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# Cuba, Chimborazo and the Incas

Humboldt and Bonpland's intention now was to catch a boat bound for Cuba and from there to travel on to Mexico. Their plant collections and geological specimens brought from Esmeralda and Río Negro had greatly increased their baggage, so their journey across the *llanos* went slower than they wished; in fact it lasted some nineteen days. Humboldt describes the villages and missions they passed through and was very impressed by the Carib tribes, once nomadic, distinguished by their height (most ranged between five feet nine inches to six feet two inches) and in which as was the custom of all such tribes in the Americas, the men covered their bodies more than the women. Humboldt showed a deep interest in their history and in their languages where, so he noted, a difference existed between the 'dialects of the two sexes'. As with the Chaima language, Alex collected all the material he could of these languages and later passed it on to his brother Wilhelm. Although Alexander never deviated from his scientific pursuits, his studies were always completed with the benefit of others in mind.

The next leg of their journey brought them face to face with the problem of the *llanos* that 'were infested with numberless robbers who murdered all whites who fell into their hands. . . .'<sup>1</sup> He was more afraid of such men than being among the cannibals who lived in or near the Carib missions. Despite his genuine fears he was struck by the immensity of the bare landscape and the limitless space which, so he claimed, 'reflects a similar quality inside us (as poets in all languages have written)' and added that it 'elevates the minds of those who enjoy solitary meditation'. Was he thinking of Leopold von Buch who preferred his own company when roaming in the wilds in his pursuit of new geological phenomena? On 23 July they entered the town of Nueva Barcelona where they 'lost' a month on account of Humboldt suffering from what he believed was typhus. When he felt better he was eager to reach Cumaná and so hired an open boat called a *lancha* that was

used to smuggle cocoa to the island of Trinidad. They loaded the boat with their plants, instruments and monkeys but shortly after leaving they were attacked by pirates from Halifax in Canada and were led aboard the pirate ship as prisoners. Fortunately for Humboldt and Bonpland an English warship (*The Hawk*) passed by which had signalled the pirate boat, but on receiving no answer sent a midshipman aboard. It was he who then invited Humboldt (and Bonpland) to join his ship whereupon Humboldt met Captain John Garnier of the Royal Navy, who had been following Humboldt's progress in English newspapers. Humboldt was overjoyed to meet well-informed officers after a year in the jungle:

When you have come from the Casiquiare jungles, with nothing but the company of a narrow circle of missionaries for months, it is a joy to talk to men who have travelled round the world and broadened their minds by seeing so many different things. I left the boat, blessing the career I had devoted my life to.<sup>2</sup>

It is all too easy to forget the enormous change in lifestyle and in environment that had to occur for Humboldt and Bonpland to achieve their scientific goals. Deep in the jungles of the equinoctial regions that he occasionally called the 'torrid zone', they were a universe away from the royal courts of Madrid and the famous libraries and institutes of learning in Paris; equally remote were the universities of Göttingen and Frankfurt an der Oder, the tranquil landscapes of Tegel Castle and his 'enlightened' circle of friends in Jena and Weimar. It was those happy days filled with civilised conversation in the company of men – and of women, too – who had travelled and broadened their own minds that he particularly missed. Among such would be Georg Forster, Goethe, Sir Joseph Banks and probably above all others his brother Wilhelm von Humboldt. Each one of such eminent scholars would have likewise blessed the career to which they had devoted their own lives.

Humboldt's statement shows at this early stage that he has found his niche in the world – that of a natural scientist and explorer – and because of that he would use his talents and this opportunity to do his best both for his sponsors and for humanity en bloc. Nothing is recorded of Bonpland's reaction to the episode but it can be safely assumed that his relief was as great as that of his leader and colleague.

What is very odd is that the episode with the pirates is rarely mentioned, yet one that Humboldt and Bonpland could never forget. More crucially, had Garnier's ship not intervened who can say what would have happened to Humboldt and to all his plans? It was a major turning

point, totally unforeseen and its happy outcome best explained perhaps by the adage that fortune does indeed favour the brave. Furthermore, when at the outset of his journey Humboldt had written to Freiesleben claiming that ‘we must want the great and the good and the rest is down to destiny’, he sincerely meant what he had said. Does not this episode bear out his remarks – and intentions – for he certainly strove to attain the great and the good and destiny unquestionably played its part in his return to freedom?

Return to their point of departure, Cumaná, was a great relief but because the port was blockaded they were obliged to wait there two and a half months. Typically, they spent their time usefully. They completed their collection of the flora of Cumaná, examined the geology of the Araya peninsula and observed numerous planetary eclipses and when a French squadron arrived, Humboldt gave all his animals to them to take back for the zoo in Paris. A noble intention but all the animals (birds and monkeys) died in Guadeloupe. Loss of collections (notes, samples and live animals) was a constant danger on such expeditions and that is why several samples of the same plant, species, fruit or rock had to be collected. Sending back crates of similar materials to different destinations from a variety of locations was one way of minimising the risk of loss of materials that to gather, assemble and protect often demanded Herculean efforts.

On 16 November they left Cumaná on an American ship loaded with salt for Cuba. They had spent sixteen months on both the coast and in the interior of Venezuela. At long last they arrived in Havana on 19 December 1801.

Humboldt’s impression of Havana was ‘a town half hidden by a forest of ships’ masts and sails’. Rounding the cape and entering the harbour he had his first, and for him the most impressive, glimpse of its two famous forts (Morro de Habana and San Salvador de la Punta) and its castles built to defend the town from the west. Walls surrounded the town but failed to stop the marvellous scent of flowers that came from Cape San Antonio, on the extreme west of the island. He mentions the cathedral, the admiral’s house, the arsenal, the post office, the government buildings (*Casa del Gobierno*) and the tobacco factory that today is still a major tourist attraction. But within the city walls ‘you walked around in mud up to your knees’. He openly blames the lack of a strong local government for the state of the town in which life for pedestrians was unpleasant in the extreme, and not helped by ‘the stench of *tasajo*’ (poorly dried meat) that ‘stank out of the houses and tortuous streets’.

Humboldt was to visit the island twice. This first visit lasted from the 19 December 1800 to the 5 March 1801. From both visits he would learn a great deal, the fruits of which can be found in his famous essay on the island of Cuba that appeared in two volumes as late as 1826 and that has now become a major work and is still consulted today. Until his study, it would be fair to say that Cuba was 'unknown': up until 1800 very little about the island had been published.

Public acclaim of the essay is merited because in it Humboldt describes the island as no other before him: its size, climate, the physical state of the coastal areas, soil conditions, population (its different ethnic groups, etc.), economy, trade and its finances are all covered and he devotes a whole chapter to the condemnation of the island's practice of slavery. It was the most thorough report to date and included a map of the island that showed his corrections of errors with regard to locations found on earlier maps. The report became the focus of Margot Faak's unique study of Humboldt's essay, which is probably the best available.

In Cuba the work had limited distribution due to widespread illiteracy. Consequently it was read mainly by the nobility and middle classes. When the Cuban statesman, economist and lawyer to the Chamber of Commerce, Francisco de Arango y Parreño read Humboldt's detailed account of the island, he then made a number of 'corrections' in the margins of his own copy which he then sent to Humboldt. Such corrections were then incorporated in the edition published as late as 1959.

Humboldt's description of the landscape of Cuba as the 'Pearl of the Antilles' has stuck and is widely used today by travel agents and tourist operators. Although he praised the beauty of the physical landscape he was not blind to the harshness of social conditions. In his tour of the island he saw how owners of sugar plantations were made wealthy by the 'blood and groans' of slave labour. He inspected the harvesting and the refining of sugar and, as usual in his reports, he suggested how improvements could be made especially in the use of technical tools and chemical procedures. He also refers to the severe disadvantages of a monoculture (sugar-cane) although tobacco was also produced.

Apart from the astronomical, geographical and geological observations to be made, there was a whole world of flora to study and enjoy: the majestic palm trees, the sweet aromas, the green meadows and landscapes where lemon and orange trees grew in abundance. While there they met members of the Spanish government-sponsored Botanical expedition whose task was to collect and describe every species found on the island.

It was also at this time that Humboldt met the Scottish botanist John Fraser who had travelled to Cuba with his son to collect herbs. Fraser had suffered shipwreck and had spent three days on a small sandy island opposite Cuba where fishermen found him and brought him back. In what had been a frightening ordeal he had lost all his luggage and work materials. He was fortunate to have met Humboldt who gave him money and found work for him on the island. Moreover, Humboldt offered to take his son on an expedition but Fraser senior declined, saying his son knew no Spanish. The encounter with Fraser was yet another reminder to Humboldt and Bonpland of the constant exposure to dangers that travel, whether on sea or on land, entailed. Humboldt's escapes from drowning on the Orinoco and Bonpland's escape from the frenzied attack on Cumaná's beach together with their severe bouts of illness in the jungle were still fresh in their memories.

Humboldt's stay on Cuba was cut short when he read in North American newspapers that Baudin was en route to Australia and would 'call in' at Chile and Peru. It seemed that he was being offered a second chance to join an expedition that had been his first choice.<sup>3</sup> He had in fact made a prior arrangement that whenever Baudin began his journey Humboldt would join him. And so, despite the rich harvest already collected and richer yet to come, he and Bonpland changed their immediate plans in order to fulfil an earlier dream. With Lima as their final destination they left Cuba in a schooner named *Goleta* for the Columbian port of Cartagena where three weeks later they arrived in good spirits. It was in Cartagena where 'everybody agreed that a land journey via Bogotá, Popayán, Quito and Cajamarca [spellings vary] would be better than a sea journey' because it would allow them to 'explore far more'. It was to prove another unexpected but richly rewarding change of plan; nine months later they would arrive in Quito to learn that the newspaper reports had been wrong; Baudin had taken not the eastern but the western route!

A great deal would happen before such devastating news reached their ears, however. For the next leg of their marathon journey we can no longer refer to the *Personal Narrative* that closed in May 1801 but to a translation of 13 of the several volumes of Humboldt's original diaries written in French that relate to his five year journey (1799-1804). Strangely, these volumes remained unedited until they were translated into German in 1986. The translation deals with the journey through Columbia, Ecuador, Peru, Mexico and Cuba that took place after Humboldt's return to Cumaná. It must be said that the translator found difficulty at times in translating specialist terms, in particular those

associated with South American flora and fauna but also with terms to do with astronomy, botany, zoology and sea travel; she also had to tackle Humboldt's varied uses of terms to do with weights, measures and currencies.<sup>4</sup>

The translation does not present us with a 'total edition' of the diaries simply because they amounted to what is described as 'an immense, chaotic collection of materials'. And this is right because apart from descriptions of his various travels, that include numerous drawings and records dealing with astronomical, geomagnetic, barometric and zoological data, there are also tables of calculations and measurements, comparisons with other researchers, notes about the instruments used, yet more descriptions of mountains, minerals, rivers, lakes, flora and fauna, visits to libraries, archives and to various scholars. His diaries include letters and memoranda from officials that he met en route, news cuttings, and also insertions added later from his own collections. It should be said, however, that one consideration above all else guided Humboldt as he compiled his travel diaries which was this: if some tragedy should befall him, how could his work and his collected data be saved for posterity? He could rest knowing that others would at least have all the documentation – material he deemed relevant to the subject he was studying – available to them. After all, a major aim was publication. He amassed material in the hope that later it could, and would be, improved upon and thus continue to be of use to others.

Even at this very early age his focus was on his successors; this explains why he collected everything to do with whatever he was studying at the time. An accurate and comprehensive study demanded such an approach and proved integral to his later aim of arriving at a 'total picture' of the physical world. Nevertheless, the task faced by any would-be editor of such a mass of materials would be daunting. It is hardly surprising that his collections were seen as 'immense' and 'chaotic'. They were to the translator but not to Humboldt because that was the way he worked. The problem for both Humboldt and Bonpland was that they had collected an enormous amount of material that had to be arranged, digested and evaluated. But there was another problem: not only was the quantity of data collected by Humboldt vast, but his script was hardly legible. The fact of the matter was that he wrote fast and very frequently used 'technical terms' that sometimes involved three languages. His travel diaries were written first in German (up until Quito) but thereafter in French but, as we saw in his *Personal Narrative*, his use of Spanish terminology was both common and inevitable. No wonder that we had to wait until 1986 for a reliable translation of the 13 diaries.



A section of an oil painting (1810) by Weitsch, showing Humboldt and Bonpland at the foot of Mt Chimborazo in Ecuador. A native Indian offers Humboldt a sextant while Bonpland arranges plants for his herbarium.

The two explorers spent six days in Cartagena and then moved on April 6 to the Indian village of Turbaco (formerly Tarasco) where they stayed in a beautiful house built by Archbishop Viceroy Góngora where they prepared for their journey on the Magdalena River and thereafter their long land trip from Honda to Bogotá, Popayán and Quito. Commenting about Turbaco Humboldt wrote,

Few stays in the Tropics have pleased me more. . . . Snakes are very common and chase rats into the houses. They climb



on to roofs and wage war with the bats, whose screaming annoyed us all night. . . . Every day we went botanizing in the Turbaco forest from five in the morning until dark: these long walks would have been a delight in this fertile marshy soil if we had not been devoured by mosquitoes. . . .

Our life at Turbaco was simple and hard-working; we were young, linked by similar tastes and characters, always full of hope in the future, on the eve of a journey that would take us to the highest Andean peaks, and volcanoes on fire in a country where earthquakes are common. We felt happier than at any other moment in our expedition. The years that have passed since then, not without bitterness and hardships, have added to the charms of these impressions.<sup>5</sup>

When he talks of 'the years that have passed since then', it is because this part of his journey was written in 1827, the very year, as will be shown, that he left his home in Paris and returned at last to Berlin.

Less eventful than the journey on the Orinoco – although the same dangers and exposure to swarming insects, wild animals, violent storms, cataracts, and even longer stretches of wilderness where not one hut was seen, as well as all kinds of illnesses to which their native Indian rowers seemed particularly vulnerable were present – the journey on the turbulent waters of the Magdalena lasted 45 days and was undertaken with the intention of meeting, in Santa Fe de Bogotá, José Celestino Mutis, Spain's most famous botanist, whose botanical library was second only to that of Sir Joseph Banks in London. He had in his employ some 30 painters and had amassed in his portfolio between 2,000 and 3,000 drawings. In his account of the meeting with Mutis it is clear that the reception was almost a coronation style celebration. The viceroy of Nueva Granada (the name then for Columbia and Ecuador and part of Venezuela) headed the city's dignitaries as they waited for Humboldt's six-horse-drawn carriage and a similar one for Bonpland, each carriage flanked by horsemen leading the procession on either side, to arrive. Although Humboldt had no time for pomp and ceremony, he was more than impressed by the value Colombian society placed on botanical studies. Moreover, after some six weeks on the stormy Magdalena River, a little luxury was more than welcome. Mutis presented Humboldt with circa one hundred drawings that were later donated to the *Institut National* in Paris. Humboldt gave Mutis 'bamboos' from the Orinoco region. Humboldt's main gift to the viceroy, however, was his map of the Magdalena River, but he included another that showed the links between the Highlands of Bogotá and the



grasslands of the Orinoco region. Lastly he gave the viceroy a 'cross-sectional drawing of the area from Cartagena to the capital city'.<sup>6</sup>

In Bogotá Humboldt did not confine himself to botanical matters only but also carried out inspections of mines and salt works. He was interested in the country's gold and silver deposits and production. Humboldt and Bonpland made numerous excursions to the mountains and collected so many rock and mineral samples that Humboldt was able to erect a small museum in his apartment that was visited by 'half of the city's inhabitants'.

They left Bogotá on 19 September, their departure almost as rapturous as their arrival. Travelling with mules that carried their equipment, food and presents from Mutis, they were now to face atrocious conditions on what was to become a gruelling marathon over the cruellest and most dangerous terrain imaginable. Despite the driving rain, the steep cliffs, the serpentine inclines, paths that were scarcely more than 12 to 15 inches wide (30 to 40 centimetres), more a ledge than a path and often very high up in the mountains, they continued to take measurements of the temperature, light intensity, land cover, air pressure and humidity.

Life was a daily battle; everything was an ordeal and nothing but the firmest of resolves would see them through. In a letter to his brother, we catch a glimpse of their ordeal as they approach Pasto, situated at the foot of a volcano, on the road between Popayán and Quito:

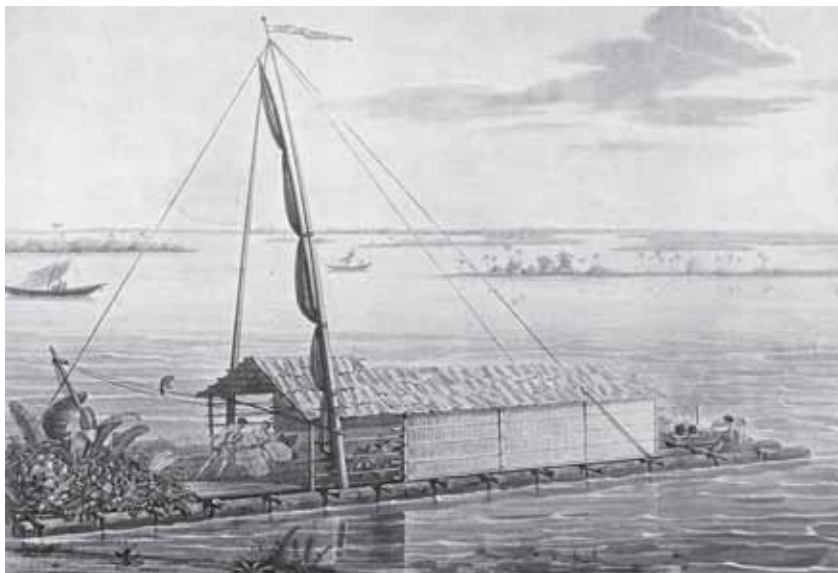
It would hardly be possible to describe a more horrible road than that by which access is obtained to this little town, where we spent Xmas 1801. . . . Thick woods interspersed with morasses, in which the mules sank up to the girths, and narrow paths winding through such clefts in the rocks that one could almost fancy one was entering the gallery of a mine, while the road was paved with bones of mules which had perished through cold or fatigue. The whole province of Pasto, including the environs of Guachucal and Tuqueres, consists of a frozen mountain plateau, almost above the limit of vegetation and surrounded by volcanoes and solfataras, from which wreaths of smoke continually arise. The unfortunate inhabitants of these regions live almost entirely upon potatoes. . . .<sup>7</sup>

And even prior to reaching Pasto the small expeditionary force were compelled to cross the *páramos*, the name given in the Andes to those desert regions where at some 12,000 feet above sea level all vegetation ceases and where the cold is so intense it bites into one's bones.

It is in the region of Quito where Humboldt went on to spend some eight months and to record his ascent of the volcano, Mount Chimborazo, considered at the time the highest peak in the world. He also climbed the volcano of Pichincha on two separate occasions, the height of which he measured as 14,940 feet. An unforgettable experience for Humboldt occurred on June 23 1802, the day he climbed Chimborazo to a height of 18,096 feet, not quite the summit but no one had gone higher. Both Chimborazo and Pichincha furnished Humboldt with minerals that he sent in a crate to the Natural History Museum in Madrid. In his accompanying letter he claims that no other cabinet in Europe held such rocks as those that *he* had sent from Ecuador. It was also in Quito that Humboldt learned on 23 June 1802 that Baudin would not be passing along the western seaboard of South America. The news persuaded him to continue to Lima and from there go on to Mexico. Such events compelled Humboldt to improvise; indeed much of his itinerary is the result of improvisation but wherever he worked his research methods remained intact. The fact that Humboldt failed to join up with Baudin must now be seen as fortunate because the French expedition met serious trouble and its revered leader Baudin died during the journey.

When Humboldt left for Lima he was accompanied by Carlos Montúfar, the son of the Duke who had provided Humboldt and Bonpland with a house for the duration of their stay. It was a very generous offer and allowed both scientists to continue their studies and to store their ever-growing collections. Carlos was so taken with Humboldt that his father asked Humboldt to take his son with him on his expedition. The Duke wanted his son and heir to complete his 'military education' in Spain and become an army officer. Humboldt agreed and so he now led a party of three.

En route to Lima they passed through Cuenca and although Humboldt was suffering from 'painful foot sores' nothing could stop him admiring the remains of the palace of the Inca, Tupayupangi. They soldiered on to the town of Cajamarca where they visited the former residence of the Inca king Atahualpa. Their guide was the seventeen-year-old son of Astorpilco, a direct descendant of the king who claimed that great treasures of Inca gold lay buried beneath their feet. And yet, despite his claim, he was resigned to his fate of living in dire straits owning nothing more than a 'small field and good wheat'. When asked by Humboldt if he was tempted to dig up some of the treasure, he said no, the reason being, if he did so, he would only incur the 'hatred' of their 'white neighbours'. It was a sad indictment against a colonial power that had taken their treasures and wealth but had ignored the character, nobility and achievements of those



Humboldt's sketch showing the type of vessel, sometimes called a raft, used by Humboldt to navigate S. American rivers; see plate LXIII in *Vues des Cordillères* (1810-13).

they had conquered. In brief, the descendants of the Incas preferred to live in misery rather than face the animosity of their overlords.

Seeing such splendours, albeit in serious decay or in ruins, Humboldt was also attracted to the language of Quechua which at the time was the dominant language (especially so in the region between Quito and Lima). Its complex structure and rich vocabulary, when put alongside the richness of the Carib language that Humboldt had encountered in the Orinoco region, proved to him that a high level of culture had existed in South America long before the arrival of the Spaniards. When he saw their network of roads (the Incas did not have horses) that traversed their once vast empire, the architecture of their palaces, baths, gardens and 'landscapes', he was convinced that he was in the presence of what had been a very advanced civilisation. After five days in Cajamarca they moved on to Trujillo where an elated Humboldt, after 18 months on the road, caught his first glimpse of the Pacific and thus fulfilled a long-held dream. From Trujillo they rode on horseback all the way along the coast to Lima arriving there on 23 October 1802. It was to be the most southerly point of their odyssey.

They stayed two months in Lima and although the hospitality of its inhabitants could not be faulted, Humboldt thought the city unattractive and blamed what later came to be called the Humboldt Current for

its bleak climate! For six months of the year, so he claimed, not one single ray of sunshine was to be seen. Yet from Callao, the city's port, he managed to observe the transit of Mercury on 9 November and from his calculations was able to determine the city's longitude. This may not seem important now but without it, the grid system for the whole of south west America would have remained incomplete.

Humboldt, Bonpland and Montúfar left Callao on 5 December 1802, bound for Guayaquil in Ecuador en route to Acapulco. All thoughts and hopes of a voyage to the Philippines were long forgotten. Mexico was now his dreamed-of destination but before reaching the land of the Aztecs they were to spend a very profitable six weeks in Guayaquil. One memorable measurement taken by Humboldt was the temperature of the ocean current that was then named after him. Whether it is now called the Humboldt or the Peruvian Current matters less than the fact that he was the first to test its waters; he also made several excursions to the tropical forests in Babajos and Babakoya accompanied by renowned Peruvian botanists. More significantly it was in these six weeks that he made his now famous cross-section of the Chimborazo volcano and wrote the first draft of his 'geography of plants' that accompanied and explained the cross-section. Both works were sent as a farewell gift to Mutis in Bogotá.