Flash! Natural Darkness and Artificial Light

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In the first age of artificial illumination, when gaslight seeped into homes and street lighting dispelled the perilous night, darkness seemed to vanish. Most elusive of all was a darkness so complete that it could serve as an epistemic vacuum, a degree zero in which both philosophical and scientific experimentation could flourish. In a more benighted era, Hume had fumbled around in search of a sufficiently severe designation for this place: ‘entire darkness’, ‘deepest darkness’, and ‘absolute darkness’ all take their turns in the spotlight. This was the domain for Hume’s speculations about blind men and their perceptions and, ultimately, about the nature of knowledge and understanding. The disenchanted evening of the nineteenth century made this absolute darkness hard to fathom, even as commentators asserted its necessity as the backdrop for the most profound ways of knowing.

In studying the optical visibility of electrical phenomena, Humphry Davy noted that a vacuum tube cooled below zero degrees made the light so faint as to require almost ‘absolute darkness’ to be perceptible. Such utter blackness was familiar terrain for Davy, for he had once sought to dispel, rather than to cultivate, it. His innovative wire gauze safety lamp helped illuminate the gloom of the northern coal mines, supplanting competitors’ less-calibrated torches, which tended to explode on contact with the methane permeating the pits. Producing the darkness could be more difficult than banishing it.

It is easy to imagine how essential this absolute darkness would have been to the researches of another unorthodox chemist, Sir William Crookes, for his aim was the measurement of light itself. To achieve this, he invented what is now called the Crookes Radiometer, a glass bulb containing vanes mounted on a spindle. The more intense the light to which the apparatus is exposed, the faster the spindle rotates. Crookes’s prolific career included a number of investigative forays into the darkness, not least when he presided over séances as the president of the Society for Psychical Research. But earlier in his career, Crookes had dedicated himself to visual manifestations of a different sort. With his former classmate John Spiller, Crookes published in 1854 his ‘Further Researches on the Methods of Preserving the Sensitiveness of Collodion Plates’, the culmination of several innovative years of photographic experimentation. He closed his article by spelling out a chief desideratum in retaining photosensitivity: ‘One of the most important things to be attended to is the necessity of preserving the plates where they are perfectly free from any light. It will be evident to all, that anything short of

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absolute darkness, when the sensitive surface is exposed to its action for day after day, and perhaps week after week, must be fatal to its subsequent cleanliness.\(^5\)

An effort to reproduce experiments in the luminosity of magnets, which had been undertaken in complete darkness by the vitalist chemist Carl Reichenbach, led one investigator to decry the impracticality of the arrangement. The faint light emitted by magnets, Reichenbach averred, could be sensed only by eyes that had already been plunge into total darkness for several hours. ‘This in itself makes the experiment difficult’, a successor wrote, ‘as absolute darkness is not easily obtained, nor are there many observers willing to be confined in it for many hours at a time’.\(^6\)

The fundamental challenge was not to be solved simply by making a room completely light-tight and convincing observers to spend the better part of a day waiting in sepulchral surroundings. For the more elementary impediment was the body of the human observer herself, and the unsuitability of total darkness to her sensorium. Even in this darkness, Reichenbach’s replicator lamented, ‘the eye retains luminous impressions for many hours.’\(^7\) The darkness would be pierced by the persistent luminescence of earlier stimuli, whose intensity might even be heightened against the backdrop of the laboratory’s nullity.

Absolute darkness was an aspiration, a void where, as in the omnipresent vacuums of nineteenth-century science, phenomena would appear unsullied by the conditions of being observed. Only in such a complete abyss could light serve as vehicle for and symbol of pure knowledge. Yet what becomes clear in the age of flash is how fantastical both total darkness and unadulterated knowledge were. As Horkheimer and Adorno would assert, the illumination of the darkness that was the Enlightenment project comes at a high price.\(^8\) It offers a rational universality that rejects other sources of truth, furnishing a ‘false clarity [which] is only another name for myth’.\(^9\) Such was the burden of flash photography, whose startling incandescence announced the camera’s presence, and in doing so changed the phenomena it set out to record.

Early in her book *Flash! Photography, Writing, and Surprising Illumination*, Kate Flint offers a dazzling reading of Mary Shelley’s *Frankenstein*, a cautionary tale for those who, in the name of science, are tempted to meddle with primal forces. The crucial scene commences in darkness, by the shores of Lake Geneva, when a lightning storm suddenly and fleetingly lights up the setting, making the lake appear ‘like a vast sheet of fire’.\(^10\) And then, to the horror of synthetic biologist Victor Frankenstein, ‘a flash of lightning illuminated the object and discovered its shape plainly to me: its gigantic stature, and the deformity of its aspect, more hideous than belongs to humanity’.\(^11\) In this moment a most reliable Enlightenment motif reveals a hideous terror which could only be the product of the darkest strain of Romanticism. This lightning, Flint brilliantly suggests, ‘mocks the association of illumination with scientific advance and

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\(^7\) Sprague, p. 233.


\(^11\) Quoted in Flint, p. 41.
the Enlightenment, and transforms it instead into an instrument that reveals the horrific distortions of human presumption, whilst at the same time it offers a practical demonstration of nature’s independent forces. This episode encapsulates the central paradox of sudden illumination: that what it makes visible most powerfully is the darkness itself. It transforms the world from a void into a luminously rich landscape, if only for an instant. But the darkness to which its dissipation rapidly returns us is a changed one, no longer one of nothingness, but rather one of negation. The darkness that has reclaimed the world from the ephemeral flash now actively conceals. This would become a powerful epistemic and aesthetic distinction.

On the edge of a different lake, nearly a century later, a startled lynx confronted the camera’s lens (Figure 1). The creature seems to have been interrupted, perhaps whilst taking a drink from the crisp water in which we see its reflection. The lynx, too, is a seer, its name derived from Greek for ‘light’ or ‘bright’, its eyes noted for their capacity to see in the dark. But the very same properties that furnish lynx with their night vision also make them more visible, for they have retroreflectors, thin layers of tissue behind the retina that bounce available light back to photoreceptors. The lens belonged to George Shiras, a pioneering wildlife photographer, whose ingenious camera traps made it possible to capture animals in their nocturnal environs. Yet this is a most unnatural nature, for, as Flint rightly points out, the ‘illusory peace [is] one that has in fact just been shattered by the sudden burst of artificial light that took the image’.

The interruption implied by the position of the lynx at the shore underlines the patent artificiality of the entire tableau. Had the photograph somehow been executed under cover of darkness, it would depict the lynx lapping at the water, absorbed fully in the relief of its thirst. Yet, as the product of flash photography, we see only a representation of the encounter catalysed by the apparatus itself. Like the lynx’s peculiar luminosity, flash photography must negotiate a light that is both an advantage and a threat. The invasiveness of flash, and the way in which it disrupts the putatively ‘natural’ activities that we imagine are cloaked in darkness, is technologically specific. But in this heightened, visible artificiality, flash photography only makes plain the constructedness with which less pyrotechnical photography also operates.

Even when flash photography was the result of great ingenuity, it could nevertheless disappoint the figurative illumination to which it aspired. It was fully capable of producing visual representations that were antithetical to the regulating ideals of rational inquiry, which indeed invited controversial acts of interpretation. The stakes of this polysemy became evident when, in 1885, in a limestone quarry at Chancelade, in the Dordogne, the support structure collapsed, trapping several labourers in impenetrable darkness. Efforts to reach the imprisoned men were heroic, but much frenzied drilling and digging came to naught. There could have been little hope of a rescue, several days having passed with nary a sign of life. The need to know what had transpired was at least as strong as the urge to rescue the labourers. ‘How was it to be seen what had occurred’, one correspondent wondered, ‘how was it to be made certain that the men were dead, and that all hopes of rescue must be abandoned’?

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12 Quoted in Flint, p. 41.
14 Flint, p. 273.
Desperate for any means of contact with the captives, and eager to appease the miners’ distraught kin, the local authorities sent for a Parisian photographer, Langlois. Upon arriving at the scene, Langlois assessed that the most promising route into the mine was via the narrow hole that the rescuers had managed to bore into the rock immediately above the area where the labourers toiled. He then fashioned a camera encased within a small cylinder, allowing it to be lowered down the cramped passageway and to unfold into position once it reached a sufficiently spacious cavity (Figure 2). The sparse natural light that penetrated all the way to the bottom was inadequate to produce a photograph, so Langlois cleverly decided to construct an atmosphere of complete darkness. He transformed the entire mine into a darkened chamber, erecting a lightless shed atop the opening. This darkness could then be illuminated by a battery of small incandescent lights, which were attached by a cord to a generator. The entire apparatus was then hoisted back up into the shanty, where the negative was developed.

These photographs were truly shots in the dark, for Langlois could not anticipate what scene the camera would record, nor could he calibrate some of the most basic controls before exposing the negative. Nevertheless, he managed to capture some arresting photographs of the subterranean tragedy. The images seemed to provide what the authorities had desired: proof of the fate of the unfortunates. The most striking of these appeared to show ‘the corpse of a young miner whose face stands out in relief against the side of the gallery’16 (Figure 3). This photograph was reprinted widely in the international press, where editors tended to note tastefully but briefly the poignancy of the scene before declaring the triumph of the new photographic innovation. The correspondent for La Nature concluded that ‘this method of photographing inaccessible subterranean galleries ought to have numerous applications in the future’.17 One account spoke with a certainty about the outcome: ‘a number of negatives were

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16 ‘Catastrophe at Chancelade’, p. 8957.
taken and the effect of the disaster shown, even to the faces of two corpses. It was thus known that the men were dead, and that effort to succor them would be useless. But the matter was not put to rest so easily.

Some weeks after news of the gruesome discovery at the bottom of the quarry, two miners were able to contort themselves through a channel amidst the rubble, entering the intact gallery of the mine. They were shocked by what they saw, and by what was missing:

they obviously expected the most frightful spectacle, to see the bones of their comrades or at least the remains of the one who, it was said, had been photographed by Mr. Langlois. They roam the gallery under the impression of the terror caused by the discoveries which await them; fortunately, it is not so; they find the gallery intact . . . not the least trace of a corpse.

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18 The Engineer: With Which Is Incorporated Steam Engineering, 16 (1888), 53.
19 ‘Catastrophe de Chancelade’, p. 149.
Soon, another search party was organized by the local superintendent of mines, which confirmed that there were no corpses to be found in the area that had been photographed. The editor of *La Nature*, the polymathic aeronaut and meteorologist Gaston Tissandier, contacted Langlois with these new findings. The photographer responded somewhat defensively, seeming to interpret Tissandier’s inquiry as an accusation of tampering:

*I brought you the proofs of the photographs I obtained using my device, operating at the bottom of the Chancelade wellbore. Here are all the pictures . . . you can make sure that they are absolutely correct and that no editing has been done to any of them. I have never committed an unfair act. I assure you, on my honour that my photos are not retouched, I wish them to be available to all who wish to examine them, and to all the experts.*

Langlois nevertheless re-examined his photograph, wondering to himself ‘where can this profile come from’? After looking at the print with the aid of a magnifying glass, he understood his own error:

*I must confess that I hardly found there the certain aspect of a human head. That is only a fortuitous appearance. With the help of imagination, we thought we saw a human*

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20 ‘Catastrophe de Chancelade’, p. 149.
head in this singular silhouette. Our interpretation was repeated, amplified, and the newspapers spoke of the corpses of Chancelade revealed by the photograph. I was wrong to believe myself in this revelation.21

Tissandier concedes the credulity of his own journal in accepting the erroneous interpretation. On closer inspection, the image ‘gives neither the relief nor the modeling of a head; a simple profile is cut out in intense white on a black background’.22 He wonders whether ‘some white, well-lit stones have, by chance, produced this appearance, in the manner of flints, which sometimes look like a human head?’23 The ‘head’ of the corpse is, thus, purely an artefact of the imaging process, of the incandescent light glinting off the glassy surface of the quartz in the mine. Here, the particular properties of the flash have created the basis for this false ‘revelation.’ Without the flash, in the darkness, the ‘truth’ of the scene would have remained intact, if invisible. This was a local example of the general dilemma of flash photography. Its users were left to choose between images inevitably encumbered by the markedly contrived circumstances of their making, or to do without even these compromised illuminations.

It is not happenstance that such a dilemma would confront viewers especially forcefully at this moment. As Flint argues here, in her assessment of the specifically Victorian milieu of innovative flash photography, this newfound incandescence inflected a debate that was already taking shape by the late 1880s. While flash undoubtedly made possible the production of photographs of greater clarity and richer detail than were previously possible, its most dramatic impact may well have been aesthetic: first as a formal gesture and, subsequently, as the cornerstone an entire aesthetic ideology. The Pictorial photographers, who were at this time seeking to legitimate their medium by exploring its most vividly non-referential dimensions, enlisted flash in this way. This desire, Flint notes, ‘led to experimentation with creative effects achieved by letting off the flash at an angle, bouncing off a wall or screen’.24 It consisted, in other words, of achieving results not unlike those serendipitously produced by Langlois deep beneath the earth at Chancelade, only doing so by design and not by accident. Flash, then, was emerging as a criterion by which two quite different conceptions of photography – conveniently if superficially designated artistic and documentary – might help to distinguish themselves from one another.

Flint writes eloquently of the work of Jacob Riis, in whose carefully composed scenes of social disorder these two conceptions of photography often cohabit. Of Riis’s photographs Flint notes that in addition to ‘making visible the material details of dwelling and workplace, the flash did something else besides: it could create great pools of contrastive and visually impenetrable darkness at the sides of images (Flint, p. 276). The intersection of the darkness and the light, the place where one ends and the other begins, is where the flash photograph reveals its aspirations and its limitations. The history of flash, so lucidly treated by Flint in this book and essay, is a marvellously oblique route into the heart of several of photography’s interlocking paradoxes, and into a peculiarly Victorian intersection of the technological, epistemic, and aesthetic components of visual representation.

**DISCLOSURE STATEMENT**

No potential conflict of interest was reported by the author.

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21 ‘Catastrophe de Chancelade’, p. 149.
22 ‘Catastrophe de Chancelade’, p. 149.
23 ‘Catastrophe de Chancelade’, p. 149.
24 Kate Flint, ‘Victorian Flash’, in this volume.