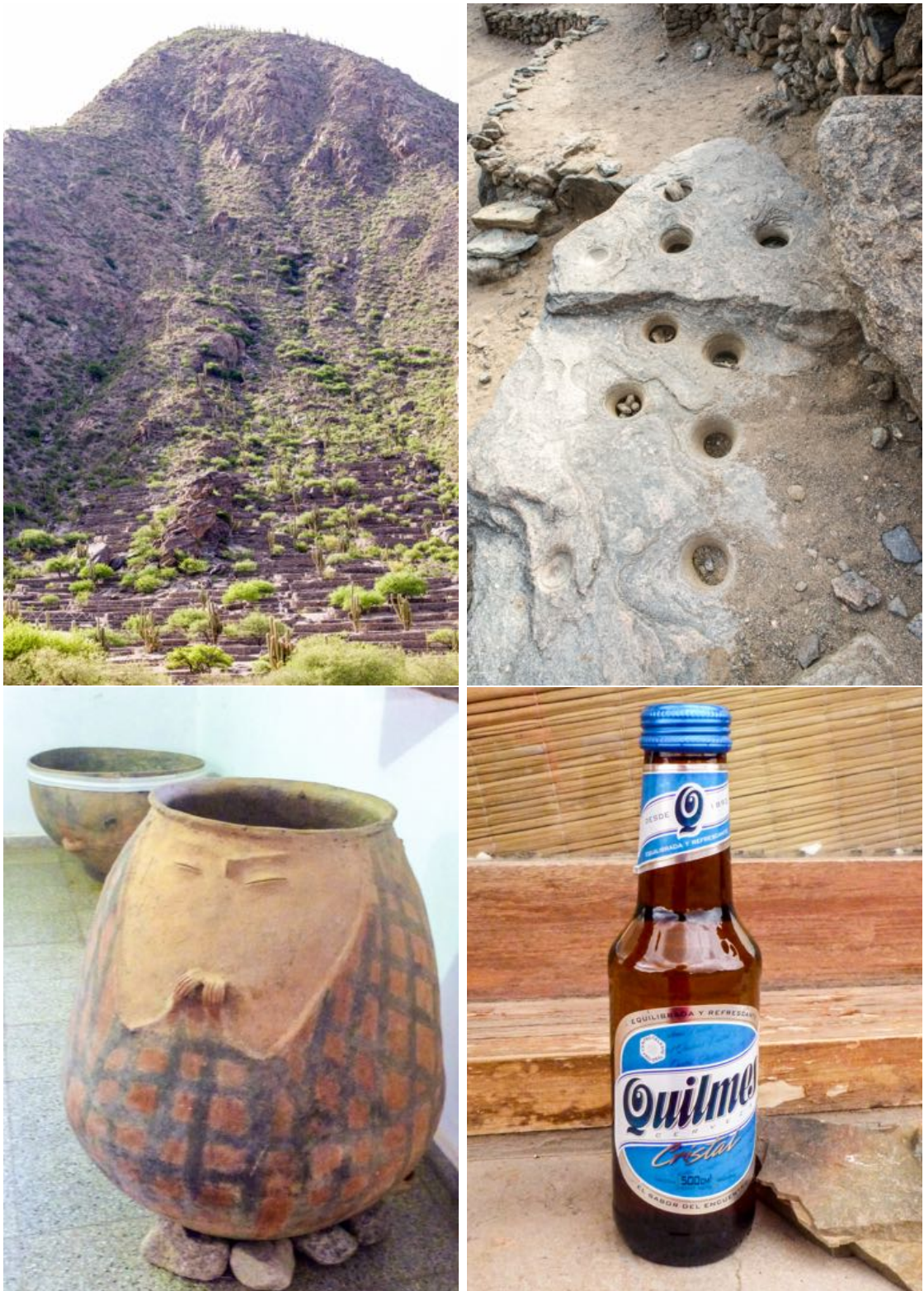


Figure 1365. Complacent vase at the museum, and the *Quilmes* beer.

Via Salta and Jujuy we get closer to the real mountains. Wonderful ride through tight



bends, multicolored mountains, sunshine, little traffic. Pure fun. Figure 751 presents a map of this part of our trip.

Through the narrow canyon *Quebrada de Humahuaca* we get to Purmamarca. Lots of people in the streets, police regulating traffic in this small village, some roads blocked—what is that? A festival, of course. Several days of party, and tonight is the big music event. Our polite host in a nice cabin compound in Purmamarca points to the mountains across the valley: “do you see the face of Jesus Christ?”. Rather impolitely, I return: “looks more like Osama bin Laden”. As often in such popular interpretations of rock faces, I cannot make out anything for sure.



Figure 1366. Cathedral in Salta, and an impressive landscape of rock faces.





Figure 1367. Tough vegetation.

But the next rock event was hard to miss: the annual rock festival of Purmamarca. Thousands of young people congregate here regularly, mostly from Mendoza, many from Buenos Aires, and even some foreigners like Anton and myself. Loud rock music wafts up to our hotel, several hundred meters above the village. The band *Catupecu Machu* from Buenos Aires, apparently well known all over Latin America, performs in a style somewhere between *The Who* and *Metallica*. A large stage with all paraphernalia like speakers, screens, pyrotechnics, and smoke projectors has been put up. In the outdoor arena holding a few thousand people, the grounds are so large that no really dense crowds form. It is as loud as rock concerts should be.



Figure 1368. Rocks in Purmamarca, and Purmamarca rocks.

We sneak to the front. Anton cannot stand the deafening noise and moves back to the side. The sound reminds me of rock concerts decades ago. Much dancing, jumping around, and pogo. People knock against me—so what, that is part of the game. The singer Fernando Ruiz Díaz plays with the audience, encouraging them to sing along. *¡Dale!* (go go go!) is such a song. Everybody knows it except myself. He singles out two persons. He first flirts with a pretty girl in an orange T-shirt in front of the stage. And then he points in my direction: “Hola Ernesto. Gracias por celebrar con nosotros esta noche.” (Hi Ernest, thank you for partying with us tonight). I have no idea who that might be until



I realize that everybody looks at me. Of course, that's me, Hemingway!, the guy with the silver beard. I jump around a bit more and wave my arms. My young neighbors give me compliments and kisses. So nice. I feel like being the center of the earth (well, of the grounds here in Purmamarca) and enjoy the evening even more. And I am probably the second-oldest person here.

The next day is the start into our crossing of the high Andes. We are in a high-altitude desert above 3600 meters of altitude all day long, the highest pass is 4270 meters. Sequences of hairpin bends (*fuertes dientes*, strong teeth) are fun, the road is good. Salt is being mined in the *Salinas Grandes del Noroeste*, where you can walk on the salt lake. A bit like the *salar de Uyuni* (page 876), only without the water on top except in a few places, where it creates nice reflections. Foreign companies compete for the exploitation of the rich lithium deposits. The locals fight against this, because the only water here is fossile and would be depleted quickly by the consumption of two million liters per ton of lithium, husbandry would become difficult, and the mining royalties would probably vanish in some pockets without benefit to them. We stay in the depressing village of Susques, at about 3600 meters. Dispirited people walk the dusty streets, some of them swaying from the effects of spirits. Dogs kick up clouds of dust, one of them bites my leg as I am riding down main street. No real harm done, just a minor scratch, but somehow indicative of the climate here. Let's get out of here!



Figure 1369. Susques. "Gateway to the Andes".



Figure 1370. Riding across the altiplano.

And then comes, quite literally, the high point of our bike trip. The long drive next day all the way to San Pedro de Atacama is a wonderful antidote to the depressing spirit of Susques. On an excellent road, there are some hard gusts of wind from the side, but what is that for us Patagonians? At first, there are some bushes and other low vegetation, but then the altiplano becomes a desert.

We drive through several salt pans, including the *Salar de Olaroz*, and past colorful creeks whose banks are covered with salt. Salt lakes and lagoons attract colorful water fowl in front of multicolored sediments, made with pretty-looking (but evil-smelling) ingredients from Hephaestos' kitchen brews. Spectacular views into the far distance.



Figure 1371. Hairpin bends and a salar.





Figure 1372. Salt lake with salt table and chairs, crowds at the pass, multi-colored lakes, Kung Fu ducks in a mating fight.





Figure 1373. By the roadside.

At the Jama pass on the border, there is actually a crowd of people around the elevation marker, showing 4170 meters. Continuing now in Chile, the road goes up and down. Our highest elevation is 4834 meters, higher than Mont Blanc's 4808 meters, and the mountains around us top 6000 meters. The two of us and our bikes do not show any signs of altitude sickness, we just drone on enjoying this ride in the cold sunny altiplano, but eventually it comes to an end.



Figure 1374. Relaxed center of San Pedro and an Inca design on a restaurant wall.





Figure 1375. Great fun riding here.

The last 40 kilometers to our destination San Pedro de Atacama are dramatic. Es-

entially in a straight line, the road drops continuously for 2 kilometers of difference in altitude, a constant grade of 5%. If there was snow on this road, you could ski the 40 km straight down without interruption. We feel the air heating up minute by minute, eventually the plain of San Pedro becomes visible, then slowly the outlines of the sand-colored town.

Little has changed since my visits in 1988 and 2007, pages 655 and 859. Dirt streets in the city with deep ruts are a challenge more to motorbikes than to cars. Restaurants and lodges have come and gone, and we find a reasonable cabaña for our five days here. There is so much to do: corrections for my crypto book and permission for quotes and images there.



Figure 1376. Too many accidents on these roads.

The road towards the coast goes through a desert-like area and the multicolored hills of the *Cordillera del Sal*. At some copper mines, we stroll around some of their huge earth-movers, a car can drive under them but not our bikes. A long train loaded with fresh copper plates drives by. After a week at the altiplano altitude of over 3000 meters, we descend to sea level from Calama on. Surprisingly, it gets colder and colder under a cloudy sky, rather than warming up in the lower lands.

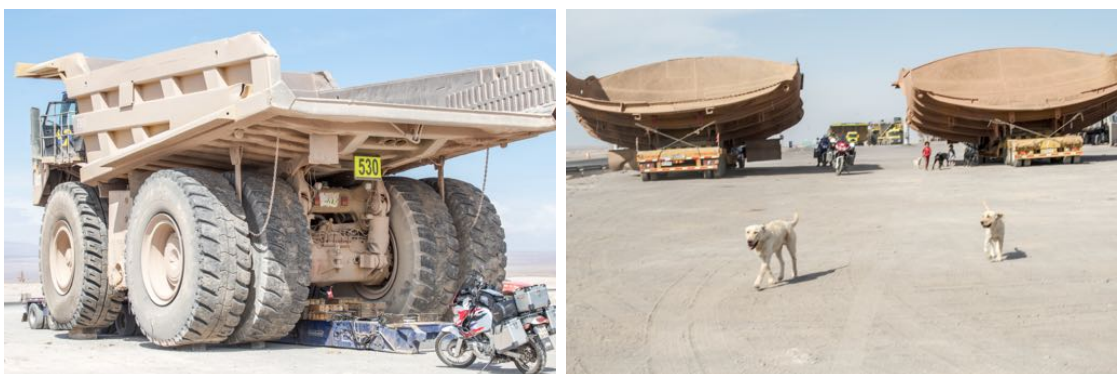


Figure 1377. Huge mining trucks dwarf our bikes.





Figure 1378. Copper train.

Heading further south from Antofagasta on the Pacific coast, we come to enormous factory ruins in Huanchaca. They refined silver from Potosí (page 882) and Pulacayo in the Bolivian altiplano here from 1893 to 1902 and left huge buildings made from andesite that contained the melting pots for just one decade of production. Their output was four tons of silver per month. In the cordillera (coastal range) we are again at 2000 meters of altitude. Our final descent to the coastline has an incline of 10% over more than five kilometers; we have to watch the way we brake. The beaches here are rather depressing: rocks, pebbles, black sand, cold water, strong winds, and no infrastructure. Still, many large Chilean families have parked their SUVs here for a pleasant weekend—not for whimps.



Figure 1379. Huanchaca smelter.

We rent a cabin just outside of the mining town of Taltal and enjoy a view of the beach, where pelicans and cormorants dive artistically for their next meal that thrives in the cold currents. In the hotel's restaurant, the manager Cristián tells us that his boss Miguel Finger-Clément not only owns the cabins but also runs a small copper mine in the coastal hills above Taltal. Our interest is piqued: can we visit it? Indeed, Miguel gives his ok over the phone for tomorrow and we jump at this chance. We learn that Miguel's family is partly from a German-Jewish family Finger and partly Nancéien, from Nancy in France, and his daughter Erika is Cristián's wife.



Figure 1380. Relaxing over the bay. With Cristián in the restaurant, entering a mining tunnel.





Figure 1381. Miguel.

In his old Nissan pick-up truck loaded with 1000 liters of gasoline, Miguel drives us the

next morning up the coastal hills to his mine *Elba* at 800 meters of altitude. As with many mines, it was exploited by an international corporation for years. When it ceased to be sufficiently profitable for them and their huge machinery, they sold it to a local, Miguel in this case. It is a very different operation from the one at Potosí (page 882): smaller scale and privately owned by a local Chilean, actually a local German-Jewish-French-Chilean. They produce 2000 tons of ore per month, containing about 30 tons of copper and 12 kilograms of gold.

He drives his truck into a large passage and then on a comfortable track down, down, down, to the center of the earth. The area of current exploitation is 210 meters below the entrance. Large diggers and loaders are at work, heaving ore onto rail carts that take it up to the mine exit. An eerie scene, lights from many vehicles and our headlamps crossing and jumping around on the earthen walls. We walk on the dirt floor and jump over puddles and out of the way of this heavy machinery, which sometimes passes us with just a few centimeters to spare. The din of engine noise is deafening, we can hardly talk.

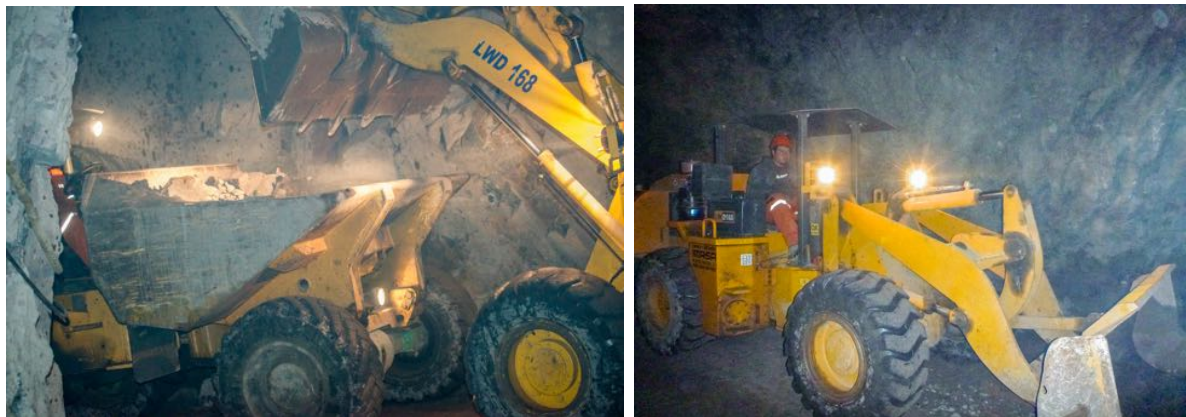


Figure 1382. Large machines drive by us, with a hand width to spare.

I can physically feel the danger from these big machines in dark spaces with swiftly changing lights, operated by people who know what they are doing and expect others to also know—but we are certainly not in that category. In many parts of the world, such light-hearted ignorance of safety rules would be strictly forbidden, and we enjoy it all the more. A bit surprisingly to us, the air down there is good, due to an elaborate ventilation system. From time to time Miguel, a mining engineer by profession, disappears into a side tunnel, takes out his hammer, and breaks apart some rocks of ore to check its copper contents.

In the afternoon, the miners drill holes into the rock with drills about two meters long, then insert dynamite and connect all fourteen fuses. Blasting is always the last action of the day, in order to allow the dust to settle until work resumes the next day. Now they light the fuses and we have seven minutes to escape. Tick tick tick goes the clock. We drive hurriedly back through long passages but are still well within the mountain. Miguel stops at a shaft leading down and we listen to the explosions not far down in the insides of the mine: whoom whoom whoom. This is the most exciting moment, I almost feel like James Bond, but shaken not stirred. Did we save the world? Yes, no pressure wave throws



us down, it must dissipate through other tunnels. Our time in the mine is a fantastic experience of Chileans working hard for their money.



Figure 1383. Inserting fuses, me pretending to help, and the set fuses, Miguel at a shaft just before the explosion, and checking ore quality afterwards.

*Pisco sour* is the national drink of Perú, named after the Peruvian city of Pisco, see page 646. But it is also the Chilean national drink, and they are unhappy to attribute its origin to a city in the rival country to the north. So in 1936, they simply renamed the village of La Unión in the fertile *valle del Elqui* (Elki valley) as Pisco Elqui and can now point to it as the original of this wonderful *apéritif*. The Nobel laureate Gabriela Mistral



(pseudonym of Lucila Godoy y Alcayaga) grew up here and was buried in 1957 within a peaceful precinct.

Via Copiapó, we get to this village of Pisco Elqui. On a side road, a sign says “Quebrada honda” which is “deep ravine” but could also mean “broken Honda”. Fortunately, the latter is not the case. Our cabaña in the *Hotel Gabriela Mistral* is right next to the swimming pool, teeming with children already in the morning. Still, we spend five relaxing days there. The valley is a green island in a desert zone.



Figure 1384. Driving south of Antofagasta, precolumbian grain mills, the Quebrada honda, memorial to Gabriela Mistral, and the vineyards around Pisco Elqui resisting the encroaching desert.

Vineyards stretch along the few creeks and up into the dry valleys like green tongues



lashing out at the brown rock and sand. They produce good wines and from the marc the Pisco, a strong transparent liquor which is the main ingredient in the Pisco sour, besides lemon juice. Enormous wooden kegs hold thousands of liters of wine. Quiet restaurants offer verandas with views of the scenery.

Through this pleasant valley, we drive back to the Panamericana (Ruta 5) and pass the famous observatory *La Silla* which I visited in 2012.



Figure 1385. La Silla: hello, anybody out there?

Via La Serena, Coquimbo, and Los Vilos, we arrive at our starting point, the *Villa Kunterbunt* in Valparaiso; see page 945. This is the end of three exciting months in the saddle, driving about 12 000 kilometers. Our two bikes will be shipped from here back to Germany, Anton kindly takes care of all the packing and shipping, with Enzo's help. I just have to stuff all my things into my aluminum boxes that will travel with my bike on the ship, and only the items that I need for the next leg of my trip, to Buenos Aires, Uruguay, and the Atlantic crossing, go into my backpack. We asked Martina from Kunterbunt several times how much shipping our bikes to Germany would cost, she never answered but now presents an outrageous bill, about 50% more than the company charged that brought them to Chile. From our first arrival, I had a queasy feeling about the Kunterbunt, and this confirms it. I am happy to leave tomorrow.

## Chile: present and past 2014

*In early 2014, I spend a few months on sabbatical in Concepción, Chile. I meet my colleague Nicolas Thériault almost every day for work, and many other old and new friends. An excursion takes Dorothea and me into a dark moment of Chile's and Germany's history: a German sect in Colonia Dignidad, dominated by a criminal pedophile leader, collaborated with the Pinochet regime, hiding its prisoners on their grounds and having some of them murdered, and engaging in weapons deals. All this with the collusion of the (then West) German government.*



Figure 1386. On the beach: Claudia, Nicolas, Pierre-Anton, Roberto.



The day after arriving in Concepción, I am still dead tired after three flights in a row. But Nicolas and his charming family (wife Claudia, sons Roberto (13) and Pierre-Anton (1.5)) take me in the morning to a children's birthday party in a restaurant. And the day after that, another entertaining (adult) birthday party at a colleague's apartment. We share many pleasant dinners with Nicolas' colleagues, always a good round and interesting conversation.



Figure 1387. Thériault family and Mariana Saavedra. At home with friends.

One evening I meet Gerrit Fiene from Klein Ilsede in northern Germany. He is 72 years old, used to be a highschool teacher of history and Latin, and now shows off with his knowledge of Latin. He is utterly surprised when I counter with mine, and then chickens out and refuses to converse in Latin. Coward! He probably knows his Caesar by heart, but cannot ask in Latin for the way somewhere ... as I did once with a priest in Poland.



Figure 1388. Gerrit and a friend, and the bar district near the Plaza de Roma.

I receive an email from Andrés Polymeris. We were fellow students at ETH Zürich, but have lost sight of each other. He is now, already for decades, a professor of computer science at the *Universidad de la Concepción de la Santísima Virgen* (University of the Conception of the Most Holy Virgin (yes!), Universidad de Concepción for short) and heard of my

presence through the academic grapevine. Some days later, he drives me in his aging Jeep to his home in a suburb of Concepción. The location is idyllic: from the alluvial plain at the bottom, a steep dead-end street rises towards a dark green forest, and his house is at the very end. It is a fairly large wooden structure with two floors, built according to his own plans. Andrés cooks a delicious dinner and I bring a bottle of wine. Afterwards we sit in his pergola under the vines and chat until late at night.



Figure 1389. Heavily used piano on a square and statue of the Mapuche leader Lautaro (Leftrarú).



Figure 1390. Andrés.





Figure 1391. Andrés' self-built home. Others were built less carefully.

My friend Anton from Düsseldorf and I plan a motorcycle trip around the *cono sur*, the southern part of South America. I enquire about buying or renting a bike here, but that comes to zilch. We could easily buy one, but then cannot register it. This requires a Chilean tax ID (RUT = Rol Unitario Tributario) which I cannot obtain with my temporary work visa. After many futile phone calls, it looks like we have to ship our bikes from Europe, which is what we eventually do. Together, we visit Andrés again, see page 948.



Figure 1392. Strange scenes in front of my apartment, next to an undertaker's office. Note the relaxed wiring.

13-year old Roberto tells me about his favorite band, *Los Búnkers* from Concepción. And tonight they play for the finale of the *Feria de Artesanía*. I go there somewhat early, but the square is already packed. I move to the front as far as I can, to row 15. After the warm-up act, the guys show up, there is some movement and I can move even further ahead. And then—panic! Two large German shepherd dogs are going at each other's throat, big animals that thrust their fangs into the opponent's muzzle, spit drooling from their mouths. Possibly they are confused by the loud bass music and lose their instincts. It looks as if they try to kill each other, they push and shove around, the bystanders panic. Security staff stand right next to them, but behind a strong metal fence, and look on with interest, no action. I quickly move out of this danger zone. Man, what a sight!

The Búnkers play ballads and rock, an interesting mix. Where I stand, it is incredibly loud, blows the wax out of your ears. The young people around me jump and dance with much energy. The songs are largely political, a video shows streets battles with carabineros (policemen) wielding clubs and youths running away in panic. At one point, the whole audience shouts in unison “Alcatraz a Pinochet”, I am the only one who does not know all the words by heart.

The next day, I go to another concert. The *siempreBeatles* cover Beatles songs in the *Casino*, a plush hall with comfortable chairs. The total opposite of yesterday. Nobody moves or dances, they only clap their hands politely. How much more civilized and boring! No wild animals here.



Figure 1393. *Los Búnkers*—the speed of light and (last image) a Beatles cover band.



Figure 1394. Colorful murals are all over town, many of them political.





Figure 1395. The *Teatro de Concepción*, destroyed in a 2010 earthquake, but now with students practicing for a show in the ruins.

Even Picasso was here for a mural, it seems.

“In nature, there are neither punishments nor prizes. Only consequences.”

Corona illustrates this in 2020.

Dorothea arrives by plane from Germany. After settling in our apartment and getting acquainted with the city, Nicolas takes us on an outing to Talcahuano, the port of Con-



cepción and victim of a 2010 earthquake and tsunami. There are still some scars from this disaster, but much of the city has recovered. We stroll along the wide beach promenade and visit the monitor *Huáscar* which played an important role in the Pacific war between Chile and Perú (1879-1883).



Figure 1396. Strolling around in Talcahuano and my longest bicycle ever.

The *Huáscar* was a steel-armored major asset of the Peruvian navy, until it was captured by the Chileans in 1879 and then integrated into their navy. After its bloody history, it now is a peaceful museum piece, carefully restored and anchored in Talcahuano.



Figure 1397. *Huáscar*.





Figure 1398. Navigation devices on board the *Huáscar*.

In a café, we meet Alejandra Parada, a primary school teacher, and her 8-year old daughter Scarlett Anaís. We spend some happy time together, Scarlett is a wild and entertaining girl. On a beach at Lenga, she insists on braiding my hair. Her education costs a bit more than usual and I offer to pay for that.



Figure 1399. Scarlett whispering secrets into my ear.



But when we agree to meet later the same year, Alejandra fails to show up, see page 948. Too bad.



Figure 1400. Scarlett as my hairdresser.



Figure 1401. Kelp on the beach. Alejandra, Scarlett, and Dorothea with two street musicians on the sides.

Dorothea and I go on a little excursion with our rental Nissan March into Chile's dark history and the German involvement in it. After driving through the wonderful landscape of the Río BioBío, we arrive at the infamous *Colonia Dignidad* (village of dignity), renamed *Villa Baviera* in 1998. Paul Schäfer founded around 1956 a sect with adherents from Gronau



and St. Augustin in Germany, and from Graz, Austria. Accused of raping two boys, he fled with all his followers to Chile in 1961 and established his sect on the 300 square kilometers of the *Colonia Dignidad* in Chile. With strict supervision inside and without any outside contacts, they built up a successful agro business. Schäfer supported the Pinochet dictatorship and his secret service DINA, importing arms illegally and providing secret prisons for political dissidents, many of whom were tortured here and at least 22 killed and burned. Sexual abuse, mainly of young boys, continued. Even after the fall of Pinochet in 1989 (see page 674), the persecution of Schäfer was prevented with the help of right-wing political connections in Chile and, mainly, in Germany. Franz-Josef Strauß, prime minister of Bavaria, is reputed to have visited and come away with a positive impression of the orderly organization, and the German ambassador in Chile supported the Colonia. Eventually pressure got larger, Schäfer fled, was arrested in Argentina in 2005 and sentenced to a long prison term in Chile, where he died in 2010. The Colonia was continued with the old staff, but now as a hotel. The whole affair is a shame for the German politicians and diplomats who protected those nefarious activities. Only in 2016 did the German government open its archives on the Colonia, and first payments to the victims started in 2020.



Figure 1402. *Villa Baviera* with a black history as *Colonia Dignidad*, now painted over with fresh colors.

A board with photos describes those criminal acts as *años difíciles*—difficult years. This shows a complete lack of facing the dark history. The political thriller *Colonia Dignidad—es gibt keinen Weg zurück* (English version: *Colonia*) with Emma Watson and Daniel Brühl is a moving fictional account on the flight of two young people from the Colonia, almost foiled in the end by the German ambassador; some details are fictional, but the movie captures the atmosphere very well.

Annette (Anna) Schnellenkamp, emigrated from Gronau in 1962, welcomes Dorothea and me. We walk around the grounds. Several paths are closed off with a sign “Ingreso solo para residentes” (entry for residents only). Curious llamas come quite close, and we follow trails signposted “Wanderweg” (hiking trail), others read “Fahrradweg” or “Pferdeweg” (bicycle trail, horse trail). We talk with a man who also arrived in 1962. After the “difficulties” ten years ago, five of his nine siblings returned to Germany, where they fared well. They did not have any useful skills, but were hard workers—and that is enough to make your fortune. The long shadow of the paedophile and arms dealer Paul Schäfer is still visible. Several plaques explain some aspects of the history of the site, but his name is nowhere mentioned. On one memorial, a Kurt Sch. appears, possibly the father of the main culprit, but none of the inhabitants mentions his name, all remains innuendo and circumlocution. Even though he landed in jail ten years ago and died there, he still seems to hold power over the members of his sect. It is a scary experience here in (former) hell: “Lasciate ogni speranza, voi qu’entrate”.<sup>30</sup>



Figure 1403. Around the *Villa Baviera*.

<sup>30</sup>Dante Alighieri (ca. 1265-1321), *Divina Commedia, Inferno*, inscription at the Gate of Hell: “Abandon all hope, those who enter here”.





Figure 1404. Schäfer trapped innocent victims in his spider web,  
and the heavens looked on for a long time.

We drive towards the Antuco volcano. Already from far away, it looms large over the road and the ski resorts, now in summer just black rocks and ash. Huge basalt columns line the road, the vegetation is dense at the lower altitudes, hiking is a pleasure. But then we come to the sinister monument to the *Antuco tragedy*. In May 2005, a group of 45 soldiers on a training march were hit by a blizzard and lost their orientation. All of them froze to death. This is a tragic failure of the military command who had been warned about the impending bad weather.



Figure 1405. The Antuco volcano from far and closer up, basalt columns.





Figure 1406. The Antuco monument.



Figure 1407. In the wilderness around the Antuco volcano.

By the end of my visit, Nicolas and I have invested quite a bit of work into our *equal-degree factorization* paper, but it is still not quite finished. And over the next months and years, we are both distracted by so many other projects that the paper is still on our *to do* lists—and may well remain there forever.

Things work out better at the next stage, where in just a few days of work with Guillermo Matera in Buenos Aires, Argentina, we put together the basics of two more successful papers, on *nice varieties* and *tubes around decomposables*.





Figure 1408. Antuco: *If you go traveling, buy your backpacker's chicken here.*

But this visit to Buenos Aires starts with a major annoyance. Dorothea, Guillermo, and I have trouble opening the door of the apartment that he has arranged for us, eventually we open it by brute force. He calls the rental agency who say they will take care of that, but don't. When we come back from dinner, around midnight, we cannot open the door at all. Neither force nor persuasion work, nor does the helpful janitor. In the end, we have to call a lock service. The locksmith they send also has major trouble, but in the end succeeds by essentially destroying the lock.

The apartment's owner, not the rental people, shows up at noon the next day. He is very friendly and understanding, excuses himself, reimburses my expenses, and offers us a day's rental for free. Fair enough. He calls another locksmith who inserts a new lock. Later, I work again with Guillermo and in the evening enjoy a writing orgy, producing a first version of our *tubes* paper in one go. Much fun.



Figure 1409. Our broken door lock. Demonstration in Buenos Aires.

Rafaela and Martin arrive in Buenos Aires for dinner. Yes, just for one dinner. We have our values . . . And we have a truly remarkable meal at one of my favorite restaurants world-wide, the *Posada de 1820*; see page 1161.



Figure 1410. With Rafaela and Martin in the *Posada de 1820*.

Arriving by ferry in Montevideo, Uruguay, we spend nice evenings with Rafaela and Martin, Tuba and his family, and Gadiel Seroussi and his wife Popi. I have known Gadiel for a long time and we wrote a paper together in 1985, when he invited me to the Technion in Haifa, Israel; see page 279. Tuba is the General Chair of the biannual LATIN conference. It takes place in a posh hotel of downtown Montevideo, anonymous and not to my liking, as usual. The most memorable talk is by Bob Sedgewick on the legacy of Philippe Flajolet (1948-2011). They wrote together the standard text on analytic combinatorics. Bob recounts fascinating stories about the life and personality of Philippe.



Figure 1411. LATIN 2014 conference: Alberto and Daniel, myself and Tuba.



I take a marvellous hike along the beach to Puerto Sánchez, see page 1164. On arrival, the restaurant is closed and I learn that the owner died three years ago, his wife shortly after, and their five daughters could not agree on a continuation. Fortunately, just a hundred meters further there is now *Puerto Piola*, a very simple place with very friendly people. They put a table outside for me and I enjoy my lunch with a fantastic view of the ocean.



Figure 1412. Tuba's beach cottage La Lapinière in La Floresta.  
Tuba, Graciela, myself, below with Dorothea. Dinner with Rafaela,  
Martin, myself, Tuba, Graciela, Manuela, and two friends of Rafaela.



Figure 1413. Doors of Montevideo.





Figure 1414. Puerto Piola.

One evening, I return home to our hotel. Dorothea sits on the bed with tears streaming down her face. Our son-in-law Tuna died yesterday in a head-on car collision. We are deeply affected by this tragic loss. Most of all, of course, Désirée, our daughter and now a 32-year old widow. Their son Cayden is three years old and will remember his dad fondly, but little Tyler, just ten months old, will only have memories from photos and stories they tell him. So sad. We fly home two days later.

I add some lines about another visit to Buenos Aires. At the end of a visit in 2018 to the South Pacific, I leave from Auckland, New Zealand, for Buenos Aires, Argentina; see page 1416. From the airport, the company *Tienda León* offers an excellent bus service for the 40 kilometers to downtown. My friend Guillermo Matera has reserved a very nice apartment for me. But, although I know the city quite well, I figure its location incorrectly as being close to the bus station, and so I walk. And walk. It is a long walk, dragging my stuff behind me, cluck cluck on the pavement. No fun, especially after a 12-hour flight.

Guillermo is waiting for me at the apartment. Over dinner, we chat a bit about our current project, discrete tubes around varieties, suggested by Igor Shparlinski in Sydney a few weeks ago. I have given it some thought and the question of shifted components and shift-invariant components has turned up. During the rest of the week, we home in on this and together make substantial progress. When I leave a week later, we are optimistic that we have assembled most of a nice result.

The second reason for my presence here is the biannual LATIN conference on Latin American Theoretical INformatics, founded 26 years ago; see page 1088. It takes place in a beautiful location, the *Centro Cultural Juan Luís Borges* within the pompous art deco shopping mall *Galerías Pacífico*. The biography of Borges is illustrated, and modern Argentine art, mainly paintings, are on exhibition. Lots of space, very nice. But the conference is, unusually, a disappointment, mainly due to the conference chair and his organization.



Figure 1415. Obelisk in the center of Buenos Aires, the bridge at Puerto Madero now converted to a lively restaurant scene, and old cranes with a stork nest.

I walk to Puerto Madero, full of Argentines, young and old, enjoying a sunny day late in the summer now in April. On my way home, a French tourist asks me where Calle Florida is. As if I were an old Porteño (inhabitant of Buenos Aires), I can easily direct him and in fact, walk with him for a few blocks. Clear blue skies, and all of a sudden we get wet from above. Behind us walks a thickset local man, in his 40s or 50s, and points to the upper floors of the buildings with much agitation, indicating that the water must have come from up there. And, being the friendly and helpful person he is, he rushes towards us with some paper towels to help us dry our clothes. The French guy does not understand, but I realize immediately that this is a famous attack on tourists; variations



are often played with mustard, mayonnaise, or ketchup. I push my friend rather brusquely through a narrow space between two parked cars to the other side of the street. The thief gives up and looks for more gullible customers. My first personal experience of this attack. To be honest, I still do not feel less secure in Buenos Aires than in Bonn or Cologne. And anyways, the real danger while traveling are traffic accidents.



Figure 1416. Puerto Madero at night. My balcony reflected in the windows across the street.

The Lufthansa jumbo *Köln* takes me back to Frankfurt. The flight is a disappointment after so many other flights. At least in eco, compared say to Air New Zealand. Less leg space, poor “entertainment” program, the screen is hard to operate as is the seat belt, hidden under an arm rest. The geo information systems feels as if it has been designed for Roman galleys. After dinner service, the flight attendants hide in their kitchen space, their own galley. Customer service from then on means that the customer has to go there and ask. It used to be the other way around, and in more customer-friendly airlines the flight attendants still walk along the aisles at sparse but regular intervals.

## All of Uruguay 2008

*My 29-year young daughter Rafaela and I take a long drive around Uruguay. We see most of the sights upcountry in this small peaceful country, including the meaty source of Uruguay's wealth in the 19th and early 20th century, a bridge blocked by Argentines, and the cowboy reality today.*

A fascinating Atlantic crossing on a freighter ends in mid-March 2008 in Buenos Aires, Argentina; see page 1531. I take, for the umptieth time, the Buquebus ferry from there to Colonia del Sacramento in Uruguay, formerly an important port of Uruguay and the first city of the country, founded by the Portuguese in 1680.

And then comes the big moment: will I meet Rafaela? Within her studies of airline management, she makes a half-year practical with the Uruguayan airline Pluna (Primeras Líneas Uruguayas de Navegación Aérea)—bankrupt in 2012, but presumably not by her fault. Later in life, she will become a manager at the Swiss airline Edelweiss—which has not yet gone bankrupt.



Figure 1417. Rafaela and Edelweiss, and *Pluna* plane.



Figure 1418. The Uruguayan flag, slightly tattered but matching the sky.  
Happy dad and daughter.



We have planned to meet in Colonia and travel around the whole of Uruguay. Once there, I lug my baggage to the *puerto de Yates* (yacht harbor) and wait comfortably in the restaurant *Torreón* (Tower) by the water. After about four hours, I call Rafaela. She has just arrived in Colonia with her rental Chevy Celta. We are both delighted when she drives around the corner. Hugs and kisses, we have so many stories to tell. We walk around the pretty colonial part of town, with churches, Spanish and Portuguese ruins, and climb a lighthouse. On our first drive together, we go to Carmelo. There are still more stories to tell over dinner. Many of the photos in this story are Rafaela's and reproduced with her kind permission. She is the star of this trip! For a map of this trip, see Figure 812.



Figure 1419. An Uruguayan map and the estuary of the Río de la Plata.





Figure 1420. Our restaurant in Colonia.



Figure 1421. Colonia: the street of sighs, window protection, dinosaur skeleton.





Figure 1422. The colonial city of Colonia: tin shop, lighthouse, vintage cars.



Figure 1423. Train cemetery in Real de San Carlos, just north of Colonia.





Figure 1424. Train cemetery: No space to move ahead.



Figure 1425. Slow-moving waters of the Río Uruguay. Uruguayan Tannat wine.



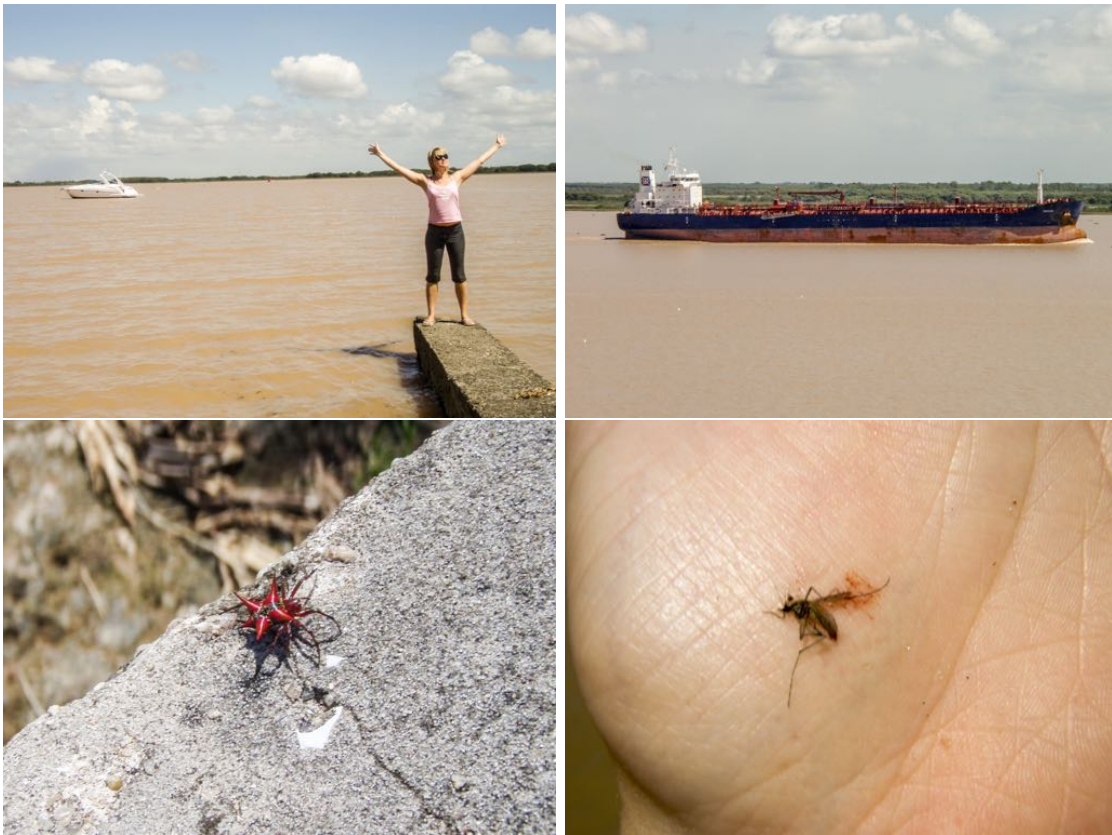


Figure 1426. Large freighters can navigate the lower stretches of the river. A harmless crab and a blood-thirsty mosquito, final score 1:1.



Figure 1427. The little plaque above Rafaela indicates the 1959 flooding level.





Figure 1428. Big timbó tree in Santo Domingo de Soriano. House of masks.



Figure 1429. Even a Mercedes is limited to 60 km/h.





Figure 1430. Last image: looks like a Hindu monument for cows, but actually depicts Uruguay's wealth: livestock.

Rafaela and I visit the source of Uruguay's wealth in the early 20th century: meat processing plants. The incongruously named *Museum of the Industrial Revolution* in Fray Bentos occupies one of the old meat factories and is a fascinating testimony from the *época de las vacas gordas* (epoch of the fat cows). It exhibits *Advanced Technology*—depends on your point of view. Old-fashioned desks and open office spaces, again a “revolution” a few years ago. Signed labels on the meat cans were supposed to prevent plagiarism. It is a pleasure to stroll around in this time-warp factory.



Figure 1431. Offices of way back then.

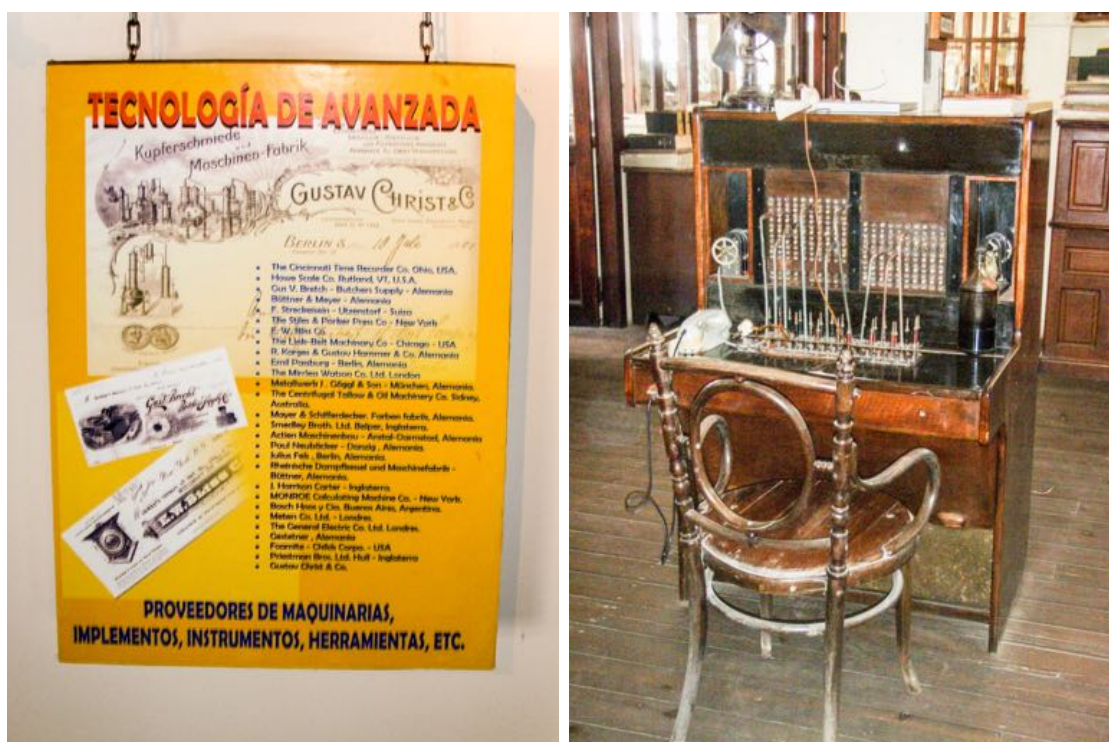


Figure 1432. Advanced Technology.

The German chemist Justus Freiherr von Liebig invented meat extract in 1847. Large herds of Uruguayan cattle had until then provided only their hides for export, and food for local consumption. But in 1864, the enterprising young Belgian engineer Georg Christian Giebert created, with Liebig's support, a factory in Fray Bentos. It allowed exportation of meat concentrate, weighing only a fraction of the raw beef and safe to ship across the Atlantic without refrigeration. The product soon became popular all around the world and fed, among others, armies on both sides of the two world wars. An early British tank was named *Fray Bentos* because its crew were "meat in a can". Meat exports provided Uruguay's wealth for many decades, and Fray Bentos was called *the great kitchen of the world*. Its products even feed the travelers in Jules Verne's 1865 novel *De la terre à la lune* (From the earth to the moon) and some soldiers in the movie *The English patient*. Later, English investors bought up the factory. In the 1920s, Uruguay provided a good portion of the world's beef and was a rich country; those days are gone.

At that time, Uruguay was a rich and well-run country, often considered *the Switzerland of South America*. But the British took their profits home rather than investing them in the country, competition world-wide rose, and after the Second World War living conditions became more difficult. Social unrest arose, the guerrilla group *Tupamaros* fought against ultra-right killing squads, eventually a brutal military government came into power, under which the country suffered until 1985.





Figure 1433. Rafaela in front of old ads.  
*Anglo* cold store and rotted loading quay.

Via Dolores and Mercedes, we drive to the important Libertador General San Martín International Bridge between Fray Bentos (Uruguay) and Puerto Unzue and Gualeguaychú (Argentina) over the Río Uruguay, which further downstream joins the Río Paraná to become the Río de la Plata. Right besides it, the Finnish cellulose company *Botnia*, now UPM, built a pulp processing plant. Argentina also competed for this project, but they lost; rumor blames for this, among other things, exaggerated bribe demands from Argentine officials, among them the governor of the adjacent province of *Entre Ríos*. The beaches around Fray Bentos and Gualeguaychú are a major attraction for tourists from Argentine areas nearby. Quite understandably, the locals feared negative effects from the effluents of this huge factory, ignoring a World Bank report that its modern technology produces almost no pollution. Argentines have been blocking the bridge since 2006. Their government did not try to prevent this. The reason officially given is the environmental pollution that the factory will generate, but they also say that the factory should be built on the Argentine side, because then the pollution would not be as bad. What a hypocrisy! This blockade closed the major terrestrial commercial route between the two countries, which is vital for Uruguay's tourist business, and also for its imports and exports.

Argentine visitors are welcome in places like Punta del Este, where they generate substantial business, but this ridiculous action severely damages Uruguay's relations with Argentina, which are otherwise very good; under the Spanish colonial system until Argentine independence beginning in 1810, they formed one entity, the *Vicerekingdom of the Río de la Plata*. I crossed the bridge in 1984, see page 829, but now this is impossible.

We walk up to the Uruguayan post. Photography is prohibited, and so I can only take a few surreptitious pictures. After environmental agencies declared the pulp plant to meet the highest standards and Argentina lost her cases in the international court of justice in Den Haag, they gave up strongarming their small neighbor in 2010. Apparently political shenanigans also played a role: the Argentine president Nestor Kirchner wanted to become president of the South American Union *Unasur*. Uruguay would only support his candidature if they stopped blocking the bridge. His wife and then president Cristina Fernández de Kirchner made the locals do this. The Uruguayan president Mujica helped along by calming things down.



Figure 1434. Finnish pulp factory from a distance, and the *International bridge*.





Figure 1435. Closed bridge—empty spaces.

Rafaela and I continue past a town with her name along the brown waters of the Río Uruguay to Paysandú, where the bridge to Argentina is open. At 17.00, we arrive at the *termas de Guaviyú* (hot springs). In the hotel room, our ears are filled with the youthful high life in the *termas*: very loud local rap and rock. We quickly jump into our swimming gear and go over there. All eight pools are crammed full with people, many children and many oldies (over 58 years old ... my age). The water is tepid to cool, not really hot anywhere.



Figure 1436. Name games: my daughter has not yet been canonized, but still has 12 kilometers to go. Two of her first names are Rafaela and Esperanza.



Figure 1437. Name games: we sometimes abbreviate my wife Dorothea and our two daughters Désirée and Rafaela as DoDÉRa. What kind of food do you have? Nix!



Figure 1438. *Termas de Guaviyú.*

My friend Alfredo “Tuba” Viola has a family connection with these termas. In the 1940s, drilling for oil began in this area, eventually without any result. But three hot-water springs were detected, in Arapey, Daymán, and later in Guiviyyú. Tuba’s great-uncle Alfredo Viola, the brother of his paternal grandfather, was the bishop of the land around



Daymán and recognized its therapeutic and touristic value, while in others' view it was not worth anything, just hot springs. Eventually Monseñor Alfredo Viola swapped the land with the provincial government for large tracts elsewhere.



Figure 1439. *Termas: the garden.*

Going north along the river, we arrive in Salto and visit the large dam of *Salto Grande* and its power plant. And then we take off into the interior of the country. Actually, in Montevideo everything outside of town is called *the interior*. Horses and cows are everywhere along the road. They are strangely shy, even the cows flee my camera. Are they afraid to have their picture published somewhere? I tell them that I do not use facebook, but that does not help. We find a hotel in Tacuarembó, an ugly structure.



Figure 1440. Agriculture and autoculture.

On Ruta 26 we drive to Valle Edén and Tacuarembó with their suspension bridge, old train station, and above all, the Museo Carlos Gardel (1887 or 1890 to 1935). This most famous tango composer and player of all times made a secret of his birthplace throughout his life. One theory is that he was born in Toulouse, France, while another theory claims Tacuarembó, Uruguay, to be his birthplace. All this is surrounded by mysteries of falsified identity papers, desertion from military service, incest, and a forged testament. Undisputedly, he acquired Argentine citizenship in 1923 and today, in Argentina, they consider

him an Argentine, and in Uruguay, an Uruguayan. He died when his plane, taking off in Medellín, Colombia, crashed into another one waiting on the tarmac. Whatever the truth about his birth, nobody disputes his place in the firmament of tango music, and his art keeps living on in the San Telmo quarter of Buenos Aires and elsewhere.

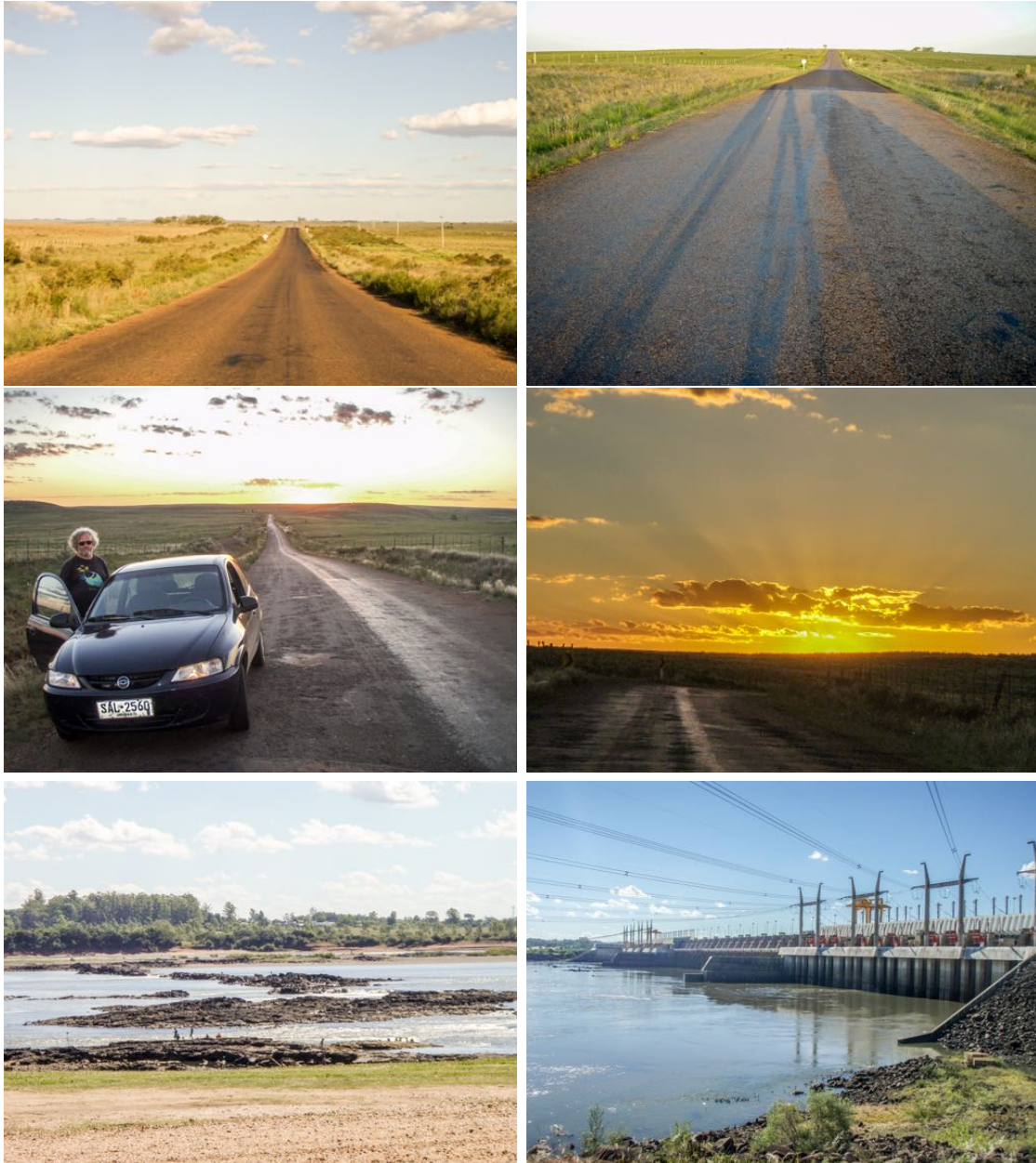


Figure 1441. Sunset. The rapids block river traffic, the Salto dam has been built just upstream from them.

We stay overnight in Melo and find a pleasant restaurant. Across from it is a fantastic cowboy store, sorry, *tienda de gauchos*: artfully designed leather saddles, boots, hats, all hand-made from the finest leather. Shining stirrups and spurs. The vendor tells us that



her main customers are rich Argentines and Brazilians who buy land in this area and here equipment for their servants.



Figure 1442. The latest in cowgirl and cowboy fashion. Gauchos.





Figure 1443. Horseshoe and fireplace.



Figure 1444. Uruguay's wealth crossing the road and taking a bath.





Figure 1445. Immense haciendas.



Figure 1446. The Valle Edén train station.





Figure 1447. Even the greatest rail ballerina must relax sometimes.





Figure 1448. Abandoned trains.



Figure 1449. Rafaela using advanced technology and measuring the world: where to go next?





Figure 1450. Fun footbridge over a creek.

We pass a small city with the unusual name of Treinta-y-Tres (Thirty-Three), named after 33 prisoners released from Argentine jails and who liberated parts of today's Uruguay from its Brazilian occupation. The *Quebrada de los cuervos* (Raven canyon) is named after the numerous red-headed ravens (or vultures, *Cathartes aura ruficollis*). But first we have lunch at a nice restaurant high up on a hill, view to infinity. We enjoy good food and friendly people, and a glass of wine. Totally relaxed. In fact, the whole trip with my daughter is totally relaxed. We stop a lot, sleep in and are the last guests at breakfast, just ten minutes before closing, and none of us worries about a two-hour lunch.

Well, as it happens to relaxed people, we arrive late. Too late for the long hike, there is just time for a short stroll to a view point. Lots of *cuervos* cruise high up in the air. They come with red, black, white, and yellow heads. A happy group of young people, almost all girls, run the accommodation in the park. They give us an ultra simple cabin, no electricity, but cozy.

Figure 1451. *Quebrada de los cuervos*.



Early to bed, early to rise. For once, at least. We descend into the canyon. The trail is really steep, many places have ropes to hold on to. Without them, the descent would be hard, and when the ground is wet, it must be very slippery. So we have a lot of fun. We walk and climb through a moss-covered jungle to a clear little river, the arroyo Yermal Chico, that dances happily over rocks and boulders. The total opposite of the staid and somber Río Uruguay. A small lagoon invites to a bath, but we can resist the temptation. The area is quite different from the rest of the country, it reminds me of the Black Forest in Germany. After three hours and a long steep climb up we are back.



Figure 1452. Hiking pleasures.





Figure 1453. In the *Quebrada de los cuervos*.

Passing through Treinta-y-Tres again, we arrive at Chui, a large border crossing between Uruguay and Brazil. One long street leads into the city, lined with shops selling electronics, beds, lamps, and all sort of mod cons at tax-free prices. The actual border runs right along the middle of the main street. It has the most peaceful border marking I have ever seen: stone benches line the center of the street, one side painted in Brazilian and the other side in Uruguayan colors. Just beautiful. You can jump from one foot to the other and cross the border a hundred times in a minute. Have you then been to Brazil fifty times? It is a wonderfully relaxed border, fitting our mood.

But there are customs check points on the roads outside to control the heavy smuggling of consumer goods. Uruguayans drive here just for shopping, and I guess some smuggling is part of the game. But nobody worries about us, obvious foreigners.



Not far inland is the well-restored *Fuerte de San Miguel* (Saint Michael's Fort) from 1734. In front of its massive walls, yellow with lichen, is a stela commemorating an 18th century agreement delineating the border between Uruguay and Brazil. The late afternoon sun casts a soft light on the fortifications, bastions, towers, barracks, and fat cannons.



Figure 1454. *Fuerte de San Miguel*.





Figure 1455. Standing at attention.

Past Barra del Chui and La Coronilla we get to Punta del Diablo. We have trouble finding accommodation, because everything is taken for the upcoming Easter weekend. Finally, we get a *cabaña*, which is available only because some of the owner's relatives arrive tomorrow. The night is dark as we jump into the ocean. After dinner and a long day, we vanish in the depths of the internet, in a cyber café.

All along our trip, we continually change our plans, staying where we like it and leaving quickly in other locations. Now our plan is to drive right to Punta del Este, where Rafaela's friend Hans Henry has a house. We visit Fort *Santa Teresa*, quite similar to yesterday's fort.

Figure 1456. Gun games at the *Fuerte Santa Teresa*: who is more elegant?





Figure 1457. Get me out of here!

In Hans' house, we get a pleasant room. A friend of Hans is also there, and the two of them go tonight to a concert of Bob Dylan. The two of us have dinner somewhere, and Rafaela has to buy bed linen just before the stores close at 22.00. Back in the house, the two guys return quite early from Bob Dylan, and the three young people go to a disco.

Climbing the Cerro Catedral, 514 meters high and not far from the bay's coastline, Rafaela and I are the highest people in the country for a few minutes. This is simply the tallest elevation in Uruguay, a hill rather than a mountain, reminding me of Australia's highest mountain, Mt. Kosciuszko; see page 1404. Even if that has 2228 meters of altitude, it looks as benign a hill as the Cerro Catedral. Since 2015, some nearby wind power generators surpass the Cerro in height.



Figure 1458. On Uruguay's highest summit.

After a quiet day at home (Rafaela and the boys) and on the beach (myself), we drive to La Floresta, see page 909. Big welcome in the Violas' holiday home *La Lapinière*. They have many guests, but they leave one by one. Tuba is preparing his tutorial for AofA (Conference on Analysis of Algorithms) in Maresias, Brazil. His diabetes is seriously affecting his eyes. Areas of the retina, in the back of the eye, get destroyed (diabetic retinopathy). New veins form, sort of a compensation. If they rupture, the eye fills with blood and the patient turns blind. Tuba gets laser treatment that seal some of the new undesired blood vessels. Diabetes runs in his family and will bother him for the rest of his life. He does the right things, like losing weight (30 kg) and walking a lot, many hours per day. His brother Roberto died in a diabetes-related hypoglycemia coma in 2007.





Figure 1459. Casting long shadows.

After spending some time on the windy beach, Rafaela drives to Punta del Este to see her friends. Tuba and I discuss some research questions, but do not really make headway. But we have a lot of fun—which is also a nice result.

Tuba prepares a monstrous picaña on his monster barbecue. The Uruguayan way, a bit too much done for my taste. It is a pleasant evening with good friends, much laughter, and wonderful company. Rafaela drives to Punta del Este again, for a last evening with her Uruguayan friends. I am so glad she made so many friends in her half year in the country and am sure she will return. The Spanish (or rather, Catalán) blood of her great-grandmother Esperanza is alive in her!



Figure 1460. Tuba, Graciela, Manuela Viola, Rafaela and myself.  
Rafaela worked at Pluna; they went bankrupt later.

We leave from La Floresta a bit late by my taste, at 17.00 for Rafaela's departure at 21.00 from MVD, the Montevideo airport in the suburb of Carrasco. We drive into town first on the coastal road, then on the main highway, the *Rambla*. Rafaela drives in the right-hand lane. Some boys, 12 to 14 years old, stand by the road. One of them throws a rock forcefully into our front window, resulting in a big "star" crack in the lower right. The boys run away towards a social housing project. No chance for us to catch them. A very annoying incident.

I am looking for a pleasant hotel in Montevideo, given that I will stay here for a while, also on other occasions. Preferably on the beach, but easily reachable from the university by bus. Everybody tells me that no such place exists. On our drive along the coastal road, we see many holiday homes, but no hotel. Until at the very end, when I see the *Posada del Mar*. This will turn out to be the right place for me, even if it is a bit unusual. But tonight I stay at the *Hotel Hispano*, where I get a small dark room with a window to the interior court.

We want to pick up Valentina Gómez, a friend of Rafaela's, who planned to accompany us to the airport. But then she cannot come, because of her small daughter. So we arrive at MVD at 19.30. Rafaela checks in, no problem in spite of her overweight luggage. She does not get an upgrade to business class, although she worked for the Pluna airline. But the airplane is delayed, new departure time is 23.00. Rafaela, her friend Santiago Avellanal, and I have a pleasant dinner at *Don Peperoni* in Carrasco. I have no idea where we are.



Back at the airport, the Pluna people take away her boarding pass. No special treatment for airline employees, rather the opposite. Fairly depressed, we sit at a table with the nagging thought that she will not get away tonight. But then she does, crossing the security check at 23.45. I am sorry to say goodbye to my travel companion, we had a wonderful time together. But now she has to get back to university.

Eventually, she arrives in Madrid, too late for her connecting flight. She catches the last plane to München, is met by a friendly colleague whom she had phoned, and gets home to Bonn on Tuesday. After this trip, she is out for almost a week..

When I return our rental car, a little discussion arises about the broken windshield. The guy is really nice, he regrets the attack but I have to pay. In the end, he charges me US\$ 60. Less than expected. He even drives me to the university. Tuba and I have lunch at a nice place, *Don Trigo* in the Parque Rodó. I reserve a room for tomorrow at the *Posada del Mar*.

On my trip through Uruguay with Rafaela, we hardly ever got an internet connection. This blissful state of *incomunicado* is so difficult to achieve these days. But now I can log on to our system in Bonn and get punished with a long list of things to do. The worst is the final discussion about accepting or rejection papers submitted to the conference WAIFI 2008 (Workshop on Arithmetic in Finite Fields) in Siena, Italy. I am one of the two co-chairmen of the program committee (PC) and have to fight hard against the other co-chairman's unethical attempts to accept his own papers. Very unpleasant.

A taxi takes me and all my belongings to the *Posada del Mar*. Taxi drivers in Montevideo and all over the world like to take detours. Unless you know the way perfectly well, it is hard to fight against this trick. On this trip, I lose the fight. And in the end, he takes forever to find the Posada, for lack of local knowledge, a common phenomenon among Latin American taxi drivers. Of course, by now they have GPS devices.

I had only seen the façade of the Posada from the road. Once there, it turns out to be the perfect place for me. It is not a regular hotel, nor is it a brothel, but something in between: a *love hotel*. Couples, usually an older rich man and a young beautiful woman, go for a few hours or a night to this fancy meeting place. Maybe to discuss politics? All is organized very discreetly, with high walls and closed individual garages for the guests' cars, so that no guest can see the number plates of others. I am the only non-discreet guest, without that young woman. But the discretion suits me, nobody knocks on my door or calls me. I can order food at any time, which is then served on a tray through a hatch in the door, shielded from curious viewers. My room 120 has a small terrace, unfortunately surrounded by two meter high walls, against spying. I cannot even open my door into the hotel except by calling ahead. Thus I can work without any disturbance on my terrace. The minor inconveniences of this place bother me much less than the dreary cheap hotels downtown, or the soulless plastic expensive hotels there. I prefer my undisturbed solitude over maid service.

The place is located on the edge of town. It is a five-minute walk to an enormous beach which stretches 20 kilometers to El Pinar. Light yellow sand on the wide beach, hardly any people, many seagulls and other birds. For someone like me, that makes the *Posada* the best place in town: quiet, isolated, beach just outside the door. On my days without lectures at the university, I go for long walks along that wonderful beach. A few kilometers

east is the rustic restaurant *Puerto Sánchez*, run by Adrián Gonzalez and his family. His father is a fisherman and they serve the fish that he caught in the morning. Just delicious, ultra simple, plastic chairs, rough wooden tables on a large terrace with a wide view of the bay. Tuba and I work sometimes at our newly founded *Centro de investigación Puerto Sánchez* (Research Center Puerto Sánchez), enjoying good food and ice-cold *Patricia* beer. See Figure 1570.

For dinner, I take a bus to the center of the suburb of Carrasco. I am flabbergasted to recognize the Don Peperoni restaurant, where I dined with Rafaela and Santiago a few days ago without having any idea where it was.

Over the next week, I teach a short course on factorization of polynomials at the *Universidad de la República*, the only public university in the country. Although announced only last week, fifteen people take the course, among them a mathematics professor. People are interested and co-operative, two of them write a small paper at the end for credit.

Tuba has a large office, shared with about six graduate students. It is quite entertaining to be there, but hard to get any real research done with all those people milling around. Still we have a good time together, mainly at our lunches. On one occasion, I even take Tuba, his wife Graciela, and their daughter Manuela, to my posada. This is presumably their first and last visit to such an establishment and the staff is dumbfounded at such highly unusual visitors.

I get up at 03.30, my favorite time, and am at the airport in time for my flight to Rio de Janeiro, continuing by bus to Búzios, a beach town north of Rio. It used to be the playground of the rich and beautiful, like Brigitte Bardot and Mick Jagger, but I only go for the LATIN 2008 conference in the fancy *Atlántico* hotel. Since I do not like that kind of hotel, I stay at the small pousada *Saint Germain*, whose owner Eduardo Kleuber greets me enthusiastically. His English is better than my Portuguese. I have a very comfortable room with a balcony and view of the jungle. Much better and much cheaper than at the big hotel.



Figure 1461. Boat excursion at Búzios, splashing in the water—  
but hey, guys, watch out!

I have a lot of work to do: still busy with the WAIFI conference, my journal *computational complexity*, and my paper on decomposable polynomials. I finally receive the files



from my secretary in Bonn and have them printed, at US\$ 30. Not only do I have to work, but even to pay for it!

At the conference, I meet several friends: Daniel Panario with family, Marcos Kiwi, Mario Szegedy, Martin Fürer, Ricardo Baeza-Yates. Also Eduardo Laber, the PC chair, and Bob Tarjan are present. I give my paper on approximate polynomial gcds, with Igor. Very good reception. I also chair the very last session, on quantum computing, where Martin Fürer presents an application of Grover's method to some NP-complete problems.



Figure 1462. On the boat: Conrado Martínez, Marcos Kiwi, Daniel Panario, his son Diego. Social gathering: Ricardo Baeza-Yates, David Fernández-Baca at the end of table, Andrea Richa.

Our bus leaves at 16.00 from Búzios for an entertaining 26-hour trip to Maresias, a lovely beach town south of Rio de Janeiro where the AofA (Analysis of Algorithms) conference takes place. On board: Daniel, Christian Mauduit (who speaks perfect Portuguese after a year at IMPA), Frédérique Bassino, Woytek Szpankowski, Marcos Kiwi, Ali Akhavi, and others. Our first 20-minute stop for dinner on Friday degenerates into a 2-hour churrasco orgy, all very funny. We order much, including bottles of wine. And the total cost comes to just US\$ 16 per person. On arrival in Paraty at 02.00, no hotel staff is awake.



Figure 1463. Old fashioned Paraty.

Next morning we stroll through the pleasant village of Paraty, old houses, cobblestone streets, horse-drawn carriages, a shop with only cachaça bottles, the alcoholic ingredient of caipirinha. Lunch is in Ubatuba, again incredibly amusing, much fun and quite loud, everybody is in an exuberant mood. We arrive at 18.05 in Maresias, the conference starts at 18.00.

I am lodged in the terrible anonymous luxury *Maresias Beach Hotel*, fine view from my room on the wild ocean. But next day I check into the *Pousada Brig*, just across the street, with a tropical garden. After one day, I know all the staff there, and enjoy working in my hammock. My luxury room *Ruby* costs 50 Euro, half the price of the hotel. And much more to my taste, hotel breakfast is until 09.30, mine until 12.00.

Philippe Flajolet, Brigitte Vallée, Gaston Gonnet and his girlfriend Mónica (who works at INCO and knows me), and Helmut Prodinger are also at AofA. His coauthor talks about a special way of representing multipliers for elliptic curve cryptography. He does not know that this application is well-known to be insecure, and both refuse to discuss the issue.



Figure 1464. At a lunch stop: empty pots and plates after our gang had their fill; second from left Marcos Kiwi, myself, Frédérique Bassino, Christian Mauduit. Gaston Gonnet, Daniel Panario, and Mónica Wodzislawski. Daniel and Cristina. The beach “High risk of drowning”.

The food is much worse than at Búzios. I discuss our paper on intervals for polynomial factorization with Daniel and Bruce Richmond. On the first evening, the three of us have



a few Caipirinhas at a pleasant bar above the beach. After three of them, Bruce cannot walk any more and we have to carry him to his room, more or less. But the second time, he performs better.

With Guillermo Matera, I discuss our paper on curves in higher dimensions. Very nice, we make much headway, using heavy guns from algebraic geometry. My project with Marcos Kiwi on Mersenne codes is stillborn, unfortunately.

The end is near. Of this trip. Hopefully.

For my departure from the São Paulo airport, I arrive at 06.10 at the Pluna counter, departure is at 08.30. But no, my flight to Montevideo is overbooked by five seats and I only have a standby ticket. "Please come again at 07.20, we will manage something". Indeed they do at 07.29, the gate closes at 07.30. My flight is delayed by an hour because of smoke at the Montevideo airport. Argentine peasants are slash-burning their land and have covered the whole bay of the Río de la Plata by smoke, including Buenos Aires. What an environmental disaster!

So we leave at 09.30 and arrive at noon in Montevideo. After changing from Pluna to Iberia in Madrid, we arrive in Frankfurt on time at 22.45. My luggage is in the last batch, I run and talk my way past immigration and customs. The bus has just left, but I can stop it and throw my luggage in. A long ride towards the train station, 23.27 there. I race up the stairs, then down the long hallway. I hear a train arriving, rush down to platform 7, throw my baggage in on the announcement: "Platform 7, the train doors are closing automatically". Yeah, that was a narrow connection! At 01.40, I am in Bonn main station, where Dorothea picks me up.

## Brazil 1992-2017

*Here are some stories of shorter trips to Brazil that were not part of a long and more adventurous voyage. It starts with my first visit to my friends Maria and Frank in Rio de Janeiro and a long hike through the Mata Atlântica (Atlantic coastal forest). Then comes a longer stay in Florianópolis, an Atlantic island in the South. It ends with another visit to Rio, including a museum of folk art.*

Imre Simon, a well-known Brazilian computer scientist from USP (Universidade de São Paulo), organized in 1992 the first LATIN (Latin American Theoretical INformatics) conference with a focus on research connected to Latin America. It has since turned into a biannual series of meetings whose locations alternate between various countries. It attracts a high-level audience and Imre invites me to be a member of the conference committee.

My long flight from Toronto to São Paulo degenerates shortly after take-off into my worst flight ever. It starts with a moderate tooth ache which quickly gets worse and worse. I feel like I am dying and the pain killers that the stewardess feeds me only have little effect. How long will I have to suffer? After I have barely survived long painful hours, Imre Simon picks me up at the airport. He drives me straight away to his dentist. A very friendly expert, he empties the pus from the broken tooth, the pain is immediately gone. But the tooth will eventually also be gone. He explains that there must have been an undetected infection at the tooth's root which I did not feel. In the reduced air pressure of the plane, the tooth just broke into two pieces, leading to this unbearable pain that I had to support for almost ten hours. And even after a repeat visit, the kind dentist refuses to take any money from me.



Figure 1465. Having fun at Imre's estate upcountry: Denis Thérien, Tito Homem de Mello, Stephen Kassner, Daniel Panario. Imre Simon in white shirt at right.

Imre introduces his student Daniel Panario and the latter's wife Lucia Moura to me. Daniel wants to start in the PhD program at University of Toronto under my supervision. I am suitably impressed by this energetic young man, he becomes enrolled in our program,



eventually writes an excellent PhD thesis, and becomes a successful scientist and professor at Carleton University in Ottawa, Canada. Lucia also obtains a PhD from my university, both become good friends, and we meet many times at conferences (sometimes organized jointly by us) and on longer visits.

My friend Frank and I drove in 1972 from Zürich to India and Nepal (page 1180), and with his girl friend Maria and my Dorothea, we traveled to Thailand, Lao, and Burma in 1974 (page 1371). Frank grew up in Rio de Janeiro and both of them have lived for years in this beautiful city. I take the occasion to visit them, and Dorothea and I will go there several times later. These are always happy meetings with old friends.



Figure 1466. Frank, their daughter Mara, Maria, and Mara by herself.

The apartment of our friends from Zürich is wonderful, a beautiful three-storey penthouse condo just minutes away from the famous beach of Ipanema. In most cities of the world, the rich live higher up and the poor in the lowlands. In Rio, it is the opposite. The poor *favelas* (now: *comunidades*) occupy the hills with beautiful views of the ocean. They are run by gangs that deal in all sorts of crimes, often drug-related. The well-to-do live in the lower areas, often close to a beach, as do my friends. On my visits, I hear gunshots at night from the favela nearby.

In some sense, Frank and Maria owe their penthouse to this endemic violence. An elderly lady living in a fancy apartment in Ipanema found her television screen shattered one morning. On investigation, it turned out to be a bullet from a high-power rifle that passed through a window. My friends bought this three-storey penthouse—a lucky deal for them. It is a great place. When Maria was driving with a friend in her VW beetle to take a partial payment of US\$ 25 000 cash to the vendor in a plastic bag stashed under the back seat, they were held up at gunpoint—not an uncommon incident. The two women managed to distract the criminal by fumbling in their handbags. He marched off with the few banknotes they produced, not realizing the loot in the back of the car that he had missed. More good luck.

Years later, a friend of theirs was shot to death right in front of their house. On my many visits and strolls around town, I have always taken the obvious precautions (no

watch, jewellery, camera, etc.) and never experienced any violence myself.



Figure 1467. Views of Rio: Botafogo with the *Pão de Açúcar* and the Lagõa with Ipanema. Hiking in the Floresta da Tijuca.



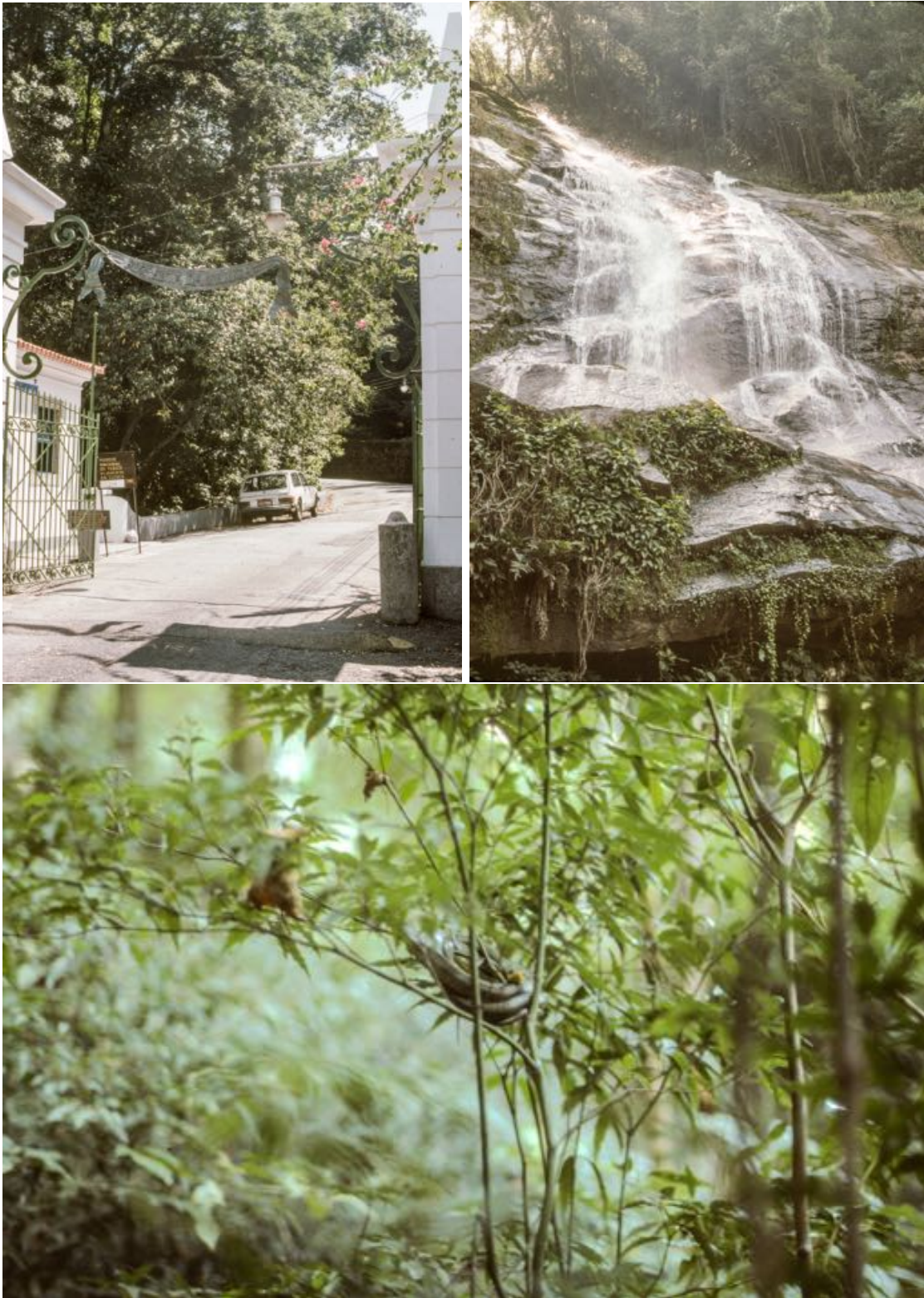


Figure 1468. Floresta da Tijuca with a tree snake.

A short bus ride takes me to the *Floresta de Tijuca*, a hilly forested area and Rio's



“green lung”. Just a few minutes away from the bustling metropolis, tranquility surrounds me. I do not meet anyone during my afternoon hike, except for a mean little green tree snake. I do not know whether it is poisonous, but certainly would not like to have it creeping around my neck. Fortunately, I see it from about two meters away and wait until it moves to a distance that I consider safe. Wow! Years later, my friends tell me about much greater dangers in the Floresta de Tijuca: hikers have been robbed. What is a snake compared to armed robbers? More exotic, maybe, but not more dangerous.

Frank kindly arranges a hike for me in the Mata Atlântica (Atlantic coastal forest), which extends over a large part of the Brazilian coastline. Most of it has been deforested by now, but our hike takes us through a fairly natural section. My guide is the young Laurenci, his girl friend drives their car back to Rio. We start hiking from São José do Barreiro on a beautiful trail called the Travessia da Serra da Bocaina. Laurenci is not the brightest, but fortunately I have a good sketch map of the whole trail and we rarely get lost. Numerous waterfalls invite to a short bath, we enjoy wonderful views over the Atlantic coast and camp on a meadow in total tranquility. After the hustle and bustle of Rio, these are completely relaxing days without crowds of people or tourists. As so often on my travels, you only get to such places by the advice of locals, here my friend Frank.



Figure 1469. Laurenci and his girl friend. Hiking through the Mata Atlântica.





Figure 1470. Mata Atlântica.

*Dorothea and I spend part of the Northern winter 2016 in Florianópolis, a large island in Southern Brazil where January and February are mid-summer. I work at the university and write a paper with two local students on statistics of the ElGamal function from cryptography. After work, we enjoy the wonderful weather, nice beaches, and the good company of friends, old and new.*



Figure 1471. Ricardo's house is on the Praia dos Ingleses.  
Nice outing and wonderful steaks made by the chef.

Ricardo Custódio has invited me, and also my friends Tuba, Daniel, and the latter's wife Lucia. We all work together well, I give a few lectures whose generous audience tolerates my broken Portuguese in a friendly way, probably inwardly amused, and we talk to some engineers from local telecom companies who are interested in our projects.

Ricardo's group is one of three that safeguard the top-level secret keys for the Brazilian digital key infrastructure, and he proudly shows me around the air-conditioned vault, somewhere on campus, where computers holding those keys are kept running—safe against physical hackers, at least. Off work, we enjoy the wonderful beaches and entertaining meals in a large group, lots of fun.



Figure 1472. Dorothea on the beach. One of many dinners: Ricardo with Lucia Moura, Daniel's wife. Daniel with two of their sons, Diego and Lucas.





Figure 1473. Dorothea and myself. Daniel and myself in a Café.



Figure 1474. Diego and Lucas, Lucia, Ricardo's wife Mari, myself, Ricardo. Fish traps. Lonely angler at sunset, and downtown Florianópolis.



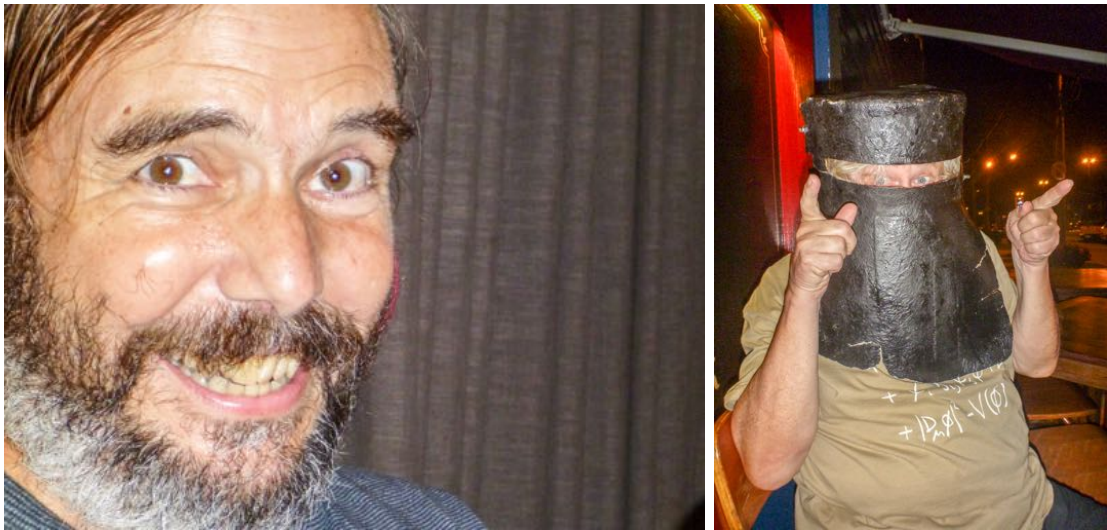


Figure 1475. Tuba, and myself under armor.



Figure 1476. No shady trees, so bring your own. God and goddesses of the sea.

After a few days in the pleasant apartment of Daniel and Lucia (and their sons), we find a cute little fisherman's hut in the fishing village of Sambaqui. Its walls and roof are single planks of wood and we are lucky: it never rains during our stay. The owners Claudiane Grando and Marcio Marchini live in a fancy villa right above us on the steep hill, invite us regularly, and we have a good time, also with their kids. Just across the small road in



front of our hut is the beach and a wonderful bar. Ultra simple, just a few plastic chairs outside. And wonderful. The owner Antonio is a bent old man and shuffles with heavy feet as he brings us our delicious caipirinhas, some of the best we ever had. And in such a pleasant environment.



Figure 1477. Our yellow house in Sambaqui, an excellent workplace.



Figure 1478. Carnaval in Sambaqui: paper maché figures, street parade.





Figure 1479. Exuberant festivities.





Figure 1480. Old and young, straight and gay, everybody is welcome.





Figure 1481. Kissing bus, spraying each other with shaving foam.

And there is more to this modest fishing village than meets the eye. First, it is famous for its first-class restaurants, from which we profit many an evening. Second, carnival takes place right while we are there. We spend a fascinating afternoon and evening in the narrow main street. Adults and children in fancy dresses, adolescents spray others with shaving foam, and a VW van sends kisses to everyone.

And finally, there is a dilapidated fisherman's shed in the village, where from time to time live bands play. "Samba in Sambaqui". Five old men play traditional samba tunes, an unpretentious old-fashioned group with so much heart and soul; you cannot see this in the big samba halls. The tiny room is cramped, but somehow they must see how much their performance touches me and then invite me to play the drums for one song. Their good luck, drums are about the only instruments I can play without a wrong tune.



Figure 1482. Samba in Sambaqui, with Dorothea, Hildegard Markgraf, Claudiane, and another lady. Dorothea in Antonio's bar, at right a night view of the beach.





Figure 1483. Port and beach of Sambaqui. Rustic electrical wiring—no wonder it fell down one day right in front of our little yellow house.

*In April 2017, we visit Maria and Frank again in Ipanema. They take us to a museum of folk art.*

The four of us spend one evening and one afternoon looking at Maria's fabulous color slides from our joint trip to Burma, Lao(s), and Thailand in 1974. All are a bit faded now, having lost their bright colors, but some of them appear on pages 1371ff.



Figure 1484. Favela Pavão behind Frank and Maria's apartment, with the Cristo Redentor in the distance.



Figure 1485. Breakfast with Frank and Maria. Ipanema beach flooded with light at sunset and in the evening.

Frank takes us to the *Casa Pontal*, a museum of folklore art. Mainly clay figurines depicting everyday scenes in Northeastern Brazil. Several interesting animated showcases of circus, mines, etc., and also some rather lewd figures.





Figure 1486. Fine picanha cut in a churrascaria, with a glass of wine.



Figure 1487. *Casa Pontal*.



Figure 1488. Folk art at the *Casa Pontal*.



## Brazilian beaches, Amazon, jungle 2011

*This trip takes me first to Rio de Janeiro and Brasília, then by car from Recife and the carnival in Olinda past many beaches to tropical Belém. A highlight are the white sand dunes called white bedsheets in Maranhão. After meeting Dorothea (actually I first missed her), we go on an exciting jungle tour, then on a wooden river boat to Manaus and its opera house. We meet Rafaela and Martin at the Iguacú Falls. The pleasure of watching this natural wonder is marred by an annoying incident: Martin's expensive camera gets stolen. Then come three weeks in Uruguay, mainly at the beach house La Lapinière of my friend Tuba, and in Buenos Aires. At the end, Dorothea flies home and I cross the Atlantic on a freighter—a marvellous trip.*

After a day of hiking through the Amazonian jungle, we sleep in a simple hut: palm leaf roof on wooden posts. Far away from all mod cons. From our hammocks, we have an undisturbed view into the forest: no walls, no mosquito nets. Of course, plenty of mosquitoes enjoy this offering of fresh human blood. Palm-sized spiders crawl under the roof. Will they eat us up? Beetles galore complete the picture of a place where most people would rather not stay. Will we survive the night?

The trip already starts with a major problem. From Liberia (see page 207), I arrive via Casablanca in Madrid on time. My check-in for Brazil first goes quickly, then awry. I cannot travel to Brazil. Great! Apparently the Brazilians have a new rule that requires Europeans to produce a return ticket to their country of departure. Of course, nobody told me about this and I do not have one. Long discussions ensue. Finally they locate my backpack and I go to the receiving area, where a security door opens after long ringing and banging. On belt 5, my backpack dances pirouettes like an artistic skater without audience. Otherwise, the large hall is empty. I welcome my good friend, dive deep into its belly and pull out the confirmation for my return trip by freighter ship: Santos-Valencia. It is pure happenstance that my departure and arrival cities Madrid and Valencia are in the same country. Upstairs at the check-in counter, they accept this document. On arrival in Brazil, nobody asks for it.



Figure 1489. Maria and Frank's penthouse occupies the top three floors.

The Brazilian authorities have this irritating habit of producing requirements that are irrelevant in the country. But the travel agencies and airlines feel obliged to follow them. Another example is a certificate of yellow fever vaccination which I had to procure for each of my cross-Atlantic freighter trips terminating in Brazil, where nobody ever asked for it.

Arriving at Maria's building in Rio de Janeiro, I am confronted with a beginner's mistake that I made: I had announced my arrival for yesterday, having forgotten about the time shift by one day. Sorry. Of course, they worried and called Dorothea, who clarified my error.

Maria, her daughter Mara, and I have a marvellous churrasco dinner at the Porcão in Botafogo, my favorite restaurant in Rio, see page 892. After being in Africa and on airplanes for a while, it feels so good to taste this delicious food and in such beautiful company. Time flies by, but much better than flying, of which I have had my fill for now. About 64 hours basically without sleep.



Figure 1490. Mara and Maria, me and Maria at the *Porcão*, the *Pão de açúcar* in the back.

After 15 hours of sleep, I wake up completely refreshed and fit. No jet lag. My lunch is in the restaurant *Garota de Ipanema* (Girl from Ipanema). The composers Antônio “Tom” Carlos Jobim and Vinicius de Moraes frequented this restaurant, which then had another name, and got their fill of whisky. The seventeen-year old Helô Pinheiro passed by it regularly on her way to the beach. Legend has it that she was not particularly beautiful by the standards of those times, but after her ensuing career in the fashion business, she is now a graceful woman in her 70s. She inspired the famous 1962 bossa nova song by those two musicians. Moraes writes that this blonde girl was “the paradigm of the young Carioca: a golden teenage girl, a mixture of flower and mermaid, full of light and grace.” If the legend is right, it goes to show that sufficient quantities of whisky can overcome any physical limitations—but we know that anyways.





Figure 1491. Restaurant *Garota da Ipanema* and a typical juice store.  
Beach life at Ipanema.



Figure 1492. Maria in the favela *Pavão*.

The *favelas* (slums) of Rio are large areas on the many hills of Rio and run by organized criminality, dealing in drugs, weapons, and women. They were no-go areas for police or military until about three years ago, in 2008, when the governor of the State of Rio de Janeiro, supported by President Lula, took heart and made a new attempt to bring law and order to these white patches of the favelas on the city map. This was quite successful, with setbacks of course. Maria works in one of them, Vila do João in Maré, one day a week pro bono as a medical doctor and takes me to another one, the favela *Pavão* (peacock), which is close to Maria's house.

A fancy glass-walled elevator takes us up. Five heavily armed policemen from the UPP (*Unidade de Policia Pacificadora*, Peacekeeping Police Unit), in bullet-proof vests, scrutinize us and do not want to be photographed, but the favela's inhabitants are friendly and most like to have their picture taken. They stand in doorways or sit on chairs on one of the few flat spots, greet us friendly.

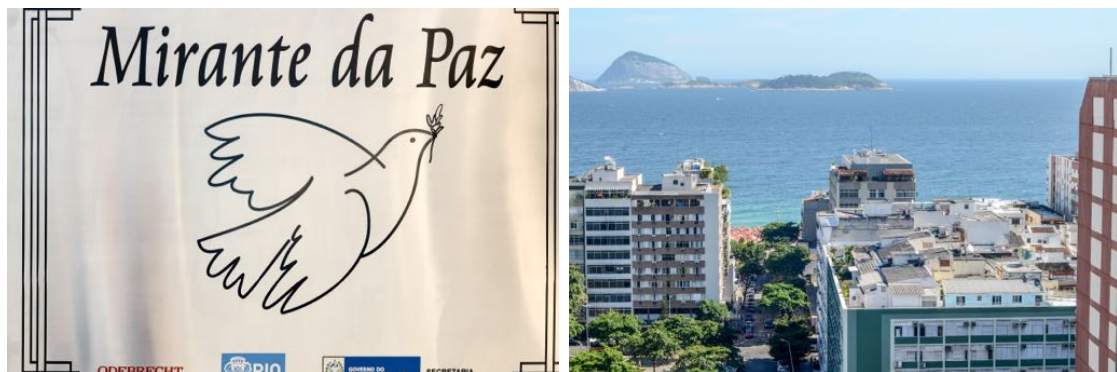


Figure 1493. The *Peace outlook* and its gorgeous view.

Many houses along the steep and narrow streets have been renovated, painted in vivid colors and decorated with *arte na trilha*, scenes from everyday life in a colorful style. Some rotten wooden houses are still standing, but the new ones are made from brick that the government supplies for free. The *mirante da paz* (peace lookout) has a beautiful logo with Picasso's peace dove, and an even more beautiful view over the Praça Geral Osório to the Atlantic Ocean.

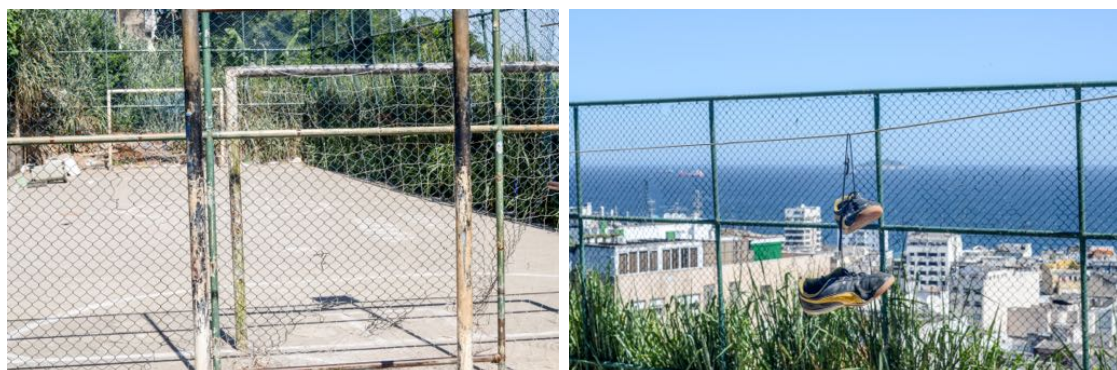


Figure 1494. Concrete soccer field.





Figure 1495. People of the favela. Shop sign: *For everything. Hamburgers. Guarana (a lemonade) 2 liters. Guaranavita 1.00.*





Figure 1496. Makeshift electrical wiring.





Figure 1497. Swimming pool and garbage dump.



Figure 1498. *Arte na trilha* is flourishing.





Figure 1499. Colorful murals.

On my later visit in 2017, the pacification effort has failed and the drug gangs reign again in the favelas. A shame. From the terrace of Maria and Frank, we regularly hear the tak-tak-tak of submachine guns, and a boom from heavier weapons.

For a map of this trip's first part, see Figure 1064. Several friends, mainly architects, have raved about the beauty of the capital Brasília. It was built from 1956 to 1960 by the architect Oscar Niemeyer, partly inspired by Le Corbusier, during the presidency of Juscelino Kubitschek de Oliveira. It is meant to symbolize the rise of Brazil to the modern times. On aerial photos, one can clearly see its partition into large wings, separated by the north-south *monumental axis* and the east-west *bus station - residential axis*, and resembling a top view of an aircraft. An impressive design. So I decide to have a look myself. Conclusion: not my kind of city. It is an architect's dream and a visitor's nightmare. Government buildings are laid out in "wings", an interesting sight from an airplane but not really visible on the ground, just like the Nazca lines (page 819). Large avenues cross the city, and the open spaces look like wasteland, no benches to relax, no trees, no people strolling around. The streets have bureaucratic names like L1, W1, N1, and S1 for the four quarters. Professional architects love it, but I get the feeling of a one-dimensional thinking of an architect straying far away from the multi-dimensional needs of people. Like many other -isms, modernism does not care much about humans. The city is a paradise for cars, and hell for pedestrians.

Figure 1500. Green areas, here the "Monumental axis", are almost inaccessible on foot. My *Hotel Diplomat* crouches beneath apartment towers.



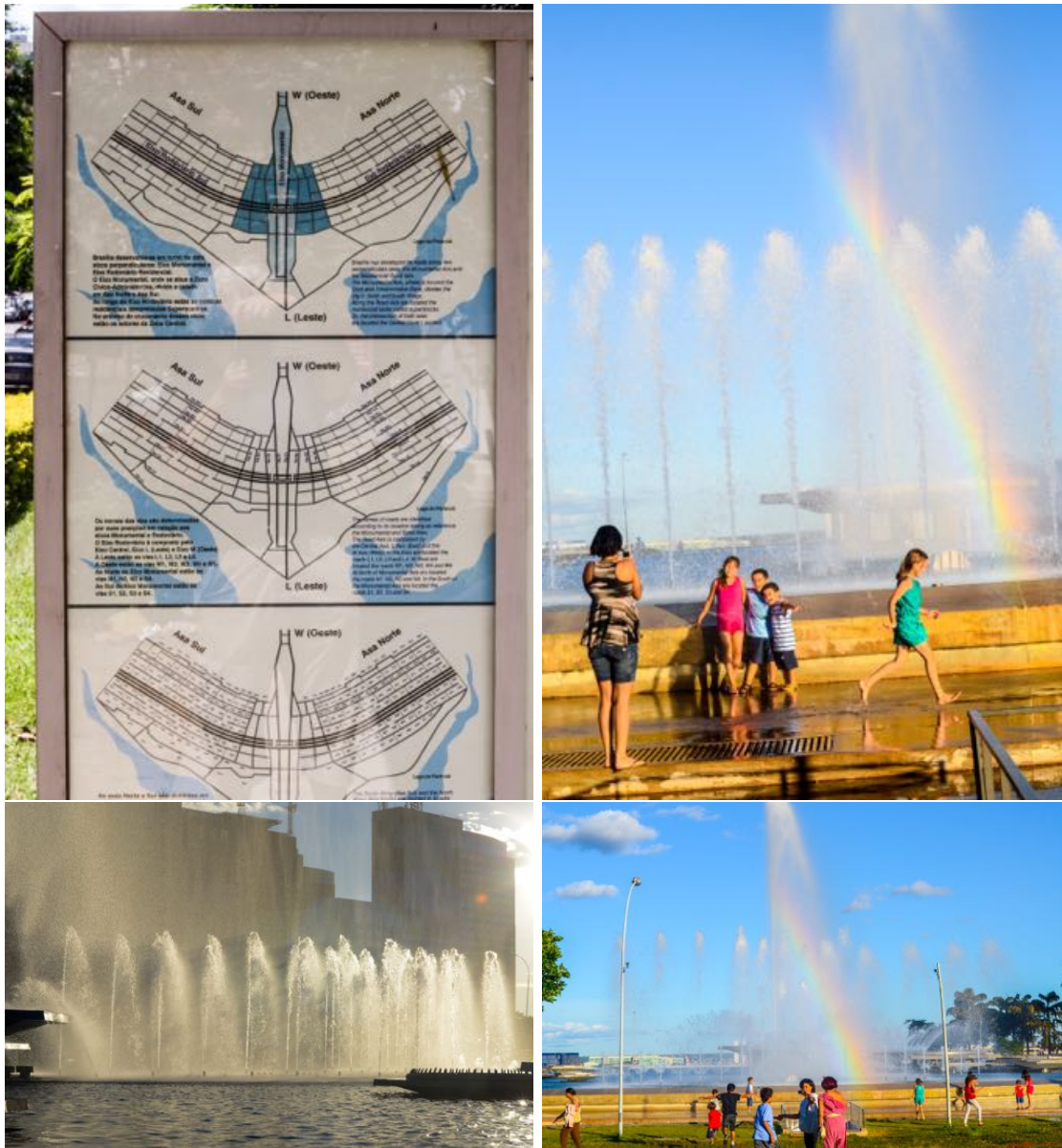


Figure 1501. The design of Brasília, water fountains relieve the concrete drabness.

Most hotels in Brasília cater to politicians and businessmen with substantial expense accounts. I am not one of those and have some trouble finding a place that suits my budget. From the airport, it is a long drive into town and to the *Hotel Diplomat*. It looks like a cargo container covered with a layer of marble and is dwarfed by the high rises around it.

My first stroll around town is a shock. Wide avenues with three to seven lanes in each direction crisscross the city. The closest pedestrian crossing can be half a kilometer away, possibly in the wrong direction. Crossing roads elsewhere amounts to attempting suicide. Cars rush by like dragons defending their territory. The city buses thunder down those lanes at 80 km/h, “pedestrians, get out of the way!” At one crossing, I have to wait

for a long time at each of three red lights to get across diagonally, there is no straight connection. There are almost no small stores, cafés, restaurants. Retail is concentrated in large shopping malls that are cooled down to freezing. I almost have to cry: I am in such a beautiful country with excellent cuisine, and have to hurry through malls to find a restaurant. What a pity! It is as if the whole city of Toronto consisted just of Mississauga Dixie Road and the like.

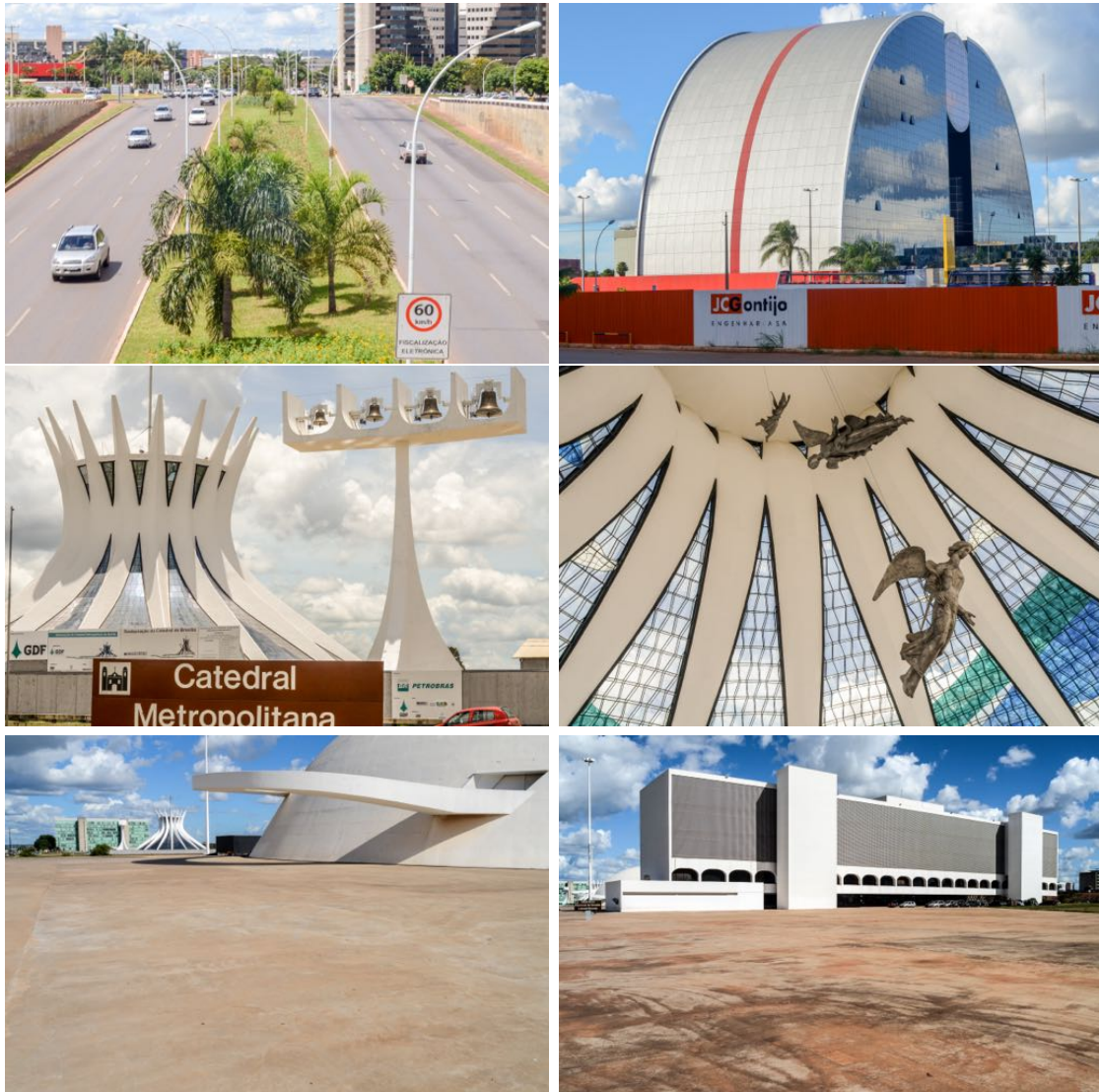


Figure 1502. Roads are almost impossible to cross on foot. Hyperboloid beams of the *catedral metropolitana* and the *National library of Brasília*, with huge sun-burnt empty space around them.

A pleasant interlude is the popular fair which takes place every Sunday at the foot of the TV tower. Many stalls offer simple food and trinkets for the local tourists. The queues for the tower elevator are so long that I renounce. But the next day, I take the elevator up 75 meters to the top of the TV tower, which offers an impressive view along



the monumental axis. Kubitchek was not a mass murderer, but the city plan reminds me fatally of the planned Nazi *capital Germania*. The National Museum and the National Library are secured by a concrete wall of 200 meters, with a vast open concrete space in front of them. No tree, no bush, no bench. Planned urban desertification. In the African subsahara, nature is responsible for such dreary sites, but here it is the “monumental” architect. I get weary from the search for pedestrian crossings, and my feet get weary from too much concrete and asphalt.

I do not give up easily and next day, make more frustrating attempts at walking around. I come past the ministry boxes, set up like domino tiles, and the *Praça dos três poderes* (Three Powers Square). Monumental, cold even in the heat, nowhere to sit. Their beauty and elegance please the eye, but they do not warm the soul. Simone de Beauvoir complained that it exudes “the same air of elegant monotony”, and Robert Hughes writes that this is “what you get when you design for political aspirations rather than real human needs. You get miles of jerry-built platonic nowhere infested with Volkswagens”.

The above are my impressions as a visitor. Things are different for people living there. The city’s “wings” are divided into *superquadras* with family homes, lots of shops, bars, restaurants within walking distance. They feel more like a village, their inhabitants have to drive on those “monumental” roads to visit friends in another superquadra, but normally they live in their restricted quarter.

On leaving Brasília, I try to withdraw money from an airport ATM with my Visa card. A *segur* car is parked there, armed people in security uniforms are changing the money boxes. When they are gone, I try my card several times, each time getting a different error message: “Transaction could not be completed”, “PIN invalid”, “Insufficient funds”. Similarly at another machine. I am afraid the security people were fake and modified the machines. Phishing?

I do not have the time to worry, because the last call for my flight to Recife is out. Trying to avoid that big city, I take immediately a bus to Olinda, a smaller town just north-east. My reservation is at the *Pousada São Pedro*. It is a dark, damp, depressing basement room without windows, totally unacceptable. Sandro, one of the two gay managers, explains cheerfully that tourists never like this room, which is why he gives it to anyone who reserves online. The announced internet connection does not work for me, but tonight Arantes, the other half of the couple, will lend me another computer. Not surprisingly, this never happens.



Figure 1503. Colorful houses in Olinda.



Figure 1504. A naked guardian and my pleasant pousada.

The beach falls short as well. Small, much garbage, and many *barracas* (food huts) with loud music. A lot of fun for the locals, but not for me. It is the early carnival season and I see fancy paper maché figures being made and dressed up. Olinda is one of the most famous carnival locations in Brazil, behind Rio de Janeiro, of course, and Salvador and Recife. Large figures of paper maché are carried around in processions, attended by about a million spectators. It is famous for its *frevó* dancers, a mix of Afro-Brazilian and European styles. Much fun to watch. The whole city is caught up with the festivities, in shops and private homes the paper maché figures wave to me.

Another guest lends me his computer for a moment and I tell my bank about my phishing attack. I cannot phone, and the managers do not allow me to use their phone. In



the evening, I receive a comforting message: all is ok with my credit card. Generally, the ATMs here behave erratically, often due to bad internet connections. It often takes four or five attempts to wiggle some money out of them, and sometimes they ignore my requests completely.



Figure 1505. Masks and celebration.





Figure 1506. Smiling ladies, Beatles look-alikes, and the *Pitombeira* group.



I flee the unpleasant pousada the next morning and take a large light and airy room at the pousada *dos quatro cantos* in a colonial building, very nice, and spend some relaxed days in Olinda. This includes a much-needed haircut from my Olindan barber, a friendly lady.

One of the most famous groups is the *Pitombeira dos quatro cantos*, from which my pousada takes its name. Pitombeira is the tree of the delicious pitomba fruit (*Talisia esculenta*). Their standard shows two bunches of these fruit on the sides, and their self-confident hymn says: *Nós somos da Pitombeira, não brincamos muito mal, se a turma não sáisse, não havia carnaval.* (We are from the Pitomba tree, we do not bring much bad stuff, if our group did not go out, there would not be any carnaval.) Fortunately, their loud music makes it clear that they did go out.



Figure 1507. Carnaval in Olinda.



Figure 1508. My barber lady in action and posing.

In my rental Fiat Uno, I set out on a 2000-kilometer trip along the Brazilian coast, all the way to Belém, almost the end of the road here. I see some of the most beautiful Brazilian beaches, wide stretches of white sands, friendly people. The first stage are the

300 kilometers to Pipa. As I am having a moderate meal at an outdoor restaurant, two cool young guys park their car in front of the café next door. They carry an enormous set of loudspeakers in their car and make an incredible din that they consider music. They must not be listening with their ears, but with their diaphragms. I experience this noise pollution in several places, it must be the current status symbol showing how cool you are.

I take a relaxing morning stroll on the wonderful beach. Most bars and hotels are already closed, it is the end of their summer season now in late January. My second stage takes me along the beaches to Fortaleza, where traffic is stopped for two hours. Then on to Tibaú. I find a pleasant hotel in Paracuru. When I want to pay in a restaurant, their Visa machine does not work. They tell me to come back tomorrow and pay. Very trusting.



Figure 1509. Paracuru and north.

After paying yesterday's restaurant bill, I set out for Jericoacoara (short: Jeri). It is one of the most famous beach sites here, with surfing, windsurfing, and the jet set.



Getting there is not trivial. Already 50 kilometers before arriving, young guys shout at every intersection: “guide to Jeri”. These gangsters have painted over the street signs and in particular, rendered the arrows to Jeri illegible. I get a bad feeling. The dirt track to Jeri starts in Jijoca. The girl at the tourist information says that she has no maps of the area. Probably a lie, and four guys in the office offer to act as my guide. As I drive along, a young guy on a motorcycle rides besides me and wants to get me to Jeri, for a fee of course. Like everybody here, he expects money even for showing me the way. The last intersection to Jeri is not sign-posted (anymore), and I get stuck in a water hole. So ok, I’ll pay for the guidance. He rides ahead on his bike, at speeds of 60 km/h sometimes on hard sand, sometimes on soft sand. I let air out of my tires. It is actually a lot of fun.

The tide is rising fast, and the end comes at the last canal I would have to cross. I wade through it: knee-deep, too much for my little Uno which would be swept into the Atlantic. My “guide” offers to have a friend of his drive my car safely to Jeri, for free. He comes, and having understood their dishonesty, I ask again: how much? “20 Reais.” That is only US\$ 15, but I am sick and tired of these games. Worse, I imagine that the same rip-off reigns in Jeri. They obviously attract people who do not care about this. But I do, and turn around. The water rises quickly with the tide, and within a minute the canal is so deep that I could hardly wade across it. I race back along the beach, trying to evade the rising tide, and barely make it. Unfortunately, I lack the inner peace to enjoy this beach race. As expected, we have an unpleasant discussion about money at the end. Good-bye and good riddance, Jeri.



Figure 1510. Failed attempt to get to Jeri: letting out air for driving on sand, but the tide rises fast and I have to hurry behind my guide on a bike.

I drive back some 30 kilometers from Jijoca to the fishing village of Pr ea. Very nice, very simple, no jet set, few restaurants. I get a beautiful *cabana* right above the beach. Peace, tranquility, no Jeri stress.

Three quiet days in Pr ea. So much work has accumulated, and I work online, mostly in their office, since the internet does not reach my *cabana*. One evening, I have an absolutely marvellous dinner in an ultra-simple wooden hut on the beach, with white sand as its floor. The owner’s husband caught some fish earlier today, and she puts it on a simple charcoal barbecue.



Figure 1511. Parasailing even on a rainy day in Pr ea.

Frank told me about the wonderful sand and water scenery of the *len ois maranhenses* (bedsheets in the state of Maranh o) near Barreirinhas, so that is my next destination. My map shows a short and a long route. I inquire at several gas stations whether the shorter trail is doable for my car. Final verdict: no. So the 100 kilometers become 600 kilometers. I only make it to Chapadinhas today. Highway BR-222 is excellent, only the frequent *lombadas* (speed breakers, “sleeping policemen”) and their electronic counterparts slow me down below 120 km/h. There is very little traffic.



Figure 1512. Lombada sign. 7-star cemetery—for the speedy drivers?





Figure 1513. Driving through the Northern Brazilian countryside. Some asphalt, some mud. Wayside restaurant and peaceful chapel.

After another day on a badly pot-holed road with many trucks on it, I finally get to Barreirinhas. Children and adults bathe in the Preguiça river, which flows lazily through the town. In fact, *preguiça* means laziness in Portuguese. I take a pousada at the end of a street, it looks quiet. I am tired after all this driving and want to relax with a Caipi. But that turns out to be hard. On the main square near the port, a disco makes a helluva

noise. Even a kilometer away, I have to put my hands on my ears. So I sit in a nice bar on the river and endure this noise.



Figure 1514. Village with a huge rock, full of vultures, ugly black birds with a naked neck. Bar by the “lazy” Preguiça River.

The boat that I booked with Renato arrives at 08.30. I am the only one to come aboard, later four Paulistas (people from São Paulo) join. We ride down the Preguiça quickly, past mangroves whose branches form an unsolvable Mikado puzzle. At a stop in Caburé, a village on a tongue of sand between river and ocean, the large restaurant is waiting for guests, but I walk immediately towards the ocean, up a high dune. It is a marvellous beach, stretching far in both directions, about 200 meters wide, with a line of shells. After a longer hike, I say hello to the caipirinha and Coca Cola that are waiting for me in a simple hut on the beach. Then it is back to the restaurant, where I meet the Paulistas and enjoy a cool hammock. The Navy lighthouse offers beautiful views, which are worth



climbing the many stairs. Even better is the view down those circular stairs. On our way back in the boat, I almost fall asleep. Fortunately, there is no disco noise in town tonight, and I can enjoy a peaceful dinner.

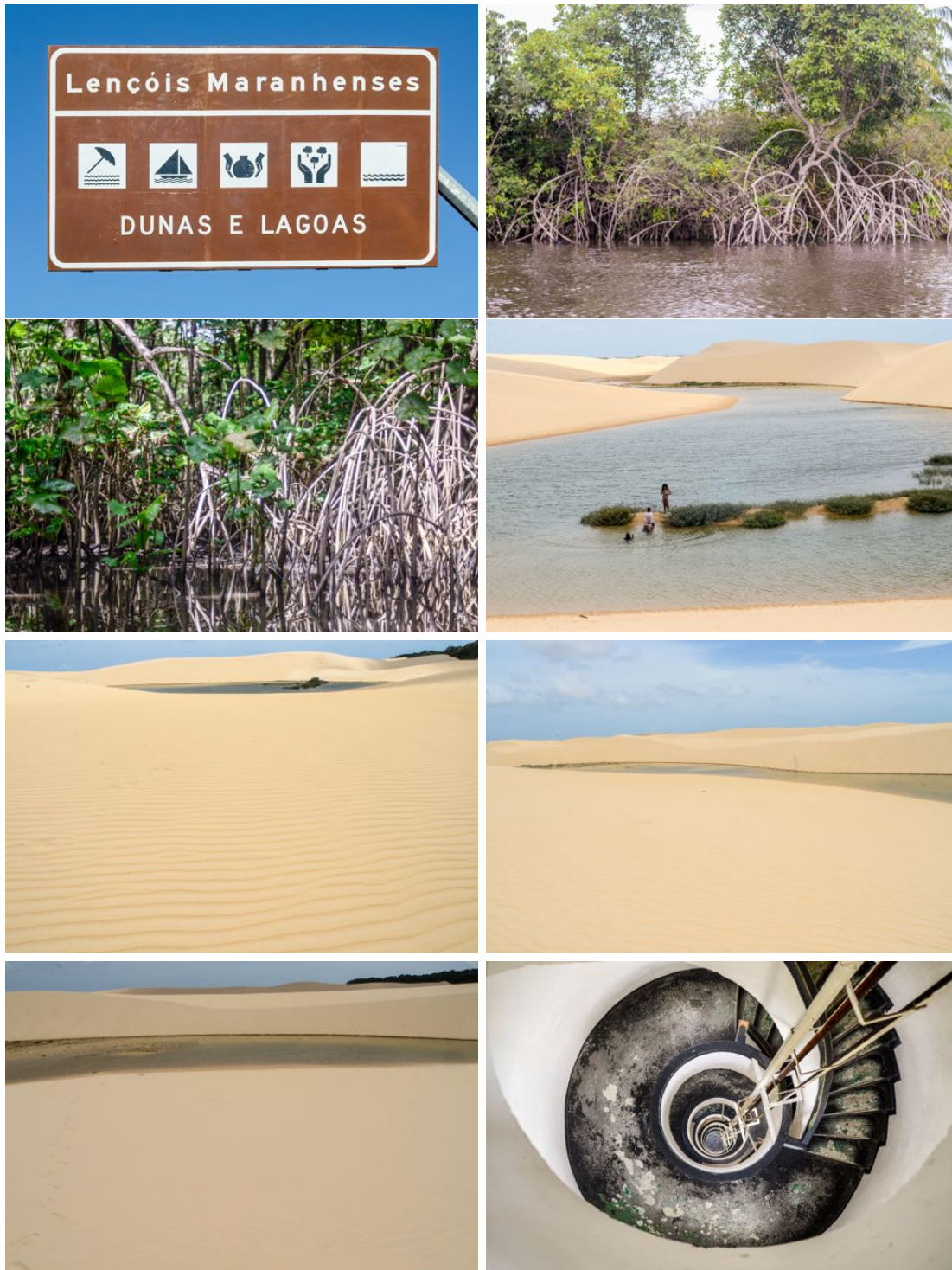


Figure 1515. Boat ride on the Preguiça River with its mangrove banks.  
Sandy bedsheets. Staircase in the light house.



Figure 1516. Monkeys at our rest place.



Figure 1517. Two horses, a vulture, my rest during the hot day, and a local kid.



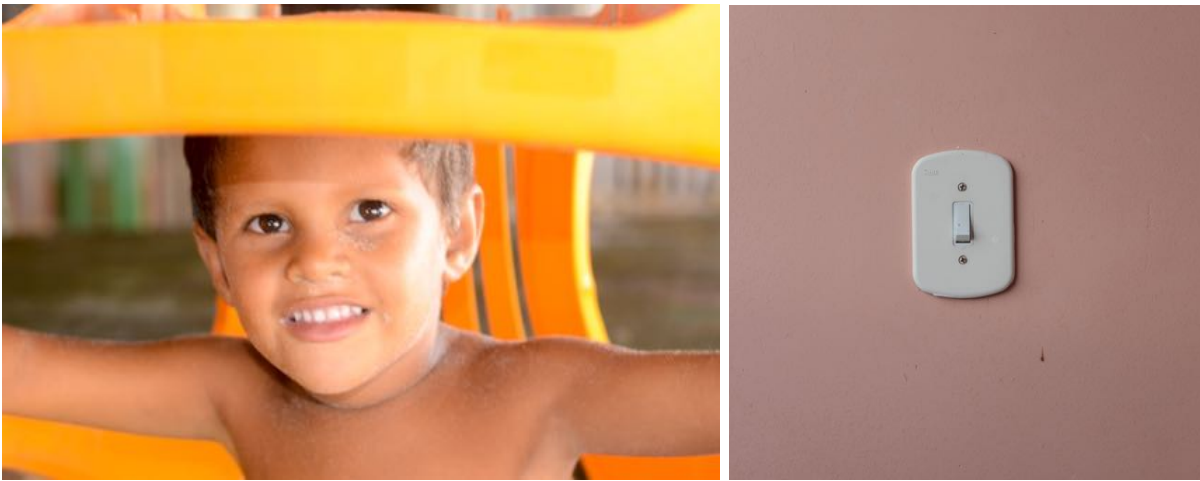


Figure 1518. Light switch in my hotel.

I book a jeep tour through the dunes for the next day at 14.00. At 14.15: “soon”. At 14.30: “soon”. The 9-seater Toyota Land Cruiser Bandeirantes shows up at 15.00. It turns out that a group has cancelled their booking and they would prefer not to run the tour. But I object. So I am the only passenger. Suits me. We take a ferry across the Preguiça, and then comes a crazy ride through hell. A deep sand track with holes and water. The jeep is swaying, sliding, and rearing in these deep ruts. I get thrown from side to side, my stomach performs a wild yoyo dance up and down. Truly exciting. The only minor annoyance is that I do not drive.



Figure 1519. Wild ride through deep sand.

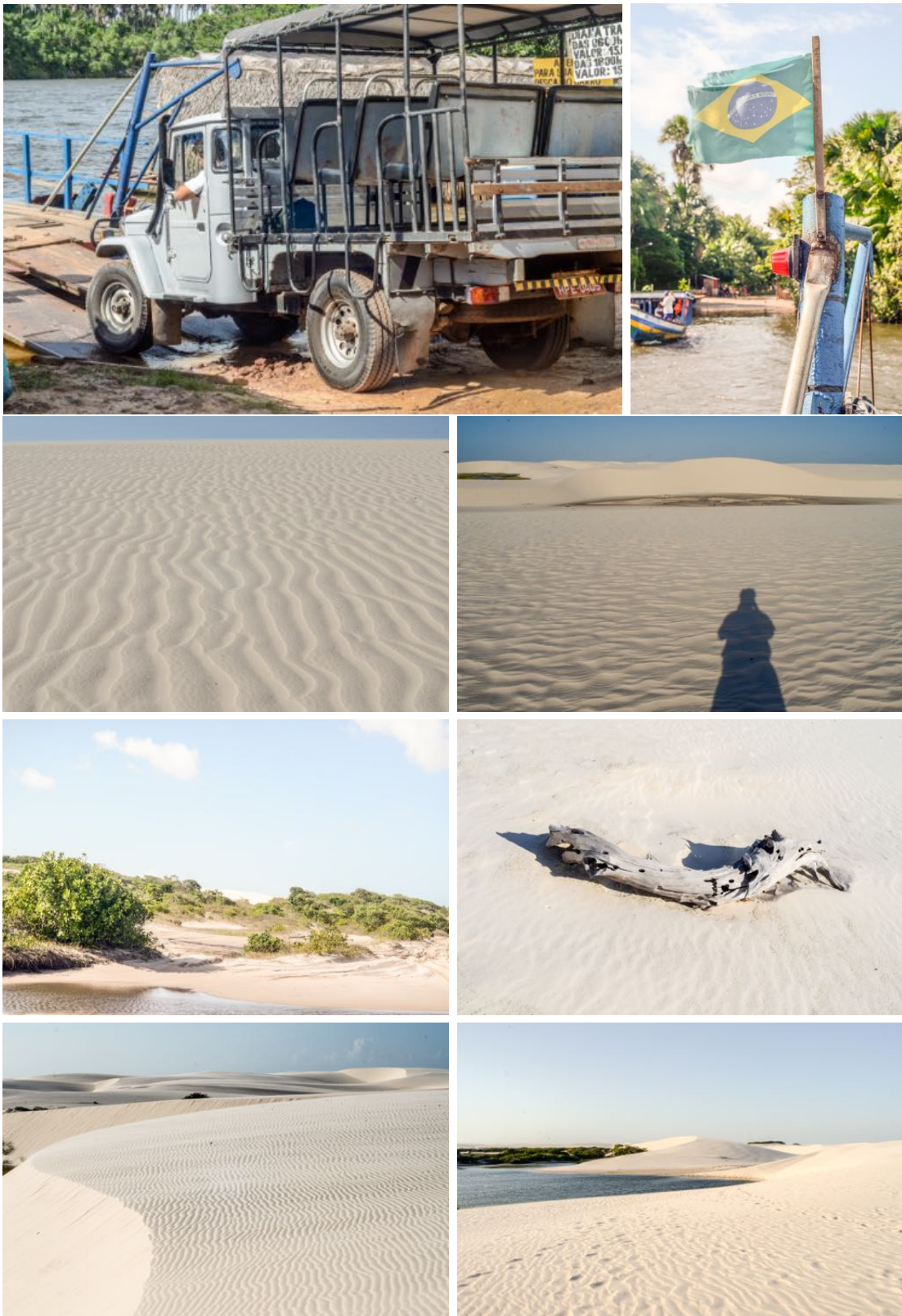


Figure 1520. Ferry and the quiet of a sand desert in a tropical area.





Figure 1521. Dune texture.

Then I hike through the dunes, up and down. Small lakes with water that remind me of the Natron lakes in Libya (see pages 86 and 128). It is getting dark as we drive back. Some tourists stand on the dunes near Barreirinhas to watch the sunset, which however is cancelled today: thick clouds.

Quick drive to São Luis the next day. I have some trouble finding a hotel. In the lobby of a lonely-planet recommended hotel, I see nine uniformed lp-globetrotters each with their edition of lp in hand. I walk away immediately. After checking in to a small pousada, I stroll through the historical old center, now a Unesco World Heritage Site. Large market halls, museums, several nice cafés on a large square.



Figure 1522. One-horse-power garbage truck “Joy of people”, street café deserted in torrential rain.





Figure 1523. Happy vendor of my new sunglasses.  
Posing with carnival figurines.

The guy from my car rental company shows up on time. He inspects the vehicle, and inspects again, and again, but he cannot find any blemish. Too bad for him, good for me. I think I added a scratch under the car driving onto a piece of protruding asphalt in Pr ea, but that may not be visible. I had to leave a hefty deposit which they now return to my credit card.



Figure 1524. The *Ver-o-peso* fishing harbor and at the docks in Bel m.

Bel m is the terminus of my overland trip. It lies near the mouth of the Amazon, but still 100 kilometers away from the Atlantic. A wonderful place to spend three quiet days.



I walk to the Praça da República, then down to the *docas* (docks). They are from the 19th and 20th century and have now been generously rebuilt into a row of restaurants and bars along the waterfront, with a view to the Bahia de Guaraná, also known as the Amazon river. Very pleasant. The downtown area holds more attractions like Catedral da Sé, Restaurante das onze, the old port area with the fishing dock *Ver-o-peso* (Check-the-weight) and the Forte do Presepio, with a nice patio, ideal for a caipirinha, the Brazilian national drink.

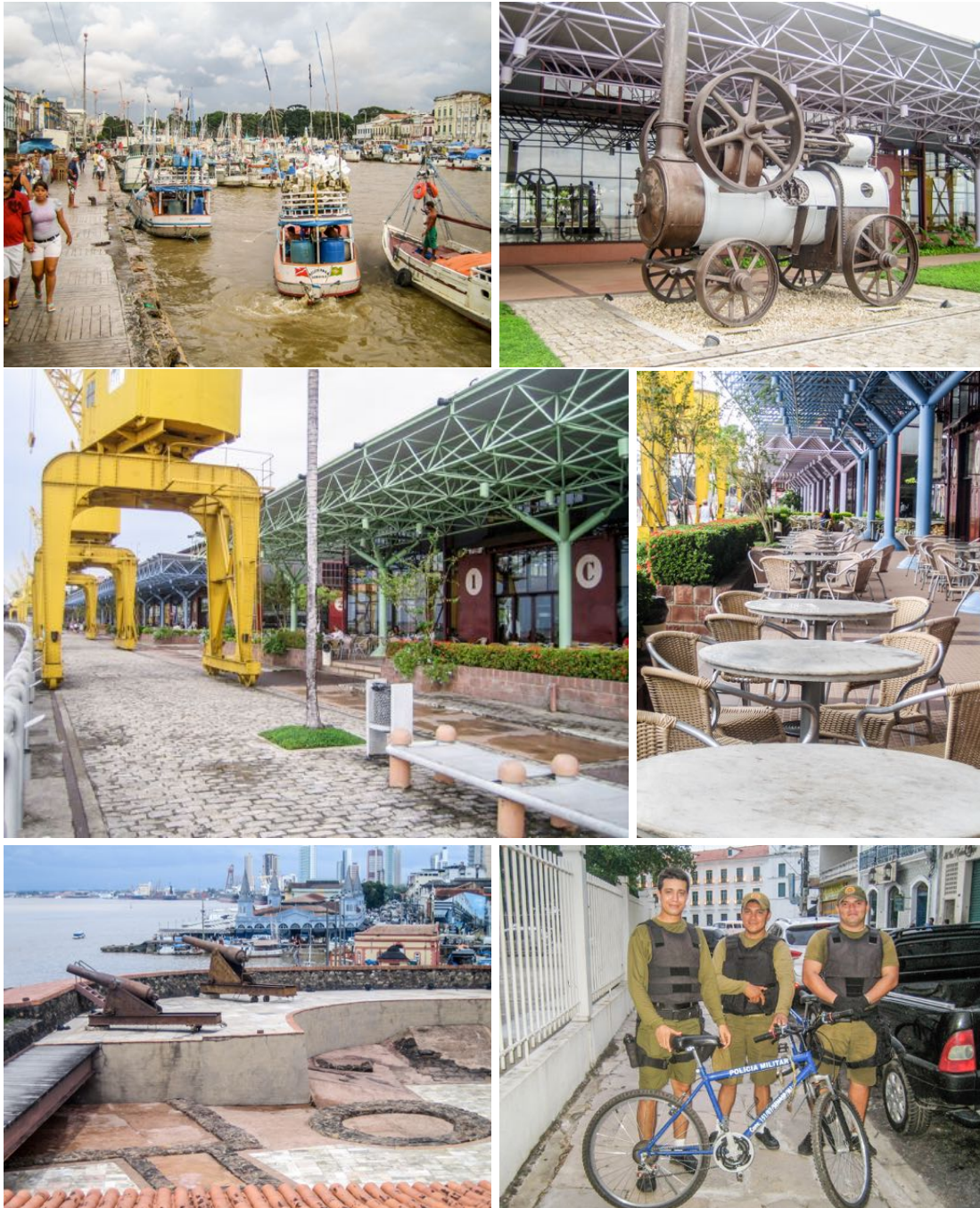


Figure 1525. Harbor, docks, and fort. Three military police, peaceful for once.



On Sunday, Dorothea arrives from Bonn at 22.40. I take my time with breakfast, check out from my old hotel and go to the nicer *Portas da Amazônia*, arriving at 14.30. When I went there yesterday to get a room for myself, they refused: “Only via the booking company”. Too bad. So now I go to room 9—and a magic white hand opens the door from the inside. An angel? No—Dorothea is already here. How come? Very simple: I remembered her landing time incorrectly and did not check any further. She landed at 11.40, waited for two hours for her White Knight, then took a taxi to the hotel (thank God for having plans B and C), where they actually know about me from yesterday’s visit. That was 20 minutes before the Knight’s arrival. Highly embarrassing for me, one more date with Dorothea that I blew. Once as teenagers in Solingen, and once for her birthday in Bamako, see page 26.



Figure 1526. Our hotel and its classical lighting inside.  
Dorothea and myself at the fort with caipirinhas.





Figure 1527. Handcraft from the Amazon, not amazon.com. Household items, probably from China.



Figure 1528. Belém carnival.



In the evening, a noisy carnival celebration takes place on the Pedro II square. Live music and dancing, quite entertaining.



Figure 1529. Fancy carnival mask.

Then for good food to the docas. And off to the airport. I get a cold in the air conditioned taxi. Our 700-kilometer flight arrives in Santarém on time, just after midnight. The mighty Rio Tapajós flows into the even mightier Amazon here. See Figure 1019 for a map.



Figure 1530. Leaving Alter do Chão and Dorothea as Rose DeWitt Bukate (Kate Winslet) on the *Gaia's* prow.



Our friends Frank and Maria directed a jungle clinic in the small village of Aveiro on the Rio Tapajós, almost 200 kilometers upstream from here. (See pages 1180 and 1371 for some of our joint trips.) They give us hints on where to go. A bus drops us in Alter do Chão and we check into a pousada they recommended. At the travel agency *Mãe Natureza* (Mother Nature), run by the Argentines Jorge and Claudio, we luck out: two Englishmen and a German have booked a jungle hike for two days, starting tomorrow, and we can join that tour, including a boat ride on the *Gaia*. Some years ago, Rafaela also spent some time on the Rio Tapajós, with her then boyfriend Manfred and many mosquito bites.



Figure 1531. First stop and a Teva sunburn.

We spend two wonderful days hiking through the Amazon *mata* (jungle), with Paul and Brad Ransom, father and son, and Dieter Herold from Darmstadt, 67 years old, a veteran traveler. The first leg is two hours up the Rio Tapajós on the ship *Gaia*, to São Domingos. We stroll a bit on a sandbank and have lunch. I show off the sandal pattern on my feet. In the village, a project by the German GTZ, located in Bonn, produces mosquito-repellant oil from the bark of certain trees. I buy a flask; we'll see whether it works. Then it is off on the Samauma Trail in the Curupira Forest. Luis, a local guide, joins our group. He explains enthusiastically the many plants, tree barks, and fruit that people here use as medicine. Time and again, he shaves some bark off a tree with his machete or splits a fruit, for us to smell and taste. It is wonderful introduction to jungle medicine. His assistant Tatiana is a student of biology who takes a leave from her studies to develop herself in the jungle.



Figure 1532. Jungle fruit.



Figure 1533. Flowers, a wasp nest, and signposts with map and explanation of the German funding.





Figure 1534. In the jungle, the mighty jungle.





Figure 1535. Jungle fruit and climbing trees.

At 18.00, we arrive at our jungle hut. Four vertical posts at the corners, palm leaf roof on top, and ready is the hut. We hang up our hammocks. Unfortunately, we left our mosquito nets in the hotel. Luis makes a fire, and two hours later we have a delicious and filling dinner of two whole chicken for the eight of us. Plenty of water and a bit of wine. We are all rather exhausted, but Luis takes us on a midnight walk through the jungle. Exciting. Many animals do not show themselves during the day, but we see a lot of creepy-crawlies in the beams of our flashlights. A special experience. Luis also shows us large spiders, some butterflies, and the mini-highrises from yellow clay that termites build as their homes.





Figure 1536. Night walk in the jungle. Afterwards, some sleep well and others are still scared.

We get into our hammocks after midnight. It gets cold at night, and plenty of mosquitos



satisfy their thirst for blood on my naked feet. Large beetles and spiders are crawling everywhere. It is a creepy feeling, not for the faint-hearted. But after all, it is their home and not that of humans. Still, we all sleep in until 09.00. After a simple breakfast, we return on a different path via Jamaraquá to our starting point, again seven kilometers of interesting hiking through the jungle. But now we take only two hours compared to the six hours yesterday, with all those interesting stops at trees and plants.



Figure 1537. Giants and dwarfs in the jungle.





Figure 1538. Trees, path, and flower.<sup>31</sup>





Figure 1539. A surreal picture: the “bat” at left is the shadow of a leaf that an ant is carrying, at right is a more realistic view.

Luis shows us the latex factory in São Domingo. Next to it is the school. It reminds me of the museum schools in North American *pioneer villages*, but it is the quality of the teacher, not the comfort of seating, that counts.

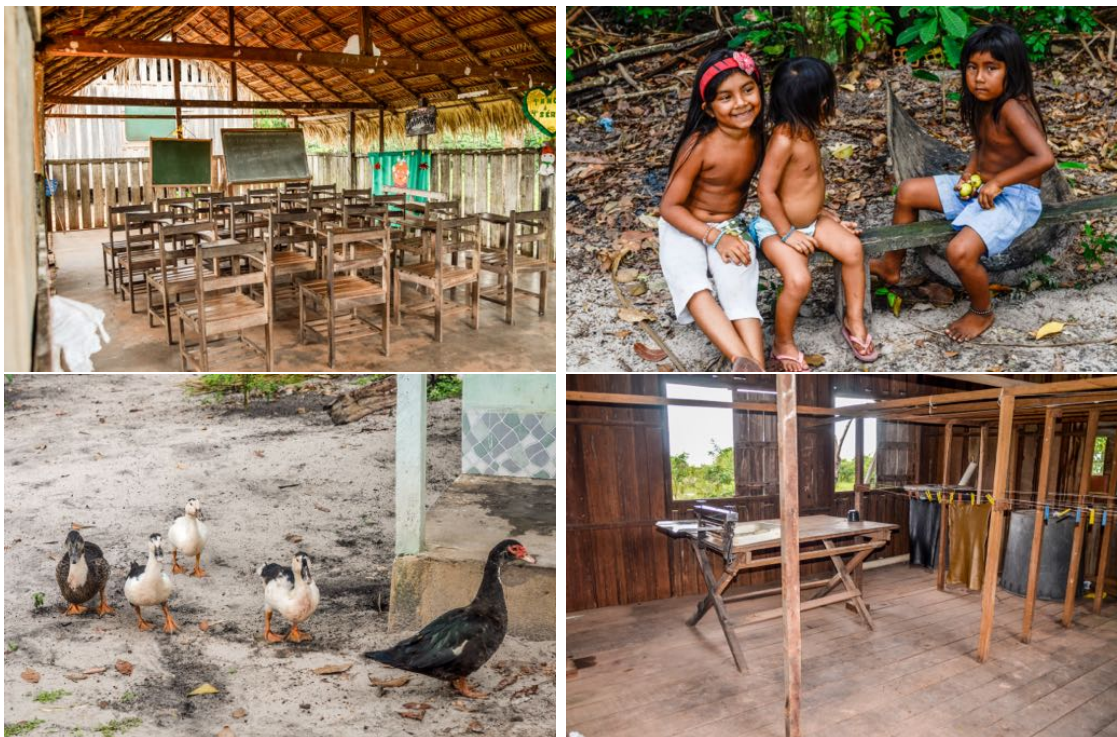


Figure 1540. School, children, and ducks in São Domingos.

<sup>31</sup>“Paths, trees, and flowers” is the title of a famous 1965 paper by Jack Edmonds on graphs and complexity.





Figure 1541. Latex and leather in São Domingos.

After a short stroll along a lagoon, a strong woman named Ines rows us in a canoe through an *igarape* (side arm) of the Tapajós. Right at the beginning, the heavenly sluices open up. Anybody without an umbrella, like myself, gets soaking wet. I can barely keep my camera dry. After this, it is two hours on the river with the *Gaia* back to Alter do Chão. A thoroughly interesting excursion ends at 19.30.



Figure 1542. Rowboat excursion: Ines rowing, the others pushing.



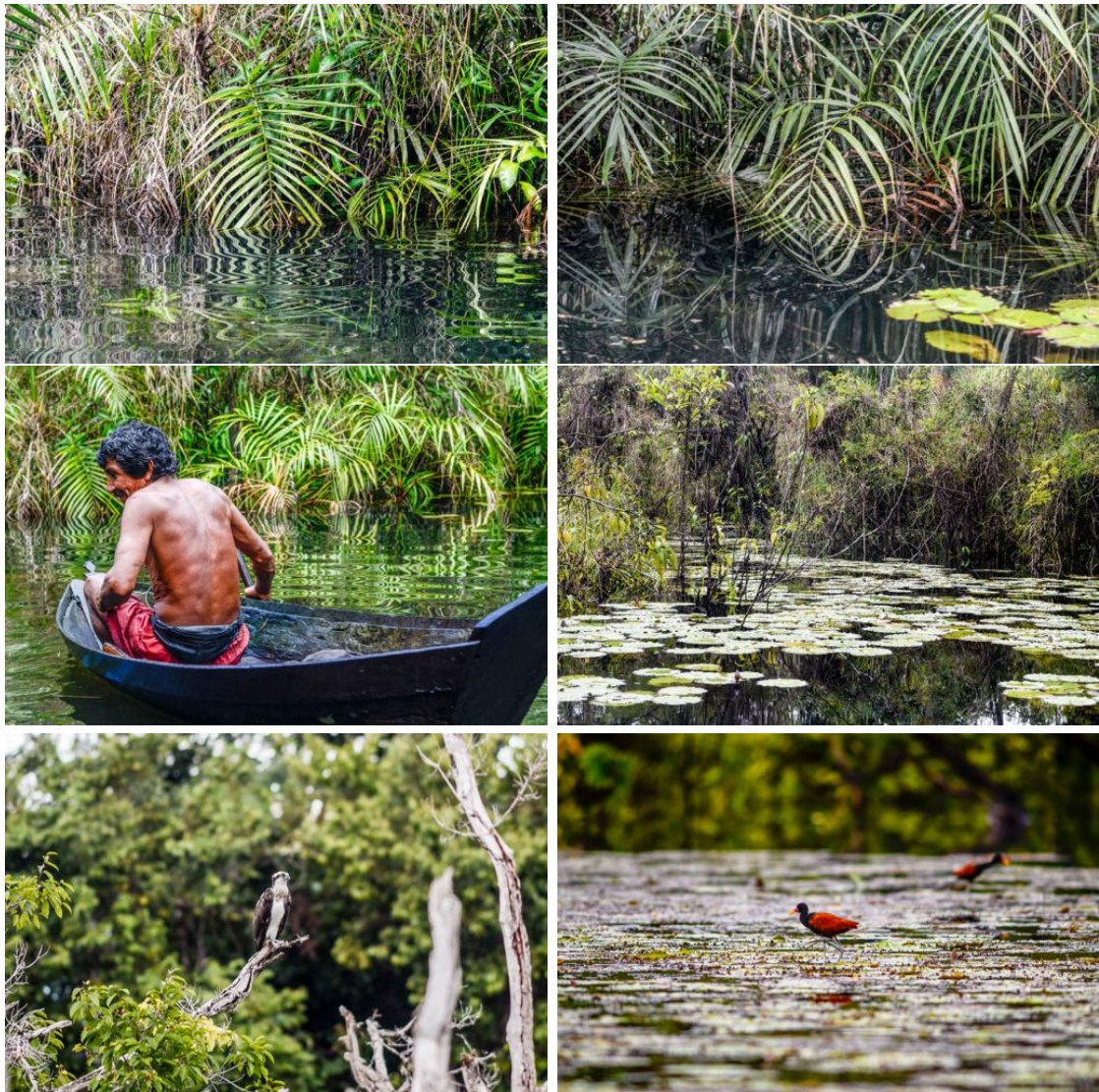


Figure 1543. Leaves reflect in the water like a bird of paradise dipping its feathers.

Next we relax on a quiet day in Alter do Chão, with a lot of paper work for me. The hotel does not have an internet connection and I alternate between there and a cyber café. Among other things, I have to sign a declaration for the first phase of a major project. I do not know it yet, but this funding is to help reduce our mortgage and secure our future in a nice place in Bonn. So all this began in Alter do Chão!

In 2019, this remote place makes newspaper headlines when the ultra-right Brazilian president Bolsonaro, in cahoots with the deforestation industry, accuses Leonardo di Caprio of having supported the voluntary fire fighters of Alter do Chão to set fire to forests. No proof is ever given for this allegation. It is just one small step in Bolsonaro's attempt to destroy the Amazonian jungle for the profits of his industrial cronies.

As we walk to the bus station for Santarém, we have already missed all boats to Manaus for today and tomorrow, but eventually we find the next one, leaving in two days. Dinner



is in our favorite restaurant *Mascote*. In the hotel, I have well hidden our corkscrew in a pocket, and the multilingual Russian helper Karim extracts the cork from a bottle of wine with a 10 mm screw. Good job!



Figure 1544. Dorothea as a queen and the real Queen.  
Amazonian boats and fish in Santarém.

Everything is closed this Sunday. During our dinner at the *Mascote*, a guest has turned on the speakers in his car to a deafening volume. Without much hope, I make a polite remark to the waiter. And lo and behold! The volume is turned down to an acceptable



level. To compensate for this, our room neighbor at the hotel has his TV blasting away. Well, Brazilians certainly have a higher level of noise tolerance than I do.



Figure 1545. Clean—environmental management by vultures.

Our neighbor's TV goes on at 06.00, our alarm at 08.00. The hotel driver takes us to the port, where we board our *Ana Beatriz III*. We find spaces for our recently purchased hammocks on the second-highest deck. Rows upon rows of hammocks present a colorful view. Our belongings rest on the deck below our hammocks. Open and unprotected, but nothing goes missing.



Figure 1546. Hammock purchase for our Amazonian adventure. A broken propeller. No huge freight containers but water melons are loaded one by one.





Figure 1547. Hammock deck.

An interesting ride up the Amazon starts at 13.30. This is the world's largest river by several measures: length and water volume. It is so wide that the other bank is just a faint line on the horizon. The weather on our voyage is usually sunny with some clouds. The ship keeps close to the bank, sometimes the left, sometimes the right one. We stop in three places, always at night: Óbidos, Jurute, Parintins. In Itacoatiara, loading and unloading from the moving ship.



Figure 1548. Communal lunch at a big table. River traffic.

Food is served at a table for 15, most people brought provisions that they now eat. The menu is either chicken or goulash, both savory and plentiful. Dorothea and I usually share a dish, that is still enough for us. On the second day, a rainstorm moves elegantly around our path, presenting a marvellous rainbow. The passengers are quiet and relaxed, except in the bar at the stern, where loud music shows run on the screen the whole day, with lots of bum-shaking.

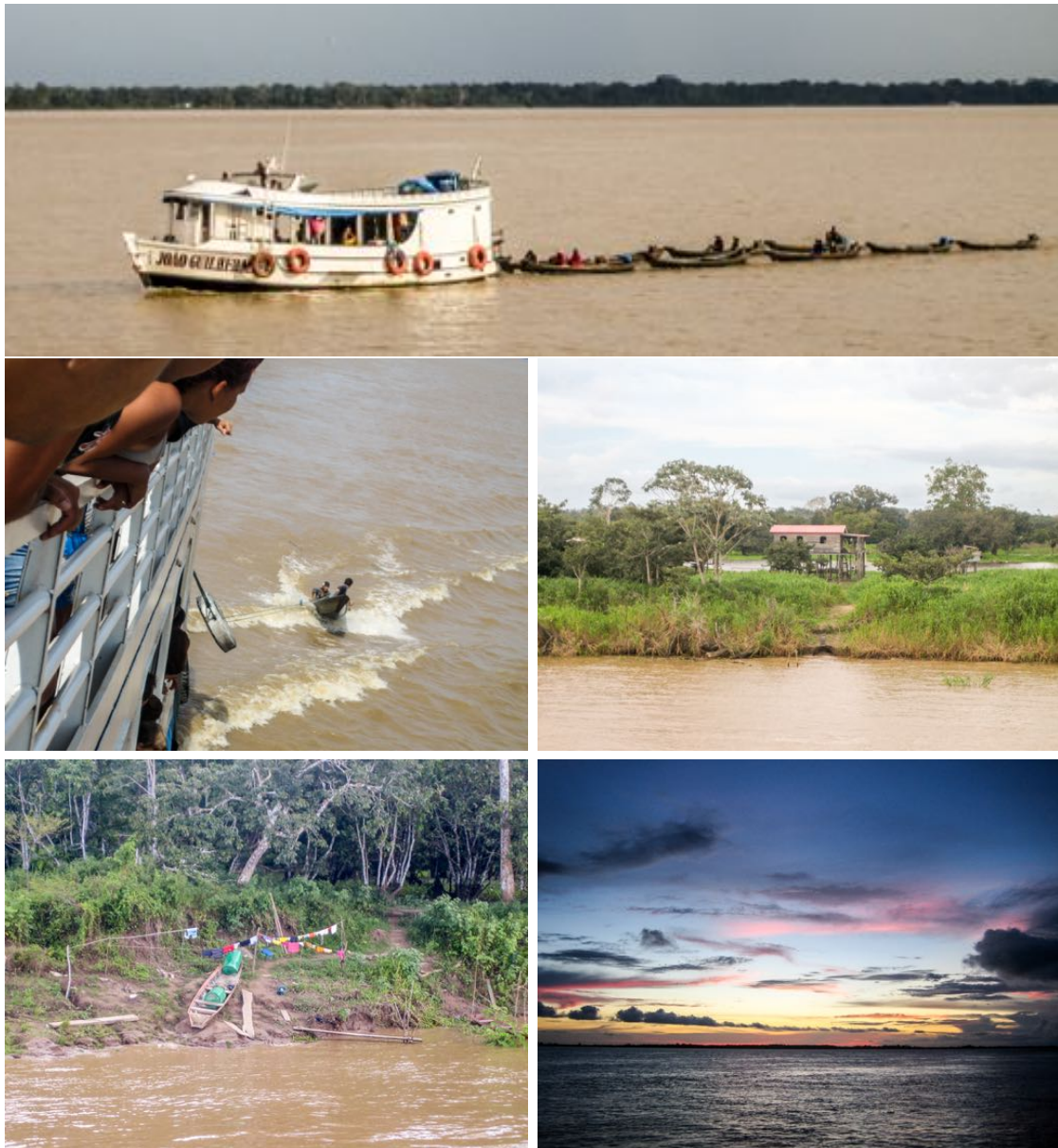


Figure 1549. Lots of boat traffic including one riding our wake, and small fishing villages on the bank.

After docking in Manaus at 05.00, we rest in our comfortable hammocks until 09.00. No hurry. The famous opera house is just around the corner from our hotel, and we will



go to a concert tomorrow. I remember fondly my first visit in 1982, see page 811. At our dinner on the opera square, the caipirinha is a bit too much for Dorothea. I carry her to our hotel.

Bad news in the morning: Dorothea has diarrhea. The only thing she ate yesterday and I did not was an icecream. So I fetch her tea and biscuits, later Coca Cola and bananas.



Figure 1550. Evil crocs and a gentle sloth at the zoo.

Around noon, I go to the botanical gardens *Bosque de Ciência* (Science Forest). By chance, I meet Dieter, our companion on the jungle trip, and we go together to the zoo.

We first see manatees (dugong, peixe boi) in an aquarium. Then a long hike on trails through forests. The evil-looking crocodiles in a pond are very photogenic, the turtles less so. Dieter: “We have not yet seen a jaguar or a sloth”, I look up, and there hangs one by its feet from a branch. It is an enjoyable afternoon in a tropical environment.



Figure 1551. The Opera House in Manaus and a gifted singer.

When I return to the hotel, Dorothea feels only slightly better. I usually walk around in shorts, but remembering my visit in 1982, I take some long pants along. Arriving at the opera house just before 20.00, indeed I have to put them on. Dieter also wanted to come, but they did not admit him in shorts. I find a seat in the last row, the huge auditorium under the tiled dome is fully occupied. The *Experimental Amazonic Orchestra* consists of more than 90 players, including 30 violins, 9 violas, 5 oboes, etc. They present Gustav



Mahler's 1. Symphony. Sorry, this music simply does not touch me. But it is fun to be a guest in this historic building and to see the 3-D optical illusion created by the 2-D pavement in front of it. Afterwards I enjoy a caipirinha on the square and pass through carnival festivities, with lots of goings-on. Back at the hotel, Dorothea feels slightly better, after six Imodium pills.



Figure 1552. Opera House, its 3-D square, and carnival fun.

Eventually, Dorothea is sufficiently ok to have breakfast with me. I pay our hotel bill with a refreshing new version of her name: *Donotwa Vocizw*. We fly over the Amazonian jungle from Manaus to São Paulo Guarulhos, but all we see is clouds. This huge airport is bewildering. We have to go to gate 09, but you can only get there via gate 07A. Nobody tells us. Eight crew pass us and I ask: “Iguaçú?”—“Sim”—“Que portão?”—“Não sei” (Iguaçú?—Yes—Which gate?—I don’t know). So we wander around, but at least are lost together. No panic.

For a map of the continuation of this voyage, see Figure 812. Rafaela and Martin will join us in Iguaçú. Arriving there at 01.30, we go to a nice pousada that Rafaela has organized. Unfortunately, their flight is full, no space for standby passengers. They will come today at 15.00, and so we go to the Itaipú dam. The entry fee is only half for seniors over 60—finally one advantage of our advanced age. The video is full of praise for the fantastic engineering feats, without ever mentioning the damage it creates: resettlement of 10 000 families, destruction of the Sete Quedas waterfalls, loss of biodiversity. On the other hand,

once built it provides clean energy, 20% of Brazil's and 90% of Paraguay's consumption. The presentation is full of dubious claims about the project's ecology. Visually, the dam does not offer much, the best is the bus ride across the top of the dam.



Figure 1553. Itaipu dam.

Back in our hotel at 16.00, we are overjoyed to find Rafaela and Martin there. Everybody has a lot to tell. We have a totally enjoyable evening in a nearby churrascaria, with lots of good picanha and Carmenere.



Figure 1554. With Rafaela and Martin in Iguazú, picanha from sword. My blue camera bag and Martin's black one.



Then we spend a nice day at the Iguazú Falls, overshadowed by a major annoyance. We take a bus to the Parque Nacional, and a helicopter flight over the falls. Only 10 minutes with a fairly short view of the falls, but interesting, in particular for the two airline people in our group. Shall we go for lunch? Maybe in the *Green Tur Restaurante* just besides the helipad? We all get something from their buffet and sit outside.



Figure 1555. Helicopter flight, the *Hotel das cataratas* from the air and at the door. The last picture of Martin with his Canon camera.



All of a sudden Martin jumps around like rumpelstiltskin: “Where is my backpack?” Someone stole it, the locals put the blame on visiting Chileans or Paraguayans, a transparent and implausible maneuver. Police arrive within five minutes, they search several buses and people’s luggage, but the backpack with Martin’s new expensive Canon EOS 7D camera does not turn up.

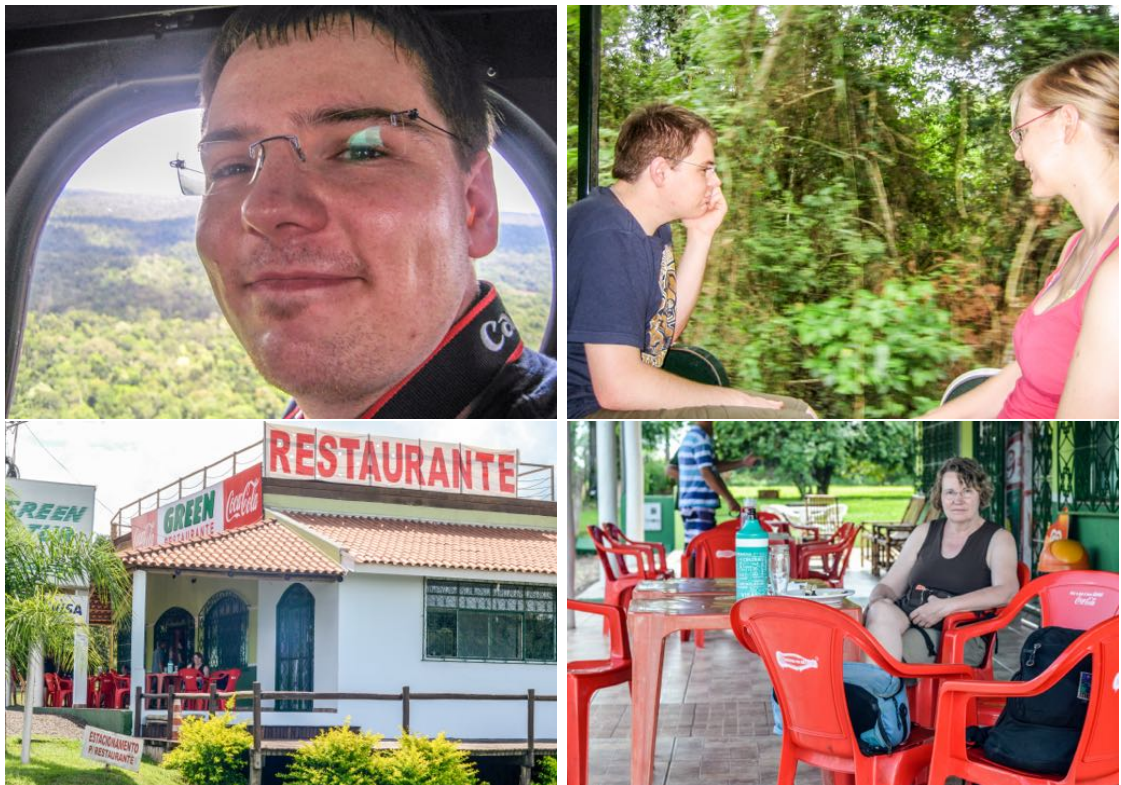


Figure 1556. Martin happy in the heli and understandably depressed after the theft. The restaurant where it was stolen.



Figure 1557. Dorothea, an unhappy Martin, and Rafaela at the Iguacu Falls.

We spend some time at the police station, where they produce a six-page report. Martin is struck with anger. I try to comfort him, but also tell him a few truths: on a voyage, the



really bad stuff is a physical or health damage. Then comes the loss of irreplaceable items: diaries, souvenirs, pictures; Martin lost those of one day at Iguazú. Also troublesome is the loss of all one's money or one's passport. Much minor is the loss of stolen goods that are insured, as is the case here. But of course he is depressed, such a theft is a gross violation of one's sphere of privacy. I had money stolen in San Salvador (page 584) and everything in Lima (page 825), but got over that as well.

The friendly police officer Bom drives us to the falls and we make a complete tour, it is already getting late. As usual, we get totally drenched at the *Garganta do Diabo* (Devil's Gorge). Afterwards, we cool down with a caipirinha at the classical *Hotel das Cataratas*.

The last bus is already gone, but I find a bus driver who takes us for free on his home run, with a substantial tip. We have an entertaining dinner and evening in the Bavarian beer garden, except that understandably Martin is rather gloomy.



Figure 1558. Brazilian side of the Iguazú Falls.  
Soaked by the spray at the Devil's Gorge.

Except for Martin, all of us have been in Puerto Iguazú on the Argentine side before, for me it is the third time. And each visit is thrilling again. It is a pleasant train ride to the *Gargantua del Diablo*, where the ground is trembling with the force of the water masses tumbling down. They provide a true multimedia show: the low roaring of the water, the spray is soaking us, beautiful rainbows. Martin is understandably sad for missing all those glorious pictures. Large yellow-throated birds, coatis and makakes stroll by, even a turtle in spite of the strong current.

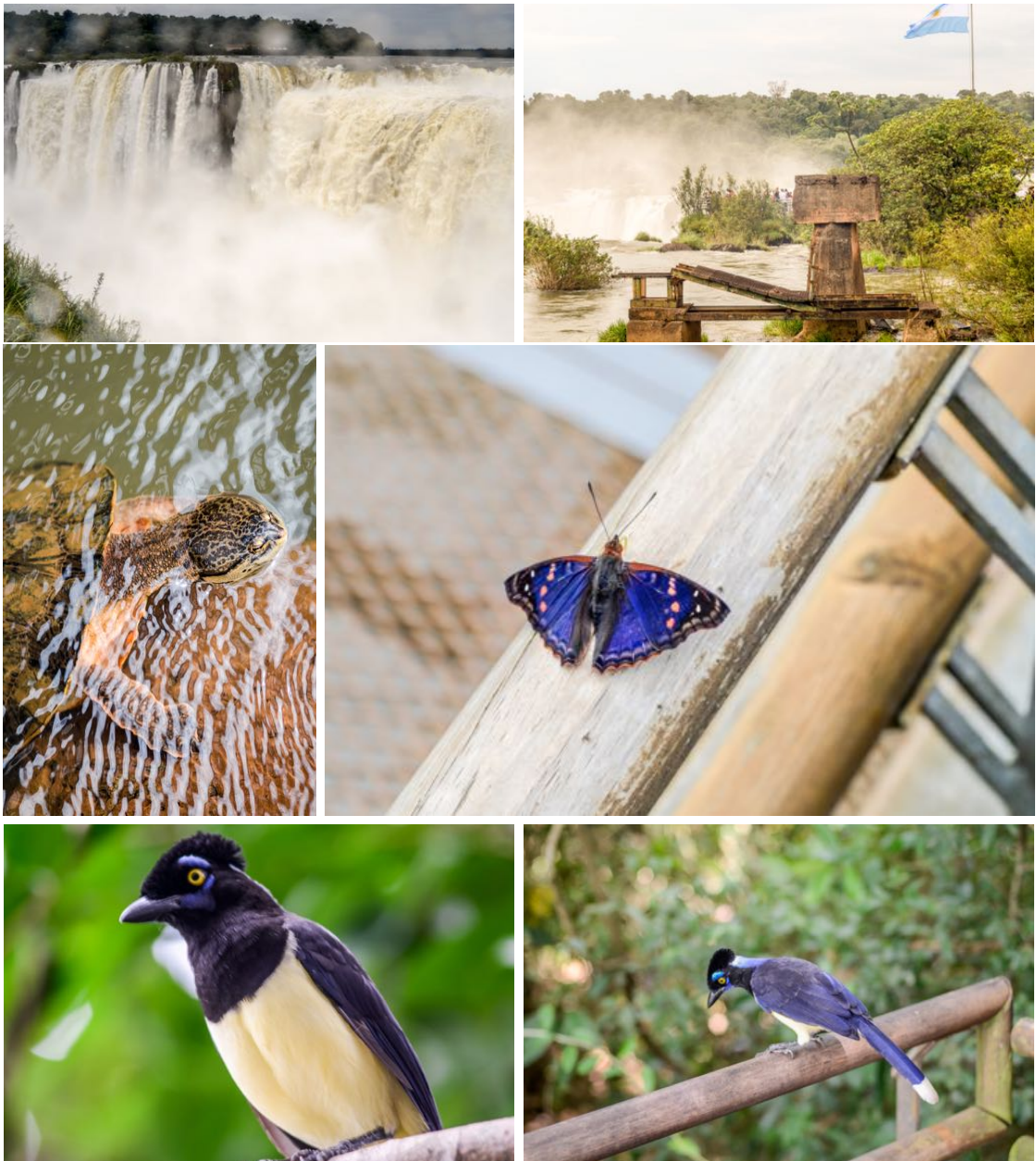


Figure 1559. Argentine side of the Iguazú Falls.  
Trail washed away by floods. Turtle, butterfly, birds.

We go back by train to the middle station and down to the *embarcadero*. Rafaela has bought three boat tickets for us, Dorothea chickens out or rather waits for us with camera and dry clothes. The boat navigates at the bottom of the falls first to the Gargantua del Diablo, with a slight drizzle covering us. Ten meters distance from the tumbling waters. Then to the Argentine side, crossing under the falls. Everybody is dripping wet. Adrenaline at full level, I have to wipe my eyes all the time to see where we are. Diving goggles would not be a bad idea. After this, closer to the Gargantua, not under the water masses that would kill us, but right in the turbulent waters and spray. Zero visibility, really exciting.



We leave the boat dripping wet. Further up, where Dorothea has been waiting, we go for a view of the *Beltrano Falls*. We get again totally wet, but this is less exciting. After this, we finally change into dry clothes. The bus transport to the Brazilian side and the border formalities are easy. After all this adrenaline, we spend an entertaining evening in our *churrascaria*.

As we leave our plane at the Carrasco airport of Montevideo in Uruguay, my good friend Tuba is waiting for us. He has lost 33 kilograms of weight in recent months, great against his diabetes. Our luggage fits into his Chevy Corsa, barely. A map of this part of our trip is in Figure 812. He drives us to our small hotel in town. I take a long walk on the *playa Pocitos*, crowned by a glass of wine in my favorite restaurant *Ché Montevideo* on the beach. In the evening, we meet Tuba, his wife Graciela and daughter Manuela in a restaurant in the Old Quarter of Montevideo. We always have a lot of fun together and remember fondly our raucous evening here on 14 February 2008; see page 911.

I walk up to the *Universidad de la República*, the country's only public university. Tuba's office has six desks, but more people seem to while away their time here. Tuba is very open to his students and colleagues, always ready to chat and joke. There is no way to get real research done, as we plan.



Figure 1560. Welcome to Uruguay and its carnival. Tablado and Pepe Mujica.

The carnival season in Uruguay is important and very special. Similar to carnival in other countries (where it may be called carnival, Fastnacht, Fasching, Fastelovend, Mardi Gras), there are street parades with music bands, here called *murgas*. Today, we attend a *tablado* (carnaval session) in Tuba's soccer club, the *Defensor Sporting*. We have excellent

seats, and lo and behold! The president of the republic arrives. José “Pepe” Mujica is a highly respected (by most) man with leftist leanings who tries to reinstall some social justice after a decade of brutal military dictatorship. As president from 2010 to 2015, he donates 90 % of his monthly salary of US\$ 12 000 to charities—compare that to some other presidents today.



Figure 1561. Rafaela, Pepe Mujica and his wife Lucía, and Martin celebrating arm in arm.

In a 2014 speech in Guadalajara, Mexico, Mujica gave some advice to his young audience: “Veo que hay mucha gente joven, como veterano, como viejo, un pequeño consejo . . . La vida nos puede dar muchas trampas . . . Lo más lindo del día es que amanece. Siempre está amaneciendo después que pasó la noche. No lo olviden, muchachos. Los únicos derrotados son los que dejan de luchar.”<sup>32</sup> He sits in the same row as us, with his wife Lucía Topolansky and just two body guards besides them, but essentially unprotected. It is unimaginable that Chancellor Angela Merkel or a leader of a big Western country would expose herself so openly to his people. But Mujica has simple habits, drives a 1987 VW

<sup>32</sup>I see many young people here; as a veteran, an old man, a little advice . . . Life can set us a lot of snares . . . The most beautiful thing about the day is that it dawns. There is always a dawn after the night has passed. Don't forget it, kids. The only losers are the ones who stop fighting.



beetle and lives in his modest house, rather than in the presidential palace. As a tupamaro (Uruguayan guerrilla), he spent thirteen years in prison during the dictatorship and now does not fear his people. Rightly so, nothing ever happened to him. We pass several times right in front of him, taking pictures. It is wonderful to see this small country's democracy being lived so courageously.

The tablado resembles a carnival session in the Rhineland, where Dorothea and I live. Five semi-professional groups perform their acts on the stage, each with 10 to 20 members and playing for 15 to 30 minutes. The subjects are politics and social affairs, also the country's history. Text, music, and choreography have been rehearsed intensively. There are few women in the groups, but they typically have dominant roles. All of them speak and sing very rapidly, but still I understand almost all of it. However, for their deeper meaning, one has to know more about Uruguayan history than I do. Tuba is all excited. Occupying the same row as the president! Image going to a show and the president of your country sits just a few meters away! After an entertaining parody of "Gone with the wind", we leave at 00.30. This was a very special evening for all of us.



Figure 1562. Co-authors Jorge Tiscornia, JuanJo Cabezas, and Tuba Viola.

Incidentally, in 2017 Jorge Tiscornia, another former tupamaro, discovered two beautiful pieces of Uruguayan guerrilla cryptography, a colorful woven carpet and printed book covers, which were subsequently deciphered.<sup>33</sup>

<sup>33</sup>See my papers with Cabezas et al., Proceedings HistoCrypt 2018, 21-27 and HistoCrypt 2019, 58-67.

Jorge has written books about his imprisonment and one was turned into a movie. He now works at the President’s office. One of our co-authors is JuanJo Cabezas, professor of computer science. He was severely wounded when a bomb exploded that he was manufacturing as a young tupamaro in his basement. He barely escaped the country, for exile in Sweden. Tuba holds a *bombilla*, a container for hot mate tea and ubiquitous in Uruguay.

In the rental car of Rafaela and Martin, I show them my hotel *Posada del Mar*, a dubious establishment; see page 1081. We find Tuba’s cottage *La Lapinière* in the seaside resort of La Floresta easily. Tuba serves a huge *parrilla*, with entrecote, morcilla (black pudding), chorizo, and riñones (kidney). The Germans and the Uruguayans in our party have decidedly different tastes.

Tuba and I take a long morning walk on the beach, Dorothea, Rafaela, and Martin play Tejo, the Uruguayan version of boccia with round wooden blocks, in the sand. Dorothea wins, as always. In the evening, we split. Tuba and Manuela go to a carnaval tablado in Montevideo, Rafaela with Martin meet her friends from the Pluna airline, where she worked in 2008 for half a year as part of her university studies in airline management.

	NOMBRE	LLEGADA	PARTIDA	FIRMA
341	HELENA ARESTI	4/2/2011	07/02/11	Helena Aresti
342	Vanessa Bentancur	06/02/11	07/02/11	Vanessa
343	HELENA ARESTI	11/02/11	13/02/11	Helena Aresti
344	HELENA ARESTI	15/02/11	25/02/11	Helena Aresti
345	Eduardo Portela	20/02/11	21/02/11	Eduardo
346	JERE PASTOR	26/02/11	27/02/11	Jere
347	Bullonmimo de lazo	26/02/11	27/02/11	Bullonmimo de lazo
348	Gonzalo Lorenzo	26/02/11	27/02/11	Gonzalo
349	Vanessa Bentancur	26/02/11	27/02/11	Vanessa
350	Maria Eugenia Ramos	26/02/11	27/02/11	Maria
351	Rafaela van der Gullen	03/03/11	05/03/11	Rafaela
352	Martin Arce	03/03/11	05/03/11	Martin
353	Dorothea van der Gullen	03/03/11	06/03/11	Dorothea
354	Joaquin van der Gullen	03/03/11	06/03/11	Joaquin
355	Cecilia Campenovo	05/03/11	08/03/11	Cecilia
356	Dorothea van der Gullen	09/03/11	10/03/11	Dorothea
357	Joaquin van der Gullen	09/03/11	12/03/11	Joaquin
358	Vanessa Bentancur	09/03/11	10/03/11	Vanessa
359	Conrado Martinez	15/04/11	17/04/11	Conrado
360	Vanessa Bentancur	17/04/11	18/04/11	Vanessa
361	Maria Eugenia Ramos	17/04/11	18/04/11	Maria
362	Merce Pons	23/04/11	24/04/11	Merce
363	Conrado Martinez	23/04/11	24/04/11	Conrado
364	JULIAN CLÉMENT	3/05/11	9/05/11	Julian
365	Jean Marie LE BARS	03/05/11	11/05/11	Jean Marie
366	Jean Marie LE BARS	13/05/11	15/05/11	Jean Marie
367	Teresa Patroni	9/10/11	10/10/11	Teresa
368	HELENA ARESTI	9/12/11	10/12/11	Helena Aresti
369	HÉCTOR G. PASTOR	18/2/12	19/2/12	Hector G. Pastor
370	LUCEA MOLINA	18/2/12	19/2/12	Lucea
371	AFFONSIINA PASTORI	18/2/12	19/2/12	Affonssiina Pastori
372	HELENA ARESTI	19/2/12	20/2/12	Helena Aresti



Figure 1563. Our entry in Tuba’s guest book. Tuba, a proud parrillero. Ball game on the beach.

Dorothea and I take a bus to Montevideo, where we check in our luggage for the *buquebus* ferry to the port to Buenos Aires. During the three-hour trip we are squeezed

URL <http://www.ep.liu.se/ecp/contents.asp?issue=149> and <http://www.ep.liu.se/ecp/contents.asp?issue=156>.



into an air-conditioned tin can. No fun. We then take a taxi to our rented apartment at Tucumán 810, which Guillermo has arranged. Marcela from *ForRent* hands over the apartment to us. She is rather unfriendly and requires me to sign a two-page list of all items present. I tell her that I can only do this if we check them together. She agrees, this does not improve her mood. I guess other customers just sign blindly. But 13 corrections are required to the list!



Figure 1564. Martin and Rafaela at the *Pocitos* beach in Montevideo.  
On the beach at La Floresta: Dorothea, Manuela, Rafaela.

Finally we get out and to the shopping street Calle Florida. The *subte*, the Buenos Aires subway, works well and is dirt cheap at 25 cents per trip. Dorothea goes shopping in the elegant mall *Galerías Pacífico*. At 20.00, we meet Rafaela and Martin in one of my favorite restaurants, the *Posada de 1820*. Succulent steaks for all of us. Dorothea and Rafaela share one, something that is not frowned upon here in contrast to other parts of the world. The waiter cuts it apart—with a spoon! The meat is so tender! I love the place for the quality of their steaks. We say good-bye, since our two children go to the south. I lend Martin my Nikon D7000 camera so that he, former owner of a Canon, can at least take pictures on their long trip to the southern tip of the continent.



Figure 1565. The famous cemetery *La Recoleta*.

Dorothea and I visit the famous cemetery *La Recoleta*. We go to Boca and San Telmo (Caminito), the soccer and tango quarters of Buenos Aires. It is always fun to see these professionals dancing in the street. As we pay our lunch bill, the waiter tries to cheat with a false account. Not surprising in this tourist area, but still unpleasant. Well, I know how to deal with such attempts. Dinner is in a posh restaurant in *Puerto Madero*, the renovated port area of the city. Beautiful view on canals, cranes, and highrises. It is still the carnival season and many places are closed.



Figure 1566. Evita Perón is the most famous inhabitant of *La Recoleta*, forever in the heart of the people of the town of *Almirante Brown*.



Figure 1567. The colorful tango quarter *San Telmo*.



I meet Guillermo and Eda Cesaratto at the *Imperia* café to discuss our joint work: reducible curves in Chow coordinates. I suggest to add a lower bound to our existing upper bounds. Fortunately, this turns out to be quite easy with the tools we already have. Eda will submit this to the top *Journal of Number Theory* and Guillermo will pay our accommodation from his grant. Nothing else.

I left the charger for my Mac somewhere, probably in our pousada in Iguacú. I run around town to buy a replacement and am happy when I find one in the third store. Expensive at 150 Euro, but without this my computer will not work.

On leaving our apartment, we have a confrontative discussion with some arrogant woman from the rental agency who negates parts of the agreement that we made. Generally speaking, we found the *porteños* (inhabitants of Buenos Aires) rather unfriendly on this visit.

Dorothea and I take the Buquebus ferry back to Colonia in Uruguay and then buses to La Floresta, to spend four peaceful days in Tuba's cottage. The two of us make various improvements in our counting paper with Konstantin Ziegler. Exact formulas with easier proofs, comparison to univariate polynomials. We talk long walks on the beach. Some time ago, trees were felled, presumably because they blocked the view from some houses. Now the beach is completely eroded in some parts, to the clay subsoil. At high tide, you cannot walk along the whole beach. Some fences have fallen down from the sandy heights, about five meters above the beach, and houses are threatened to slip down as well. Then their owners will have a really close-up view of the sea . . .



Figure 1568. Dorothea at the Sambódromo.

Dorothea spends a few days in Rio with Frank and Maria. She enjoys this: shop until you drop, carnival aftermath in the Sambódromo, Pão de Açúcar (Sugar Loaf), favela Pavão, Ipanema beach, caipis, and good food.

Eventually, Tuba takes me to my *Posada del Mar* in Carrasco, the only place I found in Montevideo that is quiet and close to a wonderful beach, see page 1081. It mainly works as an hourly *love hotel* for rich guys with their female guests, providing all kinds of luxuries. Service for food etc. is through a service hatch in the door. Extremely discreet, I am the only non-discreet guest. Everybody knows me pretty soon.



Figure 1569. In Rio: food shopping with eyes and nose, and Pão de Açúcar.

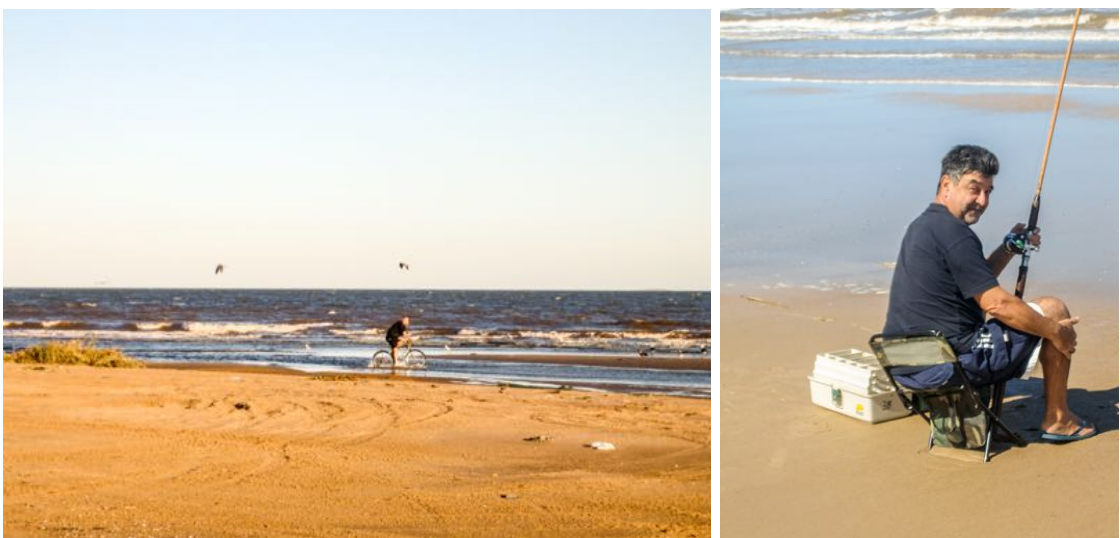


Figure 1570. The peaceful *Puerto Sánchez*.



I teach my course on *Factoring polynomials* on four days from 18.00 to 21.00 at the university; see page 906 for an earlier course, and I have taught there two more by 2020. Tuba and I go for lunch to the Parque Rodó with its pleasant restaurants *Don Trigo* and *Rodelú*. Because of his diabetes, Tuba keeps a strict diet and only eats a little salad. We can work in the restaurant, but not in his office which teems with people, loud and chaotic.

Some afternoon, he comes out to Carrasco and we walk on the long deserted beach, clean white sand, nobody but us and many seagulls on it, to the tiny restaurant *Puerto Sánchez*. A marvellously simple place right above the water, plastic chairs and tables, very friendly service and good seafood. We call it the *Centro de Investigación Puerto Sánchez* (Research Center). Since my last visit three years ago, storms have devastated the coast line and also the entrance to the restaurant, and many things inside. From the beach it looks like a deserted ruin. But the people are as nice as ever. On the terrace, we feel like in a pirate's cove, torn fishing nets and a rustic toilet. Just great.

For my boat trip home in a few days, the shipping company requires a medical certificate about my health. The five minutes with Dr. Daniel Weiss in the *Medicina Personalizada* cost 60 Euro. Nobody asks for this certificate later. Early afternoon, Tuba drives me to the airport to pick up Dorothea, coming from Rio. I misunderstood the flight schedule, she arrives only in the evening. My third reading error on this trip: my arrival in Rio, Dorothea's in Belém, and now in Montevideo. Shame on me!

We all drive 40 kilometers to the farm of Tuba's friends and colleagues Coca and Alberto in the *campo* (upcountry), with a chaotic departure at 23.00. Coca is Graciela's sister. Dorothea and I get a large bedroom, with a huge old and a smaller new bed. The dining room is full of antique furniture, about 100 years old: leather chairs, sideboard. It reminds me of images of a medieval knight's room, and also of the dining room with fireplace in my parents' house. Alberto and Coca do everything they can to make us comfortable. Late at night, I still sit outdoors on their terrace to work. Their tame dog *Homeros* likes me and sucks on my toes and knees, somewhat less than pleasant.

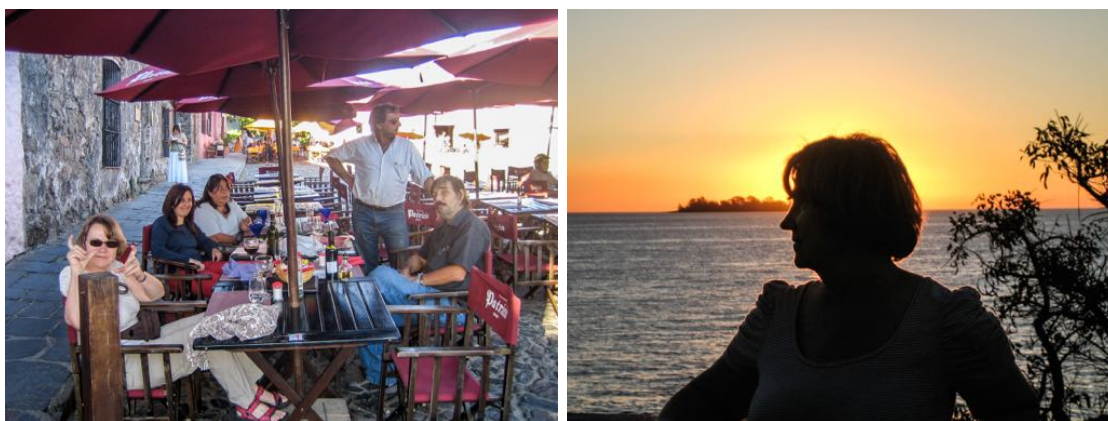


Figure 1571. Street restaurant in Colonia:  
Dorothea, Graciela, Coca, Alberto, and Tuba.

In the morning, Alberto takes us on a tour of his huge estancia. Cows, horses, falcons. Then we drive to Colonia del Sacramento and pass Nueva Helvecia which looks like a

middle-American suburb. In Colonia, we see older hotels from Colonia's (and Uruguay's) golden past in the 1920's to 1950's. We come to the pleasant café *Torreón*, where I had met Rafaela in 2008; see page 1054. This is a nice memory of the fantastic trip we took, seeing almost everything of touristic (and other) interest in Uruguay. Somehow the others do not like the place and we go elsewhere for a nice dinner in the street. Then to the lighthouse and the other sights in the old city. There are many tourists around, from Europe, the US, Uruguay.



Figure 1572. At a table in the campo: Graciela, Manuela, Tuba, Alberto, and Dorothea. Standing: Tuba, Graciela, Dorothea, myself, Coca, and Alberto. Horses at the campo, one of them disguised for carnaval as a cow.



Back at home, Alberto prepares a large parrilla with picaña, morcilla dulce (sweet blood sausage), and other delicacies. Afterwards, we sit around the fire and chat amiably, just us three guys, everybody completely relaxed. Tuba and I work on our counting paper until 03.00, it gets better and better.

After a full breakfast with Alberto's crêpes, cold cuts, and cheese, the five of us drive to Montevideo. We drop Graciela and Manuela at their home and load Tuba's car with the mountains of luggage that we have left there.. He drives us to our *Posada del Mar*, see page 1081. I am probably their first male visitor with his betrothed wife. I have enormous back pain from the uncomfortable old bed at Alberto's. At Dr. Rood's (Dorothea's) suggestion, I take a whirlpool bath with special massage. Both of us almost fall asleep, and we hardly make it to Carrasco for some dinner.



Figure 1573. With Dorothea at *Puerto Sánchez*,  
with a toilet entrance almost blown over.

Several long walks on the beautiful beach end at the pirate romantic of *Puerto Sánchez*; see Figure 1570. The toilet entrance paravent is bent by the wind, and on my visit in 2014, the whole structure has been washed away by the waves (page 1048). After the last lecture of my course, it is time to say goodbye to Dorothea, my wonderful friends here, and South America. In the port of Montevideo, my container ship *MSC Cordoba* is waiting to take me across the Atlantic to Antwerp in Belgium, see page 1531.

## **Photo credits**

Several pictures in the section *All of Uruguay* are by Rafaela von zur Gathen. On our joint voyages, Dorothea took many pictures presented here, and also Rafaela and Désirée took some. Figure 1561 is by Martin Apsel-von zur Gathen. The last image in Figure 1473 is by Daniel Panario, and the top two in Figure 1363 are by Anton Cavin. All reproduced with kind permission. All other photos are © 1982-2020 Joachim von zur Gathen.



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- Wodzislawski, Mónica; Uruguay, 1085
- Yakistan, Hasan; USA, 952–955
- Yungay, Santo Domingo de; Perú, 636
- Zapotecs; Mexico, 566
- Ziegler, Konstantin Josef Franziskus; Germany, 756, 1162
- Zimbabwe**, 590
- Zola, Émile; France, 801
- Zunzal, Club; El Salvador, 581





Joachim von zur Gathen is a mathematician and computer scientist. He has held tenured professorial positions at the universities of Toronto, Paderborn, and Bonn, retired in 2015, but continues his work in research.

Starting at age 17, he has traveled widely all over the world, enjoying friendly encounters with interesting people, fantastic landscapes, wild animals, and delving deeply into the culture and history of many countries. He is now writing some of his travel adventures. The present text is the second chapter, dealing with America only. The stories are illustrated with numerous photographs. Those from the early trips give an impression of travel opportunities in the 1970s and later, many of which do not exist anymore for various reasons: development of tourism, war and civil war, security issues, and other nuisances.

