

Humboldt as a Bridge Between Art and Science: From Travel Painting to Photography – Sandra Rebok

The life of the Prussian explorer and naturalist Alexander von Humboldt (1769-1859) developed in a time marked by great changes, both in the socio-political realm as in the field of science and technology. The world of the eighteenth century in which Humboldt grew up, with its longings and challenges, had little to do with the society in which he lived in mid nineteenth century; a society with new political challenges but also with a more global world, interconnected and accelerated, thanks to the new means of transportation and communication. Humboldt was always interested in all types of scientific-technological developments since, with his holistic vision, he was aware of the advantages they could offer to the progress of the nations in all their facets.¹ That is, using the new technologies for his work is another facet of how Humboldt has contributed to the modernisation of sciences.

A good example of this is the artistic representation of America that can be observed in this work of the Prussian naturalist, a matter that has generated considerable interest lately.² Under Humboldt's influence, throughout the nineteenth century, illustration in the New World went through a fundamental renovation

¹ This article is based on a previous work: Sandra Rebok, "El arte al servicio de la ciencia: Alexander von Humboldt y la representación iconográfica de América" (Art at the Service of Science: Alexander von Humboldt and the Iconographic Representation of America), in the 51st International Congress of Americanists, held in Santiago, Chile, published in CD, July 2003. Besides, a part of this text was included in another collaborative article which studied the connection between Humboldt and the painter-engraver, Thomas Daniell (1749-1840): Elisa Garrido; Sandra Rebok; Miguel Ángel Puig-Samper, "El arte al servicio de la ciencia: Antecedentes artísticos para la impresión total del paisaje en Alexander von Humboldt" (Art at the Service of Science: Artistic Precedents for the Total Impression of the Landscape in Alexander von Humboldt), in *Dynamis*, 36, nr. 2, 2016, p. 363-390. See also: Sandra Rebok, "De la pintura de viaje a la fotografía: Alexander von Humboldt y la representación artística del Nuevo Mundo" (From Painting the Journey to Photography: Alexander von Humboldt and the Artistic Representation of the New World), in *Humboldt im Netz*, vol. 19, nr. 37, 2018, p. 97-112. (<http://www.hin-online.de/index.php/hin/article/view/275>).

Moritz von Brescius, "Connecting the New World. Nets, Mobility and Progress in the Age of Alexander von Humboldt", *Humboldt im Netz*, 2012, XIII, 25: 11-33 (<http://www.uni-potsdam.de/romanistik/hin/hin25/brescius.htm>).

² To know more about Humboldt's graphic art two recent publications are recommended: Oliver Lubrich (ed.), *Alexander von Humboldt. Das graphische Gesamtwerk*. Darmstadt: Lambert Schneider, 2015; Ottmar Ette, Julia Bayerl, *Alexander von Humboldt - Bilder-Welten. Die Zeichnungen aus den Amerikanischen Reisetagebüchern*. München: Prestel, 2018; Dominik Erdmann and Oliver Lubrich, *Alexander von Humboldt. Das zeichnerische Werk*. Darmstadt: wbg, 2019.

towards more realistic and aesthetically demanding representation.³ With his artistic-physiognomic portraits of nature he sought primarily a scientific purpose. Through knowledge of the exotic shapes of nature, specially plants, Humboldt hoped to contribute to the enrichment of European painting.⁴ The lack of realistic illustration works to represent the New World, made European artists resort to the fantastic iconography of classic and medieval worlds.⁵ The Romantic epoch gave painting a boost which was the result of intense study of nature. However, these artists elaborated their floral motifs from the European natural environment, distant from actual natural and the exotic landscapes of America. With few exceptions, the travellers of the time, after visiting distant regions had few opportunities to represent what they had seen and showed disinterest, or lack of capacity to carry out such work. In his *Cosmos* Humboldt describes the problem as follows:

Up to now, these magnificent regions have only been visited by travellers that lacked a long, precious experience in art and whose scientific occupations did not allow space to perfect their landscape painting talent. Very few of them, led by the interest that these new fruits and flowers offer botanical science, could express the general impression produced by the aspect of the tropics. The artists charged with accompanying the great expeditions sent to these regions at the expense of the State were normally chosen randomly and their insufficiency [...] was soon revealed. It

3 Renate Löschner has exhaustively studied the artistic representation of Latin America under the influence of Alexander von Humboldt. See: Renate Löschner, *Lateinamerikanische Landschaftsdarstellungen der Maler aus dem Umkreis von Alexander von Humboldt*. PhD thesis deposited in the Technische Universität Berlin. Berlin, 1976; Renate Löschner, "Influencia significativa de Humboldt sobre la representación artística de Latinoamérica en el siglo XIX" (Significant Influence of Humboldt on the Artistic Representation of Latin America in the Nineteenth Century), in *Alexander von Humboldt. Inspirador de una nueva ilustración de América. Artistas y científicos alemanes en Sudamérica y México* (Alexander von Humboldt. Inspiration for a New American Enlightenment). Exhibition at the *Instituto Ibero-Americano*. Berlin: Patrimonio Cultural Prusiano, 1988; Renate Löschner, "Alexander von Humboldt als Initiator eines künstlerisch-wissenschaftlichen Amerikabildes", in *Amerika 1492-1992. Neue Welten - Neue Wirklichkeiten*. Exhibition of the Stiftung Preussischer Kulturbesitz, Berlin, 19/9/1992 - 3/1/1993. Braunschweig: Westermann, 1992. See also: Pablo Diener, "La pintura de paisaje entre los artistas viajeros" (Landscape Painting Among Travelling Artists), in Cándida Fernández de Calderón; Jeffrey Scott; Pablo Diener. *Viajeros europeos del siglo XIX en México*. (European Travellers in Mexico in the Nineteenth Century) México: Fomento Cultural Banamex, 1996; Gabriela Ragel et. al. (eds.), *Unity of Nature. Alexander von Humboldt and the Americas*. Exhibition catalogue. Berlin/Bielefeld: Kerber, 2014.

4 Löschner, 1992, op. cit. 247.

5 See Jorge Magasich; Jean-Marc de Beer, *América Mágica. Mitos y creencias en tiempos del descubrimiento del nuevo mundo* (Magical America. Myths and Beliefs in the Time of the Discovery of the New World). Paris: LOM Ediciones, 2001.

is necessary to also say that the voyages called circumnavigation offered the artists few occasions to penetrate in the woods, reach the course of the great rivers and climb the peaks of the interior mountain chains.⁶

*Humboldt's Criteria for Scientific Art*⁷

Following the guidelines of the Prussian traveller, the pictorial representation should record all that defined a region, including weather conditions. According to Goethe's ideas referring to plant morphology, Humboldt sought the "basic shapes" that represented the essential as opposed to what was accidental, the standard of a group that carried, besides a dominant role in the landscape.⁸ Despite a certain free artistic elaboration, for him the significant features of each region were important. In this manner, what was real was always forefront. Consequently, Humboldt observed the shapes of plants in their environment. Not only their physical appearance in connection with their habitat, in relation with other plants as well as the physical environment in which they developed. For him the scientific purpose of the painting was mainly an elaboration of a topographic representation, exact and with realistic features of nature, to the service of a comparative study of different regions. Instead of the ideal landscape, he placed capturing what was characteristic of the landscape in its multiple facets.⁹ In this manner the artistic representation of the tropical landscape was part of his scientific program: it sought to represent the shapes that marked the environment through his artistic-physiognomic true to life portraits.

The concept of representing nature through pictorial imagination is not related with the fact of showing, in an isolated manner, the different visible or invisible elements that make up the

6 Alexander von Humboldt, *Cosmos: Ensayo de una descripción física del mundo*. (*Cosmos: Essay of a Physical Description of the World*) Edited by Sandra Rebok. Madrid: Los Libros de la Catarata / CSIC, 2011, p. 239.

7 Referring to Humboldt's criteria for the artistic representation of landscape, see: Alberto Castrillón Aldana, *Alejandro de Humboldt: del catálogo al paisaje. Expedición naturalista e invención del paisaje* (Alejandro de Humboldt: From Catalogue to Landscape. The Naturalist Expedition and the Invention of Landscape). Antioquia: Universidad de Antioquia, 2000, specially chap. 5, "Pintura del paisaje y cuadros de naturaleza" (Landscape Painting and Nature Paintings).

8 See Johann Wolfgang von Goethe, *Teoría de la naturaleza* (Theory of Nature). Madrid: Tecnos, 1997.

9 See: Nana Badenber, "Ansichten des Tropenwaldes. Alexander von Humboldt und die Inszenierung exotischer Landschaften im 19. Jahrhundert", in Michael Flitner (ed.), *Der deutsche Tropenwald. Bilder, Mythen, Politik*. Frankfurt / New York: Campus, 2000.

landscape but rather with the complete integration of the unit in the landscape itself:

A landscape painting is no less appropriate than a fresh and animated description to broadcast the study of Nature; it also shows the outdoor world in its rich variety of forms and, as it embraces more or less happily the object, it reproduces, it can link the visible world to the invisible one, whose union is the ultimate effort and the highest aim of the arts of imitation. To keep the scientific character of this book, I must hold another point of view. If a landscape painting is to be dealt with here is only in the sense that it aids us in contemplating the physiognomy of plants in the different spaces on Earth; because it favours the passions for distant travels, and invites us in such a pleasant and instructive manner to communicate freely with nature.¹⁰

The basis of this new discipline – his “scientific art” – was published by Humboldt a few years after returning from America in *Ideen zu einer Physiognomik der Gewächse*¹¹ y en el *Essai sur la géographie des plantes*,¹² dedicated to his friend Goethe, where he introduced his concept of the physiognomy of the plants.

In his first work, a small book written in 1806, he expressed these thoughts for the first time. He had already introduced programmatically the term *physiognomy* in science and developed the first concepts for a scientific vision of the forms of life in plants. Shortly afterwards his work on the geography of plants, that fundamental work in which Humboldt studied the physiognomy of plants according to their common and typical aspects.¹³

During his entire life he worked on these ideas both on the theoretical and practical planes. In the second volume of his *Cosmos*, in the “Influence of Landscape Painting on the Study of Nature” chapter, he expressed his considerations on the matter at the end of his long life. The intensity of his experience with the tropical landscape and his desire to represent it artistically had motivated him to study the form in which the sensitivity of nature had been experienced and expressed before. For this he analysed in detail in this summary the contributions of the artists that had

¹⁰ Humboldt, 2011, *op. cit.* 233.

¹¹ Alexander von Humboldt. *Ideen zu einer Physiognomik der Gewächse*. Read at the Royal Academy of Science of Prussia el 10/1/1806. Tübingen: Cotta, 1806.

¹² Alexandre de Humboldt, *Essai sur la géographie des plantes accompagné d'un tableau physique des régions équinoxiales*, Paris: Schoell, 1807.

¹³ On this work see also: Mauritz Dittrich, “Alexander von Humboldt und die Pflanzengeographie”, in Johannes F. Gellert (ed.), *Alexander von Humboldt. Vorträge und Aufsätze anlässlich der 100. Wiederkehr seines Todestages am 6. Mai 1959*. Berlin: VEB Deutscher Verlag der Wissenschaften, 1960.

worked on Latin American topics up to then. His study of the history of artistic expression has the same aim as his historical vision in other contexts: study the past in order to understand the present and to be able to fit his work in a previous tradition. In this sense, the explorer considers his precedents the paintings of exotic topics done in the seventeenth century by artists of the Dutch school such as Frans Post (1612-1680) and Albert van der Eeckhout (?-1665), that remained with the team of Moritz von Naussau-Siegen from 1637 to 1644 in South America.¹⁴ These exotic paintings would have a sequel in the tropical representations by William Hodges, the artist that accompanied Captain James Cook on his second trip around the world from 1772 to 1775.¹⁵

All this accentuates the meaning visual art had on Humboldt’s scientific program. Its importance is reflected both in the development of science as in the image that, at the time, Europe had of the New World. The creation of a new image of America through the iconographic representation he promoted has had a great influence on the European world as well as the American one. On the scientific plane, a realistic representation of the objects was essential to be able to study them in detail, and above all in a time in which the specialisation of science was beginning, and with it a study in depth of the facts. In this manner, scientific art has a key role before it was substituted by photography.

Humboldt and the Beginning of Photography

The last twenty years of his life were accompanied by the beginning of photography and, for that, we will explore what Humboldt’s attitude was towards this discovery, the hopes and criteria associated to them, as well as the advantages he saw in photography as compared to painting.

During one of his many stays in Paris, from August 1838 to January 1839, Humboldt, through his friend Dominique François Jean Arago, was able to learn the Niépce-Daguerre procedure in Daguerre’s workshop – which was at that time still a secret – and

¹⁴ Referring to the use of artistic representation for science before Humboldt see: Antonio E. de Pedro, *El diseño científico. Siglos XV-XIX* (Scientific Design. Fifteenth to Nineteenth Centuries) (Historia de la ciencia y de la técnica, núm. 37). Tres Cantos: Ediciones Akal, 1999; as well as Miguel Rojas-Mix, “Die Bedeutung Alexander von Humboldts für die künstlerische Darstellung Lateinamerikas”, in Heinrich Pfeiffer (ed.), *Alexander von Humboldt. Werk und Weltgeltung*. München: R. Piper & Co, 1969, p. 98-102.

¹⁵ Elisa Garrido, “Alexander von Humboldt and British Artists: the Oriental Taste”, in *Culture & History Digital Journal* 2 (2): e026. DOI: 10.3989/chdj.2013.026, URL: <http://dx.doi.org/10.3989/chdj.2013.026> (latest search date: 28/10/2018).



Alexander von Humboldt,
Selfportrait in Paris, 1814



Portrait of Alexander von Humboldt. Photograph
[carte de visite], 1859, Smithsonian Institution

immediately the Prussian clearly recognised the meaning of this new technical advance. In this first demonstration only Arago, Humboldt and the mathematician and astronomer J.B. Biot were present. Therefore they were the first to judge and appraise an event that, since 1829 Daguerre had developed with Niépce¹⁶ and after his death in 1833 had continued alone.

The meaning that Humboldt attributes to this innovation would be immortalised in two letters he wrote. He communicates his first impressions in a letter to the duchess Friederike von Anhalt-Desau in 1839¹⁷ enthusiastically expressing the curiosity he felt before this new and marvellous invention, admiring specially the fidelity of image and realism, the speed with which it is developed as well as the precision with which the objects appear.¹⁸ Special reference is made to the smallest of details, such as the structure of a stone, that can be appreciated at different hours of the day, so that all types of light, such as sun rays, rain, overcast or artificial light of lamps are reflected.¹⁹

King Frederik Augustus II tasked the self-taught medical doctor and painter Carl Gustav Carus (1789-1869) with addressing Humboldt, requesting detailed information on this innovative procedure. A letter from Humboldt to Carl Gustav Carus written six weeks later is not only a reply; it is a historic document of great value revealing his first impressions on the innovative technique:

16 See: Erich Stenger, "Alexander von Humboldt und die beginnende Photographie", in *Zeitschrift für wissenschaftliche Photographie, Photophysik und Photochemie*, volume 31. Leipzig: Johann Ambrosius Barth, 1933, p. 54-67.

17 Letter from Humboldt to Duchess Friederike von Anhalt-Desau, 7th of February, 1839, published in: Stenger, Erich, "Alexander von Humboldt und die beginnende Photographie", in *Zeitschrift für wissenschaftliche Photographie, Photophysik und Photochemie*, volume 31. Leipzig: Johann Ambrosius Barth, 1933, p. 56-59.

18 *Ibidem*, p. 57. In the original: "Gegenstände, die sich selbst in unnachahmlicher Treue malen; Licht, gezwungen durch chemische Kunst, in wenigen Minuten, bleibende Spuren zu lassen, die Contouren bis auf die zartesten Theile scharf zu umgrenzen, ja diesen Zauber (freilich einen farblosen) bei heiterem sonnenklarem Tage unserer nördlichen Zone in 8 bis 10 Minuten, bei Egyptischer Durchsichtigkeit der Luft und tropischer Lichtfülle wahrscheinlich in 2-3 Minuten hervorgerufen zu sehen, das spricht freilich unaufhaltsam den Verstand und die Einbildungskraft an."

19 *Idem*, in the original: "[...] so sieht man alle feuchten Unebenheiten des Steines und die sanften Schlagschatten wie in der zartesten Zeichnung [...]".

photography, that would come to have a great impact on the world.²⁰ In this letter we find another detailed and enthusiastic description of the images fixed by Daguerre as well as the rating by the scientists of this innovation as one of the most amazing discoveries of the new times.²¹ Much emphasis is placed again on the light and its effect at different hours or in combination with water,²² as well as the precision photography can achieve.²³ He was fascinated by the accuracy with which minute details, things that sometimes cannot be seen with the naked eye. In this context he mentions a photo Daguerre had shown him, in which, with the help of a magnifying glass, a broken window mended with paper could be seen.²⁴ All this, combined with speed identifies the great advantages that this new technology offers as opposed to the representation in painting and recognises immediately its practical application. Mentioning as first uses that the method could be employed in travels throughout the world; in the second place it would be a great advantage for architects enabling them to fix eternally in a moment the details of an interesting building.²⁵ Just as he had quickly recognised the value of this invention for travellers he supplied recommendations to other future travellers not only in relation to painting but also to photography. Thus, in a letter written in 1849, he provided detailed recommendations to Karl Ferdinand Appun, who left for Guiana, specially on what was necessary to take good photographs and

20 Humboldt to Carl Gustav Carus, 25th of February, 1839, published in Rudolph Zaunick, "Alexander von Humboldt, Carl Gustav Carus und die Anfänge der Daguerrotypie, in Sepp Domadl, (ed.), *Die ganze Welt ein Apotheken. Festschrift für Otto Zekert*. Salzburg: Notring der wissenschaftlichen Verbände Österreichs, 1969; and a partial publication can be found in: Wilfried Wiegand (ed.), *Die Wahrheit der Photographie. Klassische Bekenntnisse zu einer neuen Kunst*. Frankfurt a.M.: S. Fischer, 1981, p. 19-22. Chlumsky's critical essay must be consulted too, regarding this letter, which, according to the article, it contains comments on photography that seem to be directly taken from those by his friend Arago, presented at the Académie des Sciences of Paris in 7/1/1839, see: Milan Chlumsky, "Historischer Irrtum oder Humboldt schweigt. Zu den zwei Briefen Alexander von Humboldts über die Fotografie", in: *Fotogeschichte/Beiträge zur Geschichte und Ästhetik der Fotografie*, booklet 33. Marburg: Jonas Verlag, 1989, p. 13-18, especially p. 16.

21 Zaunick, 1969, *op. cit.* p. 243. In the original: "Es ist eine der erstaunenswürdigsten Entdeckungen neuerer Zeit."

22 *Idem*, in the original: "Die schönsten Abstufungen der Halbschatten, die Verschiedenheit des Seine-Wassers unter den Brücken oder in der Mitte des Flusses" and "Diffuses Licht wirkt wie Sonnenlicht".

23 *Idem*, in the original: "Die Oberfläche des feuchten Gesteins, Gemäuers, hat eine Wahrheit, die kein Kupferstich erreicht."

24 *Idem*, in the original: "Man erkannte im Bilde, dass in einer Dachlucke (und welche Kleinigkeit!!!) eine Fensterscheibe zerbrochen und mit Papier verklebt war."

25 *Ibidem*, p. 244.



Alexander von Humboldt (1805-1809), *Voyage aux régions équinoxiales du Nouveau Continent, fait en 1799, 1800, 1801, 1802, 1803 et 1804: Plantes équinoxiales* / par Al. de Humboldt et A. Bonpland; rédigé par Alexandre de Humboldt. Paris: F. Schoell. (Digital image courtesy of Zentralbibliothek Zürich, NF 35 I F, <http://dx.doi.org/10.3931/e-rara-30036>)

what should be avoided.²⁶ From these instructions it can be gathered that Humboldt had either carried out multiple experiments with photography or had intensely studied the result other people achieved. Be it as it were, this shows his interest for photography as an art and its practical application for science.

Since both his great American expedition from 1799 to 1804 and the expedition to Russia in 1829 depended exclusively upon his pictorial talent to immortalise what was offered to his eyes in those exotic worlds, he could perfectly value the relief that the new technique meant for future explorers.

To complete this sketch of Humboldt's stance on the beginnings of photography, it must be mentioned that the English scholar Henry William Fox Talbot had contributed equally to the development of that new technology. From that, a controversy arose on the priority of the respective inventions as well as the usefulness of the invention, a controversy in which Humboldt was also involved.²⁷ Immediately the famous Prussian sided with Daguerre and supported his method. However, finally it was the Talbot procedure that developed in what we today understand as photography, while the Daguerre method was forgotten. Supposedly the fact that Humboldt was a member of the *Académie des Sciences* of Paris, as well as his friendship with Arago contributed also to this and made it more difficult to choose Talbot.²⁸

Also, in the following years Humboldt's keen interest in this new way of capturing a given moment or portraying an object would ensure that he would follow the advances being made in this realm. In a letter to Arago in 1840 he spoke of the great invention that looked toward the future²⁹ and in 1842 Humboldt proposed Daguerre for the "Pour le mérite" decoration that king

26 Humboldt to Karl Friedrich Appun, 19th of August, 1849. In the original: "Zu den Daguerrotypen sind nur Gegenstände von bestimmten Reisen geeignet: Fast nackte Felsmassen, isolierte Baumstämme von kolossaler Stärke mit wenigen parasitären Pflanzen (Lianen, span. Vejucos), bestimmte [?] Gruppen 40 F[u] hoher säulenförmiger Cactus von Tunal; einzelne Palmen, Architektur, Höhleneingänge... Alle kleinblättrigen dichten Massen sind zu vermeiden, Indianer- und Negerköpfe sehr zu empfehlen.", publicado en: Silberstein, Henry, "Noch ein unbekannter Brief Alexander von Humboldts", in: *Berliner Tageblatt* of the 5th of October, 1919, nr. 470, p. 2.

27 This subject is beyond the scope of the present study. For more information, see: Stenger, 1933, *op. cit.* pp. 60-67; Erich Stenger, "Talbots Erstansprüche auf die Erfindung der Lichtbildnerei", in: *Zeitschrift für wissenschaftliche Photographie, Photophysik und Photochemie*, volume 31. Leipzig: Johann Ambrosius Barth, 1933, p. 324-326; Milan Chlumsky, "Historischer Irrtum oder Humboldt schweigt. Zu den zwei Briefen Alexander von Humboldts über die Fotografie", in: *Fotogeschichte/Beiträge zur Geschichte und Ästhetik der Photographie*, booklet 33. Marburg: Jonas Verlag, 1989, p. 16-17.

28 Chlumsky, 1989, p. 16.

29 "[...] der schon so grossen und bereits so zukunftssträchtigen Erfindung Daguerres", quoted in: Stenger, 1933a, p. 61.

(...) Humboldt's aesthetics theory thus sinks its roots in the idea of a mutual effort. A great nature painter must be a man of science, or at least, force himself to watch with accuracy and great detail.

Frederik William IV granted in the category of artists³⁰ — which shows, again, how closely linked Humboldt saw photography and art. Consequently, photography seemed so significant that, in the second

volume of his famous work written in 1847, he referred several times to its usefulness. For example, the auction catalogue of Humboldt's belongings in September 1860 shows that it contained a collection of photographs taken specifically for him: pictures of Mexico and Venezuela taken between 1857 and 1859 by Paul de Rosti (1830-1874); by Wilhelm Heine (1817-1885), who had participated in an American expedition to Eastern Asia between 1852 and 1854, as well as a representation of the moon.³¹ The Hungarian traveller, who had been counselled by Humboldt, prepared a collection of 47 photographs for him. From this we gather that the great naturalist had an interest in showing and making eternal the changes produced by time in the regions he visited. This comparative procedure, so dear to him, was possible thanks to photography, which in turn has become a feasible process.³²

Meeting of Art and Science through Photography

With Humboldt's influence, the artistic work was transformed into an important complement of scientific work. However it must be considered that previously steps had been taken toward a more realistic representation, for example in the the scientific illustrations of tropical America. Humboldt was the person who captured, developed and gave transcendence to this trend, all with the scientific rigour of his own methodology. He promoted this new trend with great energy sponsoring innumerable young artists so they could continue the representation of the shapes of nature in America according to the scientific and topographic principles he had established.

In this sense Humboldt can be considered a key person in the creation of artistic representation at the service of science. His iconographic representation of botanical and zoological topics gave

30 *Ibidem*, p. 62.

31 Kurt-R. Biermann, "Alexander von Humboldts Stellung in der Geschichte der Fotografie", in: *Bild und Ton*, 4/1976, year 29, p. 122.

32 Hanno Beck, "Alexander von Humboldt (1769-1859). Förderer der frühen Photographie", in *Silber und Salz. Zur Frühzeit der Photographie im deutschen Sprachraum 1839-1860*. Exhibition catalogue. Köln/Heidelberg: Edition Braus, 1989, p. 49.

a new image of America which had been, until then, still influenced by European fantasy. Besides, he is credited for giving special meaning to his scientific representation of the remaining materials of pre Hispanic cultures emphasising the importance of these monuments and their cultural significance.³³

In what refers to photography, Humboldt, as a great admirer of the technique, was an exceptional witness to the first results and immediately recognised its potential as a tool to the service of science. From the beginning he focused photography not so much from the point of view of an innovative technique, but rather from the artistic perspective which also reflects the name of “Lichtbildnerie” or “Lichtbilder” (images or pictures of light) photography fascinated him since this technology allowed implementing the demands required by painting: executing with greater precision and extreme detail; even more, saw in it an extension and perfection of his ideas concerning painting. Due to the importance Humboldt had on European and American painting of the time, from the beginning he was integrated in the discourse on emerging photography and consulted as an expert. In fact, we have already commented that Daguerre made his presentation, among others, in the presence of the eminent Prussian. And on behalf of Humboldt, having immediately recognised the value of photography and boosted its service to science, constituting the merits which have given him a place in the history of photography.³⁴

Humboldt carried out different facets of his scientific program both in painting as in photography: on one hand, the romantic representation of the exotic American landscape is done in the line of his holistic approach – there the whole give a general impression – and on the other hand, the detailed representation of determined elements: plants, monuments, etc. In order to analyse it, following a trend of its own of his interests to study and understand the aspects separately. So, the artistic representation is also shown in Humboldt’s position straddling illustration and the romantic epoch: his emotional access to nature as a whole, on one side, and the scientific representation of its details on the other. In other words, one can detect an evolution of the Humboldt paradigm.

The union of art and science in his works is again in Humboldt’s holistic proposal found throughout all his research. Not only the elements of nature should be subject of research separately, but also in ensemble, also the manner of learning and the

33 Rojas-Mix, 1969, *op. cit.* p. 120.

34 Biermann, 1976, *op. cit.*, p. 122.

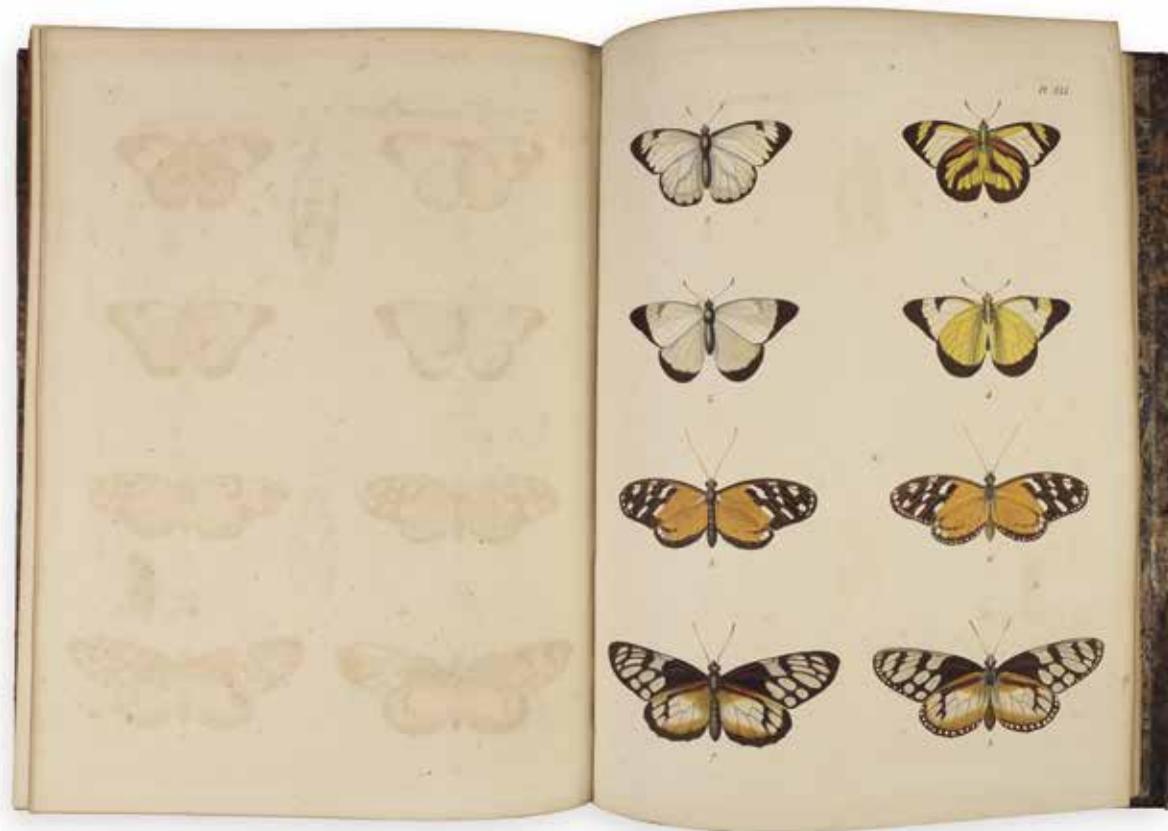


Alexander von Humboldt (1814-1834). *Voyage aux régions équinoxiales du Nouveau Continent, fait en 1799, 1800, 1801, 1802, 1803 et 1804: Relation historique / par Al. de Humboldt et A. Bonpland; rédigé par Alexandre de Humboldt.* Paris: F. Schoell. (Digital image courtesy of Zentralbibliothek Zürich, NF 30 1 F, [http:// dx.doi.org/10.3931/erara-24414](http://dx.doi.org/10.3931/erara-24414))

methods of approach, should not be focused without their connection. That is to say the combination of art and science, or art at the service of science, is one more aspect where this union is expressed.

In this way, Humboldt’s aesthetic theory is rooted in the idea a mutual reinforcement. A great painter of nature should be a man of scene or, at least, commit himself to detailed and precise observation. For those who do not have this capacity, photography could be of great aid. Following this argument, we see this evidence are also applicable to the new technologies, that today are within our reach and that determine in great measure our life model. Technology gives us a panoply of forms of representation of visual information, as is reflected in the great number of projects that are developed in the speciality of digital humanities, that is with methods that would have been Humboldt’s dream and a blessing for the development of what today we understand by the term Humboldt science.³⁵

35 See for example the editorial project of the Academy of Science of Berlin (<https://edition-humboldt.de/index.xql>) or the report on the congress on Humboldt and digital humanities that had place in Berlin in 2012 (www.hsozkult.de/conferencereport/id/tagungsberichte-4741).



Alexander von Humboldt, *Recueil d'observations de zoologie et d'anatomie comparée: faites dans l'Océan Atlantique, dans l'intérieur du nouveau continent et dans la Mer du Sud pendant les années 1799, 1800, 1801, 1802 et 1803*. Paris, Chez F. Schoell, Chez G. el Dufour et Comp. ie, 1811-1833, vol. II. Biblioteca Històrica, Universitat de València



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