

Photographic Phytography: Towards a Photographic Re- Centring of the Oak Tree within Theory, Material and Practice



PLANT PERSPECTIVES

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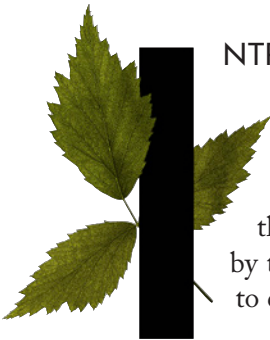
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ABSTRACT

This paper explores my practice-based research project *Arboreal Encounters*, a collection of tannin toned cyanotypes made with six heritage oak trees that form an element of my part-time, practice-based Ph.D. at the University of Brighton, UK. It comprises a brief history and background of the project before exploring how photographic practice might interact with and integrate notions of vegetal intelligence within artistic practice. By thinking of the production of *Arboreal Encounters* as if an invitation to the trees to become part of the process of their own representation, I consider how such interactions might act symbolically as human-plant collaborations and how methods of thinking, as well as doing, may resist notions of the plant as commodity within artistic practice.

KEYWORDS

trees, photography, vegetal intelligence, human-plant relations, art



INTRODUCTION

At the time of writing, *Arboreal Encounters* comprises six photographic portraits of ancient oak trees within England (four of which feature in and illustrate this paper) that in 2002 were all named heritage trees by the environmental and tree charity, The Tree Council, to commemorate Queen Elizabeth II's Golden Jubilee.

As my research on and visits to the trees started, my interest in the notion of heritage trees and the stories that surrounded them began to unfold. When travelling to my first tree, the Queen Elizabeth I Oak, the closest to me while living in Brighton and Hove, there seemed an initial disconnect between a) the language around the trees that signified their cultural importance and encouraged people to visit, and b) the lack of signage and general ambiguity around the tree's whereabouts, making it difficult to find. This gave the Queen Elizabeth I Oak a mystic quality, emphasising my visitation as a kind of pilgrimage as well as a method for research. Following this route, I became fascinated with the roles of conservation management, cultural infrastructure, natural heritage and their wide variance among the 'Great British Trees', largely because of their location and association



FIGURE 1.

Son of Royal Oak, Boscobel House, Boscobel, Shropshire from the series 'Arboreal Encounters', Author, 2021. 21 x 29.7cm print on 29.7 x 42cm paper. Oak bark tannin-toned cyanotype on Langton watercolour paper.

with the crown, as well as the more general idea of preserving living organisms for the purpose of their cultural (humanly related) heritage.

Around this time (2019–2022), several exhibitions and books concerning plant intelligence emerged and I became interested in the dual properties of heritage trees both as 'social constructions and as real dynamic material entities'.¹ Scientific research that discusses the underground interactions formed by the combination of tree and mycorrhizal roots that develop symbiotic networks in the sharing and movement of nutrients became of significant interest to me, as this signified a tree's

1 P. Cloke and O. Jones, *Tree Cultures: The Place of Trees and Trees in Their Place* (London: Routledge, 2002), pp. 3–4.

ability to co-exist and cooperate with a species other than itself.² As the human stories and cultural associations that surround the trees of my study have, in most cases, acted as a form of defence against the trees' destruction and enabled them to be preserved while other trees around them were felled, I began to wonder if one could think of cultural networks and the wider interaction between humans and these ancient trees as a form of collaboration that directly impacted the trees' survival.

In addition to this, the cultural contexts of the trees in my study are widely defined by human associations with historical figures, especially the monarchy, and with aristocratic families, private estates and formally designated conservation landscapes. As this context acts as a lens through which the trees are engaged with, something that I too experienced by formulating my own relationships with them through research visits, photographs and collecting material about them, I began to feel that further attention should be paid to their organic nature; in essence to balance out their identity between the human and the vegetal.

Due to my fascination with the management of these trees as cultural heritage products, together with the rise of exhibitions and publications surrounding plant intelligence, my original focus developed from its initial emphasis on national identity and folklore towards the interrelation of nature and culture. However, because of these trees' inevitable linkages to my previous interests (some of the stories that surround them being folktales or legends, for example; and with the oak, at least pre-industrial revolution, having played a significant part in English national identity) they remain a component of my research and operate as historical context for each of the trees I visit.³ In this sense, the trees of my study are constructed by a convergence of natural and cultural worlds. Trees on heritage registers are preserved to lengthen their life which is of some benefit to the tree and its survival, but only insofar as

- 2 Such research has been conducted and popularised by forest scientists and biologists through publications such as *The Hidden Life of Trees* by Peter Wollheben; *Finding the Mother Tree* by Suzanne Simard; and *Entangled Life* by Merlin Sheldrake, to name just a few. As these references relate to accounts of scientific research that incorporate the personal experiences and encounters of the authors, they are not used here as a form of evidence to back up claims of vegetal intelligence, but rather to demonstrate the ways in which such concepts have worked their way into the public domain.
- 3 A. Miles, *The British Oak* (London: Constable, 2016); A. Farjon, *Ancient Oaks in the English Landscape* (London: Kew Publishing, 2017).

the human stories related to them survive.⁴ As histories and myths are projected upon them and are thus upheld and maintained by the living trees, they operate as visible, tangible markers of those myths within the landscape. This makes the trees significant due to the cultural value bestowed upon them, as well as the myriad forms of biological, cultural, social and political systems that function to maintain and reinforce their national significance.

TREES AND THE CLIMATE

Trees, as an easily recognisable and familiar form, have also arguably become an emblem of the climate crisis within mainstream media over the last few decades, often being paired with anthropomorphic language and emotive phrases such as ‘the lungs of our earth’ (a corrupted quote attributed to the 32nd President of the United States, Franklin D. Roosevelt in 1937), to exemplify their significant role in climate change, principally as absorbers and storers of carbon.⁵ Recent popular works such as *The Hidden Life of Trees* by Peter Wohlleben (2015) and *Finding the Mother Tree* by Suzanne Simard (2021) use a combination of scientific research, personal experience and anthropomorphic metaphor to imply that trees’ organic functions act as mirrors to the ways in which humans form communities and relationships with other human beings. Even the popularity of art exhibitions such as *Rooted Beings*, Wellcome Collection (2022); *Among the Trees*, Hayward Gallery (2020); *The Botanical Mind*, Camden Art Centre (2020); and *Trees*, Fondation Cartier pour l’art contemporain (2019), to name just a few, is focused on the importance of relationships between the vegetal and human worlds. This includes, but is not limited to, the perceived loss, or distancing, of relations between humans and plants, particularly in relation to (and in some ways as suggested evidence of) the climate emergency.

4 Forestry Commission England (2013) *Operations Instruction No. 31: Trees of Special Interest and Forest Operations*: <https://ianswalkonthewildside.files.wordpress.com/2014/07/forestry-commission-guidance-note-on-veteran-trees.pdf> (accessed 13 June 2020).

5 F.D. Roosevelt, *Statement on Being Awarded the Schlich Forestry Medal* (Letter to the Society of American Foresters, 29 Jan. 1935): <https://www.presidency.ucsb.edu/documents/statement-being-awarded-the-schlich-forestry-medal> (accessed 28 Sept. 2023).

The tree in photography, however, is also a longstanding trope, not least due to its stillness compared with fidgety human beings during the days of minute-long exposures.⁶ Their relationship is connected historically through the work of scientists, photographers, and artists alike, such as John Hershel (1772–1871) and Anna Atkins (1799–1871), Gustave le Gray (1820–1888) and Benjamin Stone (1838–1914), and has long continued into contemporary life through the work of Ansel Adams (1902–1984), Robert Mapplethorpe (1946–1989), Rodney Graham (b. 1949) and Barbara Bosworth (b. 1953), to name just a few. Even certain chemical compounds within a tree's organic makeup have an enduring legacy in photographic history, such as the use of gallic acid in Henry Fox Talbot's early calotypes – an aspect I will expand on later in this paper.⁷ Indeed, trees, or more accurately the vegetal kingdom at large, carry with them an enduring fascination and complex, interwoven history of human vision, both creatively and conceptually. As the communication of climate crisis concern can often involve and be influenced by visual culture, of which the photographic representation of forests, woods and trees alike is a part, it is the convergence of trees' enduring prominence in photographic history and popular culture that has led to a deepening of thought around how photographs and trees might be further (re)considered.

PLANT, MATERIAL AND PHOTOGRAPHY

More specifically, however, it is the incorporation of plant material within creative processes and/or the use of research into the biological functionality of plants and its translation to photographic practice, that has begun to emerge as an important component of creatively representing plants, furthering a material and often site-specific bond between subject and object, plant and photograph. Lens-based and/or cameraless artists such as Hannah Fletcher, Uriel Orlow, Almunda Romero and Karel Doing, for example, all feature and discuss the plant-as-agent within their practice, drawing inspiration from subjects such as the components of a plant's material, the environment within which the plants

6 M. Barnes, *Into The Woods: Trees and Photography* (London, Thames and Hudson, 2019), p. 3.

7 K. Doing, *Research* (2019): <https://phytogram.blog/research/> (accessed 29 Dec. 2023).

are embedded and include their material trace, or their collaboration with the physical plant itself, all within the process of image-making.⁸ These photographic processes, although existing in contemporary culture often as a response to the climate crisis, simultaneously derive from the origins of photography, positioning the vegetal world as an enduring component of the history and development of photographic practice.⁹

My own work is positioned within this body of creative praxis, what Marder and Aloï call ‘de-objectifying aesthetic strategies’ wherein the plant is considered less as a passive subject and more as an active participant or collaborator.¹⁰ This approach is largely a response to scholarly discussions within disciplines such as critical plant studies that seek to re-address the balance between the relationship of plants and humans, itself informed by the concept of plant intelligence.¹¹ Among these discussions, questions are asked that include but are not limited to: how can plants (within art) not be reduced simply to their human uses or relations?¹² In other words, are there ways in which the identity of plants that are the subject of artistic enquiry can be more fully

- 8 Specific works of note related to the artist/photographers above are: Hannah Fletcher’s ‘Circles: A Record of our Time’, a series of soil-based chromatographs that photographically display the level of carbon in the soil of London plane trees; Uriel Orlow’s ‘The Memory of Trees’, a series of large-scale black and white photographs that depict trees as witnesses of history; Almunda Romero’s ‘The Pigment Change’, a four-part series of what she describes as image-objects and photographic experiences that question human relationships to nature, sustainability and (re) production in the context of the climate crisis; and Karel Doing’s ‘Phytography’, an on-going practice-based research project that engages with plants on a physical and chemical level, enabling the interaction of phyto and photochemicals.
- 9 Ideas surrounding the resurgence of old or camera-less forms of photography within modern day practices, either as a resistance towards commercial or manufactured forms of photographic processes, or as exemplifiers of photography as a handmade process, are discussed in more detail by Lyle Rexer in his book *Photography’s Antiquarian Avant-Garde: The New Wave in Old Processes* (New York: Harry N. Abrams, Inc. Publishers, 2002).
- 10 G. Aloï and M. Marder, ‘Getting entwined: A foray into philosophy’s and art’s affair with plants’, *e-flux notes* (2023): <https://www.e-flux.com/notes/552884/getting-entwined-a-foray-into-philosophy-s-and-art-s-affair-with-plants> (accessed 3 Jan. 2024).
- 11 P. Gibson, *The Plant Contract: Art’s Return to Vegetal Life* (Leiden: Brill, 2018).
- 12 P. Gibson, ‘The herbarium: Coloniality, indigenous knowledge and the eucalyptus’ (paper presented at Phytogenesis II: Provocations of Plants, Philosophy and Photography, University of Plymouth, 23 March 2022).

incorporated within the process of their representation, therefore de-centring their human relations without fully excluding them? Rather than photographs being made simply to depict plants, how might photographs made *with* plants function to disrupt ideas that construct the vegetal kingdom as merely the backdrop to human action, rather than a stimulating, generative and responsive collection of entities within their own right?¹³ The definition of the term ‘made with plants’, in this context, differs depending on the artist in question. However what it does signify is a philosophical shift in the way in which artists conceive and engage with plants as living entities with their own rights, while simultaneously living both within and outside of physical and conceptual human boundaries.

CLOSING THE GAP ON NATURE-CULTURE RELATIONS

In part, these new (or re-emerging) correlations between plant-based imagery and the plants that inspire them are a response to the historical and hierarchical distance placed between humans and plants, which has also come to define, or explain, aspects of the current and ongoing climate emergency.¹⁴ When thought of in terms of traditional art practices that utilise plants as subject matter, this historical positioning conjures up questions as to how art can play a part in disrupting, or reinforcing, ideas of distance between humans and the natural world.¹⁵ At a conference on photography and plants at the University of Plymouth in 2022, the critical plant studies scholar Prudence Gibson laid out several preliminary and explorative guidelines for how art might interact with plants for the engagement to be mutually beneficial, as a means to resist contemporary art practice falling victim to replicating extractive or exploitative techniques that end up harming human-plant relations either physically or philosophically.¹⁶ Among them were terms and their descriptions such as: un-contained – the acknowledgement that plants are beyond human control; sensual – the knowledge that

13 T. Ingold, ‘The temporality of the landscape,’ *World Archaeology* 25 (2) (1993): 152–74. <https://doi.org/10.1080/00438243.1993.9980235>

14 S. Mancuso, *The Nation of Plants* (London: Profile Books, 2021) pp. 53–71.

15 Gibson, ‘The Herbarium’.

16 Ibid.



FIGURE 2.

Major Oak, Sherwood Forest, Nottingham, from the series 'Arboreal Encounters', Author, 2021. 21 x 29.7cm print on 29.7 x 42cm paper. Oak bark tannin-toned cyanotype on Langton watercolour paper.

plants are enmeshed within a wider ecosystem that shares and distributes nutrients and knowledge; distributed – an acknowledgement of their vastness across both space and time; irreducible – to not be reduced simply to their human uses or relations; and changeable – to understand that plant life, just like human life, is constantly changing and adapting.¹⁷

Such ideas of art merely replicating, whether consciously or unconsciously, the political, cultural, commercial and social extraction of plants for human consumption (whether literal or metaphorical) can arguably be a danger to radical, proactive change in the ways in which humans engage, respond and adapt to the natural world and the changing

17 Ibid.

climate.¹⁸ If humans are to put into practice genuine radical change to shift perspectives and by extension action towards the importance of preserving and protecting vegetal life, as a creative practitioner it would be hypocritical not to at least try to think about such extractive, or what Michael Serres refers to as parasitical, relationships to the natural world and how they can be avoided throughout the artmaking process.¹⁹ Placing plants front and centre within creative practice, and therefore ascribing them greater status, is a political act. Art that therefore draws attention to this ascription can also be thought of as political and, in turn, as a metaphorical cog in the mechanism of how public perception of plants, and by extension climate change, can be potentially shifted.²⁰

PHOTOGRAPHIC PHYTOGRAPHY: ESTABLISHING METHOD AND PRACTICE

Before embarking on theory, it is important to outline the methods, processes and ideas involved in the production of prints within *Arboreal Encounters* and how they engage with the ideas laid out above. Each arboreal portrait begins with a medium format negative made on-site after a recce of the tree and its surrounding environment. This negative is then processed by myself at home and scanned to digitise it. The digital positive is then inverted to resemble a negative and edited to increase its contrast. This inverted image of the tree is then printed onto acetate, creating a large-format negative. After this is done, cyanotype solution is painted onto A2 watercolour paper and left to dry. Once dried, the acetate negative is placed on top of the prepared paper and exposed to the sun to make a print, after which it is washed in water to fix the image. The print is then left to dry and mature for two to three days before being bleached in a mix of baking soda and water, removing the traditional blue pigment of the cyanotype. The bleached print is then washed to rinse away any residual bleaching solution before being left for anywhere between one to five hours to tone in a bath of tannin that I extracted from oak bark by submerging it in boiling water, using

18 Gibson, *The Plant Contract*.

19 M. Serres, 'The natural contract', trans. Felicia McCarren, *Critical Inquiry* 19 (1) (1992): 1–21. <https://www.jstor.org/stable/1343752>.

20 Gibson, *The Plant Contract*.

the resulting liquid. Each print for each arboreal portrait follows this routine and amounts to around five to seven days of work. This also accounts for experiments in the correct time of exposure on the day of printing so as not to risk the failure (such as under- or overexposing) of expensive large-format prints. To expand on this process, I will now lay out certain aspects of my photographic methodology to explore the ways in which it engages with notions of vegetal thinking, beginning with the first stage of production, the negative.

Phase I: The negative

As every tree grows within a different environment, is surrounded by differing levels of vegetal life and is privy to a varying level of conservation methods, the conclusions I have drawn from my original experiments back in 2019 are that both ideas and actions, especially surrounding composition, must adhere to each location and therefore to each individual tree. With this approach I resist implementing a specific template of photographic engagement and unnaturally forcing each tree into a premeditated structure. Instead, I mould myself and my vision to the location I am within, encouraging a form of embodied practice and preventing my own actions from artificially re-contextualising the trees and their environment.

As my travel to each tree is conducted within a certain timeframe, I therefore become vulnerable to things such as inclement weather conditions (for the *Major Oak* portrait, for example, the negative was produced during pouring rain – see Figure 1), which can expose my practice directly to the elements and therefore to uncontrollable environments. Effectively this requires me to approach each photograph and each individual tree with an openness to and acceptance of whatever I might encounter. Over time, this has become incorporated into my methodology: to choose ways that, rather than creating a series of reproducible actions and environments, instead open me up to instinct and a certain level of reciprocity between myself, the location and the specific tree with whom I am interacting. However, it also signifies putting theory into practice by centring the tree while simultaneously rejecting a certain level of artificial control over the production of plant-based images; exposing myself and my body to the conditions and environment within which the tree lives, therefore, relinquishes some level of human control.

Paradoxically, as the creative practice has grown and evolved, thinking of the trees more or less as human subjects has become part of my method to imagine how to develop photographs *with* trees, rather than of them. As the artist Lindsey French, in their 2016 article ‘Weak media, photocentrism and gestures towards transgressing the self’, notes, ‘to know a plant’s name is not to know a plant’.²¹ In short, understanding and retaining knowledge of a plant’s identity does not stop at simply knowing the name ascribed to it. But how might one know a plant? For me, considering the trees as something more familiar to my own being, rather than consigning them to the domain of otherness, opened new ways of interacting with them. Much as I would ask questions to a client or a friend who was sitting for a portrait before I made an image with them, I began to conceptualise knowledge gained around the historical and biological aspects of the trees I was studying as an investment in the background and historical knowledge of my subjects. As I learnt of the specific genus, their particularities, their linkages to national history, their various uses as a material and as a cultural symbol, and their organic functionality – i.e., the ways in which oaks conceive and construct their own world – new forms of photographic engagement sprung forth in my imagination. The theoretical reasons for this will be expanded on more deeply later; however, in short, the importance of adaptation to the trees and their environment come from ideas surrounding the treatment of trees as individuals, not as mere vegetal clones or replicas of each other.

In part, even though my use of pronouns to refer to trees as ‘they’, rather than ‘it’, somewhat reproduces anthropomorphic language, I have personally found it shifts their existence as being purely ‘other’, opening them up to becoming other forms of living beings in the world.²² This linguistic strategy, although seemingly small, has made it much more difficult to ‘other’ them as simply another form of set dressing in the grand theatre of human life.²³ Ideas such as these feed directly into notions of engaging with trees as more-than-human, not to replicate anthropomorphic or romantic tendencies, but to establish a specific

21 L. French, ‘Weak media, photocentrism and gestures towards transgressing the self,’ *antennae* 37 (2016): 77.

22 R.W. Kimmerer, *The Democracy of Species* (London: Penguin Books, 2021), pp. 16–20.

23 Ingold, ‘The temporality of the landscape’.

relationship with them that incorporates their human and vegetal identities holistically.

Furthermore, by using analogue processes combined with organic material within *Arboreal Encounters*, the oak trees are conceived as participants and collaborators and in so doing become agents in the process of their visual representation. The decision to work *with* the trees, rather than simply using their image as an illustration of philosophical enquiry, is an essential part of my creative methodology which attempts to address and reconcile some of the risks outlined above.

This is, as it were, an example of thinking and making ‘phytographically’, a term constructed from the word *phyto*, meaning ‘plant’ in Latin, and the suffix *graphy*, meaning either ‘the study of’ (Latin), or ‘drawing’ (Greek). Through a series of thought experiments I came to its construction via Sir John Herschel’s original name for photographs made using plant and flower matter called ‘phytotypes’ which has since fallen out of fashion in favour of the term ‘anthotypes’, mostly due to the more popular use of flower petals (the Latin for flower being ‘antho’) to create images.²⁴ Although this process was conceived independently, the term existed prior to this in relation to both literary and lens-based practices. Within filmmaking, the term is more closely associated with interdisciplinary artist and academic Karel Doing who coined the term ‘phytography’ as both a philosophical and practical method of engaging with plants through cinema as a means of co-creation between them, enabling the interaction between the phytochemical properties of plants and photochemical emulsion.²⁵ A separate, but just as interesting and relevant, usage of the term refers to a form of plant writing or what Patricia Vieira refers to as ‘phytographia’; an encounter between the plants’ inscription in the world and the traces of that imprint left in literary works.²⁶

24 Y. Gapper, ‘John Herschel’s vegetable photographs c.1841–1843 and the environmental infrastructures of photography’, (paper presented at The Materials of Photography Symposium, the Victoria and Albert Museum, London, 13 Sept. 2023).

25 K.S. Doing, ‘Ambient Poetics and Critical Posthumanism in Expanded Cinema’. Ph.D. Thesis, University of the Arts London, 2017.

26 P. Vieira, ‘Phytographia: Literature as plant writing’, *Environmental Philosophy* 12 (2) (2015): 205–20.

Phytography, as I have engaged with and conceive of it, combines the act of making photographs, as well as its history, together with notions of vegetal thinking and study, resulting in photographic images that are made intentionally *with* the subject matter of their focus. Rather than concerns around plants and their relationships with human life being built around images as contextual relevance, phytographs imagine ways in which such concerns can become embedded within the images themselves, acting as material embodiments of the plant, its environment, and the ideas that formulate around them. In essence my use of the term phytography is a combination of the historical and contemporary vision of photographs that exist alongside the plants that inspire, inhabit and influence them, as well as referring to ways in which a more mechanically perceived form of creative practice can be thought of and utilised more ecologically.

Phase II: The print

After the roll of film has been filled and the negatives processed, the cyanotypes produced from them generate, when thinking phytographically, some interesting, metaphorical parallels. As a combination of my initial interactions with the tree (both in person and through the camera), the negative's rendering into a large-format digital acetate and its transformation into a cyanotype, the print, even at this early stage, is worked further into notions of material embodiment by its exposure to the sun. As cyanotypes are made and rely upon a high level of ultraviolet light to properly produce a print, *Arboreal Encounters* is seasonally restricted to the late-spring and summer months, coming into bloom much like the leaves and flowers more generally associated with the cyanotype process and aesthetic. Although UV lamps can be bought and used to compensate for the lack of ultraviolet light in winter and autumn, the size of my own prints makes it difficult in terms of both space and money for this to be viable. The result of this, however, is that the secondary aspect of *Arboreal Encounters*, the production of a cyanotype print, is once more rooted within a release of human control and adherence to climate and season, retaining the symbolic relationship between both plants and photographs co-reliance on sunlight.

My human reliance on the seasons and more specifically the sun's assistance as a tool for printmaking is conceived here as another mode of balance between aspects of the creative process that I cannot



FIGURE 3.

Big Belly Oak, Savernake Forest, Marlborough, Author, 2021. 21 x 29.7cm print on 29.7 x 42cm paper. Oak bark tannin-toned cyanotype on Langton watercolour paper.

control (e.g. plants, weather, seasonal change) together with those I can. Working under these conditions and exposing myself to the unpredictable aspects of the natural world, it is difficult not to describe or think about my working methods as a form of vegetal practice, even if they are primarily conducted under human conditions. To Gibson, this way of working functions as a kind of rewilding of the mind, releasing preconceived ideas of trees and land as property and instead conceiving them as living, breathing, co-habitant entities.²⁷ In addition to this, however, what emerges from this form of practice is a disruption of human-plant relations that focus on the effects of humanity upon the natural world,

27 Gibson, *The Plant Contract*, p. 56.

and instead a turn towards an understanding of how both species might inform and influence each other.²⁸

To put this in terms of *Arboreal Encounters*, the prints can be thought of as a kind of membrane that absorbs both human and vegetal action together within one single entity, constructing it as a kind of plant-human hybrid.²⁹ By doing so, the tree's representation within the print no longer exists singularly as a result of human vision or just to impress and display an aspect of organic material extracted from the natural world. Instead, the images become a combination of both these qualities and in turn materialise such concepts of heritage trees as constructed by both the cultural and organic, in that their organic and cultural associations are fibrously interwoven through the material of the print. Photographically speaking, the tannin also creates visual associations to both Talbot's calotypes and the use of sepia, a tonal process used in historical processes and associated widely with antique photographs. While the inclusion of tannin was not an intentional method to cast sepia tones and artificially mimic historical photographs, the result nevertheless creates the effect of age upon the prints and therefore inadvertently impresses this concept upon the viewer. However, the visual effect and direct inclusion of tannin within the photographic process is not just a visual reference to Talbot's calotypes, the patent on which was granted in 1841, but also an organic one. To create the calotype process, Talbot used a solution containing silver nitrate and gallic acid harvested from the galls of oak trees to produce a technique that prepared photosensitive paper, but also the print's enhancement post-exposure, which would later become known as 'developing'.³⁰ As a result, the images, through this historical lens, visually reflect the historical context of the trees, their old age, but also the origins of photography. Considering that history and myth have also played a part within tree management and preservation practices to help identify and elevate each tree within my study to historical status, it could be said that the visual effects of the tannin, its visual reference and its application to the print, function to reproduce such ideas symbolically.³¹

28 Ibid.

29 Gibson, *The Plant Contract*, p. 58.

30 K. Doing, *Research*.

31 Forestry Commission England, *Operations Instruction No. 31*.

As the tannin affects the tone and therefore the visual structure of the print, it could also be said that one literally views and therefore perceives each tree through an aspect of the tree itself. The tannin, as a layer, acts as a translucent barrier between the human looking at the print and its human representation beneath its tonal impression, functioning like a lens between them. As the tannin was previously part of the bark of the oak, there is also a curious correlation between the print and the tree when thinking about notions of materiality and form. Tannin, when found within oak trees, functions primarily to protect them from predators or from fungal and bacterial infection. When oaks are pliant and young, the volume of tannic acid flowing through their frame can prevent excessive and potentially fatal grazing by filling their stems and leaves with a bitter aftertaste and making them unpalatable for munching insects and animals alike.³² Although invisible to the human eye, as this process happens within the interior anatomy of the plant, the photographic process of *Arboreal Encounters* reveals and visually references a highly important aspect of the lifecycle of the tree that enables them to survive over centuries, much like the mythic, cultural stories that have protected them and prevented their felling. To take the example of Figure 4, depicting the Queen Elizabeth I Oak, the tree's royalist associations with the Tudor Queen are derived from a story of her allegedly shooting a deer from beneath its branches during a visit to the Cowdray Estate in 1593.³³ It is a rare example of trees that bear royal names due to the monarch's proximity to the area, in that there is evidence for her visitation within the estate archives that places her near the tree in place and time.³⁴ To name a tree from a monarch's visit is to embed their visitation within the land, to draw royalist connections between the crown and aristocratic families that are aligned politically, and to ascribe such associations visually. To fell the tree is to therefore cut the ties and visibly sever the family's sovereignty over the land. That the oak has survived 430 years after the event that elevated its value is a

32 D. Oakes, 'Oakes on Oaks: Introducing out 56(ish) trees', *Trees a Crowd* (2021): <https://www.treesacrowd.fm/56Trees/> (accessed 4 Sept. 2023).

33 Miles, *The British Oak*.

34 M.C. Questier, *Catholicism and Community in Early Modern England: Politics, Aristocratic Patronage and Religion, C.1550–1640* (Cambridge: Cambridge University Press, 2006) pp. 170–74.

testament to the sociocultural power that can be held over specific trees and enable their survival.³⁵

What occurs inside this combination of organic and cultural associations within the print is a series of interesting and complex overlaps that are worth briefly reviewing. Firstly, the tannin within the tree acts as a protective component against biological invasion, functioning more or less in the same way as the cultural associations that surround the heritage trees as they both intentionally prevent the tree from dying. Secondly, the tonal outcome of the print as a result of the tannin performs visual associations with antique or historical prints, therefore acting as referents to the age of the trees and to the myths that elevate them to heritage status. As these myths function, both historically and through contemporary tree management practices, to protect the trees from damage, it could be said here that as the tannin moves from one material to the next, it transfers and visually transforms many of its protective functions from within the body of the tree into the body of the print.

THINKING PHYTOGRAPHICALLY: THEORY, PLANTS AND PHOTOGRAPHY

Referencing these organic processes that are significant to the trees and are symbolically replicable through photographic methods has become an important means to visually demonstrate how photographic prints can hybridise human-plant relations. Thinking through how photographic material can channel certain vegetal functions can extend the ways in which the end creative product can more materially embody its subject and in turn disrupt and challenge notions of vegetal objectification through the artistic process.³⁶ By removing certain levels of human control through art making, notions of vegetal agency naturally bubble to the surface, shifting attention away from the human and towards the plant.

Of course, the idea of making photographs without some level of human intervention comes with its own set of difficulties, but this is also not my intention. As I have said earlier, rather than beginning this

35 Jones and Cloke, *Tree Cultures*.

36 Gibson, *The Plant Contract*.

project with ideas of removing or excluding human action, the purpose of *Arboreal Encounters* and the project at large is instead about balance and inclusion. By introducing an element of an oak tree into the print that visually represents it, poetic and practical lines are not just worked through methodologically but also theoretically. To Martin Barnes, trees are intrinsically bound to the practice of photography due to their co-reliance on the ‘transformative qualities of light’.³⁷ As both plants and photographs are light-dependent entities, these poetic and practical lines suggest an intriguing potential into the ways in which plants and photographs might come to interact beyond simple representation. Such comparisons between plants, photographs and light are also highlighted by the theorist and critic Eduardo Cadava, who argues that there is a particular rapport between philosophy, photography and plants, derived from their shared heliotropism (the movement of an animal or plant towards a source of light), both taking ‘their life from light’.³⁸ This shift in perspective away from the camera or the light-sensitive subject as a passive object provokes questions around the actions of photography as being not ‘just receptive or open to light but actively mov[ing] towards it; it does not simply receive an imprint from the light, but seeks it out’.³⁹

These ideas of photographic action mimicking the actions of heliotropic plants curiously implies a kind of agency in photographic methods, or at the very least a resistance to the camera as a passive entity. Whether chemically through light sensitive solutions, or physically through the reflection of light through the lens, both suggest the intended photographic action of being drawn to (or turning towards) and therefore recording light onto the intended surface or object. Although this is not to suggest that the camera is a sentient being, framing the camera with this kind of theoretical agency allows an interpretation of its functions, such as the forming of light into an image, as mimicking and making visible the organic function and process of photosynthesis, the formulation of light to food.

Light in this sense is being used two-fold: as a metaphor to describe ‘the light of reason’, and therefore of philosophical thought, and

37 Barnes. *Into The Woods*, p. 3.

38 E. Cadava, *Words of Light: Theses on the Photography of History* (Princeton: Princeton University Press, 1997).

39 M. Henning and J.T. Mikuriya, ‘Light sensitive material: An introduction’, *photographies* 14 (3) (2021): 382–83. <https://doi.org/10.1080/17540763.2021.1962230>.

light as a tool to make photographs.⁴⁰ As Barnes notes in *Trees and Photography*, light gives life to plants via chlorophyll, therefore interconnecting photography and plants through their shared mechanical and organic dependence on light as a life-giver.⁴¹ If we are to think of this in relation to methods of photography and of the cyanotype process, which is reliant in some form on the presence and power of the sun, both photographic and photosynthetic processes signify and illuminate the transformation of light from one form to another. This is, in some sense, a generative process for both the plant and the photographic print because of their continual 'turning' towards the sun, resulting in prints that sit at the intersection of human-plant relations (or as plant-human hybrids); images made from, within and to some extent by the environment itself. As all my printmaking for *Arboreal Encounters* was produced within my parents' garden, I was also able to use collected rainwater from a series of water-butts positioned around their bungalow to wash and fix the prints post-exposure, as well as during the bleaching and tonal process. This additional aspect of utilising a component of the natural world, a by-product of weather conditions, within the processing of photographic prints, rather than the more easily accessible mains water supply, is yet another example of how photographic prints can become literally saturated with meaning and by the environment within which they are made.

Thinking of the combination of this photographic process together with the theoretical discussion above, some interesting observations emerge. Firstly, photographs made in this way directly engage with the landscape from which they are created and therefore generate a material connection between object (the photographic print) and subject (the plant). As I am unable to use the physical trees within the production of prints due to their age and protected status, the tannin extract could be thought of as a substitute in lieu of physical plants to maintain this material connection between subject and object. Furthermore, these photographic prints engage in an interesting conversation around the difference between an objective, distanced interpretation of a subject, and the subject's direct interactions with the surface (and fibres) of the print. It could be said, therefore, that using physical parts of the

40 Ibid.

41 Barnes, *Into The Woods*, p. 3.



FIGURE 4.

Queen Elizabeth I Oak, Cowdray Park, Midhurst, Author, 2021. 21 x 29.7cm print on 29.7 x 42cm paper. Oak bark tannin-toned cyanotype on Langton watercolour paper.

tree within the process of artmaking provides the plant with a sense of agency that informs the resulting print, and by extension how the viewer meets and interprets the image.

Returning to theory, this practice could be thought of as an intentional disruption of what the American botanists James H. Wandersee and Elizabeth E. Schussler call ‘plant blindness’, or the ‘inability to see or notice plants in one’s environment’.⁴² This form of cultural clouding towards aspects of the natural world that are not of immediate relevance to an individual (such as a fallen tree blocking a pathway or a road), is not just the result of modern-day living but also, they argue, the condition of a longstanding and misguided ‘anthropocentric ranking of plants

42 J.H. Wandersee and E.E. Schussler, ‘Preventing plant blindness’, *The American Biology Teacher* 6 (2) (1999): 82–86. <https://doi.org/10.2307/4450624>.

as inferior to animals and thus, as unworthy of consideration'.⁴³ In short, the prints don't just feature and centre the trees and their human relations, but also the ways in which the trees function, live and survive. By choosing photographic methods that also perform in similar ways to plants (or symbolically so), consistent references are drawn to the ways in which culture and nature interact with and influence each other.⁴⁴ In 2021, aspects of plant blindness were drawn more specifically in relation to photographic processes by professor of art history, Elizabeth Howie, through her analysis of Michael 'Nick' Nichols' photograph of the President, a 3,200-year old giant sequoia, the second largest tree known in the world, for *National Geographic*. As Nichols had to overcome many obstacles and preconceptions around how to photograph a 247-foot tall tree – the main issue being that, as it lives within a forest and is therefore surrounded by a multitude of flora that make up its bio-community, it therefore cannot be visually isolated through traditional photographic methods – the processes that were developed as a direct result of working with the tree as an individual challenged Nichols own plant blindness and in turn created a photograph that endures as a resistance to it through its reproduction.

Concepts of reproduction are not just considered digitally, however, but also through the printed image and more specifically using plant-based paper and its material linkages to trees. To Howie, not only the making of the image 'but also its printing and distribution challenge plant blindness', continuing that 'the printed photograph asks the viewer to interact with it in specific ways that may cause us to consider plants as beings rather than things'.⁴⁵ Although it may be unpleasant or morbid to think of pictures of trees being reproduced and represented through the processing of dead ones, a counterargument could suggest how such a method reinforces and rematerialises notions of regeneration – a subject generally associated with the natural world.⁴⁶

In this sense, my own portraits of trees challenge plant blindness in almost every aspect of their production. In the case of cyanotypes, the

43 Ibid.; Mancuso, *The Nation of Plants*.

44 Gibson, *The Plant Contract*, p. 56.

45 E. Howie, 'Contesting plant-blindness with photography: Michael Nichols's portrait of a giant sequoia,' *Photographies* **14** (3) (2021): 529. <https://doi.org/10.1080/17540763.2021.1960411>.

46 Ibid.

printed image combines such concepts of prints and their material origin as the direct product of pulped trees together with other, symbolic, aspects of print-making that refer to certain plant-based functionalities, such as the act of photosynthesis. This is further deepened through the introduction of tannin that not only acts as an aesthetic property and historical reference but also as a lens through which the image is perceived and interpreted. As the tannin was extracted from bark, the paper made from trees, the cyanotype process simulates aspects of leafy photosynthesis, the prints could be thought of almost as a material and photographic reconstruction of the oak tree itself. In essence, the oak as photograph.

CONCLUSIONS: TOWARDS A METHOD OF PHYTOGRAPHY

As the images in *Arboreal Encounters* are a result of experimentations, human control has often been given up consciously in favour of being led by the plant and the way in which it interacts with different substances, materials and objects. My decision to research certain aspects of the oak tree and how certain substances and parts of its anatomy might be utilised or interacted with to make photographs is an intentional part of my methodology and another means through which I have placed myself to the side, rather than at the centre, of artmaking. In this way I am both led by the plant through experiments in which substances like tannin might interact with certain materials, but also thinking vegetally around how photography might provide a porous boundary in which parts of the oak might both materially and aesthetically exist in ways that are not extractive or exploitative of its identity or of the natural world at large. Human action is of course not absent from this process and my own decisions to follow certain routes and to close others off are informed by both aesthetics and theory. Although this is the case, there is a certain level of allowance given to the plant and its interactions with the materiality of photography that inform those decisions.

To place the production of plant-art within contemporary life, whether approached as the plant as subject, the plant as material, or

both, is also to consider its possibility as a direct emergence of abject human failure.⁴⁷ As Gibson notes,

We have failed. We, the humans, have not been cautious enough — we have not taken care. Our failure is moral. Our failure is critical. But this is not the time for doom and gloom.⁴⁸

However, although such ideas may be deeply rooted in notions of failure, this is not, as Gibson says above, the time for doom and gloom. To once more take the plant as the point of departure, art can play a distinct role in regenerative modes of thinking, feeling and engaging with plants and the wider vegetal world. As art begins to explore and incorporate more plant-based modes of making, concepts regarding plant intelligence and plants as separate, independent beings that deserve respectful approaches to working with them will more naturally become as consumable as the artwork itself. To return briefly to the beginning of this paper, there are indeed inherent risks with making images with plants that do not simply repurpose or reimagine extractive or parasitic methods that centre the human, as well as capitalist notions of over-consumption.⁴⁹ In this sense, when accumulating plant material for the production of photographs and the resulting prints, I view my own gathering as similar in method to how foragers engage with the landscape in ways that dually nourish the human and the plant. To Robin Wall Kimmerer, such sustainable practices can have useful properties for the foraged plant by de-crowding dense areas of growth that end up regenerating it, therefore providing a mutually beneficial environment.⁵⁰ If one is, therefore, to truly engage with concepts of plant intelligence and its incorporation into creative methods, one must also confront the complexities of relations between plants and humans. By choosing to explore such concepts through photographic practice, which carries with it several symbolic and practical functions reminiscent of the plants it represents, visibility is given to both ideas and actions that operate within the vegetal world that may well have been invisible for many beforehand.

47 Gibson, *The Plant Contract*, p. 113.

48 Ibid.

49 Kimmerer, *The Democracy of Species*, pp. 31–33.

50 Ibid.

This over-arching emphasis on both the concept of the oak tree as photograph and, by extension, the phytograph as a resistance to concepts of plant blindness demonstrates two things: a) how creative practice can function as the conduit through which plants can communicate their functions and therefore their independence from human life and culture; and b) how thinking vegetally around methods of art-making can produce or, at the very least refer, to acts of plant-human hybridisation that both highlight and support the balance of human-nature relations.

Epha J. Roe is a research-based artist and writer who primarily uses photographic processes to examine human relationships, particularly in relation to identity and the natural world. They use a variety of traditional, modern and experimental photographic techniques, often within the same projects, to explore the limits and flexibility of the medium. Roe's practice also focuses on photography's relationship to other media as a method to deepen and expand audience engagement with complex themes and subjects. Some examples of this are the inclusion of sound, sculpture and living plants exhibited alongside printed media. Alongside their practice, Roe is also a practice-based Ph.D. student in photography at the University of Brighton, conducting research on how artistic interaction with the concept of vegetal intelligence can help deepen creative engagements with plants, with a specialism in oak trees. Broadly speaking Roe's research interests cover photographic theory, history and practice; plant intelligence; critical plant studies; queer ecology and queer theory.

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