

CHARLES ROBERT DARWIN AND ARGENTINA'S NATIONAL ACADEMY OF SCIENCES

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ABSTRACT

Over 175 years ago Charles Robert Darwin arrived in Argentina to find a bare and boundless plain, the brave centaur called "gaucho", Quaternary fossils everywhere, and a society strikingly strange and aggressive to the British eyes of the young traveller. Although the voyage aboard HMS Beagle was the indispensable way towards increasing his stature as a biologist, Lyell's work awakened an inquisitive geological mind which allowed him to wonder at the splendour of the Andes. Forty-two years after having concluded his voyage on the Beagle, the National Academy of Sciences of Argentina appointed him as an Honorary Member. This must be interpreted as an early gesture of recognition -in the context of those times- to the magnificence of his scientific work.

Keywords: *Darwin, Argentina, National Academy of Sciences, geology, Sarmiento.*

RESUMEN: *Charles Robert Darwin y la Academia Nacional de Ciencias.* Hace más de 175 años, Charles Robert Darwin llegaba a la Argentina para descubrir una llanura desprovista de límites y de árboles, el valeroso centauro que era el gaucho, fósiles cuaternarios por doquier y una sociedad sorprendentemente extraña y agresiva a los británicos ojos del joven viajero. Aunque el viaje a bordo del Beagle fue el camino indispensable para incrementar su estatura como biólogo, la obra de Lyell despertó una mente inquisitivamente geológica que le permitió maravillarse ante la magnificencia de los Andes. Cuarenta y dos años después de haber concluido su viaje en el Beagle, la Academia Nacional de Ciencias de Argentina lo designó Miembro Honorario, en lo que debe interpretarse como un temprano gesto de reconocimiento -en el contexto del momento- por la magnificencia de su obra científica.

Palabras clave: *Darwin, Argentina, Academia Nacional de Ciencias, geología, Sarmiento.*

INTRODUCTORY COMMENTS

On July 26, 1832, one day short of seven months after leaving Plymouth harbor, HMS Beagle moored at Montevideo. It was a Cherokee class 10-gun brig-sloop of the Royal Navy named after the Beagle, the famous British dog breed. The most important task entrusted by the British Admiralty to 26-year-old Captain Robert FitzRoy was about to begin - the survey of the coasts south of the Río de la Plata, down to the southern tip of Patagonia and Tierra del Fuego. There were significant gaps in the geographical knowledge that the British Admiralty had gathered through countless reports of sailors who had visited the region for many years. Now that George Canning had signed in 1825 a commercial treaty with the newly independent federation of Argentinean states, trade was flourishing

with the ex Spanish colonies and accurate geographical information was urgently needed.

Charles Robert Darwin was only 22-years-old when he saw the muddy waters of the Río de la Plata for the first time; he had been recommended to FitzRoy as a companion and naturalist without pay (Darwin's father covered all the expenses involved in the long voyage) by John Stevens Henslow, clergyman, botanist, and mineralogist, whom Darwin had met in Cambridge. Young Darwin was expected to gather information on the natural history and geology of many exotic regions that he was going to visit during a two-year long journey around the world. The trip was initially extended to three-years and then to five-years and it would be the most extraordinary experience in the life of Charles Darwin; an experience that would change dramatically the view that humankind had of itself and of

nature. In his memoirs, he would simply state that "*the voyage of the Beagle has been by far the most important event in my life and has determined my whole career*".

Darwin had left unfinished his medical education at Edinburgh in 1827, and had gone to Cambridge's Christ's College where he obtained his Bachelor of Arts (BA) degree, without honors. He was an enthusiastic entomologist and an avid biological collector and his experience in the Earth Sciences was limited to a field trip to northern Wales with the famous Adam Sedgwick (1785-1873), Woodwardian Professor of Geology at Cambridge. Notwithstanding, Darwin was supposed to become a clergyman and his father -Robert Waring Darwin- initially had strong objections when Charles was offered the opportunity of boarding the HMS Beagle for a journey to South America to "*survey the S. extremity*". However, after Charles's uncle, Josiah Wedg-

wood II, wrote an eloquent letter in which he stated that being young Charles a man of enlarged curiosity, "...it affords him such an opportunity of seeing men and things as happens to few".

After an absence of five years and two days, on October 2nd, 1836, the Beagle anchored at Falmouth, and on the 4th Darwin returned home to Shrewsbury. As we know today, the voyage of the Beagle made him a scientific celebrity, as he produced several books and numerous articles, and profusely described and distributed many specimens that he brought home with him aboard the ship (Fig. 1). All these events rapidly led him to join the elite world of international science on an equal footing. The revolutionary ideas set into motion by this long voyage swirled through Darwin's later life until, precipitated by Alfred Russel Wallace, they suddenly broke through into Victorian society in 1859, under the form of a book that bore the provocative title of *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life* (Fig. 2). The best place to find a detailed and personal account of Darwin's rich experiences is his first book, entitled *Journal of Researches into the Geology and Natural History of the Various Countries visited by H.M.S. Beagle, under the Command of Captain FitzRoy, R.N. from 1832 to 1836* (Fig. 3). The book was a success when first published, in 1839, and Darwin's fondness for this particular work was transparent when he wrote at the end of his life that "*the success of this my first literary child always tickles my vanity more than that of any of my other books*". Originally published in four volumes (Darwin's volume, plus FitzRoy's two and an extended appendix), Darwin describes not only the exciting travels, the exotic ports of call, and the fascinating inland expeditions (in fact, he spent much more time on land than he did at sea), but also his emotions, his intense feelings on first arriving in the tropics, his dangerous overland excursions with the gauchos (which he deeply admired), and the awesome sight of the

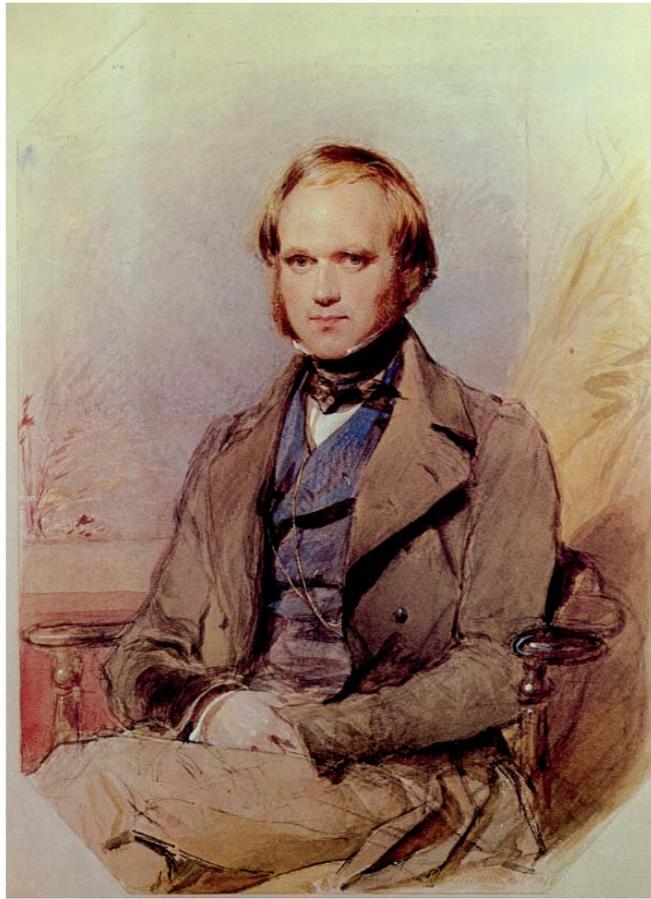


Figure 1: Portrait of young (~31-year-old) Charles Darwin four years after he returned from the voyage of the HMS. Beagle, painted by George Richmond (1840).

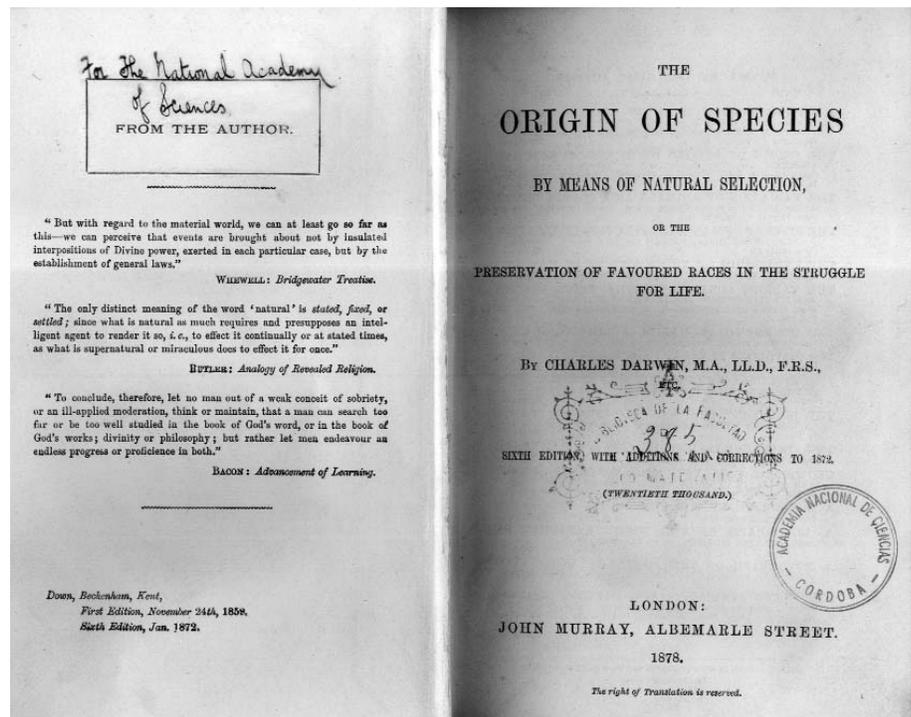


Figure 2: Facsimile of the front page of *Origin of Species*. The volume was sent by the publisher to the National Academy of Sciences, in Córdoba, upon Darwin's request.

stars over the Cordillera de los Andes. Moreover, in his first work - later published as *Voyage of the Beagle* (e.g., Darwin 1989)- it is very clear that Darwin, at least, was never a detached observer and the book shows how he saw a totally foreign society through British eyes and strongly supported the social order and political structure as he understood it from his native country. Along this line, it is particularly interesting to read about his impressions and views on Argentine society in times of severe turmoil, when Juan Manuel de Rosas (whom he met personally) was growing as a political figure in the conflictive scenario that was at the time the Argentine Confederation. Darwin set foot for the first time on Argentina's soil in Patagonia when the Beagle arrived on August the 3rd off the mouth of the Río Negro. He traveled afterwards overland to Bahía Blanca, Buenos Aires, and Santa Fe. On December 6th 1833 the Beagle set sail to Patagonia (Puerto Deseado) and then anchored within the mouth of the Río Santa Cruz, which was explored upstream for several weeks. On June 10th, 1834, the Beagle "*bade farewell for ever to Tierra del Fuego*". Darwin was not particularly fond of sailing rough seas and one can only imagine the feeling of relief that he experienced when they left Cape Horn for good. Darwin would enter again Argentina's territory when he crossed the Andes and arrived in Mendoza during the 2nd half of March, 1835. The awe-inspiring sight of the Cordillera and the possibility of seeing geological processes at such large scale made a very deep impression on the young scientist.

DARWIN, THE GEOLOGIST

Since this article is published in a geological journal, it seems appropriate to briefly consider the geological facet of Charles Darwin. It is accepted now that geology influenced Darwin and, conversely, he influenced the science (Herbert 2005). Like FitzRoy, he had a special interest in geology and he had read most of

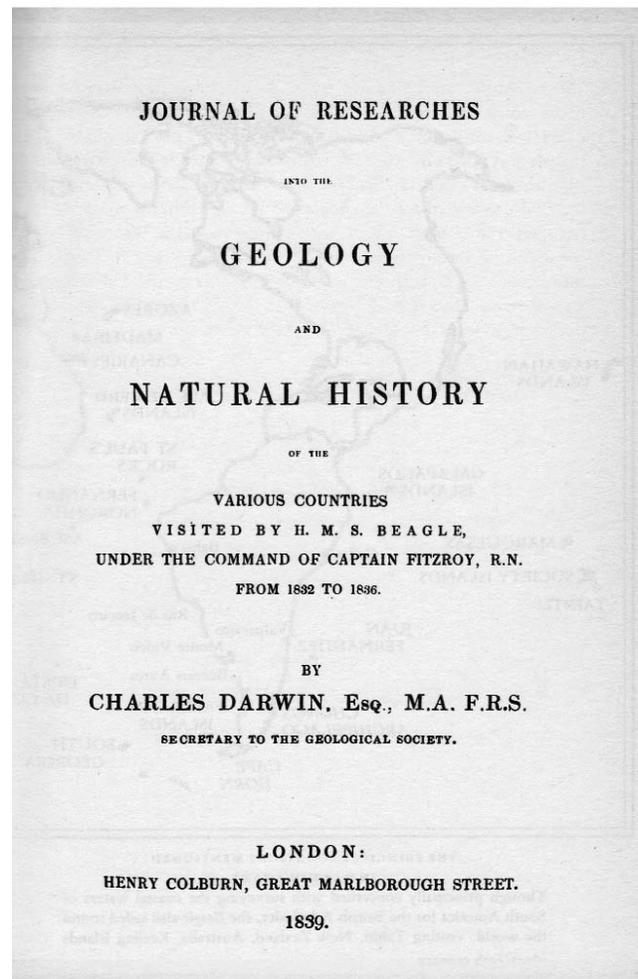


Figure 3: Facsimile of the front page of Darwin's Journal of Researches, a.k.a. *Voyage of the Beagle*.

the best-known texts in the field, particularly Charles Lyell's famous *Principles of Geology* (Lyell 1998), which was originally published in 1830. This shared interest in geological sciences was probably a factor that drew FitzRoy and Darwin together during their time on board. In fact, FitzRoy was approached by Lyell before the Beagle sailed off Plymouth in order to ask that specific geological features be recorded, such as erratic boulders of glacial origin. Darwin gathered geological specimens and took detailed notes on geology during the circumnavigation of the globe. Contradicting widespread belief, upon his return to Great Britain, it was his geological findings that first promoted enthusiastic scientific and public opinion. It must be kept in mind that, as a young scientist, Charles Darwin was eager to contribute with a simple theory that would explain most, if not all, of the

observed geological phenomena. Only his scheme explaining the structure and distribution of coral reefs has survived to this day (Herbert 2005).

The British government sponsored publication of his research and numerous geologists, including Darwin's former teachers like Sedgwick, proved to be an interested audience. Doubtlessly the experience of the voyage of the Beagle had been transformative: the methods and hypothesis of Victorian-era geology profoundly shaped Darwin's mind and his scientific methods as he worked toward a complete comprehension of evolution and natural selection.

DARWIN AND ARGENTINA'S NATIONAL ACADEMY OF SCIENCES

The Academy was founded on Septem-

ber 11th 1869, by a bill passed on to Congress by Argentina's President Domingo Faustino Sarmiento (García Castellanos 1987). The bill authorized President Sarmiento to hire a significant number of European scientists in order to promote scientific research in the natural and exact sciences and foster higher education at the Universidad Nacional de Córdoba. The first to arrive in August 1871 was Prof. M. Siewert, from the Universität Halle (known today as Martin-Luther-Universität Halle-Wittenberg), soon followed by Prof. P.G. Lorentz, a botanist from the Universität Munchen. Others, like the geologist Stelzner, the zoologist H. Weyenbergh, the astronomer K. Schultz-Sellack, arrived the following year (García Castellanos 1987). As academicians and naturalists from prominent European centers of higher learning, all undoubtedly knew about the revolutionary ideas put forward in the *Origin of Species* and, although not all supported Darwin's views (G. Burmeister, a prominent biologist, organizer of the Academy, for example, opposed evolutionary ideas), there is ground to sustain that most were enthusiastic supporters of Darwin's work. Moreover, during his visit to Argentine territory Charles Darwin made numerous and valuable observations that increased the knowledge on the natural history and geology of the young country. Hence, it should not come as a surprise that Darwin's magnificent work and his contact with Argentina led to his appointment as a Corresponding Member ("Miembro Corresponsal") of the National Academy of Sciences, which still has its seat in the city of Córdoba, Argentina. On August 7th 1878, the President of the Academy, Dr. Hendrik Weyenbergh, wrote a letter to Argentina's Minister of Education Dr. Bonifacio Lastra requesting the appointment of several new members and the change of Charles Robert Darwin's status to Honorary Member ("Miembro Honorario") (Fig. 4), along with D. A. Grisebach. In return, Darwin instructed his publisher to send a copy of the *Origin of Species* to

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Al Excmo. Sr. Ministro de J. B. e Instrucción Pública
de la Nación,
Dr. D. Bonifacio Lastra.

Habiéndose comunicado á ese Ministerio el nombramiento recaído en mi persona de Presidente de la Academia Nacional de Ciencias, me es grato dirigirme por primera vez á V. E., en tal carácter, al objeto que paso á expresar.

Reorganizada aquella mediante el decreto superior, fecha 22 de junio último, aprobatorio del Reglamento, el primer cuidado del Instituto ha sido ensanchar su esfera de acción con el aumento de socios que cooperen á realizar los altos fines que han presidido á su fundación.

En esta virtud, y de conformidad con lo establecido en el artículo 5.º del estatuto aludido, ha resuelto proponer á la aprobación del Gobierno á los siguientes señores en calidad de miembros de la Academia:

Miembros Honorarios.

Dr. D. Manuel Sucero, Rector de la Universidad Mayor de S. Carlos.

Dr. D. J. E. Wappaus, Catedrático en Göttingen.

Dr. D. Domingo F. Sarmiento, ex-Presidente de la República (Buenos Aires).

Respecto á los Drs. D. C. Darwin y D. A. Grisebach, se ha acordado se sustituya el título de Miembro Corresponsal, conferido anteriormente á estos señores, por el de Miembro Honorario.

Miembros Corresponsales.

Dr. D. C. Schultz Sellack (Berlín).

Dr. D. S. Thorell, Catedrático en Upsala.

D. P. B. J. Snellen (Rotterdam).

Miembros Activos.

D. Paule Chegaray, Ayudante de Química en la Universidad Mayor de S. Carlos, y Profesor en el Colegio Nacional de Monserrat (Córdoba).

D. Augusto Lonil (Córdoba).

D. Guillermo White, Director del Departamento de Ingenieros Nacionales (Buenos Aires).

D. Eduardo Holmberg (Buenos Aires).

D. José Torres, Director de la Escuela Normal en el Paraná.

Con este motivo, me complace en ofrecer al Sr. Ministro la seguridad de mi consideración distinguida.

Dios guarde á V. E.

Firmado = Dr. H. Weyenbergh. París

Figure 4: Facsimile of the letter sent by the National Academy of Science's President, Dr. Hendrik Weyenbergh to Argentina's Minister of Education, Dr. Bonifacio Lastra, requesting the appointment of Charles Darwin as an Honorary Member of the Academy.

the Academy (still in the Academy's collection of antique books), sent an autographed picture (see frontispiece of this volume), and wrote a grateful letter to the Academy's President. Darwin's letter dated March 18th 1879 to the Academy's President, Dr. Hendrik Weyenbergh, read: "Dear Sir, I beg leave to acknowledge the receipt of the very handsome Diploma of your Society, and to repeat my thanks for the honour conferred on me. According to your request I enclose my photograph, and I have directed my publisher to send a copy of my *Origin of Species* to the Society as I suppose that this is the best of my works. I have the honour to remain, Dear Sir, Yours faithfully, Charles Darwin" (Fig. 5). To this day, the volume presented by Darwin as a gift, as well as the photograph and the letter, are cherished in Argentina's Academy of Sciences as valuable icons of the development of world science.

Darwin's approach to explain the evolution of nature and, above all, of humankind rapidly rooted in Argentina's newly born but growing science. Perhaps nothing better than Sarmiento's own words to express the widespread feelings towards these revolutionary biological ideas. In 1882, he expressively said "...*Yo, señores, adhiero a la doctrina de la evolución así generalizada, como procedimiento del espíritu, porque necesito reposar sobre un principio armonioso y bello a la vez, a fin de acallar la duda que es el tormento del alma*" (Sarmiento 1951, p. 118). ("And I, gentlemen, adhere to the theory of evolution thus generalized, as a procedure of the spirit, because I need to rest upon a harmonious as well as beautiful principle, in order to hush doubt, that torment of soul").

Darwin died in 1882 after a long illness; it was not realized until after his death that he had suffered from Chagas's disease, which he had contracted while visiting South America. Although he was not the only originator of the evolution hypothesis, he certainly was the first man of science that gained for such theory a wide acceptance among biological ex-

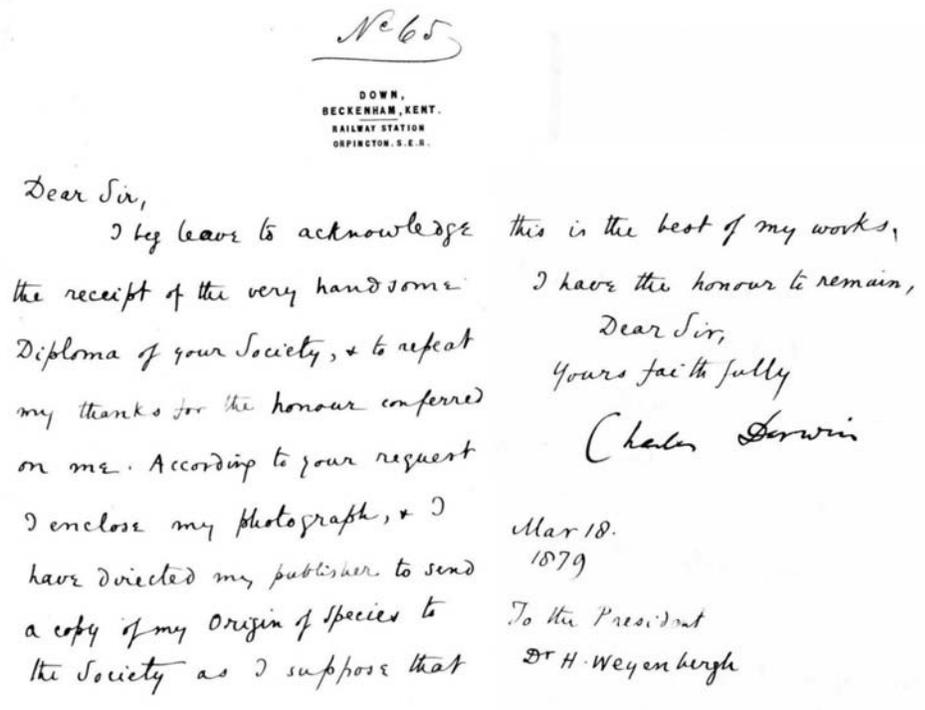


Figure 5: Facsimile of the letter sent by Charles Darwin on March 18th 1879 to the Academy's President, Dr. Hendrik Weyenbergh, acknowledging his appointment as Honorary Member of Argentina's National Academy of Sciences.

perts. By contributing his own ideas on natural selection to the evolutionism outlined by Erasmus Darwin -his grandfather-, Lamarck and other biologists, he raised the evolutionary hypothesis to a provable theory.

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