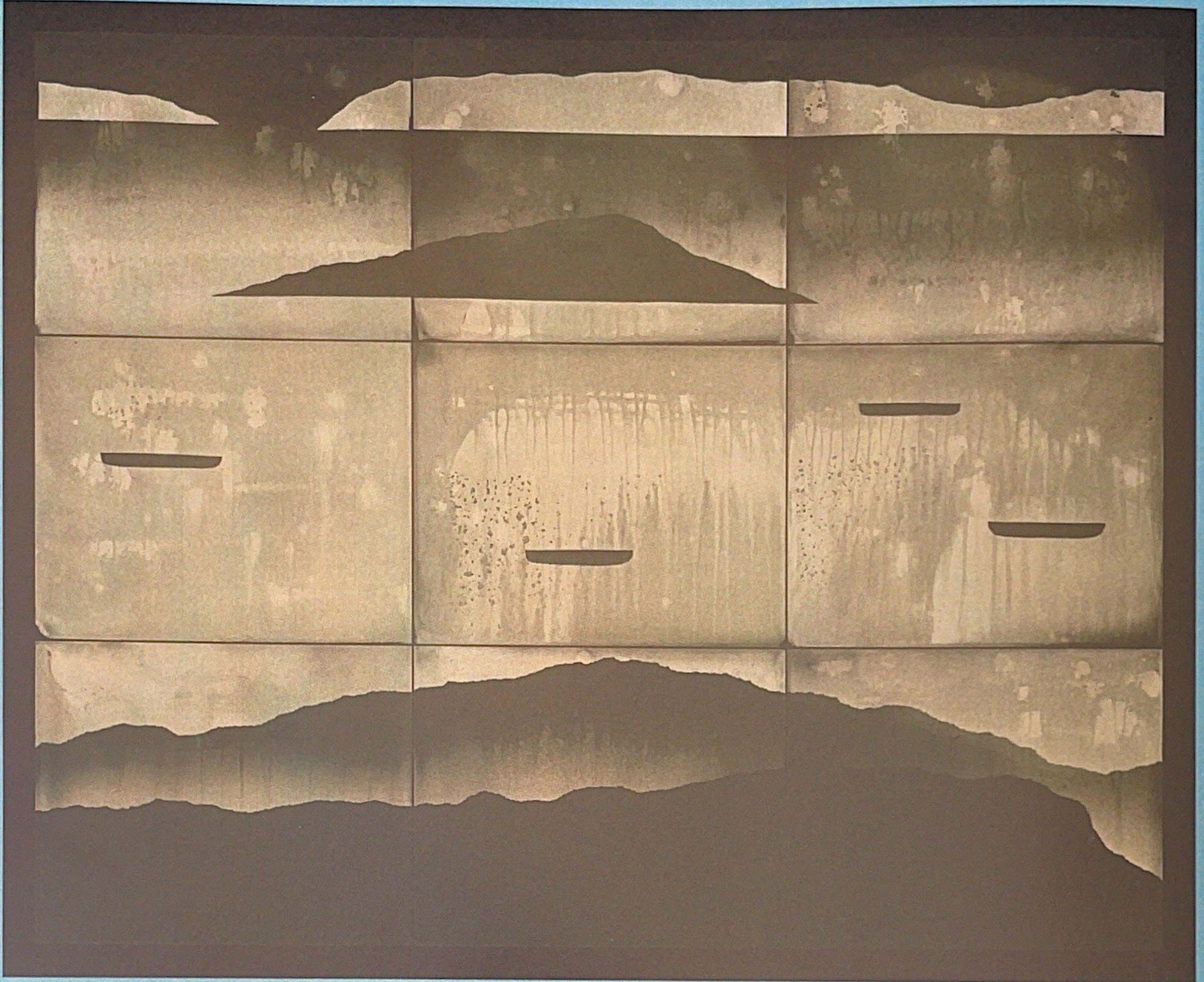

NADEZDA NIKOLOVA-KRATZER / COURTESY HACKELBURY FINE ART

What we do in the darkroom

Occlusive or arcane in their construction, the sites and processes of photography should be understood as spatial agents, writes *Lili Zarzycki*

In her *Elemental Forms: Landscape* series from 2018, Nadezda Nikolova-Kratzer takes reference from cargo ships in San Francisco Bay to explore tensions between the natural world and the trappings of its destruction (opposite), more than 150 years on from the cyanotypes Anna Atkins used to map the forms of plants into photo books on British plants and algae, such as this from 1861 (below)

In a dark room, light plays a game of reversals. Through projection and reflection, obstruction and exposure, the visible world is inverted just as it is reproduced: the image as much of a transformation as it is an ossification. In the camera obscura of antiquity, light travels through a small hole in the wall of a darkened room to project a perfect perspective of the world outside onto an opposite wall. The wavering trees or sun-blanched buildings, with all their depth and dimensionality, are sucked into the gloomy enclosure to be writ into flatness, this new image both backwards and overturned; as the nobleman and encyclopaedist Giovanni Battista della Porta observed in 1558, in documenting possible adaptations of pinhole image formations for pictorial purposes, 'the people passing in the street will have their feet in the air and what is on the right will be on the left'. A step towards perfecting a true reproduction, this dark room becomes a site at which the scene is made captive, at the same time as the most basic of optical operations intervene to make it strange.

Set towards developing an apparatus to register the flattening of the camera obscura by automatic means, early developments in photography would hone in on observations of chemical darkenings, in which silver and its salts would bring light's direction, and the organisation of absorbent objects, into a dynamic with time. In an account published in 1802, Thomas Wedgwood described finding that silver nitrate solution, previously used as a black dye, when applied to paper could trace the ghosts of 'the woody fibres of leaves, and the wings of insects', when these were pressed onto the surface and exposed to the sun. There were no means, yet, of fixing the image, whose light spots would gradually darken, to be erased by the same agent that expressed them.

These transient images were cousins to the photogram, an operation in solidities, in which material bodies and their transparencies are positioned, held or brushed over a sensitised surface and recorded directly in formal terms. The resulting image will hold not the sight of them, beset by transformations of angle and perspective, but rather the trace of their touch. The earliest of these were woven in with 19th-century natural sciences: recorded on salted paper by William Henry Fox Talbot, inventor of the calotype, and in cyanotypes by the botanist Anna Atkins, these first photograms mapped the filaments of leaves and charted the tendrils of native algae into illustrated volumes.

As with any technological advancement, the effects of these developments were not inherently positive, contingent instead on how their operators chose to exert their new powers. The intentions of these first photographers may have been only to contribute to knowledge of natural science, but the photogram and the photograph both became operable as tools to organise the land, the things that grow from it and the people who inhabit it, to identify and locate resources and to establish claims of ownership. Early photograms quietly served endeavours of botanical taxonomisation that underpinned the creation of categories of race and sexuality and endorsed colonial endeavours, and early photography was quickly employed as a system to solidify settler claims. Carleton Watkins, for example, is perhaps best known for mammoth plate landscapes of the Yosemite Valley that would influence the signing of an 1864 bill that marked the first time considerations of environmental protection were brought into US national politics. He was brought to Yosemite by John C Frémont, an explorer and participant in the genocide of Indigenous people in California during the 19th century, to photograph the land Frémont hoped to maintain hold over. Watkins' photography of the California gold mines was not documentary in a limited sense, but validated and furthered extraction; his depictions of Yosemite Valley as a pristine landscape, devoid of human figures, contributed to the project of effacing Indigenous people's presence, ownership and stewardship of the land.

While these complicities cannot be overlooked, there are also instances where the image can take on meaning far beyond the control of its author – where measures of interpretation between the photographer, the photograph and its audience can muddy the waters of intention, operation and agency. The image is produced as much in these margins between scene and capture, between motive and meaning, as it is in any physical space or direct act. But if anything, the inventors and early proponents of photographic methods emphasised the extent to which their influence was limited in its creation; they gave agency instead to the autonomous action of light and of the surfaces impacted by it. In his book *The Pencil of Nature* from 1844, Talbot impressed upon the reader that the plates were made 'by the agency of Light alone, without any aid whatever from the artist's pencil', and in a lecture he gave on representations he had made of his house, in the summer of 1835, he said that 'this building I believe to be the first that was ever yet known to *have drawn its own picture'*. It remains dangerous to suppose that the photograph is ever a neutral entity, to release accountability for its impact, but there is something more to be said of this indication, that some degree of agency has been drawn from the artist, let loose into a mire of material altercations.

RAPHAEL HEFTI

Taking the definition of photography so far that its connection strains at the etymological ('drawing with light'), Raphael Hefti's *Lycopodium* from 2012 (left) and Ellen Carey's *Pulls* (opposite) from 2005 each forgo concerns with figures or worlds beyond the conditions of their own construction, originating entirely within the spaces of the darkroom or the camera themselves

In this reading, the photographic darkroom becomes a tense space of negotiation between abandon and control, in which automatic processes are set in motion or stopped, directed rather than drawn. Conducted in the dark or under a dim cast of red light, where latent images emerge as if by alchemical means, these transformations operate with a level of enclosure or obfuscation – the darkroom acts as a kind of lacuna from which light's impressions can emerge. Even with an intimate understanding of photography's chemistry, the processes of developing its most abstracted forms carry with them a sliver of the arcane: Man Ray described his rayographs – his term for the photogram, following in a tradition of claiming a practice by (re)developing its nomenclature – as unconscious happenings in the darkroom, comparing them to Surrealist techniques of automatic writing. Accidents become integral parts of the process, and the oblique images that emerge in this dark hollow – with their ghostly outlines and curious chemicality – carry with them questions of their construction.

Straying ever further from the figurative, work of this kind is divorced from a means of capturing the visual world, instead concerning itself with the processes of its own production. Light is not an incidental carrier of vision, its actions and capacities becoming the subject of the work as well as the matter with which it is made. In his series *Lycopodium*, the Swiss contemporary artist Raphael Hefti adapted the flammable spores of clubmoss plants, used historically in flash photography and now in pyrotechnics, as a sole light source to expose large sheets of Fujicolor Crystal Archive paper. Operating in total darkness for up to 15 hours at a time, he burned the dusty substance over the surface of the paper, activating the millions of colours embedded in the photosensitised surface with no intervening negative to suppress the rays from their chemical operations. The cracking glaciers of colour that emerge from the process are almost anti-image; they contain, record and represent only Hefti's private performance, only the conditions and chemicals of their creation, through abstracted terms and without representational reference to the world outside his darkroom.

The *Lycopodium* series alerts us to a curious dislocation between the site of the image seen (the studio, the street, the landscape) and the site of the image emerging (the darkroom) by eliminating the former, and doubling down on the darkroom as a hermetic and occlusive space: a shadowless room strung between mysticism and hard science, its surfaces running with solutions and air hung with stinging odours. But in this structure, siting image seen and image emerging, there remains a question of where the image is made – whether drawn by the scene itself, pulled from the paper by human hands, or whether it is captured and locked in the black box body of the camera itself. The last of these is the starting point for Ellen Carey's *Pulls*, made by pulling film through the titanium rollers of the Polaroid 20x24, a large format instant camera, bursting the foil pods set up with developing chemicals in the rear of the camera to allow the mechanisms of the machine itself to produce the image. In both Carey's *Pulls* and Hefti's *Lycopodium*, the image produced maintains that sense of reality, of physical and emotive presence, that is lost by the possibility of reproduction. That sense of reality is raw and direct: even though the traces of process may not be as legible as they are in the brush strokes left by the painter's hand, they are present in these papers in rippling tones of exposure and colour and dye.

To come back from this collapsing point, this meta-referential limit of photography, to return to the external, seems almost to be coming round to close the circle. In a series of landscape works by Nadezda Nikolova-Kratzer, the artist translates fictional landscapes, partially derived from the terrains around San Francisco Bay, into wet-plate collodion works on engraving aluminium. Invented in 1851 as an alternative to the daguerreotype, wet-plate collodion is particular in that its plates need to be prepared, exposed and developed in a matter of minutes. Working quickly under red light, Nikolova-Kratzer uses paper cut-outs to selectively expose the glossy black surface of the aluminium to flashes of white light, in a process that is closer to collage than to camera-based photography. The resulting artefacts trace numinous terrains that seem to reach beyond the most visible cartographies of our planet, to brush against an immanent world flush with divinity and catastrophe both. Drawing upon the visible reference points for the unthinkable Anthropocene such as cargo ships, forest fires and hazes hanging over distant city lights, these works are scarcely located, but act instead as a force to locate us, as alive and on a planet we would seek to dissociate from. And what is photography for – what is all art for – if not a system for us to locate and to demarcate: to continuously and forever more be describing our positions?

ELLEN CAREY

'The darkroom acts as a kind of lacuna from which light's impressions can emerge'