



RETHINKING DISCURSIVE ORIGINS: SPECULATIONS ON ALEXANDER VON HUMBOLDT AND THE PLACE OF PHOTOGRAPHY IN HISTORICAL AND CULTURAL GEOGRAPHY¹

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ABSTRACT : This paper reconsiders the discursive origins of photography through the lens of historical and cultural geography, arguing that the medium's early development was closely linked to the pursuit of geographical knowledge. Central to this analysis is Alexander von Humboldt, whose explorations, writings, and engagement with Daguerre's photographic process exemplify the intersection of photo-graphos (light writing) and geo-graphos (earth writing). The study explores the influence of Humboldt's ideas on travelers, scientists, and early photographers, and examines the application of photography in plant geography, landscape studies, and scientific expeditions. By situating photography within the broader intellectual, social, and technological contexts of the nineteenth century, this paper underscores the medium's role in knowledge production and highlights the enduring interplay between geographical imagination and photographic practice.

Keywords: Photography, geography, Alexander von Humboldt, discursive origins.

¹ This paper is a revised and expanded version of a lecture presented at the XII Simpósio Internacional sobre Espaço e Cultura, at Rio de Janeiro State University, 17 November 2023. It draws heavily incorporates research on Alexander von Humboldt at the dawn of photography previously explored in lectures and draws heavily on parts of two publications, notably Joan M. Schwartz (1996), "The Geography Lesson: Photographs and the Construction of Imaginative Geographies," and Joan M. Schwartz (2000), "'Records of Simple Truth and Precision': Photography, Archives, and the Illusion of Control".

REPENSANDO AS ORIGENS DISCURSIVAS: ESPECULAÇÕES SOBRE ALEXANDER VON HUMBOLDT E O LUGAR DA FOTOGRAFIA NA GEOGRAFIA HISTÓRICA E CULTURAL

RESUMO: Este artigo reconsidera as origens discursivas da fotografia sob a perspectiva da geografia histórica e cultural, argumentando que o desenvolvimento inicial desse meio esteve intimamente ligado à busca pelo conhecimento geográfico. Central a esta análise é Alexander von Humboldt, cujas explorações, escritos e envolvimento com o processo fotográfico de Daguerre exemplificam a interseção entre foto-grafia (escrita com luz) e geo-grafia (escrita sobre a Terra). O estudo explora a influência das ideias de Humboldt sobre viajantes, cientistas e os primeiros fotógrafos, e examina a aplicação da fotografia na geografia botânica, nos estudos da paisagem e em expedições científicas. Ao situar a fotografia nos contextos intelectuais, sociais e tecnológicos mais amplos do século XIX, este artigo enfatiza o papel do meio na produção de conhecimento e destaca a interação duradoura entre a imaginação geográfica e a prática fotográfica.

Palavras chaves: Fotografia, geografia, Alexander von Humboldt, origens discursivas.

REPENSANDO LOS ORÍGENES DISCURSIVOS: ESPECULACIONES SOBRE ALEXANDER VON HUMBOLDT Y EL LUGAR DE LA FOTOGRAFÍA EN LA GEOGRAFÍA HISTÓRICA Y CULTURAL

RESUMEN: Este artículo reconsidera los orígenes discursivos de la fotografía desde la perspectiva de la geografía histórica y cultural, y argumenta que el desarrollo temprano del medio estuvo íntimamente ligado a la búsqueda del conocimiento geográfico. Alexander von Humboldt, cuyas exploraciones, escritos y su interacción con el proceso fotográfico de Daguerre ejemplifican la intersección entre la fotografía (escribir con luz) y la geografía (escribir sobre la Tierra), constituye un elemento central de este análisis. El estudio explora la influencia de las ideas de Humboldt en viajeros, científicos y las primeras fotografías, y examina la aplicación de la fotografía a la geografía botánica, los estudios del paisaje y las expediciones científicas. Al situar la fotografía en los contextos intelectuales, sociales y tecnológicos más amplios del siglo XIX, este artículo enfatiza el papel del medio en la producción de conocimiento y destaca la interacción perdurable entre la imaginación geográfica y la práctica fotográfica.

Palabras clave: Fotografía, geografía, Alexander von Humboldt, orígenes discursivos.

INTRODUCTION

We cannot walk before we toddle
but we may toddle much too long
if we embrace a lovely model
that is consistent, clear, and wrong.
(Beilock, 1980 apud Franklin, 1999, p. 32)

The origins of photography have usually been traced, on the one hand, to the aspirations of Louis Jacques Mandé Daguerre, a professional diorama painter in

France, and, on the other, to the frustrations of William Henry Fox Talbot, an amateur artist in England. Critics of such Eurocentric histories of photography argue that credit for the invention of the first successful photographic process, as well as the pioneering use of the term "photographie", should go, not to Daguerre or to Talbot, but to Hercules Florence in Brazil. Best known for his work as an artist on the Langsdorff expedition to the Amazon rainforest in the late 1820s, Florence has long been relegated to brief mention as part of the medium's "pre-history".² The explanation for his relative absence from standard histories of photography comes down to two geographical concerns: "space and culture" – "space" because of his great distance from European centres of photographic experimentation and debate; "culture" because Boris Kossoy's seminal work on Florence was published in Portuguese in 1973 and not available in French until 2016 or English until 2018. Hercules Florence is one of many significant figures lurking at the margins of photographic history. Another is Alexander von Humboldt. This brings me to the theme of this journal and the intersection of geography and photography.

For the purposes of this essay, let us heed Ursula Franklin's caveat, abandon the Eurocentric model of photography as "art-or-science," and proceed from the question that animated Reverend W.J. Read in his address to the Manchester Photographic Society in 1856 – a carefully crafted enquiry into "how the Art of Photography can be made useful in the business of life." (Read, 1856; Schwartz, 2000). The question itself reflects the utilitarian outlook of the nineteenth century, a time when travel – that is, geographical movement across space – was embraced as an intellectual method, and observation was the paradigm of knowing. At this time, when Geography – not in the sense of a rigidly defined academic discipline, but rather more

² Baron Georg von Langsdorff (1774–1852) was a German naturalist and explorer, and a Russian diplomat.

broadly as a popular quest for knowledge about the world – had a firm hold on the nineteenth-century imagination, photography was embraced as a way to foster and further its pursuit. How, then, might we rethink the discursive origins of photography if we consider the initial applications envisaged for this new means of making permanent evanescent images created by light on the ground glass of a camera obscura and if we recast the medium's enthusiastic public reception and rapid spread as grounded in the pull of geographical imagination, buttressed by the authority of on-the-spot observation, and nurtured by travel as a form of self-improvement?

In this paper, I situate the advent of photography, not within the discipline of art history and the evolution of pictorial convention, but rather within the nascent field of geography and its pursuit of knowledge about the world. I do so, with two caveats: I am not a Humboldt scholar, and I am not fluent in German. Therefore, treat this as a polemic, speculation outside the disciplinary box, an alternative origin story, food for thought. To follow my argument, I ask that you conceive of photography, not simply as a technology of image-making but also as a medium of information storage and exchange. How might our research topics, investigative methods, and analytical practices as cultural and historical geographers unfold differently, if we:

- View the camera as an instrument of observation, data-gathering, and documentation;
- Approach the photographic image as a way of seeing and communicating across space and time;
- Investigate the impact of photographic practices on perceptions of people and place;

- Treat photographic archives as rich primary sources to be mined for insights into geographical concerns?

In effect, what if we rethink the discursive origins of photography from a different disciplinary perspective: geography?

In the mid-nineteenth century, geography — not in the sense of a rigidly defined academic discipline, but more broadly as a quest for knowledge about the world, its places and its peoples — had a firm hold on the popular and scientific imagination; photography was envisioned and employed as a way to foster, facilitate, and further geographical pursuits. Most of the applications envisaged for the first photographic processes treated photography as an aid to fieldwork and an accessory of travel, at a time when geographical movement was embraced as an intellectual method. To borrow a term from Steven Shapin and Simon Shaffer (1985), it was a means of "virtual witnessing". What I want to suggest here is that the enthusiastic reception and rapid spread of photography were grounded not in the production of art but in the authority of on-the-spot observation, the growing popularity of travel, and the pull of the geographical imagination. In particular, I point to the seminal role played by Alexander von Humboldt in the embryonic and symbiotic relationship between photography as a social practice and geography as an intellectual pursuit. This relationship between photo-graphos – light writing – and geo-graphos – earth writing – rested on common roots in empiricism and positivism, and common agendas to see and, thereby, know the world.

HUMBOLDT AT THE DAWN OF PHOTOGRAPHY

To understand how the figure of Alexander von Humboldt looms large at the dawn of photography, let me take you back to the dawn of photography, to December 1838 – some five years after Hercules Florence invented a mode of reproduction that he named *photographie* (light writing). It is an exciting time. The Royal Geographical Society is 8 years old. Charles Lyell has already published his *Principles of Geology*. Charles Darwin has begun his travels. The London to Birmingham Railway had just begun service, and the *Sirius* had just become the first ship to cross the Atlantic, from Europe to the United States, entirely under steam. Illustrated with woodcuts, *The Penny Magazine*, published by the Society for the Diffusion of Useful Knowledge is bringing news and images to Britain's working class, heralding a new age of pictorial journalism. The first of John Murray's *Handbooks for Travellers* has been available since 1836, and across in Germany, Karl Baedeker was about to publish the first of his tourist guidebooks, based on Murray's success. Physically, intellectually, visually, and imaginatively, the world had started to become a smaller, more familiar place.

In Paris, a committee of three distinguished members of the French Académie des Sciences – noted astronomer, François Jean Dominique Arago (1786-1853), famed physicist, Jean-Baptiste Biot (1774-1862), and celebrated naturalist Alexander von Humboldt (1769-1859) – pay a visit to the studio of Louis Jacques Mandé Daguerre, a local stage-set designer and proprietor of the Diorama, an illusionistic form of public entertainment. to assess his new process for permanently fixing images made directly from nature in a camera obscura.³ Daguerre had failed to find commercial backing for his process and turned to the French scientific community for support. It is here, to this historic meeting, that the roots of the relationship between geography and photography can be traced, both literally and symbolically.

³ The camera obscura was a box-like drawing aid, the principles of which had been known for centuries.

And yet, the broader significance of this December 1838 encounter, between one of the founders of modern geography and one of the founders of modern photography, has largely gone unremarked. Although Humboldt played a key, behind-the-scenes role in the technological and cultural acceptance of Daguerre's process, he is known only as a minor figure at the dawn of photography. His connections to Daguerre and Talbot are noted only in passing in English-language histories of photography⁴ and are all but ignored in histories of geography (Hannavy, 2008; Beck 1989). Yet, Humboldt's concerns shaped photographic practices; Daguerre's invention influenced the geographical imagination. Let me now turn to some of the intellectual spaces where the histories of geography and photography converge upon the figure of Alexander von Humboldt. I shall touch upon the pursuit of photography in relation to his concerns as a proto-geographer: travel, plant geography, landscape painting, and the unity of nature.

After the initial visit of Humboldt, Arago, and Biot, Daguerre showed his silvery images to a host of notable scientists on at least two occasions, including Samuel F.B. Morse, the American inventor of the telegraph, and Sir Roderick Murchison, "chief architect" of the Royal Geographical Society during the mid-Victorian era. Among the names associated with the invention and initial applications of photography were many prominent and influential figures of nineteenth-century science, including Thomas Henry Huxley, Louis Agassiz, and

⁴ For example, the entry for Alexander von Humboldt in the *Encyclopedia of Nineteenth-Century Photography* is brief – a mere paragraph, which notes that Humboldt's "involvement with the beginnings of photography was brief but significant," and that "his endorsement of photography's descriptive powers influenced the adoption of the invention by explorers" (Brunet, 2008, p.1458). In German, Hanno Beck's essay in *Silber und Salz* lays out Humboldt's connections to photography. The 250th anniversary of the birth of Alexander von Humboldt (1769–1859) was celebrated in 2019 at the Museum Ludwig in Köln with the exhibition *Alexander von Humboldt: Photography and Legacy* (13 October 2018 – 10 February 2019). It featured two photograph albums given to Humboldt as gifts: one from William Henry Fox Talbot and the other from Pal de Rosti. See: <https://www.museum-ludwig.de/en/ausstellungen/archiv/2019/alexander-von-humboldt> Last accessed 6 October 2025.

Charles Darwin, as well as a host of Oxford-educated civil servants and keepers in various departments of the British Museum. This community of scientists embraced the medium of photography with curiosity and enthusiasm; their interest centred on photography as a means of extending their powers of observation through the copying, sharing, and studying of hieroglyphic inscriptions, botanical specimens, historical documents, and museum treasures, as well as works of art. Indeed, one proponent of photography pointedly asked, "what monumental research of the present age can be effectively treated without its marvellous aid?" (Schaaf, 1979, 1984).

In myriad ways, photography came to be part of the way in which the nineteenth-century encountered and explored the world. During this period in history when, as Bernard Lightman has observed, "the craving for visual images ... was the hallmark of mass culture" (Lightman, 2007, p.5), their interest in, and use of, photography was part and parcel of the intellectual ferment of their times. When geography and photography were inextricably linked to travel, when movement across space was embraced as a form of education, and when observation was at the heart of the paradigm of knowledge, it is not surprising to discover that Humboldt, the eminent scientific traveller, stood at the dawn of photography.

Prior to Humboldt's visit, Daguerre had attempted unsuccessfully to sell his new invention by subscription and turned to the Paris scientific community for support in selling his process to the French government. Humboldt came away from the December 1838 meeting intrigued by the images shown to the Committee by Daguerre — all views of Paris's urban landscape, fixed in minute detail. Letters reproduced in Steffen Siegel's edited collection, *First Exposures: Writings from the Beginning of Photography*, support Miriam Szwast's claim that Humboldt's response to these first photographs was "euphoric" (Siegel, 2017). To Friederike, Duchess of

Anhalt-Dessau, Humboldt claimed that "the light effect in Daguerre's images is greater and more charming than in steel engravings. (...) The images possess to the full the inimitably natural character that only Nature herself could have stamped upon them."⁵ In a letter to Carl Gustav Carus, dated 25 February 1839, Humboldt waxed eloquent about the qualities and possibilities of the daguerreotype: "It is one of the most astonishing discoveries of recent times."⁶ That same month, in a letter to Arago, Daguerre wrote, "M. Daguerre est, d'ailleurs, mon Chimborazo," likening Daguerre to the great Andean peak that he had attempted to climb in 1802 and suggesting the powerful hold that the daguerreotype had on his own imagination.⁷ Indeed, three years later, Humboldt took advantage of his public office to demonstrate his admiration for Daguerre, when, as head of the new civil division of the Order of Merit created by King Friedrich Wilhelm IV of Prussia, it fell to Humboldt to nominate the most deserving scientists and artists of his time. On his first list of foreign recipients, alongside such luminaries as Jean-Auguste-Dominique Ingres, Franz Liszt, and Michael Faraday, was Daguerre (Botting, 1973).

It is no coincidence that a "proto-geographer" was among the first to recognize the potential of photography as a new tool of scientific observation and a new form of geographical description. After all, geography, as both an academic discipline and a popular pursuit, did not develop in isolation from the circumstances and consequences of the invention of photography as a technology, and its evolution as a social practice. As well, Humboldt, the great polymath, had himself experimented in photochemistry

⁵ Letter 23, Humboldt to Friederike, Duchess of Anhalt-Dessau, 7 February 1839. In Stefan Siegel's collection, *First Exposures: Writings from the Beginning of Photography*. Los Angeles: The J. Paul Getty Museum, 2017, pp. 69-71.

⁶ Letter 25, Humboldt to Carl Gustav Carus, 25 February 1839; In Stefan Siegel's collection, *First Exposures: Writings from the Beginning of Photography*. Los Angeles: The J. Paul Getty Museum, 2017, pp. 75-77.

⁷ Letter, Alexander von Humboldt to François Arago, Berlin, February 1839, reprinted in E. Guilmoto (ed), *Correspondance d 'Alexandre de Humboldt avec François Arago (1809-1853)*. Paris: Librairie Orientale & Americaine, [1907], p.178.

and had even published his findings on the darkening effect of light on mercuric sulphate in 1799. Humboldt was intimately acquainted with major proponents of Daguerre's invention and corresponded with early experimenters in photography. His travels were extensive; his use of instruments was legion. Humboldt, the great traveller, keen observer, and prolific writer, was quick to sense the significance of this new technology. If historians of photography have paid little attention to Humboldt's presence on the Committee sent by the Académie des Sciences to Daguerre's, I would argue, Humboldt's ideas about the nature and function, capacities and limitations of the new medium underpinned arguments that shaped photography's reception and spread, practice and use, just as Daguerre's invention profoundly influenced the geographical imagination.

PHOTOGRAPHY AND TRAVEL

In the mid-nineteenth century, the relatively new medium of photography was quickly taken up by travellers to record their journeys, document what they saw, and return with images of foreign lands, places, peoples, flora, and fauna. As Susan Sontag has claimed, "To collect photographs is to collect the world" (Sontag, 1977). Here we have the roots of the relationship between photography and travel, and in that relationship, the influence of photography on the pursuit, circulation, and accumulation of geographical knowledge.

Likely in no small measure as a result of Humboldt's direct influence, travel entered the discourse of photography, not only before photography entered the discourse of travel, but also before photography was announced to the world. On 7 January 1839, Arago reported to the Académie des Sciences on the Committee's visit

to Daguerre's studio. He indicated that he planned to ask the French Government to compensate Daguerre for his contribution to the progress of art and science, but only after he received the details of his discovery and proof that "in addition to giving the brilliant results shown, the method is also economical, easy, and capable of being used by travellers anywhere" (Arango, 1839, p.250). But, like all good government reports, word of Arago's findings leaked to the press and on the eve of his address to the Paris scientific community, a newspaper story predicted, "For a few hundred francs travellers may perhaps soon be able to procure M. Daguerre's apparatus, and bring back views of the finest monuments and of the most delightful scenery of the whole world" (Gaucheraud, 1839 apud Gernsheim and Gernsheim, 1956).

References to travel, space, geography, topography, and landscape were very much part of the rhetoric used to convince scientists and politicians of the "immense utility" of Daguerre's invention. When, in June of 1839, Comte Duchâtel, the Minister of the Interior, presented a bill to grant Daguerre a lifetime annuity in exchange for making public the details of his process, he argued for the value to science and the fine arts, described the benefits for draughtsmen, painters and engravers, and then concluded:

... to the traveller, to the archaeologist and also to the naturalist, the apparatus of M. Daguerre will become an object of continual and indispensable use. It will enable them to note what they see, without having recourse to the hand of another. Every author will in future be able to compose the geographical part of his own work: by stopping awhile before the most complicated monument, or the most extensive coup d'oeil, he will immediately obtain an exact fac-simile of them (Duchâtel, 1839 [1989, p.2]).

With this statement, Duchâtel established photography as a legitimate tool of fieldwork, geographical description, and scientific data gathering. Three weeks later, Arago presented a report to the Chamber of Deputies in which he acknowledged that a process on paper would have been "more convenient for travellers," took great pains to explain the benefits of Daguerre's process, compared the scientific potential of the daguerreotype to the telescope and microscope, and alluded to "some ideas that have been formed on the rapid means of investigation which the topographer may borrow from the science of photography" (Arango, 1839). Perhaps his most compelling argument was one that couched the usefulness of the daguerreotype in the glories of the great *Description de l'Égypte* and noted "the prodigious advantages which might have been derived during the expedition to Egypt, from a method so quick and perfect to reproduce objects ... if photography had been known in 1798" (Arango, 1839). Reporting to the Chamber of Peers two weeks later, Louis-Joseph Gay-Lussac, took up Arago's line of reasoning, arguing that, "This process, when made public, will meet with numerous applications by painters, architects, travellers and naturalists" (Gay-Lussac, 1839 [1989]).

The emphasis placed on the use of the daguerreotype as a tool of geographical fieldwork, description, and fact gathering by travellers and naturalists in the arguments of Duchâtel, Arago and Gay-Lussac certainly addressed concerns that would have arisen from Humboldt's experiences and expectations as a traveller -- according to Charles Darwin, "the greatest scientific traveller who ever lived" (Darwin, 1958, p.66). Humboldt's own encyclopaedic travel writings were liberally supplemented with engravings of flora, fauna, and landforms, made at great expense from Humboldt's sketches by "teams of illustrators". Images of Aztec monuments and

hieroglyphics in Humboldt's *Views of the Cordilleras*, published in 1814, echoed the illustrations of colossi and inscriptions in the *Déscription de l'Égypte* and foreshadowed the work of explorer-photographers who followed in Humboldt's footsteps.

Humboldt was fully acquainted with the difficulties, costs, and disadvantages of employing artists and engravers to produce illustrations from field sketches. He was also well aware of the problem of cumbersome equipment. His emphasis on empirical research and his use of instruments of observation suggest that Humboldt would have brought definite opinions about the utility of the daguerreotype. His seasoned judgment as a traveller, naturalist, and author would have been seminal to the committee's examination of Daguerre's images, to the assessment of the process and equipment that produced them, and to the political process that made them available to the world.

At the same time that photography was absorbed into travel and the experience of place, it was embraced and promoted as a means of "virtual travel", enabling "the vicarious experience of place." Early writing on photography is rich with references to armchair travel: "We need no longer embark upon perilous voyages," wrote Louis de Cormenin, "heliography entrusted to a few intrepid practitioners, will make the world tour on our behalf, without our ever needing to leave our armchairs" (Cormenin, 1852, p.54). "Guided by the photograph," *The Art-Journal* declared, "we can travel over all countries of the world, without moving a yard from our own firesides" (*Art-Journal*, 1860, p.221). George Thomas Fisher, Jr. suggested that the impression which "faithful representations of the monuments of antiquity ... give us, even those who have never crossed the sea ..., is but little inferior to that which the traveller receives who contemplates the moral of a crumbling arch or a broken column, on the very spots

where once they stood the glory of the age" (Ellis, 1847, p.vi). And Rev. Read even claimed that "by careful study of a series ... [of photographs, one can] learn almost as much of a country in its general features and actual state, as by residence, and much more ... than by hasty travel" (Read, 1856, p.129).

The concept of virtual or armchair travel was mooted by Humboldt in his monumental work *Cosmos*, in which he suggested that large-scale paintings, such as decorative paintings, panoramas, and dioramas, may "be made ... to serve, in some degree, as a substitute for travelling through different regions" (Humboldt, 1849). In 1805, Humboldt had assigned this very task to books and art: they "make us live at one and the same time in the present and in the past. They gather around us all that nature has produced in the diverse climates and put us into contact with all of the peoples of the earth" (Humboldt, 1849, p.457). Humboldt's ideas, transposed to the new medium, in turn, found expression in the language of first engagement with the photograph. Here, his words echo loudest in the assertion by William Lake Price that, by means of photography, "the aspect of our globe, from the tropics to the poles, -- its inhabitants, from the dusky Nubian to the pale Esquimaux, its productions, animal and vegetable, the aspect of its cities, the outline of its mountains are made familiar to us" (Price, 1868, p.1).

Whether a bastard of science or the legitimate offspring of art, photography was a way of seeing across time and space, inextricably linked to the geographical imagination and popular pursuit of knowledge about the world. In light of the centrality of travel to the pursuit of both photography and geography, we may revise the essay's opening statement to read: The origins of photography have usually been traced to the aspirations of a professional diorama painter who trafficked in the illusion

of vicarious travel on the one hand, and the frustrations of an amateur artist who sought a way to bring back a souvenir of travel on the other.

HUMBOLDT AS INSPIRATION TO TRAVELLERS AND PHOTOGRAPHERS

Alexander von Humboldt's travels in the equinoctial regions inspired naturalists, artists, and writers to follow in his footsteps, and Yucatan was a mecca for camera-toting travellers familiar with his writings and rumours of ruins of an ancient civilization. At a time when naturalists, drawn to its exotic flora and fauna, reported archaeological finds, photography offered a “radically new kind of visual authenticity” and was employed to substantiate seemingly wild descriptions of marvellous ruins in travellers’ accounts (Davis 1981, p.101). Much has been written about Humboldt's influence on the American painter Frederic Edwin Church's and his magnificent painting *Heart of the Andes* and other of his South American canvases. However, little in the vast literature on Humboldt has been devoted to the Austrian, American, Hungarian, and French explorer-travellers, who followed in the footsteps of Humboldt through Latin America in the first decades after the advent of photography and adopted the camera as a tool of field work in their description of mapping the geography and archaeology of Yucatan.

The first daguerreotype outfit arrived in Yucatan in 1840 in the baggage of Baron Emanuel von Friedrichsthal (1809 –1842), an Austrian traveller, naturalist, diplomat, and amateur archaeologist, who secured a posting as First Secretary of the Austrian Legation in Mexico. According to Ulla Fisher-Westhauer, von Friedrichsthal travelled by way of France, where he met Humboldt in Paris and purportedly received

"valuable advice for his journey" (Fischer-Westhauser, 2007, p.9). Then, in New York, he met John Lloyd Stephens, who supported his plans and even suggested he buy a daguerreotype camera. Animated by Humboldt's writings, he travelled throughout the Yucatán and Chiapas, becoming the first person to take daguerreotypes of the Mayan ruins and record the monuments at Chichen Itza and Uxmal (Palmquist and Kailbourn, 2000). Von Friedrichsthal fell ill during his travels and returned to Europe in 1841.

According to an account in the *New York Journal of Commerce* on 24 August 1841, von Friedrichsthal returned to Europe via New York, where he displayed his daguerreotypes to public acclaim (Fischer-Westhauser, 2007). In London, he exhibited "twenty-five or thirty" of his daguerreotypes at a meeting of the senior staff of the British Museum and, in Paris, his daguerreotypes met the scholarly gaze of members of the Académie Royale des Inscriptions et Belles-Lettres, where he delivered a lecture orchestrated by Humboldt ("Les Monuments de l'Yucatan", 1841). Von Friedrichsthal's photographic show-and-tell carried news of his discoveries to learned audiences at a time when prevailing photographic and printing technology made it impossible to mass-produce photographs or to publish original photographs directly alongside letterpress text. Alas, before he could publish the results of his Central-American travels, von Friedrichsthal died. Unlike the boxes of plant specimens, he brought back to Europe and deposited in the herbarium at Vienna, with duplicates sent to Kew, the daguerreotypes he took were unique, and only two are known to survive.

Von Friedrichsthal went to the jungles of Yucatán armed with *Incidents of Travel in Central America, Chiapas, and Yucatán* (2 vol., 1841), by the American diplomat, lawyer, traveller, and writer. Stephens had already published *Incidents of Travel in Egypt, Arabia Petraea, and the Holy Land* (1837) and *Incidents of Travel in*

Greece, Turkey, Russia, and Poland (1838) when he was appointed Special Ambassador to Central America by US President Martin van Buren in 1839. Inspired by Humboldt's descriptions of ruins in Mesoamerica, Stephens set off with Frederick Catherwood, an English architect and illustrator, to explore the Mayan sites on his first visit to Central America (1839-40), but Catherwood fell ill and they cut their trip short. When they returned to Yucatan in 1841-42, assisted by Dr Samuel Cabot of Boston, they brought along a daguerreotype apparatus, which they used to record the overgrown pyramids, carved stelae, and wall ornamentation of the Maya at "forty-four ruined cities, or places in which remains or vestiges of ancient population were found" (Stephens 1843, p. iii).

The exquisitely detailed daguerreotype plates, in concert with Catherwood's meticulous camera lucida drawings, were employed to produce 120 illustrations for Stephens' popular two-volume narrative, *Incidents of Travels in Yucatan*, first published by Murray in London and by Harper and Brothers in New York in 1843. The following year, Catherwood published, at his own expense, *Views of Ancient Monuments in Central America, Chiapas and Yucatán*, which consisted of twenty-five folio, hand-coloured lithographs with accompanying text, in an edition of three hundred copies (Catherwood, 1844).

Taken between October 1841 and June 1842 on "the most extensive journey ever made by a stranger in that peninsula" (Stephens 1843, iii), the daguerreotypes launched the serious use of photography in Mayan archaeology (Davis, 1981). In the Preface to Volume I of *Incidents of Travel in Yucatan*, Stephens assured readers that the illustrations were based on "Daguerreotype views and drawings taken on the spot by Mr. Catherwood, and the engravings were executed under his personal superintendence (Stephens 1843, iv)." Here, the geographical concern for on-the-spot

observation and the public faith in camera-made images was further guaranteed by a closely supervised process of production, leaving no doubt about the existence of the great monuments and the veracity of their visual representations. Whereas Catherwood's original daguerreotype plates were destroyed in a fire, and his folio was an expensive, limited-edition publication, Stephens' *Incidents of Travel in Yucatan* has gone through 70 editions in English and Spanish since it first appeared in 1843 and is credited with drawing others to Yucatan.

As the daguerreotype process ceded popularity to the negative-positive processes in the 1850s and 1860s, photographs were increasingly embraced as an accessory of travel, a souvenir of travel, and a surrogate for travel (Schwartz 1996; Osborne 2000). After learning the waxed paper negative process in France, another camera-toting explorer inspired by Humboldt was Hungarian naturalist Paul de Rosti (or Rosti Pál, in Hungarian), who embarked on his American travels in early August 1856. De Rosti toured the United States, Cuba, Venezuela, and the Caribbean islands before finally arriving in Mexico, where he retraced Humboldt's 1803 journey, photographing cities, architecture, Aztec ruins, natural wonders, and local vegetation. Upon his return to Europe, de Rosti visited Humboldt in Berlin and presented him with an album of his photographs (now in the Agfa-Ludwig Museum, Köln). In 1861, he published *Uti Emlékezetek Americkából*, a book of his travels with lithographs, the majority of which were based on his original photographs. In the Preface, de Rosti declared:

I believe there is no more effective device for the spreading of geographical knowledge than providing clear images about the places, cities, buildings, plants, etc. of various climates by characteristic faithful drawings. Therefore, I consider the major goal of my journey to create

such images by means of light drawing [photography] (Sloan, 2013; Schwartz, 2014 p.232).

As with the findings of Hercules Florence, the exigencies of space and culture have meant that de Rosti's book, written in Hungarian, and his albums, preserved in Budapest, have had limited circulation, and that neither de Rosti nor the visual record of his travels are widely known in the English-speaking world.

Another caught up in the zeitgeist of early Mayan archaeological exploration was French traveller, writer, and photographer, Claude Joseph Désiré Charnay, who was influenced by Alexander von Humboldt's early speculation regarding the site of the Pyramid of the Sun at Teotihuacán" and by the work of John Lloyd Stephens, which he had encountered in his early twenties while working in New Orleans. Prompted to visit the "equinoctial region" made known by Humboldt and the Mayan ruins made famous by Stephens, Charnay quit his teaching post and returned to his native France where he secured financial backing for a round-the-world "artistic mission" to produce an Album Universel. In April 1857, Charnay left France and, with two colleagues, first set up shop in Quebec City for one month in late June, before continuing up the St. Lawrence River, visiting Niagara Falls, and then travelling down the Mississippi to New Orleans and on to Yucatán. According to Keith Davis, his "systematic use of photography as a tool in Mexican Archaeology . . . set the scientific standard for all later researchers" (Davis 1981, p. 104).

Charnay collaborated with a Mexico City bookseller and publisher to produce the first photography book in Mexico, Album Fotográfico Mexicano, which included four views taken at Quebec and Niagara. Charnay's views of Mitla, Chichen-Itza, Uxmal, and other sites were published in *Cités et ruines américaines*, Mitla, Palenqué, Izamal, Chichen-Itza, Uxmal, a lavish and costly folio volume of forty-seven original

prints and two photolithographs published in 1862. A companion volume of text, with an essay by noted French architect and theorist Eugène Viollet-le-Duc, was published the following year. Charnay's photographs of Meso-American archaeological sites purportedly have had "an extraordinary impact due to their timing, extent, and quality" (American Philosophical Society, 2013).

These camera-toting travellers who were inspired to travel in the footsteps of Alexander von Humboldt are symptomatic of broader disciplinary concerns and lead me to question the traditional art historical context in which the history of photography is studied. If, as Elizabeth Edwards (2001) has suggested, the default history of photography shouldn't be written as art, then let us then take a closer look at aspects of Humboldt's writings for resonances with the advent and adoption of photography in the pursuit of geographical knowledge and clues to the medium's discursive origins within the discipline of Geography.

PHOTOGRAPHY IN HUMBOLDTIAN SCIENCE

What, we might ask, was the place of photography in Humboldtian science? If, as it has been claimed, scientific activity stems as much from instruments permitting measurement as from large theoretical visions, then Humboldt's enthusiasm for Daguerre's invention would have arisen from his recognition of photography as yet another tool of empirical observation. His use of precision devices for taking standard measurements of things not seen—temperature, humidity, barometric pressure—and recording them in numbers would have found parallel applications in photography as a precision technology for capturing things seen and recording them as images.

In 1805, Humboldt expressed the notion that books and art "make us live at one and the same time in the present and in the past. They gather around us all that nature has produced in the diverse climates and put us into contact with all of the peoples of the earth." This found parallel expression in the rhetoric of such early proponents of photography as William Lake Price, who claimed:

In a multiplicity of ways, Photography has already added, and will increasingly tend to contribute, to the knowledge and happiness of mankind: by its means the aspect of our globe, from the tropics to the poles, — its inhabitants, from the dusky Nubian to the pale Esquimaux, its productions, animal and vegetable, the aspect of its cities, the outline of its mountains are made familiar to us (Price, 1868).

Whereas the initial arguments for the utility of the photograph projected that photography would be of immense utility to travellers in a practical way, the rhetoric of photographic transparency and truth linked photography to geography through travel in another, more conceptual way: as a surrogate for travel. "Guided by the photograph," the London-based *Art-Journal* declared in 1860, "we can travel over all countries of the world, without moving a yard from our own firesides," a sentiment which other critics echoed: "photography enables us to enjoy the pleasure and the advantages of travel without even crossing our own thresholds."

In limited measure, Humboldt endorsed the concept of vicarious travel through visual representation. Living in Paris from 1804 to 1827, he undoubtedly knew of Daguerre's Diorama, and it may well have been a visit to this popular form of visual spectacle and public entertainment that prompted him to suggest in *Cosmos*, that large scale landscape paintings such as decorative paintings, panoramas, and dioramas may

"be made ... to serve, in some degree, as a substitute for travelling through different regions" (Humboldt, 1849). However, for Humboldt, neither books nor art were a surrogate for first-hand observation, and it is unlikely that Humboldt would have embraced the photograph with the same ardour as Marcus Aurelius Root, who suggested that the photograph was not only a substitute for first-hand experience, but that, in some instances, it was even possible to achieve "completer and truer" understanding through photographic seeing than direct observation (Root, 1864).

PHOTOGRAPHY IN HUMBOLDT'S PLANT GEOGRAPHY

Long exposures and monochromatic images would have circumscribed the place of photography in Humboldt's approach to plant geography. For Humboldt, as Arago argued before the Chamber of Deputies, photography was an enhanced form of visual data gathering; however, from a technical perspective, Humboldt found field sketches superior to photographs for their indexical accuracy on at least two counts. Photographs "certainly cannot give the leafy canopy of trees" (Humboldt, 1849), he wrote in *Cosmos*. Nor, he recognized, could they reproduce colour. For Humboldt, these were critical pieces of information if field sketches were subsequently to be integrated, through creative powers, artistic skill, and imaginative faculties, into landscape paintings capable of enhancing the enjoyment of Nature and increasing the appreciation of its unity.

Humboldt did, however, recognize photography as an instrument of scientific observation in *Cosmos*, arguing:

... even in the present imperfect condition of pictorial delineations of landscapes, the engravings which accompany, and too often disfigure,

our books of travels, have, however, contributed considerably towards a knowledge of the physiognomy of distant regions. ... [In the] characteristic delineation of nature.... much aid might be further derived by taking photographic pictures, which... would represent the most perfect representation of the form of colossal trunks, and the characteristic ramification of the different branches (Humboldt, 1849).

Ironically, the very subject—trunks and branches—that Humboldt chose as an example of the ability of photography to produce the "most perfect representation", became the object of intense scrutiny, when Charles Piazzzi Smyth, Astronomer Royal for Scotland, published an article in the Transactions of the Botanical Society in 1859, the year Humboldt died. In it, he compared sketches of the Great Dragon Tree of Orotava published by Ozone, Humboldt, and MacGillivray, and declared, "it is instructive, as connected with the language of drawing, to trace the gradual growth of error and conventionality, as man copies from man. Errors are always copied, and magnified as they go; seldom are excellences reproduced. After a few removes, the alleged portrait of nature is only a caricature of the idiosyncrasies of the first artist" (Smyth, 1859). Using his own photographs taken on an expedition to Tenerife, Smyth attempted to verify and correct Humboldt's scientific observation, written description, and visual representation of the Great Dragon Tree. In photography, Smyth saw a powerful and faithful medium, which kept "a salutary check on the pencil ... of the traveller" (Smyth, 1859).

HUMBOLDT, PHOTOGRAPHY, AND ART

In *Cosmos*, Humboldt devoted a section to a discussion of "landscape painting in its influence on the study of nature":

Landscape painting and fresh and vivid descriptions of nature alike conduce to heighten the charm emanating from a study of the external world, which is shown in all its diversity by both, both are capable in a greater or lesser degree, according to the success of the attempt, to combine the visible and invisible in our contemplation of nature (Humboldt 1849, vol.11, p.440).

Humboldt asserted that "the effort to connect these several elements, forms the last and noblest aim of delineative art," claiming that in "its representation of the physiognomy and character of different portions of the earth," landscape painting "increases the desire for the prosecution of distant travels, and thus incites men in an equally instructive and charming manner to a free communion with nature." Humboldt's interest in landscape painting was directly related to art and travel, and their relationship to knowledge, and the enjoyment of nature. Further, he suggested that landscape painting.

... could not have gained in diversity and exactness, until the geographical field of view became extended, the means of travelling in foreign countries facilitated, and the appreciation of the beauty and configuration of vegetable forms, and their arrangement in groups of natural families, excited (Humboldt, 1849, vol.11, p.448).

The role of the photograph in the pursuit of geographical knowledge was, by extension and by default, partly defined within the discourse of art, for however much photographs were embraced as a scientific and objective way of capturing the world, they were, first and foremost, visual images that invited contemplation. More than that, they were formed by "Light", whose special, mystical quality had inspired Romantic art and literature. In the nineteenth century, art served as an aesthetic conduit to Nature and the Divine. The place of photography in this discourse was not entirely clear: on the one hand, the photograph was made by Light and, therefore, had Divine origins; on the other, it was made by a machine and, therefore, lacked the soul, genius, and imagination that Baudelaire, Ruskin, and other critics insisted were requisite for a work of Art. The role of the photographer, if acknowledged at all, was assumed to be less instrumental than that of the camera. Protracted debates ensued -- primarily in England and in France -- over the nature of photography and the ability of a mechanical device to produce art. These, in turn, were part of larger issues in literary and art criticism that struggled with the role of idealism and realism, mimesis and genius, beauty and imagination, the status of the artist and the importance of originality. Such debates over the relationship between Nature and Art, reality and representation, were not only familiar to Humboldt, but also central to his approach to field observation, visual representation, and scientific illustration.

Ultimately Humboldt was concerned with *la physique générale*. His interest lay in invisible, integrative, and historical processes, in inter-relations, natural wholes, and complete impressions. For Humboldt, Art was more than a slavish imitation of Nature. In the Author's Preface to the First Edition of *Aspects of Nature*, Humboldt explained that the origins of his work lay "in the presence of natural scenes of grandeur or of beauty," where "detached fragments were written down on the spot and

at the moment, and were afterwards moulded into a whole" (Humboldt, 1850, p-vii). Taken "on the spot," photographs were the visual equivalent of Humboldt's "detached fragments." They were empirical facts in visual form, gathered on one's travels, to be brought home and moulded into a whole through scientific analysis or artistic synthesis in the search for the essential unity of Nature. Photographs could, thus, serve as "the material groundwork" for the landscape painter, but could never fulfil Humboldt's expectations for landscape painting itself (Humboldt, 1850, p-vii).

CONCLUSION: DISCIPLINARY APPROPRIATION

In his meta-biography of Alexander von Humboldt, Nicholaas Rupke asks, "How are reputations constructed and reconstructed by national, professional and other remembrance cultures?" He muses:

When writing the stories of these people's lives and appealing to their names, do we connect with the essential person? Or are we engaged in a more complex process that involves appropriation, whereby the life, work and impact of our heroes and antiheroes are told and retold as building blocks of contemporaneous socio-political institutions? (Rupke 2008, p.71).

Rupke's introduction to "the several lives of Alexander von Humboldt" goes on to examine the phenomenon of Humboldt as "a field of historical scholarship" (Rupke, 2008, p.71). The research from which this paper is drawn is, as Rupke suggests, an act of appropriation. In positioning Humboldt more conspicuously at the dawn of photography, it contributes another "life" to that scholarship, but it also disrupts art

historical accounts of photography's nineteenth-century roots. In taking a historical-geographical lens to early critical responses to the new medium, it proposes that the discursive origins of photographic practice lie, not in the field of artistic production, but in the pursuit of geographical knowledge.

I am not, however, seeking to lionize Alexander von Humboldt as a pioneer of photography or a giant in the history of the medium. His essays on science and the unity of nature, on biogeography and landscape painting, are dotted with references to photography that reveal he acknowledged the utility of photographs but also recognized their limitations. If Humboldt did not champion photography nor write extensively about it, his role at the dawn of photography suggests that, by the mid-nineteenth century, the key questions – “How does geographical knowledge travel, and where is it preserved?” – had a new response: photographs. Focusing on Alexander von Humboldt as the third member of the Committee sent to assess Daguerre's process and positioning him more conspicuously at the dawn of photography opens up scholarly attention to the wider, unexplored ground where the well-documented histories of geography and photography intersect, and offers an opportunity to explore the invention, reception, and spread of photography in terms of the broader contexts, social practices, and intellectual pursuits by which people came to know the world and situate themselves in it. That opportunity carries the power to disrupt and enrich traditional accounts of photography's nineteenth-century roots, rethink the discursive origins of photography, and acknowledge the influence of geography in the acceptance and spread of photography.

Focusing on the unexplored ground where the well-documented histories of geography and photography converge upon the figure of Alexander von Humboldt, I argue that expectations for photography as a social practice reflected and derived from Humboldt's perspectives on travel, science, and art, and from his role in the scientific assessment, political approval, and practical adoption of photography. Such a study involves the slippage between disciplinary contexts expressed by John Ruskin in 1874:

Anything more beautiful than the photographs of the Valley of Chamouni, now in your print sellers' windows, cannot be conceived. For geographical and geological purposes, they are worth anything; for art purposes, worth -- a good deal less than zero (Ruskin, 1874, in Goldberg, 1981, p. 153).

Underlying Ruskin's observation is an acknowledgement that the study of photography is grounded in and filtered through disciplinary concerns. His pronouncement – that landscapes worthless to the art critic were of great value to the geographer – suggests that alternate disciplinary avenues of critical engagement with the photograph. Ultimately, what Ruskin considered photography's weakness as a mode of artistic expression constituted its strength as a purveyor of factual information. It was a tool of observation, one among many. It offered a means of recording, ordering, classifying, comparing, and analyzing visual information in pursuit of empirical laws. Yet, for Humboldt – someone keenly interested in theory, explanation and cause, and seeking the unity of the universe through synthesis and abstraction – photographs were merely facts in visual form. Given the richness and complexity of Humboldt's approach to location, the limitations of photographs – as two-dimensional representations of three-dimensional space, as records of what was observable by only one of the five senses – would have been clear to him.

Geographers feel at home speaking about maps; it is expected – part of our training and vocabulary. Brian Harley, David Woodward, and others have examined the "sly rhetoric" of maps and expanded our understanding of their power as material objects with social biographies (Harley and Woodward, 1987). In *Mappings*, the late Denis Cosgrove asked: "How have maps and mapping served to order and represent

physical, social, and imaginative worlds? How has the practice of mapping shaped modern seeing and knowing?" (Cosgrove, 1999, p.1). These same questions are not asked often enough of photographs. Edward Said supplies a rationale to do so:

Just as none of us is outside or beyond geography, none of us is completely free from the struggle over geography. That struggle is complex and interesting because it is not only about soldiers and cannons but also about ideas, about forms, about images and imaginings (Said, 1993, p. 7).

Photography has long been appropriated by art historians interested in images and image-making, but as Abigail Solomon-Godeau's cautions:

Visual documents do not, of course, become works of art the way caterpillars become butterflies; rather, they are deemed works of art through the complex and interconnected needs and desires of the culture which is apprehending and consuming them (Solomon-Godeau, 1991, p. 181).

Rethinking the discursive origins of photography brings to the fore the "complex and interconnected needs and desires" of the nineteenth-century Western world. It disrupts disciplinary territoriality, and shifts attention away from concerns for surface appearance and pictorial convention and onto applications, implications, and meanings. It asks us to ponder: How did photographic images generate geographical imaginings? How did geographical imaginings produce photographic images? And, more broadly, how did photography change the way of thinking about and "doing"

geography? Underpinning such a shift is an acknowledgement of the close and enduring relationship between geo - graphos and photo-graphos –a relationship which can be traced back to Alexander von Humboldt and his influence at the dawn of photography.

Initial interest in, expectations for, and applications of, photography were framed by the intellectual ferment of the times, which in turn, shaped the way in which nineteenth-century viewers encountered and explored their world. At the dawn of photography, the figure of Alexander von Humboldt - renowned scientist, famed explorer, celebrated naturalist, court diplomat, and prolific author - loomed large. In this paper, I focus on Humboldt as an *entré* to the embryonic and symbiotic relationship between photo-graphos - light writing - as a social practice, and geo-graphos - earth writing - as a popular pursuit -- a relationship that rested on common roots in empiricism and positivism, and common agendas to see and, thereby, know the world.

Franklin's observation resonates with the impact of Humboldt on the entwined histories of photography and geography:

The ability to separate message from messenger, sound from speaker, and picture from depicted, together with the speed with which information is transferred, has created a reality in which the manipulation of space and time has become one of the driving forces behind a new and complex way of doing things. ... Collectively and individually, and in light of broader implications, we need to think about how much of society is determined by a different way of doing things, by the dictates of new technologies (Franklin, 2006, p. 237).

If we accept Franklin's assertion about the impact of new technologies, then let us shift disciplinary focus, rethink discursive origins, and interrogate photography as a social and technological practice that extended the powers of human observation across time and space, and, in so doing, ushered in a new era of "doing geography".

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