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ARCHITECTURE AND CULTURE

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A Bombsite Flora: London's Wartime Plants as Historical Facts

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ABSTRACT This article examines E.J. Salisbury and F.E. Wrighton's botanical studies of the flora which thrived in London following the bombings of World War II, and which have established in the city since. This flora is revealed as a complicated new nature which thrived specifically due to the topographic conditions produced by bombing. This visual essay combines photographs of contemporary occurrences of bombsite plant species with a historical and theoretical text producing a "plantarium," a hybrid interpretation of the Flora and herbarium as forms of botanical knowledge. In positioning these plants as a living archive, they are understood as "historical facts." Thinking through Rebecca Solnit's use of the term "saeculum" and through a reflection on the temporality of the photograph, with reference to Ariella Azoulay, the article suggests that contemporary occurrences of the bombsite flora can propose alternative historical temporalities for thinking the relationships of our violent past to the present.

Introduction

In August 1944 a journalist, Violet Latham, described clouds of "thistledown" floating through an open window into the Spitalfields newspaper office where she worked. Her description was of small

seeds carried on fine hairs blown from the wild plants that then grew abundantly in the immediate area and throughout London. Of this floral abundance she wrote "[t]en years ago how incongruous it would have seemed."[1] These plants warranted comment as they belonged to species and plant communities which had newly established in destroyed areas of the city following the bombing of London which had begun in 1940 and continued, intermittently until the end of the war in Europe in 1945.

Through attention to the botanical fieldwork of E.J. Salisbury and F.E Wrighton in the wartime and immediate postwar period respectively I reveal how the new topographies of the bombsites – landscapes produced by particular conditions of violence and urban destruction – gave rise to this novel flora. The flora which thrived in London's bombed landscape has often been discussed as an allegory, framed to symbolize the return or occurrence of new life following destruction.[2] Contrary to this allegorical positioning, I present the bombsite flora as a complicated new nature that was the result of and was produced by the violent conditions of war. The plant species which Salisbury and Wrighton observed in the bombsites have since established in London's landscape. Historians of architecture and landscape might normatively read the legacy of bombing in the "postwar" reconstruction which came to transform these sites of destruction in the decades following 1945. However, the contemporary occurrences of the bombsite flora offer the opportunity to locate the apparently absent wartime landscape as having a living legacy within the contemporary city. Attention to this flora – which is defined by one historical moment yet occurs in the contemporary landscape – offers an opportunity to reflect on the historian's periodization and construction of time, by engaging with a botanical temporality. Specifically, a consideration of the bombsite flora's temporality presents an opportunity to critique the historian's normative construction of the "postwar," which places the violent landscapes of war as belonging only to the historical past.

A living archive

The "stuff" of the earth, its plants and its soil, is increasingly appreciated as having a historical evidentiary status able to shift historical narratives and scales of attention. For a number of decades, the artist Maria Thereza Alves has germinated seeds collected from the soil and debris found in maritime ballast sites across a number of cities. These seeds have laid dormant since they were transported to sites in Europe and North America within ships' ballast to counterbalance cargo carried between locations in imperial and colonial trading networks. The presence of this seed in these locations are amongst the legacies of these networks of colonialism and forced migration and the flora that Alves grows from this seed are "witnesses to these histories."[3] These are, as Alves describes them, "unrequested histories" of the earth.[4] The contemporary presence of the bombsite flora enriches London's biodiversity yet, they are witnesses to the

earth's unrequested history of war. One in which aerial bombing destroyed lives and environments in the London of the 1940s and continues to do so in other global regions as this paper is written.

Presented here through photography are a number of plant species which grew in London during and after the war on account of the bombsite conditions, and which can now be found growing spontaneously in London. I approach these contemporary plant specimens as a living archive of London's wartime bombed landscape, now temporally and spatially dispersed. Working in the field of archaeology Christina Fredengren has highlighted the status of agricultural soil as heritage asking "what would happen if earth and soil as living ecologies with long histories were to be considered heritage?"[5] A consideration of the bombsite flora as archive could pose similar questions. Rather than positioning the flora within questions of heritage the reflections made here are upon the status of such an archive within a historiographical practice and the contemporary bombsite flora is considered here as a catalyst for historiographical reflection. An attention to contemporary occurrences of the bombsite flora prompts the following questions, what sort of objects or materials might be positioned as historical evidence in the study of architecture and landscape? And, how can the presence of a "past" flora in the contemporary landscape trouble normative ideas of historical time? Fredengren notes that "[h]eritage has been handled in two major discourses, one that deals with cultural heritage and one that deals with natural heritage."[6] Such a distinction has long been held in historical thought. In this essay I think with the environmental historian Jason Moore's ecology of the *oikeios* through which "Nature" is critiqued as suggesting an ecology without human activity and in which humanity is understood as a network of relations outside of ecology.[7] Contrary to upholding such distinctions, Moore's *oikeios* produces the possibility of understanding plants as "historical facts" therefore prompting a reflection on the tools and methods of the historian.

The plants presented here were collected and photographed during the Covid-19 lockdowns of 2020 onwards during a time of restricted movement. This was a time when many people were forced into new encounters with their local environment, including amateur botanizing amongst other activities, and it was a time when political rhetoric in the UK drew unproductive and problematic comparisons between the pandemic and the mythologized resilience of wartime and of "blitz spirit."[8] In response to the increased interest in amateur botanical fieldwork during this period the historian of science Elaine Ayers highlighted the potential of plant collecting to offer a "practical and embodied way" to think across time. That is, to think about a particular botanical history and to bridge a disconnect between the study of a historical moment and the historian's botanical locality and present.[9] The contemporary presence of the bombsite plants can be understood in terms of "remnant species" which linger as leftovers from past landscape

conditions.[10] However, here I expand beyond the idea of the remnant to suggest that attention to contemporary occurrences of the bombsite flora can propose alternative historical temporalities: following Rebecca Solnit's "saeculum" which she proposes as a conceptualization of botanical temporality and through a reflective critique of the "present" status of the photograph established most notably by Roland Barthes and readdressed more recently by Ariella Azoulay.

The living, growing occurrences of the bombsite flora within London's present landscape perpetually connects the violent landscape of wartime to the contemporary city. The plants are a dispersed archive which share a living memory with that landscape. Azoulay writes of the need to "unlearn" constructed divisions of time such as the "postwar," which suggests that war ended following 1945 and privileges WWII as the distinct period of war from which a "postwar" period can be measured or narrated.[11] This essay suggests that identification of the bombsite flora's continuity might offer a way to disrupt such normative historiographical constructs.

Oxford Ragwort

Senecio squalidus
September 2021
Barbican high walk, City of London.

Figure 1

Erect to *ascending*, ± glabrous annual to perennial to 50cm. Sometimes woody below; leaves usually deeply pinnately lobed, sometimes deeply serrate, the lower petiolate, the upper sessile: ligules 12-15, (6)8-10mm, yellow, rarely 0; 2n = 20. Intrd-natd; waste grounds, walls and waysides.[12]

... a wilderness of little streets, caves and cellars, the foundations of a wrecked merchant city, grown over by green and golden fennel and ragwort, coltsfoot, purple loosetrife, rosebay willow herb, bracken, bramble and tall nettles ...[13]

In her 1950 novel *The World My Wilderness* the writer Rose Macaulay described the profusion of plant life that thrived in London's bombed landscape in the years after 1945. These plants re-made the urban environment so that it appeared to Macaulay as a new floral "wilderness." This sense of a landscape transformed was impressed on Macaulay and many others not only due to the abundance of plants which now grew on ground that had previously been barren or sparse but owing to the previous unfamiliarity of these plants in the London landscape. Following the transformation of the city's landscape by bombing, plants began to grow in locations where they had not previously been found; they were fresh introductions.

Figure 1
Author's image, *Oxford Ragwort*, September 2021.

The naturalist Richard Fitter wrote in 1945 how war had transformed London's ecology. Specifically, this transformation was a result of the aerial bombardment which from 1940 onward had left almost 2 million buildings in the County of London either damaged or totally demolished.[14] Fitter wrote how the creation of open "waste" ground had been amongst the foremost effects of the war on London's "natural history," and that this impact could be read most significantly in the city's flora.[15]

> The effect of what is now euphemistically known as the original 'blitz' has been to produce extensive areas of open ground throughout the most heavily built up areas of London, and this has naturally had a profound influence on the fauna, and more especially on the flora of the area.[16]

An appendix to Fitter's book included a "list of flowering plants and ferns recorded from bombed sites in London."[17] This list records the newly verdant landscape which in the decade after the war Macaulay had described in her novel.

Black Nightshade

Solanum nigrum
September 2020
Growing between paving slabs, Black Prince Estate, Lambeth.

Figure 2

Sparsely to densely hairy, erect to decumbent annual to 70cm; leaves entire to coarsely dentate; flowers (3)5-10; corolla white; fruit black, rarely green slightly depressed globose, 6-10mm across. Native; waste and cultivated ground.[18]

Although published in Fitter's book, this list was in fact compiled by the botanist E.J. Salisbury who became Director of Kew Gardens in 1943, following an academic career informed largely by field study. Monitoring this plant growth in 1942, Salisbury found a total of 95 types of vascular plant on bombed sites where previously there had been no vegetation growing.[19] Seventy years on, many of the flowering plants that Macaulay and Salisbury observed as novelties now grow wild throughout London. In

Figure 2
Author's image, *Black Nightshade, September 2020.*

the spring of 2020 during the first Covid-19 lockdown in the United Kingdom I began to take notice of the plants that were growing spontaneously around the streets of inner South London where I live, and I began to collect and photograph specimens of those plants which had thrived in the bombsites.

Beginning this collecting during a period of lockdown and without access to the archives which as a historian I would normally work with, I began to ask if these plants could be considered an archive of sorts. What does it mean and what does it do to approach these plants, which grew on account of the bombings in World War II and which grow now in London's contemporary landscape, as an archive?

The Flora and the herbarium are two forms from which this essay departs. A herbarium is a collection of plant specimens which have been pressed and arranged into an archive. In a translation of this practice, I have instead photographed the plant specimens that I collected, whilst maintaining the visual conventions of herbaria presentation. A small number of the plants collected on frequent walks are included here. Locations were recorded or recalled at varying scales (or not at all) and they trace walks in the Boroughs of Southwark, Lambeth, Lewisham and into the City of London. The text which these photographs accompany takes its cue from a "Flora" meaning a treatise on or list of the plants of a given area or period.[20] A Flora's remit can be to record all species present in a region[21] or its agenda can be "historical," i.e., to compile a list of all species known to have been recorded in that region since a given date, whether those species remain present or not.[22] In this essay, the Flora's main structuring principle – as a list of species – has been adopted. However, this essay presents a Flora of a different kind, and it makes no attempt to be exhaustive. Its reach remains geographical, but its concern is also one of time. What it locates is the flora of a past landscape now found in the present landscape; a collection of flora marked by and produced by one moment in time now found in and forming a continuity with another moment in time.

Both the Flora and the herbarium are epistemic objects and practices which have been used to construct knowledge about the world through botanical classification. What is collected here, through text and photography, might be understood as a "plantarium"; a term coined by the feminist philosophers Marianna Szczygielska and Olga Cielemęcka and which purposefully "shares kinship with herbarium."[23] A plantarium takes its departure from the herbarium, and here the Flora, by inviting alternative critical forms and commentary through which to think botanical relations.[24]

Buddleia
Buddleia davidii
September 2020
Debris broken bricks and concrete on demolition site. Peckham, Southwark.

Figure 3

Shrub to 5m *with* long ± arching branches; leaves opposite, lanceolate to narrowly ovate; flowers usually lilac, sometimes purple or white, in long pyramidal dense panicles borne on current year's wood; (2n = 76). Intrd-natd; in waste ground, walls, banks and scrub.[25]

Rose Macaulay had written of a landscape that was "wilderness" like, thus evoking an uncultivated region. However, the bombsites were anything but a landscape untouched by human activity. What arose in the bombsites was a complicated new nature which thrived precisely because of the topographies created by bombing. E.J. Salisbury described some of these new conditions in the journal *Nature* in 1943.[26] He observed areas that had become newly open to sunlight following the destruction and clearance of buildings and where the open matrix of brick rubble provided an opportunity for plants' root systems to spread. After the event of bombing, the broken and burnt materials of buildings settled as a nutrient rich layer of ash that fed establishing plants and in other locations newly burnt ground that was toxic to many plants offered ideal conditions for others to dominate.[27]

Most often the plants that Salisbury found had previously occurred on the edges of London and following the bombings found suitable conditions in which to grow and propagate. Salisbury observed that birds, animals, and pedestrians played some part in the spreading of seeds in the bombed areas. Yet he also noted that the distance of migration of these "highly specialized seeds" was greatly increased by the upward convection currents of hot air.[28] Such convection currents are created when patches of soil are heated by the sun. At the time of Salisbury writing, he could comment that convection currents over London often reached 500 feet and sometimes heights of many thousands.[29] Whether the fires that burned in the immediate aftermath of bombing were amongst such agents of mobility Salisbury does not specify. In Salisbury's account, wind was the primary dispersal method which spread seed into and across London, but it was the topographic conditions produced by bombing which led to it settling and germinating where it had not done before.[30]

Buddleiia davidii grows in calcium rich soils. As buildings were broken by bombing, calcium rich mortar from brickwork provided conditions in which the plant could thrive by remedying the deficiency of calcium in the London clay.[31] Like many of the bombsite plants *Buddleiia davidii* is not native to London, although self-sown specimens now grow abundantly throughout the

Figure 3
Author's image, *Buddleia*, September 2020.

city.[32] *Buddleiia davidii* was the only garden plant that Salisbury recorded on the bombed sites where he found it at a "considerable distance from possible sources of seed."[33] Salisbury described how the plant's "ripe capsule contains a number of very light seeds in which the body is minute whereas the seed coat is extended as a flattened wing at each end."[34] With this light and mobile form, the seeds of the plant could be borne distances across the city to settle and germinate on appropriate ground.

White Goosefoot

Chenopodium album
August 2020
Growing in broken tarmac.
Camberwell Road near Kitson Road, Southwark.

Figure 4

Plant *variably* mealy; stems erect to ascending, often reddish-purple suffused or in axils, to 1.5m; leaves lanceolate to ovate, trullate or triangular, + entire to shallowly lobed or toothed; tepals with moderate to indistinct keel abaxially; testa ± smooth to weakly radially furrowed or rarely with weakly prominent reticulate ridges; 2n = 54. Native; waste and cultivated ground.[35]

Salisbury observed the bombsite flora in preparation for his 1943 *Nature* article published three years into the bombing of London. However, perhaps the most sustained study of London's bombsite flora was conducted under the direction of the botanist F.E. Wrighton and reported in the annual proceedings of the *London Naturalist*.[36] Beginning in 1947, two years after the end of the war in Europe, and continuing until 1958 Wrighton and colleagues surveyed an area of 1/8 square mile in the bombed-out area around St Giles Cripplegate within the City of London. Wrighton's site has since been built upon and sits at the southern edge of the Barbican. Designed by Chamberlain, Powell and Bonn to redevelop a vast area of bomb damage and completed in 1976, the Barbican has been placed firmly within a discourse of British "postwar" architecture. To visit today, one can locate the wartime landscape in occasional instances of Salisbury's recorded species growing amongst tiles on the estates' high walks including *Senecio squalidus* (Figure 1) and *Anagallis arvensis* (Scarlet pimpernel).

On the topography of the bombsites Salisbury had written that "Many such areas present ruined houses of such a character that there is little or no exposed soil on which plants can grow."[37] Wrighton observed this lack of soil and the alternative materials in which plants took root, writing that "nearly all the plants are rooted in building material in one form or another."[38] The topographic conditions which created these new habitats, and the extent to which these conditions were architectural, or resulted from a landscape of architectural destruction, is revealed in a set of illustrations published in the 1950 report on the Cripplegate site. The drawings identify six habitats within the site (Figure 5). Their naming is informed by the bombsite's architecture of destruction: basement floor, wall, rubble bank and hard rubble. The final two habitats – "garden" and "water" – accounted for small previously cultivated areas of garden remaining in the area and the presence of water tanks for fighting the fires created by incendiary bombs. These drawings show how the

Figure 4
Author's image, *White Goosefoot*, August 2020.

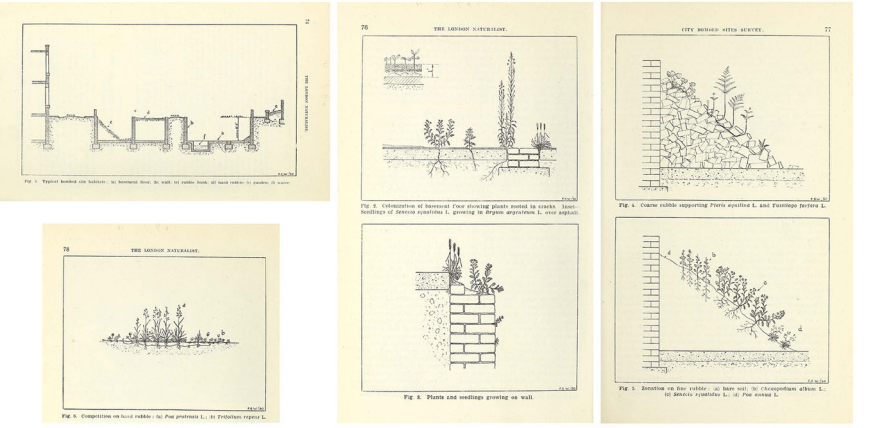

Figure 5
Wrighton, "Plant Ecology at Cripplegate 1950." *London Naturalist*, 78-79.

materials of the city moved from the scale of buildings to debris and dust in the formation of a substrate on which the bombsite flora grew. The drawings show wall surfaces where "very little soil is present but small plants [...] were to be seen, rooted in the accumulated dust."[39] *Chenopodium album* (White Goosefoot) was found to grow in "fine rubble" where it was able to draw moisture by means of its extended root system. *Senecio squalidus* (Oxford Ragwort) and other plants took root in the cracks of floors and modified the habitat by casting shade and conserving moisture: conditions which enabled several other plants, including *Marchanita polymorpha* (Common Liverwort) to become established underneath. At the bottom of a rubble slope were scattered plants of *Poa annua* (Annual Meadow Grass) which had been produced from seed blown along the floor of a basement, newly exposed."[40]

Wrighton's article was titled "Plant Ecology at Cripplegate" and what the illustrations describe is an ecology of the bombsites which at a small and local scale was an ecology of war. In a lecture given to the British Association in 1904, the botanist Arthur Tansley whom Salisbury would later study under "described how the global distribution of plant species, far from being mixed haphazardly, was arranged in geographical aggregates" which were "the result of perfectly definite and ascertainable, though of immensely complex causes."[41] Ecology was the name that Tansley used to describe the study of these aggregates or plant associations and to "the species and individuals comprising them, and their relations to one another and to their common environment."[42] Tansley's ecology came in the wake of Ernst Haeckel's *öekologie* which in the previous decades had come to describe the science of the relationship of an organism to its environment. To understand the bombsite ecology as an ecology of war; of such "immensely complex causes" is to engage with what the environmental historian Jason Moore refers to as "world-ecological

thinking"; this is "not the ecology of Nature – with uppercase N – but the ecology of the *oikeios*" in which "species make environments and environments make species."[43]

Gallant Soldier

Galinsoga parviflora
August 2020
Peckham Road, Southwark.

Figure 6

Stems erect to ascending, to 80cm, glabrous or sparsely pubescent; peduncles rather sparsely pubescent with glandular and eglandular hairs c.02mm; receptacular scales mostly distinctly 3-lobed, the central lobe the largest; pappus scales fringed with hairs, without a terminal projection; 2n = 16. Intrd-natrd; well natd weed of cultivated and waste ground.[44]

Figure 6
Author's image, *Gallant Soldier*, August 2020.

"History" and "nature" have been normatively thought of as distinct. Whereas "history" has been understood to refer to the progression of social history and social processes,[45] nature has been understood to describe matter and phenomena that exist independent of human activity, that are ahistorical and which proceed as a series of events without active agents.[46] As Dipesh Chakrabaty has written, this tendency has extended to historians often denying that nature has a history.[47]

With reference to the earth system, Moore makes the distinction between "basic facts" and "historical facts." For Moore, geology is a "basic fact." He gives the example of coal – a "rock in the ground" – as a basic fact.[48] Extracted and put to use as a fossil fuel, however, coal becomes a historical fact. "Geology is a 'basic fact'; it becomes a 'historical fact' through the co-produced character of resource production, unfolding through the human/extra human nexus: the *oikeios*."[49] Moore proposes this *oikeios* as distinct from the binary thinking that has constructed nature as separate from culture, which we can extend to the binary referred to by Chakrabaty: that which has constructed natural history as distinct from human history.[50] In this binary, for Moore, "Nature" describes "ecologies without humans" and "Humanity" describes "human relations without ecologies."[51]

As Chakrabaty has detailed, it is anthropogenic climate change and the concept of the Anthropocene that has most recently challenged the binary distinction of the natural and the cultural. It is these phenomena which have most directly posed a challenge to historical thought and collapse any "age old humanist distinction" between human history and natural history.[52] Geoscientists look for markers in the earth's stratigraphy that might serve as evidence of the Anthropocene epoch. The earth altering crescendo to the bombings of World War II – the nuclear bombs at Hiroshima and Nagasaki – might be such signals.[53] Their evidence in the earth's strata are geological facts. And they are *historical* facts like the facts of the US Pacific nuclear testing regime which linger now in the earth and in bodies.[54]

A plant is a biological entity and, as Jason Moore would describe it, is a "basic fact."[55] It is "the co-produced character" through the "human/extra-human nexus: the *oikeios*" that moves a basic fact to become a "historical fact."[56] Subjected to selective cultivation, purposeful hybridization and global transplantation through human migrations and colonial and imperialist activities, it is evident that a plant becomes a "historical fact." A plant is a biological entity but by appearing in a landscape as a result of that landscape's transformation by the human violence of war it is evident that a plant is a "historical fact."

Canadian Fleabane

Conyza canadensis
September 2020
Everywhere.

Figure 7

Stems erect to, to 1m, green, rather sparsely hairy; capitula 3-5mm wide at fruiting; disc flowers 4-lobed; ligules c.0.5-1mm; pappus yellowish-white; 2n = 18. Intrd-natd; waste and rough ground, by railways, on walls, waysides and dunes on well drained soils.[57]

Figure 7
Author's image, *Canadian Fleabane*, September 2020.

Writing in 1949 Salisbury sought to emphasize that "the mode of occurrence and distribution of plants in Britain, as in any other area, is the outcome of a combination of circumstances both historical and environmental."[58] He illustrated through selected examples how populations of plant species in Britain had spread and established influence not only by Britain's "elaborate pattern of soils and climate" but also "under the historical influence of man."[59] Amongst the examples given were *Erigeron canadensis* (Canadian Fleabane) which Salisbury had recorded as occurring on 40 percent of the bombsites he surveyed.[60] Although its introduction to Britain could be dated to the 1600s and its initial agent of spread was both the railway and the introduction of a suitable habitat through the construction of railway embankments, the narrative of *Erigeron canadensis'* increasing spread was attributed to the bombsite habitats. As Salisbury wrote, "[t]he vast populations on the bomb sites of the last world war have been accompanied by its wider spread and continuing occupancy."[61] Similarly, in charting the history of *Buddleiia davidii* Moa Carlsson has observed how its presence "increased significantly" after 1940, that is after German bombardment of those cities – in which it now grows in profusion – began.[62]

The ecologist O.L. Gilbert has described how the bombsite habitats acted as a catalyst for the plants which appeared there to "become permanent members of the urban flora" in cities which had been bombed, "where previously they had often been [...] rare."[63] When encountering a bombsite plant growing spontaneously in London today we cannot know whether or not it had once grown in that location or nearby as a product of the bombsite conditions, but we can understand that these landscape conditions contributed to the establishment of these species. The bombsite topography itself has long been cleared and built upon, but its flora remains. We might therefore understand the bombsite plants encountered today as "remnant species" of this previous landscape condition. Moritz von der Lippe, researcher and writer on ecology, proposes that spontaneous vegetation (that is, not intentionally planted) can present historical documents of land use and change. For der Lippe, remnant species, contemporary specimens of species that were previously present on a given site, have a testimonial value by which they are able to reveal past conditions of a given landscape site.[64] But we might consider other less direct ways that the contemporary occurrences of the bombsite species may be considered an archive, how they can hold this testimonial value, and how these historically defined species provoke thinking on temporality and historical time.

Bramble

Rubus fruticosus
June 2020

Figure 8

Stems *procumbent* to arching, (potentially) rooting at tips, with well-developed prickles and varying quantities of pricklets, acicles stalked glands and hairs; roots not producing suckers; leaflets (3)5(-7), usually not overlapping, the basal ones stalked; stipules linear-filiform;

Figure 8
Author's image, *Bramble*, June 2020.

flowers in compound or racemose inflorescences, white to pink or red, fruit black, without glaucous bloom. Native; all sorts of habitats both natural and man-made, but much less common on calcerous soils.[65]

In Rebecca Solnit's book *Orwell's Roses,* she recounts a visit she made in San Francisco to see the eucalyptus trees that had been planted in the 19th century by Mary Ellen Pleasant, a Black woman who had been born into slavery and who had campaigned for civil rights. The trees had been planted over 100 years before Solnit visited them and they remain, although the wooden mansion in which Pleasant had lived does not. Solnit writes,

> The trees made the past seem within reach in a way that nothing else could: here were living things that had been alive in her lifetime, were in ours and might be after we were gone. *They changed the shape of time*.[66]

Solnit reflects on this as a *saeculum*, an Etruscan word which describes by its loose interpretation "the expanse of time during which something is in living memory."[67] For Solnit, "every event has its saeculum."[68] She gives the example of the *saeculum* of the Spanish civil war, passing once the last person who fought in it has died; or she suggests that of an obsolete technology. We might say cannon fire in war, its *saeculum* ending when the last person to have seen its murderous power on a battlefield has passed. The eucalyptus Solnit saw in San Francisco suggested trees as "another kind of saeculum, a longer time scale and deeper continuity."[69] Solnit's is a *saeculum* that is defined not by the timescale of a human life, but by a botanical temporality.

Black Horehound

Ballota nigra
September 2020
Brandon Estate around Draco Street, Walworth.

Figure 9

Erect herbaceous perennial to 1m, with unpleasant smell when bruised; leaves petiolate, ovate, acute to subacute at apex, subcordate to broadly cuneate at base, serrate; calyx with long acuminate teeth; corolla 9-15mm; 2n = 22. Archaeophyte: hedgerows, waysides, rough ground.[70]

In Salisbury's archive at Kew, there is a graph drawn by him which shows the frequency of selected bombsite flora in relation to the weight of its seed or fruit and in relation to the rate of fall in still air. It is a visually

Figure 9
Author's image, *Black Horehound*, September 2020.

suggestive document; each "X" scattered across the squared page can be imagined as a seed moving through the air of London to settle on the rubble, truncated walls and open ground below (Figure 10). Fertile flowering plants propagate by way of seed in a chain of ancestry in which plant begets plant. The trees Solnit saw had lived long lives to spread across her lifespan and a time before that. The plants that Salisbury found in the bombsites released their seeds and, from these, the plants

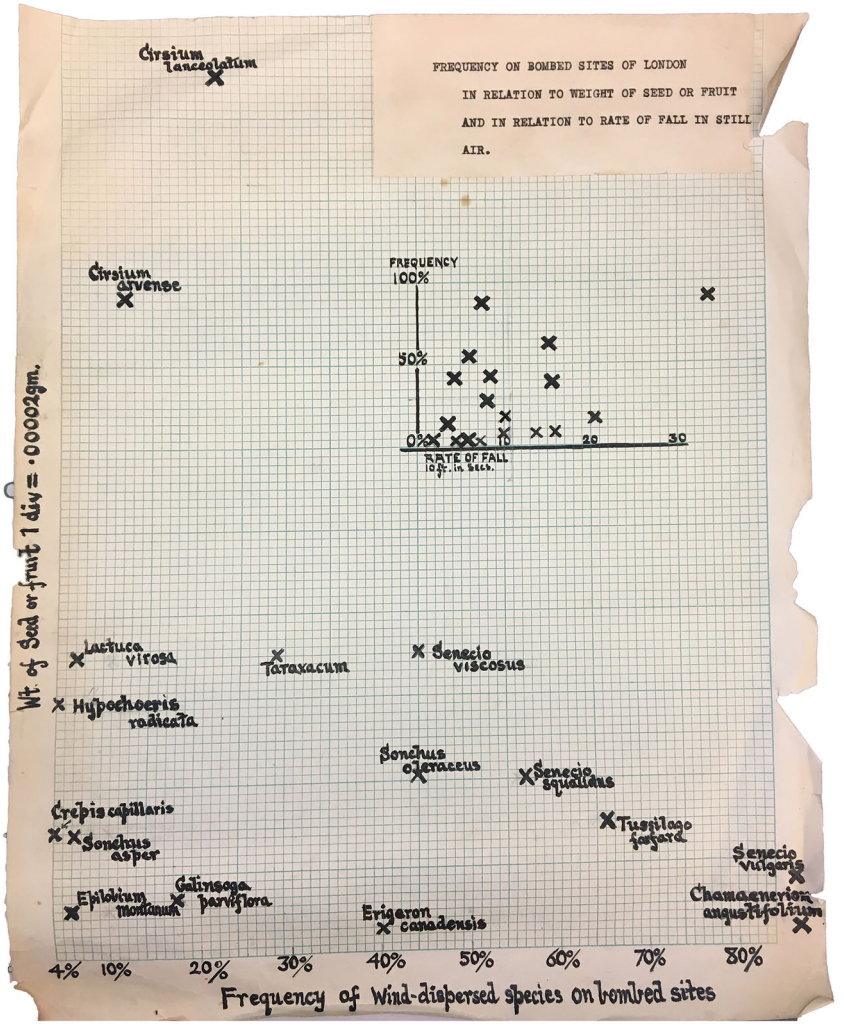

Figure 10
E.J. Salisbury, "Frequency on Bombed Sites of London in relation to Rate of Fall in Still Air." Sir Edward Salisbury Papers: "PRP 87-0073" BOX 13. Image reproduced with the kind permission of the Board of Trustees of the Royal Botanic Gardens, Kew.

repeated and continued. Solnit's saeculum and her trees help to articulate an aspect of what it is about the bombsite species growing in London now that appear archive-like, that carry something of the past into the present.

When the seeds of Black Horehound traveled across London in the late summer of 1942, the year in which Salisbury made his observations, they settled in appropriate ground, germinated and grew into new plants which released their seed. The saeculum of these plants through their progeny remains perpetually. As has been observed, the bombsite conditions led to the profusion and establishment of plant species that were less common in London before wartime bombing. Attention to these plants as historical facts of the bombed landscape allows us to think across time and to locate the otherwise absent wartime landscape in experiences of the contemporary city. Attention to contemporary occurrences of the bombsite species opens a *saeculum*

where, through their progeny, the plants of wartime continue to flourish in the city. With each plant's new life cycle, they make a historic moment always present. Attention to these plants finds the persistence of the past in the present and changes the shape of time.

Creeping Thistle

Cirsium arvense

Perennial with long rhizomes and erect stems to 1.2m; stems leafy to top, not winged; leaves scarcely to rather deeply lobed, usually strongly spiny; capitula 1-2.2 x 0.8-2cm (excl. flowers); flowers purple; 2n = 34. Native; grasslands, hedgerows, arable, waste and rough ground.[71]

Collecting and photographing the plant specimens as I have done prompts a reflection not only on the status of these plants as historical evidence but also on the evidentiary status of the photograph. During the Covid-19 lockdown I had been waiting to access Salisbury's slide archive to see the photographs that he created during his field studies. I had not known that this collection ends in 1938 and that there are therefore no known photographs taken during his bombsite field studies. I was also unaware that the photographs I had been making, of plants suspended

Figure 11
E.J. Salisbury, "Waste ground, Rubbish Heaps, etc.: *Cnicus setosus*" (Contemporary: Cirsium arvense). Reproduced with permission of the British and Irish Herbarium at the Natural History Museum.

against the blank white ground of a lightbox, were akin to the "plant portraits" that were a part of Salisbury's photographic practice.[72] Salisbury's photographs show individual specimens which he picked and placed isolated in front of a pale background (Figure 11). Why did he photograph the plant specimens in this way? Did he also have in mind the isolated herbarium specimen? These herbaria-like photographs authenticate the plant's occurrence whilst suspending the specimen between the necessary death of collecting it, and the life of the plant which continues in the growth of its descendent specimens elsewhere.

Sow Thistle

Sonchus oleraceus

Harper Road, Elephant Castle. Growing at the base of a wall built from bomb rubble. Formerly Chaucer School, Chamberlain Powell and Bonn, 1958. September 2020

Figure 12

Stems erect, to 1.5m, usually glabrous except glandular-hairy below capitula; leaves variously divided, the middle ones usually deeply pinnately lobed; phyllaries usually glandular-hairy, often also woolly at first; achenes 2.5-3.75mm, variably c.8-12-ribbed; 2n = 32. Native, waste and cultivated ground, roadsides.[73]

Had Salisbury photographed the bombsite plants, either in context or as isolated specimens then mine might be a practice of re-photography. A practice that is described by Bergit Arends as "driven by notions of archival fidelity. The photographic freezing of moments in time allows for detailed observation and comparison of a subject in transformation."[74] In re-photography the aim is a re-creation of an original image or its conditions as closely as possible so that comparison can be made across the original image and its re-creation. Roland Barthes wrote how photography authenticates the "what has been."[75] For Barthes, the photograph states that something "was there" and is now in the past. Such a practice of re-photography operates on this shape of time and must therefore record a separate moment if its purpose of comparison over time is to be satisfied. How could one instead photograph a *sæculum*, a stretch of time which contains change but is delineated by continuity? Writing on the capacity of the visual to "unsettle our sense of being in time" Henrietta Gunkel and Ayesha Hameed point out that stillness is not the same as a lack of duration.[76]

This plant was there, and this plant is here. This plant was there then, and it is still here now. What does that do to Barthes's formulation of photographic time; to the "what has *been*" of the photograph? Ariella Aïsha Azoulay writes extensively on photography and it is through this that she has developed her thesis on the refusal of the historian's

Figure 12
Author's image, *Sow thistle*, September 2020.

normative apparatus: of periodization, of the idea of pastness, and through which she develops an ontology of the documents with which historians might work. Azoulay is critical of Barthes' formulation, which ascribes that which is depicted in the photograph as its stable and "sovereign" subject.[77] Azoulay proposes instead that a photograph need

not be bounded by what has been captured within the frame of the image, refusing "the positivist and evidentiary frameworks through which scholars typically work with photographic images."[78] Writing on photography as historical evidence and reflecting on photographs of Berlin taken after the Allied bombings, Azoulay is critical of what she refers to as "imperial scopic regimes" which privilege what is seen within the photograph.[79] This is about challenging the facticity of the photograph not only to be critical of what it apparently shows but to tune attention to the photograph's excess: to what it does not record or of the conditions which might be traced outside of the photograph. Such an excess to be traced outside of the photograph might be amongst other things an excess that is temporal.

Field Poppy

Papaver rhoeas
A cluster growing in an empty tree pit on New Cross Road, Lewisham. Nearby 168 people were killed and 123 were injured by a V2 rocket in November 1944.[80]
May 2021

Figure 13

Erect annual to 60(80)cm; latex usually white, sometimes yellow; pedicles usually with patent hairsbut sometimes with black botch at base, sometimes white, pink, mauvish or variegated; anthers bluish-black; capsule ≤20mm, obovoid white, pink, mauvish or variegated; anthers bluish-black; capsule <20mm, obovoid to subglobose, glaborous; stigma (5)8-12(18)-rayed, at least as wide as capsule; 2n = 14. Archaeophyte; arable ground, roadsides and waste places.[81]

As Salisbury and Gilbert observed, the landscapes produced by war led to the new or increased establishment of numerous plant species in bombed cities. The bombsite topographies described by Wrighton lingered for decades across London and now little evidence can be found apart from the postwar building, and successive phases of redevelopment that occupy these spaces. The continuation of these plants in the contemporary London landscape no longer remains contingent on an ecology of war and their growth in the city is now perhaps unremarkable. It is a cliché to look upon the bombsite flora as new life that sprouted from destruction. As a legacy of this landscape, it is unproductive to assign these plants a sentimental memorial function so commonly carried by certain flora. The bombsite flora must be understood as a nature that was historically specific, as an outcome of the complex micro and macro events which produced these violent landscapes. We may choose therefore to look upon this plant growth

Figure 13
Author's image, *Field poppy,* May 2021.

as a complicated object of historical evidence; as a "historical fact" produced by the bombsites' ecology or *oikeois*. In a recent volume on evidence and narrative in architectural history the editors ask, "[w]hat counts as an archive, that is, the privileged site where evidence can be found?"[82] They argue that such consideration of historical epistemology is important as a "necessary mooring" for the "criticality of our engagement

with the present."[83] What is offered by paying attention to these species and maintaining a view of them as historical facts of the bombsites and of the violent conditions that produced them?

The "postwar" architecture and development of London which came to replace the destruction of wartime makes the conditions of this violent landscape absent in contemporary experiences of the city and places this landscape in our historical past. Yet attention to the bombsite flora is a means by which to connect this past landscape with that of the present. "Postwar" is in itself a historical construction that has been repeatedly re-produced in architectural history. Architectural historians have paid a considerable amount of attention to the rebuilding of cities after 1945. As Jean Louis Cohen observed, the study of "postwar" reconstruction has "become a quasi-autonomous domain of the history of architecture and town planning."[84] Yet, as Antony Vidler lamented in the essay "Air War and Architecture," with reference to this postwar discourse and specifically within British architectural history, "the only mention of the war as an effect on architecture occurs in the always optimistic phrase 'post-war reconstruction'."[85] More sustained questions might be asked regarding what is understood through the phrase "postwar." Writing on the processual and lingering violence of environmental damage Rob Nixon quotes the political and ethical philosopher Kwame Anthony Appia who has asked "Is the post- in Postcolonial the post- in postmodern?"[86] Nixon responds, "As environmentalists we might ask similarly searching questions of the "post" in postindustrial, post-Cold War, and post-conflict."[87] Nixon's response is "as environmentalists" but this is a question that also comes to bear on the "post" in the architectural historian's "postwar."

In the book *Potential History: Unlearning Imperialism* Azoulay appeals to the historian to refute the constructed periodization of the "postwar," suggesting as it does that "war" ended in 1945. Such a suggestion is, for Azoulay, amongst the ways that what she refers to as "imperial violence" may be refused. Amongst this imperial violence she counts the accepted periodization of time that has been applied and maintained by the historian. She suggests that:

> [U]*nlearning the divisions of time and space*, and the differentiations within populations instituted by imperialism and reproduced through nation states, *is one way to resist conventional periodization*, regional demarcations, and other *classifications that have become operational as parts of various imperial formations* (*for example*, the French Revolution, liberalism, neoliberalism, the war on terror, *the end of World War II*, the cold war, economic crises, refugee crises).[88]

On the refusal of the postwar as a historical construct Azoulay observes that, "the violence still exists and there is no such thing as a 'postwar' world."[89] How might such constructions of time and

periodization be unlearned? Amongst the possibilities might be attention to other temporal structures, such as that of botanical time thought through the *sæculum* of London's bombsite plants.

The bombsite plants have been considered here as an archive of the city and of the landscape. Attention to the contemporary occurrences of this flora can be understood, as observed above, as belonging to a question of epistemology in which historiographical practice is motivated by a critical engagement with the present. This might arise through a consideration of evidence and of the nature of historical facts, and through a reflection on the temporalities that are produced and can be critiqued through the inclusion of such an archive. Understood as historical facts, the contemporary occurrences of London's bombsite plants can prompt reflection on what histories we may share in, by understanding our own locality in a moment of violence – even if that is held to be in the historical past.

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Notes

1. Violet Latham, "The Flowers That Bloom in the City," *The Star*, August 23, 1944.
2. See for example Literary scholar Leo Mellor's reading of the presence of the

bombsite flora within Rose Macaulay's writing as expressing a "hope in resurgent organicism" while exploring "violent loss," pain and mourning. See chapter "The New London Jungle," in Leo Mellor, *Reading the Ruins: Modernism, Bombsites and British Culture* (Cambridge: Cambridge University Press, 2011), 166–202. Gabriel Moshenska describes the bombsite plants as a "symbol, a celebration and a cause of [...] disorder and fertility" which he likens to children's playful inhabiting of the bombsites. Gabriel Moshenska, *Material Cultures of Childhood in Second World War Britain* (Abingdon: Routledge, 2019), 10. In the immediate aftermath of the war an analogy of healing was attributed to the bombsite plants in public rhetoric as evident in British Pathé, *Blitz Flowers* (UK, 1946), Available online: https://www.youtube.com/watch?v=6n0EwwHwA4A. Richard Mabey refers to a lecture given by Salisbury in 1945 on the bombsite plants. This was covered as a headline story in the *Times* newspaper and Mabey speculates that it may have been given this precedence due to the subject's metaphorical suggestion. Yet Mabey suggests (in notably violent and militaristic language) that "there are few indications of how Londoner's felt about this invasion of their violated city. Did they see it as a kind of healing, a symbol of the resilience of life in the face of adversity? Or feel that insult was being added to very real injury?" Richard Mabey, *Weeds* (London: Profile Books, 2010), 24–5. Seth Denzien's chapter on the flora of London's bombsites shares my aim in thinking about the bombsite flora not as an allegory for healing or rebirth. Denzien cites Salisbury's 1943 article and his 1945 lecture to suggest that the allegory that should be read from the bombsite plants is to see London from the plant's perspective, and that to do so reveals the bombsite flora as the flora of modernity and its processes. Seth Denzien, "The Flora of Bombed Areas (An Allegorical Key)," in *The Botanical City*, ed. Matthew Gandy and Sandra Jasper (Berlin: Jovis, 2020), 38–45. This paper differs to Denzien's study, I propose the bombsite flora as historical facts which are indexical to the conditions of war. I locate the bombsite flora within the contemporary landscape and reflect on the status of these plants as historical evidence and in time. Here I look at Salisbury's archive directly and examine Wrighton's work, notably the publication discussed below in which Wrighton carefully accounted for the production of micro habitats in the bombsites and patterns of succession.

3. Maria Thereza Alves and Wilma Lukatsch, "Further Exercises in Decolonizing One's Imagination: Weaving Common Ground," in *Maria Thereza Alves: Seeds of Change*, eds. Carin Kuoni and Wilma Lukatsch (Amherst, MA: Amherst College Press, 2022), 5.
4. Ibid., 8.
5. Christina Fredengren, "Thinking with Soil in Heritage Matters," *Landscape Research* (November 2024): 2. DOI:10.1080/01426397.2024.2424601
6. Ibid.
7. Jason Moore, "The Rise of Cheap Nature," in *Anthropocene or Capitalocene? Nature, History and the Crisis of Capitalism* (Oakland, CA: PM Press, 2016).
8. See David Edgerton, "Why the Coronavirus Crisis Should not be Compared to the Second World War. Military Analogies are Fuelling Myths and Fantasies about The UK's Wartime Experience," *New Statesman*, April 3, 2020. Available online: https://libguides.westsoundacademy.org/c.php?g=457482&p=3155556 (accessed August 28, 2020).
9. Elaine Ayers, "Marking Time in Nature: The Quarantine Herbarium in Historical Perspective" (online lecture, Wagner Free Institute of Science, Philadelphia, PA, July 8, 2020).
10. Moritz von der Lippe, "Vegetation as Testimony: Botanical Traces of the Urban Past," in *The Botanical City*, eds.

Matthew Gandy and Sandra Jasper (Berlin: Jovis Verlag, 2020), 46–53.

11. Ariella Aïsha Azoulay, *Potential History: Unlearning Imperialism* (London: Verso, 2019), 379.
12. Colin Stace, *The New Flora of the British Isles,* 4th ed. (Cambridge: Cambridge University Press, 2014), 764.
13. Rose Macaulay, *The World my Wilderness* (London: Virago, 1983), 53. First published in 1950 by William Collins. Macaulay's novel follows its protagonists as they explore bombed out spaces primarily within the City of London, the "square mile" to the east of Westminster on the north bank of the Thames. The City is not a London borough but an administrative division of Greater London.
14. Laurence Ward, *The London County Council Bomb Damage Maps 1939-45* (London: Thames and Hudson, 2018), 33.
15. R. S. R. Fitter, *London's Natural History* (London: Collins, 1945), 230.
16. Ibid., 228.
17. Ibid., 265–8. A total of 125 species are listed as identified in the bombsites by Salisbury.
18. Stace, *The New Flora of the British Isles*, 576.
19. E. J. Salisbury, "The Flora of Bombed Areas," *Nature* 151, no. 3834 (April 1943): 464.
20. The noun "flora" refers to the collective plant life occurring within a region or habitat, whereas the capitalized form "Flora" most often refers to the documentation of a flora.
21. For example: Stace, *The New Flora of the British Isles*. Stace's Flora includes all native species that have been recorded in the British Isles and all non-native species that have been recorded since the previous edition (1999), the aim being to represent the present flora of the British Isles.
22. For example: Douglas Kent, *The Historical Flora of Middlesex: A Supplement to the Historical Flora of Middlesex: An Account of the Wild Plants Found in the Watsonian Vice-County from 1548 to the Present Time* (London: The Ray Society, 2000). Kent's Flora lists all taxa known to have been recorded within the Watsonian vice-county of Middlesex since 1548, its remit is therefore accumulative rather than a list of only current flora.
23. Marianna Szczygielska and Olga Cielemęcka, "Plantarium: Human-Vegetal Ecologies," *Catalyst: Feminism, Theory, Technoscience* 5, no. 2 (2019). Available online: https://doi.org/10.28968/cftt.v5i2.32875.
24. Ibid., 9.
25. Stace, *The New Flora of the British Isles,* 611.
26. E. J. Salisbury, "The Flora of Bombed Areas," *Nature* 151, no. 3834 (April 1943).
27. Ibid.
28. Ibid., 465.
29. Ibid., 465.
30. Ibid., 464.
31. Moa Carlsson, "Blitzweed: The Rise and Fall of Buddleia Davidii in England (1896-2008)," *Studies in the History of Gardens and Designed Landscapes* 37, no. 1 (2017), 90; Salisbury, "The Flora of Bombed Areas," 463.
32. Carlsson, "Blitzweed." It is documented that a specimen was brought from China to Kew Gardens in 1896 and soon became popular as a garden plant. It was first recorded as growing wild in the British Isles in 1922 when wind borne seeds from collected specimens took root beyond garden boundaries.
33. Salisbury highlighted Buddleia as an exception. The seed of most of the plants that he observed travelled relatively limited distances and so their successive spread through the city was slower than plants such as Buddleia or Rosebay willowherb (*Epilobium angustifolium*) which also produces many light wind borne seeds.
34. Salisbury, "The Flora of Bombed Areas," 464.
35. Stace, *The New Flora of the British Isles*, 486.
36. James Whittaker, an amateur botanist, collected several thousand specimens from bombsites and presented these to the British Museum as a herbaria (now held in the Natural History Museum, London). The high number was due to the repetition of species. This is an

important resource, but the study of Cripplegate reported in the London Naturalist is understood here as more sustained as it examined the bombsite plants over a longer period and considered them ecologically in relationship to each other and to their environments.

37. E. J. Salisbury, "The Flora of Bombed Areas," 462.
38. F. E. Wrighton, "Plant Ecology at Cripplegate 1950," *London Naturalist* 30 (1950): 41.
39. Ibid., 75.
40. Ibid., 78.
41. John Sheail, *Seventy Five Years in Ecology: The British Ecological Society* (Oxford: Blackwell, 1987), 16.
42. Ibid., 18.
43. Jason Moore, "The Rise of Cheap Nature," in *Anthropocene or Capitalocene? Nature, History and the Crisis of Capitalism* (Oakland, CA: PM Press, 2016), 79.
44. Stace, *The New Flora of the British Isles*, 776.
45. Moore, "The Rise of Cheap Nature," 4.
46. Dipesh Chakrabarty, "The Climate of History: Four Theses," *Critical Inquiry* 35, no. 2 (2008): 203.
47. Ibid., 201.
48. Moore, *Anthropocene or Capitalocene*, 95.
49. Ibid.
50. Ibid., 79.
51. Ibid.
52. Chakrabarty, "The Climate of History," 20.
53. C. Waters et al., "Can Nuclear Weapons Fallout Mark the Beginning of the Anthropocene Epoch?," *Bulletin of the Atomic Scientists* 71, no. 3 (2015): 46–57. https://doi.org/10.1177/0096340215581357.
54. S. Simon, A. Bouville, C. Land, and H. Beck, "Radiation Doses and Cancer Risks in the Marshall Islands Associated with Exposure to Radioactive Fallout from Bikini and Enewetak Nuclear Weapons Tests: Summary," *Health Physics* 99, no. 2 (2010): 105–23.
55. Moore, *Anthropocene or Capitalocene*, 95.
56. Ibid.
57. Stace, *The New Flora of the British Isles*, 746.
58. E. J. Salisbury, "The Spread of Plants in Britain," *The New Naturalist No. 5: Birth Death and the Seasons* (1949): 25.
59. Ibid.
60. R. S. R. Fitter, *London's Natural History* (London: Collins, 1945). The plant has since been reclassified as belonging to the genus *Conyza* and is known as *Conyza canadensis*.
61. E. J. Salisbury, "The Spread of Plants in Britain," *The New Naturalist No. 5: Birth Death and the Seasons* (1949): 27.
62. Carlsson, "Blitzweed," 90.
63. O. L. Gilbert, *The Ecology of Urban Habitats* (London: Chapman and Hall, 1989), 180.
64. Moritz von der Lippe, "Vegetation as Testimony: Botanical Traces of the Urban Past," in *The Botanical City*, eds. Matthew Gandy and Sandra Jasper (Berlin: Jovis Verlag, 2020), 46–53.
65. Stace, *The New Flora of the British Isles,* 247.
66. Rebecca Solnit, *Orwell's Roses* (London: Granta, 2021), 6. My emphasis.
67. Ibid., 6.
68. Ibid.
69. Ibid.
70. Stace, *The New Flora of the British Isles,* 617.
71. Ibid., 695.
72. "Plant portrait" is the term that Salisbury applied to his photographs of individual isolated specimens.
73. Stace, *The New Flora of the British Isles,* 708.
74. Bergit Arends, "A Cohort of Trees, Photographs, Scientists, An Artist and A Curator: The Collaborative Study of Environmental Change," *Interdisciplinary Science Reviews* 43, no. 2 (2018): 29. Arends is referring to the project "Field Studies" by the artist Crystel Lebas in which Lebas re-photographed sites in the Cairngorms National Park, Scotland which Salisbury had photographed in the first third of the 20th century.
75. Henriette Gunkel and Ayesha Hameed, *Visual Cultures as Time Travel* (Berlin: Sternberg Press, 2021), 15. Barthes develops these ideas on photography and temporality in Roland Barthes,

Camera Lucida: Reflections on Photography (London: Vintage, 1993).
76. Gunkel and Hameed, *Visual Cultures as Time Travel*, 15.
77. Barthes, *Camera Lucida*, 4., Azoulay, *The Civil Contract of Photography*, 310.
78. Ariella Azoulay, "The Natural History of Rape," *Journal of Visual Culture* 17 no. 2 (2018): 141. Azoulay's article builds on her ontological discussion of the photograph to examine photographs of Berlin taken by the allies shortly after the end of World War II. Her project is to examine what these photographs have been understood to show and not to show, and to examine their erasure of the mass abuse of women and girls by soldiers in Berlin at the end of the war.
79. Azoulay, "The Natural History of Rape," 169.
80. Goldsmiths History Project, "The V2 Woolworths rocket bomb disaster 25th November 1944," Goldsmiths University of London. Available online: https://sites.gold.ac.uk/goldsmithshistory/the-v2-woolworths-rocket-bomb-disaster-25th-november-1944/.
81. Stace, *New Flora*.
82. Aggregate Architectural History Collective, *Writing Architectural History: Evidence and Narrative in the Twenty-First Century* (Pittsburgh, PA: University of Pittsburgh Press, 2021), 10. Available online: https://doi.org/10.2307/j.ctv2269htv (accessed February 03, 2022).
83. Ibid., 4.
84. Jean-Louis Cohen, *Architecture in Uniform: Designing and Building for the Second World* (Montréal: Canadian Centre for Architecture, 2011), 16.
85. Anthony Vidler, "Air War and Architecture," in *Ruins of Modernity* (Durham, NC: Duke University Press, 2010), 22.
86. Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (London: Harvard University Press, 2011), 8. Nixon quotes from Anne McClintock, Aamir Mufti, and Ella Shohat, eds., *Dangerous Liaisons: Gender, Nation and Postcolonial Perspectives* (Minneapolis: University of Minnesota Press, 1997), 420–44.
87. Nixon, *Slow Violence*, 8.
88. Azoulay, *Potential History*, 17 (my emphasis).
89. Ibid., 379.

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