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ART. I.—*Alexander von Humboldt, his early Life, his Education, his Writings, and his Books;* by HENRY STEVENS of Vermont, F.S.A. etc., 4 Trafalgar Square, London.

THE higher the sun the shorter the shadow; even so the greater the eminence of a philosopher the briefer need be his eulogy by the unphilosophical. Nevertheless so exceptional was Humboldt in himself, his early training, his achievements, it may not be deemed out of place here, though perhaps at the expense of wearying the unlearned who need not know so much, or worrying the learned who know it already, to recapitulate a few of the well known points in the life, education, and character of this illustrious man.

If the indifferent reader will run his quick eye over the titles of the seventeen thousand volumes recorded in the Catalogue of his Library he will, no doubt, see at a glance that in very many respects, it is the most extraordinary collection of modern

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[The above article has been contributed to the Journal at our request by Mr. Henry Stevens, a gentleman of well known bibliographical attainments, who purchased the library of Humboldt, not long after his decease, and who has arrived at many interesting conclusions in respect to the distinguished scientist, based chiefly upon the examination of his literary and scientific collections. It was originally written as a preface to a Catalogue of the Library prepared under the direction of Mr. Stevens. Owing to a change in Mr. Stevens's plan respecting its publication, some slight alterations have been made in it, but not in any way to affect the comments upon Humboldt.—EDS.]

scientific books, especially those pertaining to the physical sciences, ever brought together. It is true, many of the common every-day standard works of this class such as 'no library should be without,' are wanting here, particularly the long sets of scientific periodicals, the transactions of learned societies and other equally valuable and bulky books; but when it is remembered that the great philosopher, while in Paris, where for twenty years he was revising and finishing what he had done, and afterwards while at Berlin, where in his old age, in working up his masterpieces of thought, he brought back to the anvil that which he had hammered, always had at his elbow some of the best public and private libraries in France and Germany, as free to him at all times as his own, their absence from his own collection is accounted for. But the reader will observe that an unusually large proportion of Humboldt's books cannot be found in any other single library, public or private, in Europe or America, not excepting even the British Museum, the Imperial Library of Paris, the Royal Library of Berlin, or the Royal Society of London. Indeed it is a matter of fact, that on a careful examination in 1862–3, it was found that the library of the British Museum, was deficient in at least one-third of the titles entered in this catalogue, every one of which was deemed a desirable acquisition. These were mostly privately printed or unusual works. Almost every page of the catalogue contains books important in themselves, which no money can buy in the usual channels of commerce, but which in every tongue were drawn together from all parts of the world, by the irresistible gravitation of Humboldt's name.

About the year 1855 in this country an unfortunate public impression was achieved, for a purpose, and sedulously enforced by high authority, to the effect that the collection of large libraries of scientific and other books was not necessary to the *increase and diffusion of knowledge among men.* "There are two individuals," wrote a distinguished savant to the Committee of Congress, "who may, without qualification, be considered the most prominent scientific men of the nineteenth century—Cuvier and Humboldt. By what means have they given such powerful impulse to science? How have they succeeded not only in increasing the amount of knowledge of their age, but also in founding new branches of science? It is by their own publications and by aiding in the publications of others; by making large collections of specimens and other scientific apparatus, and not by the accumulation of large libraries. Humboldt never owned a book, *not even a copy of his own works*, as I know from his own lips. 'He was too poor,' he once said to me, 'to secure a copy of them'; and all the works he receives constantly from his scientific friends are distributed by him to

needy students." The very historical truth was then and is now that the two best scientific private libraries in Europe belonged to Cuvier and Humboldt, the one lining the splendid salons in which the baron held those historic reunions; the other described in this catalogue which contains all the books Humboldt ever wrote, many of them thumbed, worn and annotated.

Humboldt was a fortunate child of nature. A lucky star seems to have presided at his birth. On the third of June, 1769, occurred the rarest and most important phenomenon within the whole range of mathematics and astronomy; an event more favorable of its kind than any that had been observed since the Christian era began, or would again occur for hundreds of years; an event which Rittenhouse in America, Euler in Germany and many other eminent astronomers of other countries were deputed to observe for the benefit of mankind. The last *Transit of Venus*,* the great opportunity for determining the sun's parallax, and consequently the dimensions of our planetary system and our globe, was a conjunction of planets coincident with the birth of twelve imperial men of nature, more renowned than the twelve Cæsars. No other single year probably, before or since, ever produced such men as Napoleon, Wellington, Soult and Ney; Brunel, Mehemet Aly, Turner, Sir Thomas Lawrence, Châteaubriand, and Castlereagh; CUVIER and HUMBOLDT; men who upturned the world and set it right again; who revolutionized science, art, politics, states, and the affairs of mankind. Humboldt, in many respects the most gifted of them all, outlived them all.

With his life ended, and became historic, the first grand period of modern science. The times that developed the French Revolution ripened Humboldt, and made conspicuous others, many of them his friends and fellow laborers, among

* *Transits of Venus* are as rare as they are important. They occur in couples, in June and December, about eight years apart, and then not again for several generations. Kepler was aware of the phenomenon and as early as 1604 announced that one would take place in 1761, but young Horrocks of Liverpool with better tables, and additional data, calculated that there would be a *transit* on the 4th of Dec., 1639. He let a friend into his secret, and they two on the day named, for Venus was punctual, were the first ever known to observe it. It was soon calculated that one must have taken place on the 6th of Dec., 1631, and another in June, 1526, and that the next would not occur till the 5th of June, 1761. But of all the transits, past and to come, the climax would be, that of the 3d of June, 1769, when Venus passed across the sun's disc very near the center. The next one, but not visible in this country, will take place five years hence on the 8th of Dec., 1874, which will be a grand one for science, considering the great advance in scientific instruments, but far inferior to the last. If, however, it produces only half a dozen Cæsars it will be a godsend to this rapid century. *Let young folks take note of the date* 1874. Another will occur on the 6th of Dec., 1882, but not again till nearly five quarters of a century later, on the 7th of June, 2004; to be followed eight years after, on the 5th day of June, 2012; to be repeated in Dec., 2117, and so on.

whom may be named LaPlace, Lalande, Gay-Lussac, Kunth, Bonpland, Oltmans, Oersted, Bichat, Delambre, Bessel Berzelius, Davy, Robert Brown, Dalton, Herschel, DeCandolle, Latreille, Valenciennes, Audubon, David d'Angier, Arago, Gauss, Ritter, Müller, Leopold von Buch, Varnhagen von Ense, Compte, Biot, *et al.*, names themselves suggesting discoveries, inventions and unbounded knowledge.

ALEXANDER VON HUMBOLDT was born in Berlin on the 14th of September, 1769, and died there on the 6th of May, 1859, in the ninetieth year of his age. A rapid sketch of his youth and early manhood will serve to show how well he prepared himself, single-handed, to accomplish so much; more even than most of the learned academies of which he was a member, and certainly not less than any of the great Voyages of Discovery, and celebrated Exploring Expeditions conducted at the public expense. The course pursued with him was so peculiar, and contrasts so completely with the usual course of training in the colleges of this country, even in the scientific departments, that no pains have been spared to render this account as complete and exact as possible. Unroll the scrolls of biography and no name will be found a brighter example to stimulate, encourage and direct the youthful student than that of Humboldt.

He was fortunate in his father, Major von Humboldt, who gave him wealth and position; favored in his elder brother William, who gave him the best of companionship, whom he and the world alike loved and honored through a long life; and blessed in his noble mother, to whose virtues, devotion to her boys, energy of purpose, and common sense he owed a right start both in the political world, which he disliked, and in the physical world, which he adored. The earliest tutor chosen by the mother to teach and play with the two boys was Campe the educationist, who among other children's books, edited in German, Robinson Crusoe, a work which no doubt had its early influence in bending the youthful twig. When Alexander was eight years old his father died. The mother and her two boys then lived at Tegel the old homestead a few miles from Berlin. Alexander's constitution was not very strong. In the year 1779 the widow was fortunate enough to secure for their companion and tutor, G. J. Christian Kunth, a youth of twenty, a rare and noble fellow, in whom the mother could and did place implicit confidence. He took charge of the brothers, and became their guide, companion and friend, at the same time being in constant consultation with their mother. How admirably he guided them in their boyish games and studies, and how faithfully he labored for and with them in after life, both the brothers bear ample testimony. The next year, when Alexander was

eleven, he heard at Tegel private lectures on botany by Heim. Two years later Kunth used to take the boys to Berlin to pursue their studies with private masters. They studied together, but each was allowed to follow his own bent. Though Alexander differed widely from William in his inclination for some studies, yet both were alike ardent, and each sympathized with the taste of the other. Here Löffler taught them Greek, and young Willdenow, a rising botanist, with perhaps the best herbarium in Europe, instructed them in botany, while Dohn, Engel, Klein and other distinguished professors were engaged by their ever faithful tutor, to give them private lectures in law, politics, philosophy, mathematics, and the physical sciences. Kunth too heard all these lectures, and a little boy of nine, four years younger than Alexander, heard some of them, Leopold von Buch his name.

Thus they passed two years partly at the capitol and partly at Tegel, always under the watchful care of Kunth, and all three under the eye of the mother, with no temporal cares to retard their progress, and no family obscurity to embarrass their position. Two years later Kunth and his charge, late in 1785, took their first leave of the mother for a time, and went to join the University at Frankfort on the Oder, where they resided two years or more, in the family of their Greek professor Löffler, who had removed thither from Berlin. At Easter, 1788, having exhausted the resources of Frankfort and grounded for a higher course, Kunth accompanied the brothers to Göttingen, at that time the most celebrated University of Germany. Here Alexander at the age of eighteen found ample scope for all his aspirations in nature and natural science, and both brothers had more ample opportunities afforded them to follow out the diverse branches of research to which each felt a strong innate tendency.

The University of Göttingen was then at its zenith, with the best selected library of modern books in Europe. Here they met and cemented lasting friendships with those world-renowned Professors, Blumenbach, Eichhorn, Gmelin, Heeren, Heyne and George Forster, all of whom in after life the brothers were never tired of naming with love and gratitude. The wives of Heeren and Foster were the accomplished daughters of Heyne, he of *the* Homer, he of *the* Virgil, who was himself both Professor of languages and librarian of the University. Into this learned family circle the brothers were cordially admitted in the closest terms of intimacy. Alexander soon became the favorite pupil of the great naturalist Blumenbach, and was proud to call himself the scholar of Gmelin.

But it was to George Forster that Alexander never ceased to acknowledge his indebtedness. Forster was then only thirty-

four. He had accompanied Capt. Cooke in his second voyage round the world in 1773–1775, with his father J. Reinhold Forster, and in the following year 1777 gave to the world his marvelous book, *Reise nach der Südsee*, which afterwards made a profound impression on the mind of young Humboldt, and was perhaps the first great incitement in him to the scientific study of nature. How rejoiced then must he have been to find at Göttingen, Forster whose voyages he knew by heart, and whom he delighted long after to call 'my celebrated teacher and friend.' 'If I might,' wrote he in *Cosmos* in the late evening of his life, 'be permitted to instance my own experience, and recal to mind the source from whence sprang my early and fixed desire to visit the land of the tropics, I should name George Forster's *Delineations of the South Sea Islands*,' etc.

The same year, 1788, and while enjoying the society of Forster, there appeared another little book which seems to have still further aroused his love of nature and strengthened his resolution, already formed, for great voyages. This was Bernardin de St. Pierre's master work, *Paul and Virginia*, a copy of which he says in *Cosmos* 'accompanied me to the climes whence it took its origin. For many years it was the constant companion of myself and my valued friend and fellow traveler Bonpland, and often in the calm brilliancy of a southern sky, or when in the rainy season the thunder re-echoed, and the lightning gleamed through the forests that skirt the shores of the Orinoco, we felt ourselves penetrated by the marvelous truth with which tropical nature is described, with all its peculiarity of character, in this little book.'

After a residence of nearly two years at Göttingen, studying languages, botany, zoology, geography, chemistry, mathematics, geology, mineralogy, etc., in the spring of 1790, Humboldt joined his friend Forster at Mayence, whither he had removed, and they two set out on a private scientific Exploring Expedition down the Rhine. At that time the great question that devided geologists, had reference to the Plutonian and Neptunian origin of rocks. The Basalt of that noble river was before him, and accoutred as he was he plunged into the controversy with mind impartial and fresh from the university. The result of his investigations appeared the same year in his first book, at the age of twenty, entitled, *Mineralogische Beobachtungen über einige Basalte am Rhein. Braunschweig*, 1790, 12°. It is a very neat little volume arrranged with taste and judgment, and in a scientific point of view is said to be creditable to a much older head. The book was published anonymously and is now but little known, being very scarce. The copy described in the Catalogue (No. 4563), and now belonging to General Frémont, possesses peculiar interest. It bears the author's autograph sig-

nature, at the end of the dedication, and was presented to Professor Gmelin in 1790, with an affectionate inscription 'by his scholar, A. von Humboldt.' More than sixty years after, on his eighty-fifth birth-day, this precious little volume was re-presented by Theodor Wagener to the great philosopher, who on the 14th of Sept., 1854, inscribed in it a graceful memento of his youth and of his old age.

From the Rhine the travelers passed through Holland and Belgium, and thence to England, where Forster introduced Humboldt to the President of the Royal Society, Sir Joseph Banks, his fellow voyager fifteen years before with Capt. Cooke round the world. He was warmly received by many of the scientific men of London. At the house of Warren Hastings he was shown some pictures by Hodge representing the shores of the Ganges, which made a lasting impression upon his youthful mind, and still further increased his longing for travel. On returning to Germany he published his book, and then the first great question of his life was asked by his mother. What next? There is some pretty strong evidence that she desired him to take to political life and become a diplomatist or statesman. At all events it was determined that he should enter upon some public employment, and the better to qualify him for this, he went to Hamburgh, and in the winter of 1790–1791 attended the celebrated Commercial Academy of Ebeling, studying business, accounts, trade, banking, and commerce, as much as his ardent love of the physical sciences would permit. But even here, of all places in the world, he was unexpectedly encouraged in his ruling passion. Ebeling became his friend and opened to him the treasures of his own private library, at that time one of the largest collections of voyages and travels with maps and geographical works relating to America, then in Europe. Ebeling was about to go to press with the first volume of his great work on America and hence his mind was full of the subject. That rich collection was afterward purchased by Mr. Thorndike of Boston, and presented to the library of Harvard College, of which to this day it forms a prominent feature.

After a struggle of a few months between business and science, Humboldt's inordinate love of the latter finally triumphed, and in 1791 he turned his back on Ebeling his friend, and commerce his foe, and soon after found himself in Werner's house in Freiberg, with that dear boy for his chum whom he had met at lectures eight years before in Berlin, Leopold von Buch, then a youth of seventeen. Werner, at that time the greatest geologist of the age, was Director of the School of Mines at Freiberg. From sight these two young men became friends for life. More than three score years later, wrote Humboldt, 'That I should be destined—I, an old man of eighty-three—to an-

nounce to you, dear Sir Roderick, the saddest news that I could have to convey: ' . . . 'Leopold von Buch was taken from us this morning' . . . . 'without him I am desolate.' . . . 'His mind left a track of light wherever it passed.' . . . 'We were together in Italy, in Switzerland, in France,—four months in Saltzburg.' At Freiberg Humboldt devoted himself with humboldtian energy to the study of mining and metallurgy. His mind was ever open and ready for impressions, which it received as surely as wax, and as speedily as photography. No bee could exhaust the wild flowers of the woods quicker than he could extract from his masters all they had to impart. Scarcely a year then sufficed to accomplish his aim at Werner's, whom he left in March, 1792, and returned to his mother at Tegel.

Humboldt had now arrived at the end of his pupilage; and such a pupilage! unparalled in biography. Who before him was ever so favored by fortune, so mentally gifted, so lovingly *led*, and so intellectually prepared, for the brilliant career upon which he was about to enter? Yet he took no royal road to his acquisitions, but that hard paved one open to all, with work, self reliance, energy and love of nature for mile stones. At this early age we find him in scholarship ripe beyond his years, a linguist, an archaeologist, a botanist, a geographer, a geologist, a mineralogist, a metallurgist, a chemist, and an author. His travels for the period had been considerable, and few had so many learned friends. What a contrast to the youthful struggles of the immortal Franklin, and yet these two are perhaps the brightest examples for youth in record. Thus prepared Humboldt was launched into the wide world at the age of twenty-two, burning with an irresistible desire, as he repeatedly tells us in after life, to travel in distant lands unexplored by Europeans.

The next five years, from 1792 to 1797, the young aspirant is tracked with some difficulty through a combination of circumstances well calculated to elevate, strengthen and mature him for the execution of some grand project. Born and educated in central Germany, remote from salt water, with a love of nature ingrain and strengthening with his knowledge, he longed for the sea, as he tells us, and the tropics, and had already resolved, as soon as the opportunity presented itself, to go round the world, and gratify his enthusiasm for the savage beauties of tropical countries guarded by mountains and volcanoes, shaded by primeval forests and watered by vast unexplored rivers; and going or coming, explore that New World where man and his handiworks of ancient and modern civilization had not intervened to dwarf the stupendous display of gigantic nature. All his studies now tended to qualify him for a scientific traveler. As his journey was to be the circle of the globe, so his study

was the circle of the sciences. He worked hard and observed closely; and, what in a young observer of nature is of the highest importance, he reduced to order his observations and wrote them out. During his short year with Werner, the parent of the Neptunian theory, he found time to collect and describe the cryptogamous plants he found growing far down in the mines of Freiberg. He made drawings of them, wrote out their natural history in good Latin, and sent his manuscript to Göttingen to his old friend and teacher, Blumenbach, who soon after returned it, edited with his own notes, and backed with the seal of his approbation. The work,* a handsome quarto volume, saw the light the next year, at Berlin, it being his *second* book, at the age of twenty-three. The second part of it, *Aphorisms on the chemical physiology of vegetables*, he found of great use to him in his observations in America.

This same year he accepted an official position under government in order that he might have influence and opportunities the better to pursue his investigations. He became the Superintendent of Mines in Franconia, and during the short two years he held that position, is said to have remodeled the systems of development and management. He inspected every department himself, near and remote, and became both an executive officer and a business man; while at the same time he was a student, an observer, an explorer and an author. His mental activity was perfectly marvelous, and his scientific and literary labors prodigious. He made experiments and contributed many articles both in his own and in the French language, to the chief scientific journals of Germany and France. Humboldt thus early achieved a reputation throughout Europe as a rising naturalist. In 1795 he resigned this official position, which, although favorable to the cultivation of his favorite pursuits, still did not fill his active mind, now more and more thirsting for explorations in the equatorial regions. This passion led him to devour and analyze the relations of voyages and travels to India, America, Africa and the Islands, but generally to regret the want of variety of knowledge in insulated branches of natural history. The great Expeditions of Fleurieu in 1768–69, of Bougainville in 1766–69, of Cooke 1768–1780 were familiar to him as household words, as were also afterward those of Vancouver, La Pérouse and d'Entrecasteaux; but all these, though they gave ample accounts of the oceans, their islands and their coasts, yet left him unsatisfied as to the vast interiors of countries and continents. They developed

* Floræ Fribergensis Specimen Plantas cryptogamicas præsertim subterraneas exhibens. Accedunt Aphorismi ex Doctrina Physiologiæ chemicæ Plantarum. iv Plates, 4°, Berolini, 1793. The *Aphorisms* the next year, 1794, were translated into German by G. Fischer, with additions by J. Hedwig, and a Preface by G. F. Ludwig, and published at Liepzig in 8vo.

marine geography and nautical astronomy, but left comparatively untouched, physical geography, botany, zoology, the relations of the vegetable world, the migrations of the *social* plants, and the geological structure of mountains and volcanoes. All these he found set forth more to his liking in M. de Saussure's scientific explorations of the Alps and Vesuvius, which interested him profoundly and caused him to study carefully both the results and the use of the instruments by which they were attained.

In this same year, 1795, freed from official care, Humboldt traveled much through Germany and visited Vienna, where he renewed his studies in botany and physical geography, studied and traveled with Freiesleben the celebrated geognost, and with von Haften visited northern Italy, but was for political reasons deterred from going to the volcanic regions of Naples and Sicily. At Vienna he became acquainted with the recent discoveries of Galvani which interested him deeply, and henceforth galvanism became one of his special studies, if indeed a mind of such general grasp can attend on specialties. Many months of most useful preparatory study he passed there examining the exotic plants, and enjoying the friendship, of M. de Jacquier and of M. Vander Schott. Already familiar with the experiments of Franklin and others in electricity, he began there his famous experiments in chemistry, galvanism, electricity and other matters pertaining to organic life, which in importance and originality rivalled the celebrated but subsequent investigations of Bichat.

About this time, at the instigation of Baron von Zach, he found time to acquire a practical knowledge of astronomy, surveying, geometry and mathematics, all so essential to travelers, and became familiar with the use of the various scientific instruments for ascertaining latitudes and longitudes, heights and distances, etc. Next, in the winter of 1796–97, we find him at Jena studying anatomy and physiology under Loder. Here he continued his investigations into animal life in connection with chemistry, galvanism and electricity, and especially experimented on the irritability of the muscular fibre, the vital force in animals and plants, and almost hoped that he had found the clue to the phenomena of life. In close connection with these studies he found it necessary to obtain a practical knowledge of zoology, ichthyology and ornithology. All these investigations and experiments, containing the germs of a new science, which, especially in America, is to-day exerting itself with vigor, were embodied in his *third* book* published in Posen in 1797, in two volumes in octavo.

* Versuche über die gereizten Muskel- und Nervenfasern oder Galvanismus, nebst Vermuthungen über den chemischen Process des Lebens in der Thier- und Pflanzen-

Humboldt now began to think seriously of leaving Europe for a long journey, but regretted to do so without first having seen Vesuvius, Stromboli and Etna, to enable him by comparison to form a 'proper judgment of a great number of geological phenomena; especially of the nature of the rocks of trap formation, it became necessary to have examined strictly the phenomena offered by burning volcanoes.' At Jena he revived his friendship with Goethe and Schiller, the one twenty, the other ten, years his senior, both of whom he terrified by his tremendous energy, and inspired with his own love of nature. 'My natural historic studies have been roused from their winter sleep by his presence' wrote Goethe to Schiller; and wrote Schiller to Goethe 'Although the whole family of Humboldt lie ill of the ague they speak only of great journies.' He therefore determined to return to Italy and with his friend Leopold von Buch set out in November, 1797. They spent some time in Vienna, four months in the several cantons of Salzburg and Styria, pursuing to great advantage their geological investigations; but as they were about to pass the Tyrolian Alps the wars of Italy compelled them to turn back, and, to Humboldt's great regret, to abandon the volcanoes. They then proceeded through France home to Berlin.*

The time had now arrived for immediate preparation for his great voyage. But whither go? He was undecided, the impediments of wars and politics being so great it was impossible to determine. However, having buried his mother, and settled his worldly affairs for a long absence, he set out for Paris in 1798. His fame had already preceded him, and he soon made the acquaintance of many savans, and set about earnestly to collect the instruments and all things necessary for a long scientific exploring expedition. The very list of this apparatus filling pages in his *Personal Narrative* is enough to overpower the mind of an unscientific traveller. There were chronometers, telescopes, (achromatic and simple), lunettes, sextants, reflecting and repeating circles, theodolites, artificial horizons, quadrants, compasses, graphometers, dipping and other needles, magnetometers, pendulums, barometers, thermometers, hygrometers, electrometers, cyanometers, eudiometers, phosphoric eudiometers, boiling water meters, thermometrical leads, areometers, compound microscopes, meters, gauges, chains, tubes, vases, evaporators, Leyden vials, galvanic apparatus, etc., not one of each only, but

welt mit Blumenbachs Anmerkungen 2 vols., viii Plates. 8° Posen, 1797–1799. This work was immediately translated into French with the following title: Expériences sur le Galvanisme et en général sur l'irritation des fibres musculaires et nerveuses: trad. de l'allem. [par Gravel] avec des additions par J. F. N. Jadelot, medicin. 8° Paris, 1799.

* About this time he must have prepared his *fourth* and *fifth* books, which were printed at Braunschweig in octavo in 1799, the one *über die chemische Zerlegung des Luftkreises und über einige andere Gegenstände der Naturlehre*, and the other *über die unterirdischen Gaserten und die Mittel ihren Nachtheil zu vermindern.*

in many instances duplicates and even triplicates. Most of the instruments he had already tested in kind in his various travels and explorations the past two years, and had therefore confidence in his own judgment in selecting them.

The first opportunity that presented itself he accepted, though not much to his taste. Lord Bristol asked him to accompany him to Upper Egypt on an archæological exploring expedition of eight months. He accepted this proposal and for some time directed his studies in conformity with this new project; and though it was abandoned in consequence of the temporary insecurity to travelers, he found that the archæological information then acquired proved in Mexico to be of no inconsiderable service to him. Meanwhile he had made the acquaintance in Paris of two young naturalists, Aimè Bonpland of La Rochelle, and Michaux of Versailles, who had been appointed to the proposed Exploring Expedition to be commanded by Captain Baudin, round the world by Cape Horn, skirting South America from the La Plata to Quito and Panama, and thence across the Pacific to New Holland, Van Diemen's Land, Madagascar (the scenes of his friends Paul and Virginia), and so home by the Cape of Good Hope. Though Humboldt had little confidence in Capt. Baudin, he obtained permission to embark with all his instruments, reserving to himself, however, the liberty to leave the expedition whenever he thought proper. For several months he worked with an eye single to this great enterprise, with his whole heart and soul in it, when, on a sudden, news came that war had broken out in Germany and Italy, and Napolean had determined to postpone the expedition indefinitely. The disappointment was cruel, but the knowledge he had gained was not dissipated. His determination now was to quit Europe at once, by engaging in any enterprise that might tend to console him.

He had made the acquaintance of a Swedish Consul, appointed by his government to carry presents to the Dey of Algiers, passing through Paris, who offered to give to Humboldt, if he would accompany him, the advantage of his long acquaintance in that part of Africa, to facilitate him in visiting the Atlas Mountains of Morocco. No mineralogist had yet examined this lofty chain of mountains which rose to the limit of perpetual snow. He jumped at this proposal, and his friend Bonpland jumped with him. The Swedish frigate was to reach Marseilles towards the end of October, 1798, and therefore all three hastened thither. Two long months they waited there, and no frigate came, but finally news reached them that she had met with accidents and could not be expected at Marseilles till spring. Disappointed again, almost disheartened, but not discouraged, they resolved to spend the winter in Spain, and in the spring if possible embark at Carthagena or Cadiz for the East. Their instruments they took with them, leaving only

the duplicates at Marseilles to follow. Their object was still to work to the East, to India if possible. They crossed Catalonia, Valencia and Old Castile to Madrid, making on their way many astronomical and geographical observations, and ascertained the inclination of the needle and the intensity of the magnetic forces, the results of which were never published.

Immediately on their arrival in Madrid they had reason to rejoice at the wind that wafted them to Spain. Baron de Forell the Saxon minister, himself a mineralogist, at once interested himself in their behalf, thought they might obtain through the enlightened minister Urquijo, permission to visit the interior of Spanish America. The friends hesitated not a moment to adopt this suggestion. In March, 1799, Humboldt was presented at Court, and himself presented to the King a memoir on the motives which led him to undertake a voyage to the new continent and the Phillippine Islands. The result was without delay two passports for himself and Bonpland, one from the Secretary of State, and the other from the Council of the Indies. That he might not be obstructed by narrow-minded viceroys, priests or remote officials of church or state, he had it set down plainly in the bond that he was authorized to make free use of his instruments of all kinds, might make astronomical observations, measure heights and weigh mountains, examine the soil, explore rivers, inspect mines, and in short execute all operations deemed useful for the progress of the sciences, throughout the whole of the Spanish dominions. No passport from the Spanish government, before or probably since, was ever so liberal. Thus after many disappointments, and changes of plans, consequent upon the wars and the generally unsettled state of the political world, Humboldt had great reason to congratulate himself, as indeed the whole world with all the sciences at this day has to congratulate itself, that he at last drifted into Spain, all the tougher, the wiser and the better for his many disappointments. The travelers proceeded immediately to Coruña, secured a passage in the Sloop Pizarro, a companion of the monthly packet boat, and in June, 1799, embarked their instruments and impedimenta. But the port of Coruña was at that time blockaded by an English squadron. However, under the protection of a friendly storm which obliged the English to stand out to sea, and the cover of a dark night, the Pizarro ran the blockade, and on the sixteenth of July, landed at Cumana in Venezuela, within sight of that beautiful Paria which Columbus discovered in April, 1498, and believed to be Paradise, whence our first parents were expelled. Thus three hundred years after Columbus, an Italian, had sailed from a port in Old Spain to discover a new world, Humboldt, a German, and his friend Bonpland, a Frenchman, availed themselves of the same alien courtesy to go and discover what it contained.

[To be continued.]