# Capturing Extraction? Geology, Photography, Industry, and Institutional History in the Bingley Archive

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Godfrey Bingley was a British industrialist who took up geology, photography, and travel in the 1880s. His photographs are housed at the University of Leeds, where he worked with its Chair of Geology. This article analyses the archive's projection of the imperial geological imaginary that emanated from Britain and extended to the Americas. It argues that these images mediate multitemporal scales, from the deep time of geology to the contractions of industrial development, enabled by the extractivist practices that photographic technology erased from history. It also demonstrates that practices of rephotographing Bingley's collection conjure these erasures as spectres of Empire.

Keywords: Geology, Photography, Archive, Temporalities, Empire, Autoethnography

I am looking at a boy, or perhaps he is a man, who is wearing a tall, pointed hat. His ovular face, blackened by the brim, rests atop a loose, white cotton suit. The front of his shirt is tucked into his trousers, creating a triangular seam of fabric between his hands that dangle at the waist. There are marks on his clothes that might be stains, or maybe shadows, made by the wrinkles that run down his chest and across his knees. He is barefoot. Next to him is a plump stone sculpture, around half his height and twice his breadth, that perches on a round, chiselled base. It is a simple piece of craftmanship that would be otherwise be unremarkable, except for this one thing: it is identical to the tall, pointed hat that is worn by the boy, who is perhaps a man, at whom I look. The stone is of similar shape and of equal proportions to the hat, but at a larger scale. There are dents on the right-hand peak of both and a crease runs down their front. The vein that crawls up the rounded surface of the stone – a decorative serpent, maybe – is a fold gives the hat a finished look. Together, man and stone are a picture of sincerity, as though posing for a wedding portrait. They are standing in the grounds of a small, whitewashed chapel, adorned by barred vestibule windows

and neogothic pillars. Two palm trees draw their gentle movements on the wall. The sun is hot, and high. The world is still. The shutter opens.

The person who captured this moment is named Godfrey Bingley. He lives in 1896. This is his second voyage to the Americas and here he finds himself in Mexico, spending the day in a market town on the border between Hidalgo and Veracruz. After taking the photograph, I imagine Bingley pulling the dark cloth from his head, stretching his back, wiping his brow, cursing the heat, and signalling to the boy that he could now relax his stiffened posture. He carefully removes the glass plate negative, protected in its holder, and stores it in his wooden travel box, before dismantling the rest of his equipment. It would be weeks until he could see the scene that the light had etched in gelatin. To do so, he would have to cross an ocean. Back at home in England, he would develop the photograph in a darkroom cubby at the Leeds Mechanical Institute, first by wetting the three-inch plate with distilled water and then by covering it with a chemical solution. As if by magic, the Mexican boy would slowly reappear, and then his hat, and then the rock. They had been captured forever, in miniature. Sometime soon, the boy and his partner would be projected, on a lifelike scale, to a captive audience at the Annual Open Lantern Slide Exhibition of the Leeds Photographic Society. Bingley hoped to cause amusement with the pictorial jokes among his entries, brightening an otherwise dreary November evening for a spectatorship numbering some seven hundred (Leeds Photographic Society, WYL2064/2/2). During the intervals, regaled by the Leeds Private Orchestral Society, members of the public would discuss their favourite images. Had I been present at that soiree, which I have embellished in my imagination, I would have picked 'Toltec Remains of Idol, Huexotla [Huejotla], Mexico,' the title for Bingley's behatted portrait (G Bingley, MS 1788/53/51, Figure 1).

Figure 1: Toltec Remains of Idol, Huexotla [Huejotla], Mexico (MS 1788/53/51)

Source: Godfrey Bingley

This picture appeals to me because, in it, converge Bingley's passions for travel, photography, and geology that I have inherited more than a century later, as though the photographer were a distant relative and his movements rendered genetic memory. 'Toltec Remains of Idol' (G Bingley, MS 1788/53/51) is evidence of Bingley's playful nature; his capacity to find fun in the mundane. But it also hides the darker facets of his exploits, shrouded like the face of the photo's subject, his agency and his desires, and the chemicals at work within the camera. As I carefully handle the glass plate negative, hands thronged in blue latex gloves, I sense that this is an artefact washed ashore in our millennium by the currents that drove industry and imperialism in the 1800s. Born in 1842, Bingley was a prominent Leeds industrialist who took up photography upon his early retirement. At the same time, he found a passion for the geological sciences: most of his pictures are of rocks, in some guise or another. He was also a dedicated

local historian. Travelling in the company of Yorkshire societies, his newfound hobbies took him around Britain and across the world, to Europe, Africa, and the Americas. He would be indirectly involved in establishing the University of Leeds, where I now sit in a bright room overlooking the Brotherton Library, and where he collaborated with Percy Kendall, the man responsible for creating the department of geology at the hatchling institution (Shimmin, 1954: 153). In the space of twenty-five years, Bingley amassed some 10,000 photographs that he took on at least four continents. He bequeathed this unique collection to the University of Leeds in 1913 when, as Kendall puts it, he was 'suddenly stricken with almost total blindness. The oculists hold out no hopes of recovery of more than the dimmest vision' (cited in Jones, 1987: 118).

The archive of negatives is now held, for the most part, in the Special Collections of the University of Leeds, where I sift through Bingley's photographic memoirs, and where I am employed as a Professor. Copies and smaller series of negatives are held at Leeds' Thoresby Society, the National Photographic Record and Survey, the Geological Society, and the British Geological Survey (Leeds Photographic Society, WYL2064/2/3). The contents of the archive tell animated tales about imperial travel, extractive economies, the development of geology, the institutionalisation of extractive knowledge, and the global forces of industrialisation. Bingley's pictures were informed by the extensive geological knowledge and technical skill that he acquired in illustrious company among Yorkshire's illuminati in the burgeoning field of the earth sciences. Some components of the archive mediate this depth of knowledge and dynamism. Others portray colonised territories and their peoples as inert and static entities, as though they were frozen in time while the rest of the world sped up in the great acceleration and, with new geological discoveries, became more ancient. This renders problematic the playfulness that frame pictures like 'Toltec Remains of Idol' (G Bingley, MS 1788/53/51). It also complicates my relationship with them. In this essay, I stay with these complications to navigate the grey zones that exist between the exposures and obscurities of Bingley's historic photograph collection, focusing on the series he created on his trips to the Americas and contrasting these with his pictures of the geological field in Britain. Doing so, I ask how Bingley's images expose multiple, textured timescales, ranging from the vast spectrum of planetary time to the contractions of industrial time and its resonances in contemporary landscapes.

The resulting article has been produced using a combination of methods, including archival research, visual analysis, the practice of rephotography, autoethnographic reflection, and what Kieghtley and Pickering call the 'mnemonic imagination,' or an 'active synthesis of remembering and imagining' whereby I use Bingley's photographs as memory devices, and my imagination to expand on his perspectives (Keightley and Pickering, 2012: 7). It offers insight into the fraught connections between the production of scientific epistemologies, institutional archives, and the imperial project. Bingley's portrait of the region coheres with broader photographic narratives that propelled the expansion of the Victorian

Empire as an 'enlightening' and 'civilising' mission on the 'darker continents'. Although the British had limited territorial occupations in Latin America during the nineteenth century, they would later reassert their presence there with the birth of the fossil fuel industry at the dawn of the twentieth. Photography would come to provide an important tool for British mining companies in prospecting and documenting explorations in the Americas. I question what role Bingley played within this geopolitical dynamic. At the same time, I reflect critically on whether I, too, am the product of the convections that created Bingley's archive – industrialisation, imperialism, and extraction – and that speak from the beyond in the photographic image. Over the past six years, I have revisited many of the places that Bingley photographed, capturing these anew with digital technology. Bingley produced essentialist depictions of the people and the places that he encountered on his travels, using his camera to advance the interests of geological science which, in turn, lent itself to the business of extraction. Do my movements reproduce the worlds created by Bingley and others like him?

By means of a response, the article is partitioned into four interstitial scenes: Geological Odysseys, Stills of Empire, Revisitations, and Afterlives. Geological Odysseys considers how some of Bingley's pictures mediate the animations of the geophysical environment to induce sensations of 'timefulness,' or 'a feeling for distances and proximities in the geography of deep time' (Bjornerud, 2018: 17) that generates a plurality of scale and invokes the complex rhythms of planetary movements. Simultaneously, I argue that these components of the archive portray a romanticised depiction of the British countryside, obscuring urban materialities fuelled by coal and Bingley's own role in the industrialisation of Yorkshire. Stills of Empire reflects on the origins of the University of Leeds, born as it was of efforts to support the development of the mining industry that made geology one of its foundational disciplines. Holding this in mind, I analyse Bingley's imperial portrait of the Americas that justified the presence of British prospectors in foreign territories. Its contents offer a constrictive, anthropocentric and Western-oriented view on time and space, promoting 'the biontological enclosure of existence' that Elizabeth Povinelli calls geontology (Povinelli, 2016: 5); its creation was enabled by the chemicals and capital produced by extractivist practices. Revisitations looks at the practice of rephotography and, thus, the replication of an imperial imaginary that confines colonised territories to a singular, industrial timescale which evolves from backwardness to progress, placing Western humanity as the driver of this motion. I examine how Bingley recreated the images and passages of itinerant photographers before him, before probing my own rephotography of Bingley's choice locations in Mexico City and Cartagena. When looking for Bingley around the Americas, in my efforts to access historic memory, I am pursued by what Ann Laura Stoler calls a 'colonial presence.' This 'distinguish[es] between a past that is imagined to be over but persists, reactivates, and recurs in transfigured forms. [...] Colonial presence is an effort to make room for the complex ways in which people can inhabit enduring colonial conditions' (Stoler, 2016: 33). The Bingley

archive is a material artefact from Britain's industrial past, when globalisation picked up apace. But it also exerts its presence in our present age of carbon-fuelled travel and hybrid living. As I seek to recreate his pictures, I am haunted by Bingley's ghost. I comment on this haunting in Afterlives.

## Geological Odysseys

The story told by the Bingley archive is, at its largest scale, about the discovery of a vast cosmic history and the huge social transformations that took place at the turn of the twentieth century. It is about the birth of a university, the development of the modern tourist industry, and the beginnings of a global economy powered by hydrocarbons. At its smallest scale, though, it is about a man who could not sit still; a person who, after working at a foundry since the age of sixteen, reinvented himself in his early fifties. He makes first mention of photography in his diary entry dated Wednesday 24 August, 1887. He writes simply: 'Went to Clapham by an afternoon excursion, and took a few photos' (cited in Jones, 1987: 120). Either Bingley was a master of understatement, or his newfound hobby quickly escalated. Within a year, he had taken at least four hundred dry-plate photographs that spanned the breadth of Britain. The length of exposure and location of each shoot was often documented in the handwritten notebooks that were filed away along with his negatives. We know from these records that Bingley was using dry glass plate photography, a relatively new technology which required no knowledge of chemistry and was a process of 'almost childish simplicity' (Gautrand, 1998: 233). Previously, wet plate collodion photography required extensive on-site preparation and immediate processing, which meant that the photographer had to erect a portable darkroom in the field. The invention of the gelatin dry plate in 1871 immediately simplified this process. The plates came pre-prepared and could be stored for lengthy periods of time, either before or after each photograph was taken (Davenport, 1991: 18-23). This meant that photography quickly became more portable and, ultimately, more accessible to European men of leisure such as Bingley.

Bingley typically photographed dramatic, rocky landscapes and was drawn to the unknown that hid behind his field of vision. We can see in his archive that he was fascinated by the shapes of archways, peepholes, and portals. He delighted in finding pairings between lithic and anthropic forms, as we saw in the opening to this article. There is a picture of Flamborough cliffs that leads the viewer into the looming shadows of a narrow, rocky arch and outwards towards the expansive white of the horizon (G Bingley, MS 1788/1/44, Figure 2). This arch in Flamborough cliffs is replicated in the figures of the stained-glass frames that gape from the remains of Bolton Abbey – man-built windows onto the divine – captured in another photograph some nine years later (G Bingley, MS 1788/19/3838, Figure 3). It was as though Bingley was using photography to peer out towards cosmic realms, hoping that alchemy would reveal the

invisible forces of the universe. What appears on these glass plates, he seems to say, is only a veneer for the wonder and mysteries that escape the naked eye. Look closer. The most curious things are in the beyond and beneath the surface. This idea was much influenced by the fashion of the period for geological excavations, or the explorations of deep time that was stored beneath the planet's upper crust. Bingley joined the Yorkshire Geological and Polytechnic Society in 1895, became chairman in 1898, and was elected as vice-president in 1922 (Yorkshire Geological Society, MS 1560). As we will see, he played an important role in their investigations.

Figure 2. Flamborough, North Landing, arch, rocks (MS 1788/1/44)
Source: Godfrey Bingley

Figure 3. Bolton Abbey, Arch (MS 1788/19/3838)
Source: Godfrey Bingley

With the Society, Bingley took exploratory trips to destinations around the North of England, where groups enjoyed outings to quarries and collieries, heard lectures on fish fauna in the coalfield, and shared convivial dinners at elegant hotels that were attended by local political regalia. These interests filtered into his solo travels, on which Bingley was attracted to other lapidarian records: earth-dwellings, standing stones, monoliths, and stone circles. He made elegant portraits of these majestic sitters. The names of notable Victorian landmarks appear as lively titles for his work: 'Saltburn, under Huntcliff. Mushroom rocks' (G Bingley, MS 1788/39/8383, Figure 4) and 'Tunbridge Wells, Toad Rock' (G Bingley, MS 1788/8/1875, Figure 5) are two in a long roster of anthropomorphic geological features. People usually appear in Bingley's photographs only for the purpose of juxtaposition or scale, positioned as tiny figures in the bottom corners of his images. It was as though Bingley wanted to visualise a geological outlook on humanity: like Kendall, he was a man who 'thought in terms of geological time […] – your individual life did not matter one jot!' (Shimmin, 1954: 34). Working closely with Kendall, who first specialised in glacial geology and then the geology of coal, Bingley deployed the camera like a microscope, using a fixed lens to examine the mineral dynamics of ammonites and fossils (Shimmin, 1954: 153). Many of Bingley's images would later be used as pedagogical materials in the new department of geology at the University of Leeds, founded in 1904 with Kendall as its first professor. In the preface to *Geology of Yorkshire*, a canonical textbook that is still used to this day, the authors write a special dedication to Bingley: 'There is one name so revered by the Geologists of Yorkshire that it must have a separate and most conspicuous place in our acknowledgements – that of Mr. Godfrey Bingley of Leeds. Not only has he been our companion in toilsome marches aggregating many hundreds of miles, but he has placed his exquisite skill as a photographer at our constant disposal' (Kendall and Wroot, 1924: vii).

Figure 4. Saltburn, under Huntcliff. Mushroom rocks (MS 1788/39/8383)
Source: Godfrey Bingley

Figure 5. Tunbridge Wells, Toad Rock (MS 1788/8/1875)
Source: Godfrey Bingley

The resulting image of Britain painted by Bingley on his jaunts into the countryside is one that, at first glance, may seem timeless and bucolic. Transported by secret openings, like Alice through her looking glass, we find animals and plants that have turned to stone. Enchanted toads and toadstools wait breathlessly for their spells to break. People are dwarfed by giant, reptilian rock forms. And yet, to the trained eye, this sense of stillness is interrupted by the geomorphic drama of the tectonic strata that jut dramatically from the North Yorkshire coastline that features so heavily in Bingley's collection. His gorges, coves, peaks, and falls are the material remnants of the earth-shattering movements and the subterranean forces that had suddenly become accessible to geologists as the discipline evolved in the nineteenth century (Gould, 1987; Rudwick, 2014). These components of the archive transport its viewer to the vast dimensions of planetary formation. They beckon towards what Marcia Bjornerud calls 'a 'polytemporal' way of thinking' whereby the past, in its multiple periodisations, 'is palpably present in rocks, landscapes, groundwater, glaciers, and ecosystems' and 'every outcrop is a portal to an earlier world' (Bjornerud, 2018: 162-163). This, when industrial time was speeding up, slipping through our grasp, and when space, by all accounts, was shrinking. Indeed, Bingley was more attracted to the great plains of geological time than he was to the contractions of history, choosing not to record the dramatic social changes that were taking place around him. But these upheavals transformed the face of Leeds while Bingley was at work: by the time of his retirement in 1884, the city's inhabitants numbered around 350,000 (Morgan, 1980: 48). Three quarters of its population was housed in little more than an eighth of the built-up area, less than two miles away from Bingley's suburban lodgings. Earlier that century, the city had seen massive migration from rural Yorkshire, Ireland, and Russia, all blighted by recent famines (Morgan, 1980: 61-62). This was accelerated by the growth of trade in textiles, the finalisation of the Leeds-Liverpool canal, and the arrival of the railway that tore great rips into the Georgian social fabric.

Little of this industrial hubbub is given presence in Bingley's pictures of the era. And yet, curiously, as owners of a foundry, the activities of Bingley and his family played a pivotal role in driving the urbanisation of Yorkshire. They owned a metal workshop in Harper Street, in the very heart of Leeds, that made hydraulic presses and steam engines. Bingley, himself, suffered with chronic ill health, suffering from inflammation of the liver, eczema, glaucoma and, as one source put it in 1871, 'congestion of the brain,' possibly caused by all the time that he spent in close proximity to toxic chemicals (cited in Jones,

1987: 120). When looking at these images, I wondered why this side of Leeds was missing from the Bingley archive, when it was documented extensively by other photographers of the era (see Gibson and Lefevre, 2006; Payne and Payne, 1985). So says Michael Schofield, a contemporary artist who has set about rephotographing Bingley's locations of choice around Leeds:

> It's telling that he hasn't photographed the houses that were being built opposite his own, because they were. This is the interesting thing of going back to the locations and looking at the dates and the OS maps. I've found that just across the street from him, those fields were disappearing, they were being built on; back-to-back houses were being built. So this bucolic world that he's photographically creating is disappearing before his eyes, and he's choosing not to represent that. (interview with Schofield, 2018)

Bingley's collection is a stark reminder that photography, for all its claims to truth and authenticity, represents the curation of vision and the creation of worldviews that serve slanted outlooks.

## Stills of Empire

During his retirement, Bingley was hungry to picture as much as he could, and this hunger took him in new directions. At the turn of the century, he visited Ireland, Switzerland, Belgium, France, and Norway, both with the Geological Society and to Annual Photographic conventions. He walked for days in the mountains, lugging bulky equipment up the Alps and in Norwegian fjords, taking pictures of snow-topped heights with fantastical titles like 'Witches' Pinnacles' (G Bingley, MS 1788/54/106). He was often in the company of Kendall, one of the first appointments at the University of Leeds, designed to train young men in the recently professionalised industries of science, technology, and medicine. Geology was a leading subject, then, as was mining, mechanical engineering and the modern languages that facilitated post-war commerce in foreign territories, which, by 1916, encompassed Spanish, French, Russian, and German (Shimmin, 1954: 42). The University incorporated the knowledge of academics and amateurs alike. It drew from the expertise of a bustling scene of societies in Yorkshire and shared some of this knowledge with industrial actors. It was to Kendall that Bingley bequeathed his collection of photographs when he lost his sight, which he hoped would be of scientific value. Kendall described Bingley's donation as a 'noble gift.' 'Each one,' Kendall would go on to write of the photographs, 'is properly numbered, named and catalogued, and the value of the series is greatly enhanced as a historical record by the fact that every one is dated' (cited in Jones, 1987: 119).

Kendall's valuation of the archive has held true: Bingley's 'unrivalled collection of lantern-slides' has been a 'boon [...] to future generations' (Kendal and Wroot, 1924: vii). Over time, the glass plate negatives have moved from geology, to archaeology, to history, to the exhibition space of the Brotherton gallery, and back to the central archives. Their circulation reveals shifts in epistemologies, methodologies, and objects of enquiry, uncovering important intersections between different disciplines. Bingley's photographs have been used to illustrate rock formation in geological papers, as documentation of religious belief structures, as the frontispiece of alpine journals, as objects of art, as pieces of historical evidence. Kendall's description of the collection, however, is not wholly or entirely accurate: not every image is catalogued, and some have misleading titles. What is more, there are a number of boxes for which scant or no information is available. Some parts of the collection are stamped with a question mark in the form of a disclaimer. These include the images that Bingley took on his two known trips to the Americas, the first towards the end of 1890 and the second, in 1896, six years later. We know very little about these expeditions: I have found no mention of them in Bingley's personal papers, in the minutes of the societies that he attended, in the University archives, or in the extensive local press coverage of his activities. All we know about Bingley's presence in the Americas is what the images can tell us, along with the dates and the labels on the photographs.

Piecing these together, it would appear that, on his first transatlantic voyage that bridged 1890 and 1891, Bingley set sail from Cobh, then Queenstown, in southern Ireland, where he took a picture of a boat ladened with passengers that he titled 'Emegrant Tender' (G Bingley, MS 1788/53/3). He stopped briefly in New Orleans, where he snapped a scene of some goats on a wharf, called 'Goats on Wharf' (G Bingley, MS 1788/53/4), and then travelled to the country now named Belize, then a British Crown Colony known as British Honduras. From there, he explored the Yucatán peninsula, in southern Mexico, where he visited ancient temples at Tulum and scrutinised their stonework. He proceeded to journey south down the Caribbean coast of Central America, descending through Nicaragua and Costa Rica to Panama, then belonging to Colombia; he would stop at Cartagena and eventually arrive at Caracas in Venezuela, from where he presumably boarded another boat that would return to England. Bingley's return trip to the Americas was made in autumn of 1896, when he likely travelled solely in Mexico. There, he contemplated volcanic peaks and stood before expansive fields of agave. He joined celebrations of Mexican independence in the bustling capital. The pictures he took on these trips are varied in content, and many of them appear to be spontaneous. We see giant turtles on their backs next to blurred figures on a ship deck, their faces effaced from history by tidal motion. There are altar boys, paused during a game of croquet to pose beside their holy father. There are phantom outlines of passers-by and veiled worshippers that creep into shots of religious buildings. There are rickety colonial balconies and grand baroque Cathedrals. Among these scenes of social life, there are few examples of geological processes. Gone are

the fossils and the quarries that Bingley photographed in Britain. When they appear, stones are typically ordered in archaeological or architectural arrangements. Humans, in their varied forms, dominate this section of the archive.

If Bingley romanticised the British landscape as a world seeped in time and shrouded in mystery, these visions of the Americas showcased Bingley's viewpoints on the present, the bizarre, and the exotic. Whereas in Leeds, Bingley typically turned away from the city and its inhabitants, this is often the subject of his photographs on his travels. His images display the quaintness of poverty, the rudimentary nature of built constructions, the forlorn gazes of working women, racialisation as it is rendered local colour. These are the tourist snaps of an enchanted visitor, taken in another world. But they also created a world that was available for exploitation and occupation. A close look at this part of the collection reveals what Bingley saw with his 'imperial eyes,' a term coined by Mary Louise Pratt to designate 'how travel writing made imperial expansion meaningful and desirable to the citizenries of the imperial countries, even though the material benefits of empire accrued mainly to the few' (Pratt, 2008: 3). So, too, did photography lend itself to this enterprise. As the Victorian Empire grew, Bingley's contemporaries created photographic portraits of 'darkest Africa' that, disseminated among an invested and engaged British public, justified imperial expansion in that area. So writes James Ryan:

> As a technology based on the natural power of light, the camera seemed particularly suited to the task of illuminating the secrets of the continent. However, through their supposed power to reveal the unknown and the geographical truth, photographs made by British explorers in Africa tended to reinforce the established image of the African interior as a place of disease, death and barbarism. (Ryan, 1997: 30)

The presence of the British, such visual discourse implied, would enlighten these blighted nations.

Many other places deemed peripheral to the accumulation of global capital were cast in this light over the course of the nineteenth century. Bingley was operating a generation after the first wave of British photographers descended upon Africa, but he inherited some of their methods and their outlooks. There is a trio of urban scenes shot in 1891 that, when pieced together, offer a panoramic view of Caracas (G Bingley, MS 1788/80/2; G Bingley, MS 1788/80/1; G Bingley, MS 1788/80/3, Figures 6, 7, 8). They were taken at the Calvario, a hill-top park designed in fin-de-siècle style that had not long been built in the Venezuelan capital by a president known as the 'Illustrious American' (see Jarman, 2023a: 35). The northernmost image depicts ramshackle houses that tumble and twist down the hillside, carved in two by an empty tram track in the highest corner that points to the delayed arrival of modernity. At a distance, there is a patchwork of fields that covers the sweeping valley floor, hemmed in by the flanks of the Ávila

mountain. The second image shows the Ávila again, and then two neogothic monoliths in its backdrop: the Municipal Theatre and the Santa Teresa Basilica. The central axis of the photograph is delineated by the grounds of an army barracks, surrounded by one-storey buildings that crouch beneath terracotta roofs and that sprawl in a haphazard fashion. In the photograph taken to the east, the city stretches before us, and the mountains eventually lose their height on the horizon. There is dense vegetation in the foreground. The urban fabric that sits between is pockmarked by a handful of spires and domes, belonging to the Presidential Palace and the Central University of Venezuela. Taken together, this triptych gives the impression of a sleepy, provincial outpost that is barely fit to serve as the capital of a nation. Depicting Caracas from on high, Bingley adopts an orderly and civilising vision that is reflected in his careful, geometric composition of the panorama. He took similar photos in Veracruz and nearby Cartagena.

Figure 6. Venezuela Caracas (from the Calvario) (MS 1788/80/2)
Source: Godfrey Bingley

Figure 7. Venezuela Caracas (from the Calvario) (MS 1788/80/1)
Source: Godfrey Bingley

Figure 8. Venezuela Caracas (from the Calvario) (MS 1788/80/3)
Source: Godfrey Bingley

Out of shot, then, Bingley adopted the domineering gaze of the foreign visitor over colonial territories, thus complying with contemporary trends in the 'recreational pursuit of scenery' (Hoskins, 2017: 135) elsewhere in the Americas. The physical elevation of the photographer was suggestive of his superiority over the population below. Meanwhile, his attempts to rouse sympathy with this population were shot in close-up. In the cobbled streets that descended from the Calvario, Bingley encountered a man with cargo-bearing mules. He was sufficiently moved to stop and take their photograph (G Bingley, MS 1788/80/4). The donkeys are positioned in the centre of the frame, heads bowed, their look forlorn. Their steward's face is erased by midday shadow. Bingley's decision to take this picture, and not, say, another of the gas lamps and clock towers that stood nearby, suggests an effort, albeit subconscious, to create an image of backwardness and inferiority. 'See those creatures weighed down by their burdens,' he exclaims of the moment that he captured, referring both to the man and his animals. With this statement, he joined a small chorus of camera-wielding foreigners in Caracas, including Richard Bartleman, a civil engineer and member of the United States Legion in Venezuela during the 1890s, and whose collection, held at the Smithsonian Institution, likewise contains images of mule trains, mudbrick houses, and hilltop vistas (see, for example, R Bartleman, NNA.INV.00977700; R Bartleman, NAA INV.00978400; R Bartleman, NAA INV.00976000). Bingley assumed this moral position at other stops on his trip. There is a picture titled

‘Carthagena, Columbia, domestic scene’ (G Bingley, MS 1788/80/10, Figure 9) that features a woman who nurses a baby in an open doorway. In San Juan de Nicaragua, a woman stands poised next to a bucket of washing (G Bingley, MS 1788/80/27). Three barefoot women and two children pose at the entrance to a wooden cabin in Belize City (G Bingley, MS 1788/53/7). All of these sitters look directly and reproachfully at the camera. Such pictures tapped into a peculiarly British predilection for invasive photographs that fashioned urban poverty to the tastes of the middle classes (Koven, 2004; Ryan, 1997). Whereas the female subject made a rare appearance in Bingley’s Britain, now he was drawn to the opposite sex. It was as though the exotic, the impoverished, the helpless, and the dispossessed were best expressed in pictures of street-bound, foreign mothers.

Figure 9. Carthagena, Columbia, domestic scene (MS 1788/80/10)
Source: Godfrey Bingley

Bingley himself features infrequently in the archive across the board, and this holds true of the pictures that he took in foreign territories. There is, however, one haunting photograph that registers his presence in the Americas. It is called ‘Port Limon, Costa Rica, group on jetty’ (G Bingley, MS 1788/80/25, Figure 10). Bingley forms part of this group, sporting a dark suit and a bowler hat and clutching a tall umbrella. His left hand is placed on the right shoulder of a Black woman, who wears a Panama hat and a smart white shirt buttoned to the neck. Her shoeless feet peep out from beneath her skirt folds. To her left is another man in finery whose fingers brush against her chest. The three remaining members of the party are also white, male, and besuited. The woman is not placed at centre-frame, although she is the true focal point of the photograph: she draws the eye on account of her physical difference. Her head is lowered and her stare is fixed on a distant point to the right of the tripod. She looks nervous and uncomfortable. This image gives evidence of the racial dynamics at play that are rendered less visible when Bingley is behind the camera. The woman is rendered property in the hold of the photographer and his companion. Her physical positioning in this way is a literal embodiment of the social coercion that compels other sitters to stop their business and pose in Bingley’s photographs. They belong in the traveller’s albums, now, held captive by history and circumstance; they are his to display to an audience of privilege. Regarded collectively, these albums constitute a material record of the imperial gaze that depicts the tropics as a space that is ripe for foreign intervention. Victorian photography stylised people, animals, and place to create a narrative that called for the British Empire as a mission of salvation. As the tectonics of Empire shifted, and Spain lost its hold on global power, Bingley re-enacted this story in the former colonies of Central America and the Caribbean. ‘These people need help,’ he says. ‘What can we do for them?’

Figure 10. Port Limon, Costa Rica, group on jetty (MS 1788/80/25)
Source: Godfrey Bingley

While the archive is revelatory of Bingley's approach to colonised peoples and terrains, it tells us little about the purpose of his travels or the sources of his funding. Was he creating a portfolio of images for sale at the turn of the century, which ushered in a 'mass craze for picture postcards' (Ryan, 1997: 7)? Was he making slides for display at the annual exhibition of the Leeds Photographic Society? Or were these the tourist snaps taken in the moments secreted away by a man who was travelling on commission? I wonder if, in fact, he took more photographs on his adventures, or if there are some notes on his excursions, but that these parts of the archive are kept elsewhere – in classified Foreign Office holdings or by British mining corporations. I have made inquiries along these lines of the British Geological Survey and the Geological Society, to no avail. My clues must be found in other places. There is evidence that, when in Britain, Bingley made regular excursions to quarries and mines, often with the British Association for the Advancement of Science. These trips were educational and leisurely, but some also may have been explorative. We know from the University collection that he visited the colliery at Hwange, then in Southern Rhodesia (now Zimbabwe), on his travels in Central Africa, where he pictured the mine itself, along with diagrammatic cross-sections of the coalfield (G Bingley, MS 1788/92/29; G Bingley, MS 1788/92/36). It is possible that he was there to prospect for the expansion of the mine, and that he was doing something similar in the Americas. There, national oil industries were soon to boom during the regimes of military strongmen who welcomed foreign investment, and who were propped up by the remnants of the British Empire. When imperial configurations changed after the Great War, from direct rule to collusion and influence, the British oil companies that conducted overseas exploration in overseas territories inherited Victorian discourse. Bingley's visions, perhaps, served to make the case for British investment in the oil industry, and its role in shaping oil policy in the Americas, later to be realised in countries like Venezuela and Mexico (McBeth, 1983).

## Revisitations

After his first exploration of Central and South America in 1890, Bingley crossed the Atlantic again six years later. All of the photographs that we have from this expedition were taken in central Mexico. It is probable that Bingley and his entourage anchored in Veracruz, travelling from there to Mexico City. Unlike the images from his first trip, which mostly focused on urban peoples, animals, buildings, infrastructure, and water vessels, here we have more pictures of the geophysical topology. Some of these were exposed on large, rectangular glass plates, marking a shift away from the 8x8cm squares that he had used on his previous visit to the continent. Taken mostly on the Atlantic coast, these are picturesque scenes

of mountains, bays, cliffs, and lakes that are, for the most part, photographed from a distance. Several seek to establish harmony between people and earth, such as 'Unidentified group of people on rocky outcrop, Mexico' (G Bingley, MS 1788/102/2, Figure 11). Three bowler-hatted men lie atop a gently sloping mound of stone, their forms making a triangular peak atop the hillock. The subjects of 'Unidentified group of people with tent, Mexico' (G Bingley, MS 1788/102/13) blend into the verdant backdrop. In Mexico City, as was his wont, Bingley fixated on embellished stone sculptures and found visual compatibility with the human form. 'Mexico, Disused fountain' (G Bingley, MS 1788/53/50) is of a neo-baroque water feature comprising of eight pillars. At its centre, two female statues perch above a crest that is bedecked with swords and plumes. Above them are orbs that decorate the pillars. Below is shell-shaped bowl that is sustained by gargoyles and cherubs. A group of five shadowy figures sit at the bottom of the fountain. The shapes of their hats serve to counterbalance the spheres that decorate its top. Like 'Toltec Remains of Idol' (G Bingley, MS 1788/53/51) this picture seeks compositional equivalence between people and their environment.

Figure 11. Unidentified group of people on rocky outcrop, Mexico (MS 1788/102/2)
Source: Godfrey Bingley

It could be argued that such photographic practices of Bingley's are an example of geo-sensitivity. This is the term used by Gareth Hoskins to indicate an awareness of 'our intimate integrations and becomings with the rocks, soils and minerals that are otherwise defined as our 'resources'' (Hoskins, 2017: 145). Inspired by the work of thinkers such as Nigel Clark, Katherine Yussoff, and Manuel De Landa, geo-sensitivity asks that 'we attend to the geologic dimension of subjectivity and think about how we extend into the mineral world' (Hoskins, 2017: 145). It seeks to challenge the superiority afforded to man over nature by troubling this dichotomy and by decentring humanity from universalising geographies and chronologies. I have written elsewhere of the ways in which decolonial thought makes critical contributions to this endeavour (Jarman, 2023b). Another means of doing so is by paying attention to 'the affective links, contacts, shared moments of sensing and common faculties of feeling' (Hoskins, 2017: 145) that accompany our crossings on the planet's surface. These affects are awoken by my imagination in contemplating Bingley's photographic explorations of British geology whereby his negatives, like the telluric objects they portray, are time-travelling devices. Holding the plate, I sense the tension of Bingley fingers wrapped around a precious, age-old fossil or a fragment of volcanic rock made within the earthly furnace; contemplating its detail, I imagine the creation of these artefacts in geological eras past; I imagine the astronomical collisions that triggered these processes. But Bingley's pictures of the Americas offer me no access to these realms. Instead, I am placed at Bingley's side and confined to anthropocentric

timescales. There are no portals or thresholds, here, where humanity is the protagonist. Is it my unease at Bingley's cliched depiction of the Global South that restricts my vision? Or are there other forces at work in blinding the camera's viewpoint?

By the time Bingley stepped foot in Mexico, photography had become a mainstay of Mexican culture, and of the Mexican economy, since its arrival in the mid-nineteenth century. A most coveted marker of social status was a photographic family portrait, which, framed in pearls and gold, would replace the paintings that hung above grand, mahogany dining tables or in gilded hallways (Levine, 1989: 20). Many of these pictures were taken by the itinerant European photographers who travelled established commercial routes, making a living from their trade and accruing fame with their adventures. Benefitting from their status as white bourgeois men who exerted their privilege in colonial territories, they pursued the promise of reinvention, exploration, and profit that was uniquely available to them in the tropics. Perhaps without realising, Bingley fixated on the same sights as the European photographers who had walked these parts before. He practised the art of rephotography, just like Michael Schofield who would set about recreating Bingley's disappearing industrial landscapes (Schofield, 2019). In 'Mexico, Disused fountain' (G Bingley, MS 1788/53/50), Bingley would recreate a picture that had been taken by French archaeologist Claude Désiré Charnay around 1857 (Debroise, 2001: 90-91). Though shot fifty years before, Charnay's photograph is sharper. Its contrast is starker. It captures details that are less apparent in Bingley's rendition. These differences between the images speak of the transition from wet-plate collodion to dry-plate emulsion that, as we have seen, triggered a boom in travel photography. Dry-plate photography was instantaneous and lent itself to 'commercial exploitation on an industrial scale' (Gautrand, 1998: 234), but it could also compromise on quality, as the more portable cameras tended to simplify their optics.

Such changes in photographic technology not only affected the images produced. They also required new quantities of different raw materials. By extension, they had an impact on the development of the extractive industry which responded to increasing demands for certain ingredients to chemical solutions. Thus, as Siobhan Angus demonstrates in her illuminating book, *Camera Geologica*, the evolution of mining and photography was symbiotic. In providing the minerals that made of photography a chemical possibility, 'the mine [was] a necessary precondition for photography as a medium' (Angus, 2024: 4). As the mining industry grew, it supplied a growing number of photographers with the parts and substances that they required to pursue their business or their hobby (see Gautrand, 1998). Equally, mining corporations often commissioned photographers to capture and promote sites of extraction in a bid to raise capital investment, to document prospecting expeditions whose results would later be presented at board meetings, and to register mining technologies that would be placed under scrutiny in the never-ending quest for efficiency and profit (Hoskins, 2015; Solnit, 2003). On his American adventures, Bingley would

follow in the footsteps of another Frenchman, one Théodore Tiffereau, who went to Mexico in 1842 to study the extraction of silver and mercury. Because he did not have the correct governmental permissions, he travelled under cover, working, so he claimed, as a mobile daguerreotype portraitist (Debroise, 2001: 22). Tiffereau's ruse shows how photography instigated the beginnings of the planetary mine, a term used by Martín Arboleda to mean 'the geography of extraction that emerges as the most genuine product of [...] a new geography of late industrialisation that is no longer circumscribed to the traditional heartland of capitalism' (Arboleda, 2020: 4). It was imbricated with extraction in its material composition and in the images that it created.

In the summer on 2018, when I first started working with the Bingley archive, I also had occasion to visit Mexico. I was asked by the International Office to take part in the closing ceremonies of academic English courses run by the University of Leeds in the states of Chihuahua and Sinaloa. I would be travelling with a colleague from the School of Earth and Environment who specialised in engineering geology. We would be speaking to students interested in postgraduate study, mostly in the field of engineering, and many with the aim of pursuing careers in the oil industry after graduation. Inspired by Michael's rephotography, I took the opportunity to visit Mexico City and retake some of Bingley's images. There were five sites that I wanted to locate, all in the historic centre surrounding the Zócalo: three churches, a side street, and the photogenic fountain (G Bingley, MS 1788/53/28; G Bingley, MS 1788/53/31; G Bingley, MS 1788/53/32; G Bingley, MS 1788/53/33; G Bingley, MS 1788/53/50). I enlisted the help of a man who I met on a ride-sharing app, and who I thought would be familiar with the local landscape. This was true, but still, I was surprised at how difficult it was to find the landmarks that Bingley had photographed. We consulted with people who worked in the area, showing them Bingley's pictures on my phone, and followed their directions that were often mistaken and sometimes contradictory. There was much confusion and some frustration on behalf of all parties involved. Eventually, by the end of the afternoon, we had identified four out of five of the landmarks that we were seeking. The ornate fountain proved to be elusive. It was a reminder, often delivered by rephotography, that historical continuity is not a given (Schofield, 2019).

Still, what we discovered was that most of the buildings which featured in Bingley's photographs were relatively easy to identify once we found the right location. True to form, Bingley was attracted to the more durable features of the Mexican cityscape – to weighty basalt monuments, archaeological remains, and grand colonial shrines – whose lifespans far exceed that of a single generation, but, instead, mark the transition from one period of political domination to another. There was second factor, I realised later, that had remained consistent across time, aside from the enduring location of sacred sites, whereby the European colonisers erected churches upon the ruins of prehispanic temples in a bid to channel their sanctity and exert their dominance. Here I was, like Bingley, a white, British person on a trip to Mexico

from Leeds, in the company of a geologist, photographing the exact same tourist destinations that he visited within an historic circuit determined by colonising teleologies. And like Bingley, I was creating a visual record of only this aspect of the trip, which formed part of a larger mission to train the future managers, engineers, and technicians of PeMex, or Petróleos Mexicanos, the Mexican state-owned oil company. The photographs that I was taking of architectural urban attractions turned away from the omniscient presence of the fossil fuel industries while also suppressing other timeframes and ontologies. The pervasive nature of extractivism is often covered up, and not only in photographic archives (Barrios, 2021). Indeed, the art of extraction is often an act of disappearance, making invisible industrial practices of exploitation. While Bingley's life was caught up in the juggernaut of industrialisation, even as his intellect was drawn to timefulness, so, I, too, was ensnared in the vacuous spiral of time that is created by the modern thrust to accumulate capital and accelerate history.

I was reminded of this more recently, while in the Colombian port city of Cartagena on holiday with my family, where I also sought to retrace Bingley's footsteps. We arrived late one October afternoon and stepped out of the airport into a wall of heat. The streets were eerily empty. We took refuge in our accommodation, emerging again only at nighttime, when the temperature had fallen, and the compact thoroughfares of the colonial grid were bathed in darkness. We had walked less than twenty meters, single file along the narrow pavement, when I was startled by the sudden sound of hooves on concrete. A horse and carriage trundled past us. I caught a glimpse of the people on board: up front, a man, a pair of arms, Brown skin, some words in Spanish. At the back: a flash of blonde, strong perfume, light pastel linen. Watching the party pull into the distance, their passage now louder in echoes, I was visited by the disconcerting sensation that we were out of joint with time and place; that we had landed somewhere in the colonial past, or in a version of the colonial past that had been carefully manicured for our enjoyment. This feeling lingered with me as we neared the commercial harbour, illuminated by the jewellers that showcased elaborate displays of sparkling emeralds and the clusters of antique streetlamps that stood in their surroundings. Grand cantilevering balconies protruded from blocks of crimson and egg yellow. Wooden windows became alive with bursts of bougainvillea. More pony-traps appeared, driven by exclusively by men of colour, drawing white families on tours of the forbidding quarters that were formerly consigned to enslaved peoples. Groups of intoxicated twenty-somethings tumbled from the raucous bars nearby. An atmosphere of hedonism had settled on the city as it cooled. Later that night, the pressure dropped with a tremendous rainstorm.

As I had done in Mexico City, I dedicated some time over the days that followed to locating the sites that Bingley had photographed in historic Cartagena. It was slightly less daunting this time: the area that Bingley had covered was physically smaller that it was in Mexico City, although, still, I was set off track by obstructive construction works and by the inconsistencies that appeared in the titles of his images.

One photograph named ‘Carthagena, Columbia, custom house’ (G Bingley, MS 1788/80/13, Figure 12) was not taken in Customs Square as I had thought, but, instead, in the nearby Square of Carriages. Far more patience was required to locate his generic street scenes and enclosed hotel patios than I had at my disposal in the sweltering daytime climate. In the end, I retook three of Bingley’s twelve known Cartagena shots (G Bingley, MS 1788/80/13; G Bingley, MS 1788/80/15; G Bingley, MS 1788/80/35). Photographing in colour produced pictures that contrasted starkly with Bingley’s greyscale (Figure 13). The interior of the walled city forms part of a UNESCO World Heritage site and is preserved to showcase its architecture in a pretty palette of summer hues. A burgeoning tourist industry has capitalised on the colonial facades that are well suited to the pleasing aesthetics of social media. But for all the brightness and cheer, I remained haunted by the sensation that I had felt on our first night. It was as though nothing much had changed since Bingley had first been here. Individual fates are overdetermined by class, ethnicity, and race. Cartagena is a playground for foreigners, swept into the city by imperial tides, and a gateway for the raw materials that are extracted from the Colombian interior. As I hunted for the exact spots where Bingley stood with his camera, to stand there with my own, I felt the ghost of Empire. It whispered to me: ‘I am with you, always.’

Figure 12. Carthagena, Columbia, custom house (MS 1788/80/13)
Source: Godfrey Bingley

Figure 13. Cartagena, Colombia, custom house
Source: Rebecca Jarman

## Afterlives

This ghost looms large over my relationship with Bingley and his photography. Viewing his pictures of Yorkshire, I can feel the slippery stones beneath his feet on pebbled beaches. I can smell the salty grains of sand that support his tripod. Soon, I leave Bingley behind to traverse more-than-human timescales. Peering at layers of rock that mark the passing of eons, I imagine the molten currents and atmospheric pressures that have given shape to our planetary existence. When I travel with Bingley to the Americas, this polytemporality disappears. I am confronted, instead, with the anthropocentric gaze of a British industrialist who is constrained by the temporalities of empire. The result is a superficial set of photographs that supports industrial visions of progress and the superiority of Western science. The depth of this collection is stoppered by the geontologies of colonial history, negating all life that extends beyond these paradigms. In reproducing Bingley’s images, I approximate the affective structures that sustained such ideologies, leaving behind any vivid embodiments of geo-sensitivities. Although their gravitational force is strong, the manifestations of these affects are weak: they are glimpses, traces, and echoes of people

long gone, even as their lives and their actions continue to shape history. Their effect is to create the sensation that I am haunted by Bingley; that he personifies the ghost of Empire, and that I, too, cast an imperial shadow upon the Americas. When I picture the places he visited, I see a spectral reflection of myself; one that darts from place to place, furtively pocketing brittle fragments of life and memory. I wonder about the encounters that I have engendered in rephotographing the Bingley archive. I wonder if these, too, are restricted by the industrial epistemologies of Victorian Britain.

Among other things, one of the lessons that I have learnt from my time working with Bingley's archive is that institutional activity is deeply entangled with imperial expansion and the extractive industries that grew from its development. The disciplines of geology, photography, history, languages, and Latin American studies are mutually dependent with these institutions; they share co-constitutive histories that promote certain ways of seeing, and reproducing, otherness. In Bingley's pictures of Latin America, there are few examples of images that emphasise the earth's animate and animating qualities. Instead, people are placed at its centre. Their world is confined to stillness. Time begins with the findings of colonial chroniclers and modern archaeologists, as we saw with 'Toltec Remains of Idol' (G Bingley, MS 1788/53/51). The stones that are pictured are modified and moulded by human hands, not by the pulsations of a hyperactive planet. It is possible that more geological photographs were created by Bingley on his transatlantic expeditions, but that these are no longer contained by the archive held at the University and are held, instead, by the corporations that purchased Bingley's services in prospecting and documenting sites of extraction. So, too, is it possible that Bingley travelled in different company in 1890 and 1896; that he had no expert eyes to identify landmarks of geological interest. Consequently, he was more enticed by the curious and the exotic. It is also possible that my critical positioning in analysing these components of the Bingley collection means that I overlook the geophysical subtleties that I notice more readily in his depiction of Britain. While there, I embrace Bingley's pursuit of academic freedom; a pursuit that, elsewhere, is burdened by geopolitics. But perhaps this is part of the problem, as my home ground is rendered apolitical, when, in fact, there originates these entanglements.

Over the course of this article, I have analysed artefacts from the Bingley archive to argue that imperialist travel produced an ethnographic gaze that promoted the authority of Western science in understanding, constructing, and governing non-Western societies which, in turn, were constrained to the geometric timescales that were propelled by the British industrialists. The imperial narrative that Bingley's pictures can be said to illustrate is not the only poisonous aspect to his work. After experimenting with dry-plate photography, Bingley began to work with a new technology, called nitrocellulose. Nitrate film was first used in 1889 (Davenport, 1990: 23). It is highly flammable and extremely corrosive. It can spontaneously combust at relatively low temperatures. It burns quickly and releases dangerous toxins. This part of the Bingley archive is kept in a large, locked metal cabinet at the

back of a storage facility that sits above the University library, to minimize the risk of fire and to avoid unwanted contaminants on campus. I went to look in it with my colleague, Rosie Dyson, who is one of the archivists that has been tasked with the painstaking process of digitising some 8,000 of Bingley's images. On our visit, she pulled out several boxes from the cabinet, each containing a few dozen negatives in plastic casing. Some had turned mouldy, while others had eroded almost to the point of self-obliteration. As I finish telling this story, the Bingley archive is materially reproducing the environmental damage that it obscures in the contents of its images. It is a harmful thing that, perhaps, prefigures our planetary future. But so too is the collection itself a fragile and delicate object, and one that contains beauty, and delight, and wonder at the pluriversal dimensions of our earthly origins and compositions that eclipse the human subject. The Bingley archive, then, is ultimately a microcosm of the academy. It is an artefact of industrial history that reflects its ideologies while harbouring within the potential for imagining, and creating, other possible worlds and temporalities.


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