

The ‘civic-transformative’ value of urban street trees

Key words: urban street trees; value; relational value; environmental pluralism; convergence hypothesis.

Dr Oliver Harrison

Senior Lecturer in Political Theory

Department of Social and Political Sciences,

Nottingham Trent University,

50 Shakespeare Street,

Nottingham, NG1 4FQ

Oliver.Harrison@ntu.ac.uk

Orchid ID: <https://orcid.org/0000-0002-7869-671X>

ABSTRACT

Urban street trees (USTs) have a range of values – some of which are easier to quantify than others. Focusing specifically on the UK context and using the Sheffield Tree Protests (2012-) as a case study, whilst confirming existing research as to the variety of values associated with their specifically ‘cultural’ services, the article argues that USTs have an additional potential form – what I call ‘civic-transformative value’. This form of value has at least three key characteristics. Firstly, it is place-based and communal; second, its form is ‘relational’; and finally, as intrinsically contingent, it is pluralistic in the sense that its civic-transformative potential is dependent on successfully integrating a range of other values. The article emphasises both the possibility and necessity of ‘convergence’ – i.e., a pluralistic and pragmatic alliance of values which might help protect not only USTs, but other embattled sites of nature.

INTRODUCTION

In July 2021 Bristol City Council announced that it would fell two, 70ft Cypress Trees after complaints by a resident that they blocked the light from their home. Lamenting the felling order, one resident stated that ‘They’ve been here for so long that it feels like they’re part of the road...I’ve lived here since I was three, and the trees have just always been there. I feel like I’ve grown up with them...I would be sad to see them go’ (Feehan 2021). One year earlier, further north in Doncaster, after pausing work due to local opposition to the felling of 60 ‘mature and healthy’, a further two trees were removed before, once again, residents took direct action. Whilst the Council cited their ‘legal duties to maintain the highway’ – on account of the perceived damage caused by the trees’ roots – and promised to replace the individual trees by replanting more ‘appropriate species’, citizens complained of both the lack of wider public consultation and that alternative engineering solutions had not been sufficiently explored (Cokburn 2020). Both examples above came off the back of the most protracted conflict over USTs in recent times – Sheffield (2012-) – and yet, as we’ll find in the case of the latter, whilst campaigners were united in their wish to protect the trees in question, their rationales reflected some of the many different values one can appeal to for doing so.

Contextually, the plight of USTs – and the efforts of those seeking to protect them – can vary. In the UK, what Toynbee and Walker (2020) call the ‘lost decade’ (2010-2020) of austerity politics instigated by successive Conservative governments has resulted in severe funding cuts for most UK councils, which as will be discussed later, has limited their options for properly maintaining them. The push for sustainable cities is central to the UN Sustainable Development Goals, and in various ways, USTs are uniquely situated to help meet at least 15 of them (Turner-Skoff and Cavender 2019). Despite this, USTs continue to face a range of challenges. Whilst

many are familiar (Johnson 2017: pp.244-271) in today's context they are exacerbated. In addition to funding their maintenance, there is increasing air pollution, a growing range of threats caused by globalisation and climate change, as too a more generalised climate of 'public apathy and a risk-averse insurance industry', (Goodwin 2017: 4; Spence, Hill, and Morris 2020). Despite this, as noted above in the cases of Bristol and Doncaster, at times, there continue to be fine examples of when residents and local communities stand up for the USTs which they value.

My aim is to explore this phenomenon as a means of reflecting back on USTs' axiological status. Whilst recent studies focusing on the Sheffield Tree Protests have explored issues relating to local democracy (Rotherham and Flinders 2019) and procedural environmental justice (Heydon 2020) what I propose to do here is examine a more fundamental issue central to this journal – questions of value/s. Whilst environmental pragmatists have correctly emphasised the dangers of this issue becoming overly abstract, in the case of Sheffield, this certainly was not the case. Structurally, the article will proceed as follows. After situating the case study, I explore the existing literature on the values of USTs. Using a revised form of the ecosystem services model – i.e., focusing on their 'regulating' and 'cultural' services - I review a range of associated values, most of which were operationalised throughout the Sheffield Tree Protests. In the final section, though, I claim that in the case of Sheffield an additional form of value emerged, what I call 'civic-transformative' value. Linking back to the case study throughout, I argue that this has at least three elements: it is place-based and communal; it is relational; and, on the basis of its underlying contingency, and for the purposes of political strategy, it is pluralistic, and 'convergence' orientated.

THE SHEFFIELD TREE PROTESTS

Dubbed in 2021 the UK's 'greenest city' (NatWest Group 2021), and in 2022 'Tree City of the World' (Burn 2022), given Sheffield's onetime reputation as the steel-making capital of the world (Cooper 2021, p.86), such accolades might appear impressive. The socio-economic legacies of its past live on in a post-industrial context (Heydon 2020: 4), but so too does the planting of its many urban 'forest trees' (e.g., London plane, lime, and horse chestnut). Indeed, on account of the infamy of its urban infrastructure – particularly its roads' – the city was also once known as 'pothole capital of the world' (Fielder 2022). Through the combination of neo-liberal, new public management with the 'lost decade' of austerity politics, support from central government was slashed dramatically, leaving many councils with no choice but to look elsewhere. One option was the Private Finance Initiative (PFI), a form of Public Private Partnership (PPP) first introduced in the UK in 1992. Whilst their form could vary, through a 'highly prescriptive legal framework', with funding provided by the private sector, remuneration would occur through public funds over a given contractual period (Ball, Heafey, and King 2007: 290).

In 2012, as part of its 'Streets Ahead' initiative, Sheffield County Council (SCC) entered one of such contracts with Amey Plc. Set to last some 25 years, the 2.2billion deal will maintain and upgrade not only the city's roads, pavements, streetlights etc., but also the substantial networks of its 36,000 urban street trees (Sheffield City Council 2022). With the onset of the agreement, a survey found that, on the basis of being either dangerous, dying, diseased, dead, damaging, or discriminatory (the 6 'Ds'), aside from some 6,300 pruning and/or other maintenance jobs, 1,000 urban trees needed felling (Sheffield Tree Action Groups 2022a). Following confusing statements by SCC's Head of Highway Maintenance it became clear that substantially more trees were marked for removal – in fact, as much as half of its 36,000 total

(Heydon 2020: 6). With frustrations with both the rationale and true scope of tree removals, alongside the lack of public consultation, throughout the city neighbourhood action groups were established, culminating in the umbrella organisation, the Sheffield Tree Action Groups (S.T.A.G.) in 2015 (Sheffield Tree Action Groups 2022a).

That July, a petition of around 10,000 signatures was presented to SCC, alongside a letter outlining a series of recommendations. Suggestions included the need for ‘an appropriate valuation’ of the range of USTs’ ecosystem services, and in more general terms, for the council to create a ‘Tree Strategy’ policy (Sheffield Tree Action Groups 2022b). Whilst the recommendations were rejected, in response to the claims of lack of public consultation, SCC created the Highway Tree Advisory Forum (HTAF) – an inclusive yet largely ineffectual process where grievances were aired yet opportunities for substantive input lacking. The HTAF was ultimately replaced by another initiative, the Independent Tree Panel (ITP). This panel was tasked to investigate the necessity of felling particular trees, based on the ‘six D’ criteria cited earlier, and whether alternative maintenance techniques might be possible. Such trees were identified via household surveys, summarised by Heydon (2020: 8) as ‘demonstrating such fundamental flaws that it is difficult to characterise it as anything other than superficial’. Even when the ITP recommended remedial solutions, in most cases SCC rejected them. Ultimately, this only reinforced campaigners’ suspicions that despite the claim that USTs would be removed as a last resort, in reality, the values of mature, healthy USTs were being sacrificed in favour of the monetary values both SCC and Amey saved by replacing them with saplings (Bramley 2018).

Following the end of a temporary cessation of felling, the campaign escalated significantly. Symbolically, on November 17th eight, mature Lime trees were felled on Rustlings Road - a

process initiated by South Yorkshire Police, at 05.00am in the morning, where streets were cordoned, and residents were ordered to move their cars. Three residents (including two pensioners) were arrested and spent eight hours in a prison cell (Barkham 2016). Not only had the ITP panel recommended remedial procedures for seven of the trees, which SCC rejected, this information was only released publicly at 04.25am that morning (Heydon 2020: 10). As it turned out, the felling's coordination and planning had been conducted a month in advance (Sheffield Star 2016). With high-profile interventions from politicians, musicians, and prominent conservationists, over the coming months the saga would draw the curiosity of the national and world media (e.g., Castle 2018; Drury 2018). Ultimately, after a series of (wrongful) arrests (Perraudin 2017), subsequent pay-outs (Noor 2019), damning inquiries (Burn 2020), and apologies from both SCC (Burn 2019) and Sheffield MPs (Ashton 2020), with the finalisation of a new 'Sheffield Tree Strategy' in 2021 a 'fragile truce' was established (Gregory 2021; Sheffield City Council 2021).

VALUING URBAN STREET TREES

Urban street trees have played a fundamental role in the history of urbanisation (Hauer, Weber and Konijnendijk 2017). Initially at least, inspired by developments in Europe and the USA, the onset of the UK's Street tree programmes was designed for only the pleasure of those deemed sufficiently 'respectable'. With seventeenth-century precursors such as the rise of tree-lined walks and promenades, things gathered apace significantly throughout the nineteenth-century with the rise of the Victorian Street Tree Movement. At this point the rationale for USTs shifted decisively from their aesthetic value to their role in promoting public health: particularly in the context of the industrial revolution and the pressures of urbanisation (Johnson 2017: 82).

Wilson (2013: 175) defines USTs as ‘a tree growing in a street (occasionally at the edge of a carriageway, usually in a verge of footway) maintained by a local authority or highways authority’ (Wilson 2013: 175). To ensure that the array of nature’s values was properly integrated into decision-making and policy, in the 1990s the ‘ecosystem services’ framework emerged, eventually becoming the core of the Millennium Ecosystem Assessment (2005), and later, in a modified version, the influential ‘The Economics and Ecosystems and Biodiversity (TEEB) initiative (see Costanza et al 2017). In a neoliberal context, frameworks which monetise nature’s value are influential – in the UK, for example, it remains central to their ‘natural capital approach’ dominant today (DEFRA 2021). In its original format, the ecosystem services framework emphasised the ‘provisioning’, ‘regulating’, ‘cultural’, and ‘supporting’ services of nature; here, though, following Salmond et al (2016) I adopt a modified version which focuses on USTs’ regulating and cultural services. I do this not only to account for the specificity of USTs themselves but also because some of their values are difficult to assimilate under the standard rubric – particularly physical and mental wellbeing, for example (Bratman et al 2019; Remme et al 2020).

The regulating services of USTs are the most commonly assessed (Dobbs et al 2017: 54) and encompass a range of specifically economic values. In the UK, such values were important for the development of its urban green spaces – public parks in the first instance, and its street tree programmes a little later (Johnson 2017: 81). The most significant of USTs’ regulating services include carbon sequestration and oxygen production, shading, noise reduction and/or positive alteration of soundscape, reducing stormwater runoff, and ameliorating the urban heat-island effect (e.g., Dawe 2011: pp.426-431; Goodwin 2017: pp.9-20). As one of the most high-profile environmental malaises in recent times, USTs’ ability to reduce air pollution is perhaps one of

their most famed regulating services. Whilst their capability to do so depends on a range of factors - including species and size (Dawe 2011: 428; Chen et al 2017) - there is agreement as to their overall potential in doing so (Mullaney, Lucke and Trueman 2015; Salmond et al 2016: 100). Overstretching the regulating services of USTs in this instance risks overlooking their disservices, though, particularly the traits of certain species to either reduce (or inhibit) the dispersion of pollutants or emit wind-dispersed pollen and biogenic volatile organic compounds (Goodwin 2017: 8; Grote et al 2016; Salmond et al 2016: 101). A good example in the UK is the London Plane – a particularly robust UST whose leaves and bark can absorb some toxic pollutants but also release allergy-producing pollen (Gorvett 2022; Salmond et al 2016: 103).

They include a range of social and cultural values – many of which are difficult to quantify using the model above. I will return to this issue later. In the context of COVID-19 and insights relating to the (beneficial) engagements with nature during its related ‘lockdowns’ (ONS 2021), perhaps the most obvious place to start is to consider the links between USTs and physical and mental wellbeing. Whilst there is little research connecting physical wellbeing to USTs specifically, one workaround is to situate them as part of ‘urban green space’ (Roy, Byrne and Pickering 2012: 352). Here the evidence is conclusive: proximity and access to green spaces correlate strongly to ‘an opportunity and motivation for physical activity’ - a generalised lack of which contributes to a range of physical ailments (Salmond et al 2016: 103; van den Bosch 2017: 85,86; Wolch, Byrne and Newell 2014). For mental wellbeing, interestingly, Mitchell (2013) argues that physical exercise in a green urban space – i.e., ‘green exercise’ - can have greater benefits than otherwise. Yet not all use of green space is necessarily linked to physical exertion. Significant here is the alleviation of stress and/or ‘attentional fatigue’ – a vital service considering the pace of modern, urbanised living (van den Bosch 2017: 83-85; Uebel et al

2021). USTs engage and positively impact all of the senses (Dwyer et al 1991; Franco et al 2017). Beyond the visual, research emphasises the benefits of ‘soundscapes’ (Dwyer Yang and Kang 2005; Uebel et al 2021; Radicchi and Grant 2021), which ultimately links also to a wider set of USTs’ biodiversity values – i.e., by providing habitats for other, perhaps more audible beings, birds being one obvious example (Fuller et al 2007). Finally, whilst being ‘one our weakest senses’ research suggests that even the smell of natural odours can have their benefits (Franco et al 2017).

The place-based values of USTs are defined by Norton and Hannon (2005: 209) as ‘culturally determined values...shaped upon the basic skeleton of place-centredness’. Premised on the idea that ‘some form of territoriality is universal to all cultures (ibid, p.208), the idea of ‘place’ – i.e., ‘space’ infused with ‘meaning and cultural identity’ (Dale, Ling and Newman 2008: 268) – links closely to individual and collective wellbeing. Distinctions can be made here between place ‘attachment’ – a ‘positive affective bond or association between individuals and their residential environment’ (Schumaker and Taylor 1983: 233) – and place ‘identity’ – ‘dimensions of the self that define the individual’s personal identity in relation to the physical environment by means of a complex pattern of conscious ideas, beliefs, preferences, feelings, values, goals and behavioural tendencies and skills relevant to this environment’ (Proshansky 1978: 155). For individuals, attachment to USTs can be a uniquely personal experience. In her entry to *The Guardian* newspaper’s (2019-2020) ‘tree of the week’, for example, retired maths lecturer, June Hicks, noted her attachment to a Norway maple in her local area – amplified in the context of the COVID-19 lockdowns. Reflecting on how ‘its red hues looked so beautiful as we headed into autumn’, she added that ‘It’s become a friend in lockdown, one that never fails to lift my spirits and it’s nice to look up and greet it when I walk past’ (Mistlin 2020).

The aesthetic values of USTs prove one of their most significant (Dawe 2009; Camacho-Cervantes et al 2014) yet remain prone to the contingencies of taste and custom (Rolston 2002). With variances in weather, or the onset of winter, for example, attitudes might change. Indeed, it is quite possible to hold a range of conflicting values at once – e.g., appreciating the biodiversity values of adjacent USTs for the birdsong of the attracted birds, but lament the droppings left on your car; dismaying the damaged pavement off your drive, but on account of it being situated in an urban green space, mindful of increased property values (c.f. Schroeder, Flannigan and Coles 2006; Goodwin 2017: 14). The economic or monetary values of USTs can be considered both positive and negative, but usually relate to issues such as maintenance costs (e.g., infrastructure repair, replacement, pruning, cleaning up the leaves, etc.) and related house, property, and commercial values (Moffat 2016: 69; Nowak 2017: 155; Joy et al 2010). The impacts of the larger, more spectacular ‘forest trees’ planted in the UK throughout the Victorian period are of particular focus here (Johnson 2017: 260; Rotherham and Flinders 2019: 191).

A final form of value applicable to the ‘cultural services’ of USTs is their potential community value. This relates to the kinds of activities which USTs help stimulate. Sullivan et al (2004: 679), for example, argue that ‘the presence of trees and grass’ creates the conditions for ‘vital neighbourhood spaces’ – helping to ‘draw people from their homes, encourage them to linger together outdoors, and engage with neighbours in a way that supports and builds community’. In the UK, one example was the Cyprus trees in Bristol in 2021, noted in the introduction. Here, aside from their heritage value, noted earlier, locals also emphasised the trees ‘as a focal point for residents – where they all meet for barbeques and their children play together’ (Feehan 2021; see also Rotherham and Flanders 2019: 198). Another example is the Arden Oak, in Acocks Green, Birmingham. Retained during the early 1900s to provide ‘some natural beauty

and sense of maturity to the newly built development' (Johnson 2017: 42), today, it remains the site of an annual gathering of local residents who adorn it with lanterns and sing Christmas Carols (Young 2017).

In summary USTs can be valued in a range of different, often interrelated, and sometimes conflictual ways. If we accept the premise that - as seen in the case of Sheffield - valuing USTs is the precondition for protecting them, given the plurality of values at stake, the question arises as to their deployment to achieve common ends. It is through this process that the 'civic-transformative' value of USTs emerged, to which I now discuss.

'CIVIC-TRANSFORMATIVE VALUE'

When residents or communities come together to protect USTs, they do so in a place-based and communal manner. This is the first aspect of what I call their potential 'civic-transformative' value. Recalling the idea of 'place' as 'space' imbued with 'meaning and cultural identity', it seems clear that USTs offer a range of possibilities, relating either to individual trees, groups, or avenues. In Sheffield, at least two examples are worth noting.

Despite being a silver medal winner of the Woodland Trust's 2016 English Tree of the Year competition, due to root damage to the surrounding road and pavements, the 'Chelsea Elm' – a 120-year-old Huntingdon Elm, located on Chelsea Road - was designated for felling in 2015. In the form of a local action group, the residents' rationale for saving the tree varied, integrating a range of its values and the expertise of a broad coalition of relevant stakeholders. As one of only four trees in the city to survive the ravages of Dutch Elm Disease, not only was the tree deemed worthy of protecting in its own right, but on account of it providing the habitat for the

endangered white-letter hairstreak butterfly, whose life cycle is wholly dependent on the tree, campaigners realised the potential for integrating such biodiversity values in the fight for saving it (Butterfly Conservation 2018; Wilkinson 2016). Ultimately, after significant campaigning one year later, prominent S.T.A.G. campaigner, Paul Selby, announced that the damage to the pavement and roads had been repaired, and that the tree lives on (Sheffield Tree Action Groups 2022c).

The second example related to an avenue of London plane, lime, sycamore, and ash trees on Western Road. With 23 marked for felling, here, an alternative emphasis on their heritage values was mobilised – the trees in question were planted in 1919 in honour of former members of the nearby, Westways School who died during World War One. One campaigner made the point clearly, stating that ‘You don’t desecrate war memorials’, and the trees were soon decorated by residents, parents and pupils from the local school (Perraudin 2016). In 2017, as part of the Armistice Day event, a group of over 100 artists – including Dan Llywelyn Hall, who famously painted the Queen in 2013 and the last, surviving WW1 veterans – also painted portraits of the affected trees, which were eventually showcased at a local exhibition (Pidd 2017). Ultimately, the heritage value of the trees held out against the economic values of removing them: in November 2018, it was announced that most memorial trees (on Western Road and elsewhere) would be retained (BBC News 2018).

Notable in this case was SCC’s promise that their loss would be offset by the planting of an additional 300 replacements, something which campaigners rejected on the basis of their sheer uniqueness. As a form of cultural value, heritage is particularly contested (UK NEA: 666; O’Neill, Holland and Light 2008:78). According to Goodin’s (1992: 38,39) ‘green theory of value’, central here is the authenticity and meaning that ‘nature’ and its various ‘natural

processes' come to signify, providing 'a context of something outside of ourselves', thus cementing 'our place in the external world'. By this logic, as evidenced above, the idea that one form of value can simply be 'traded off' against another is problematic, strongly suggesting an underlying problem with approaches whose axiological metric is purely monetary (O'Neill, Holland and Light 2008: 79; Chan et al 2011). For some, the values of USTs are not always easy to rationalise, let alone monetise. In some cases, this value can be reflective of personal experience, or feeling, suggesting that USTs can provide a kind of spiritual, existential, or 'transformative value' (Norton 1987; Rolston 1988; Dwyer et al 1991).

The key point at this stage, born out of the examples above, is that the civic-transformative value of USTs is always place-based: those who speak up for them do so on account of how they relate to them. In some cases, though, a localised dispute can take on wider significance, and in so doing bring into play a range of additional values. Throughout the Sheffield Tree Protests, for example, the struggle to protect specific trees transformed into broader frustrations concerning procedural environmental justice – i.e., the lack of public consultation – and the changing face of local democracy – i.e., the role of PPPs and their impact on government transparency and accountability (Heydon 2020; Rotherham and Flinders 2019).

The civic-transformative value of USTs thus tends to be local and particularistic, but as noted, has the potential for transforming into something more universal. In Sheffield, USTs 'became a 'lightening-rod' through which a whole range of frustrations and concerns about the nature of...contemporary politics was channelled and focused' (Rotherham and Flinders 2019: 198,199). The second aspect of the civic-transformative value of USTs reiterates its place-based nature, but ultimately concerns its underlying form. Environmental ethics has sought to distinguish nature's value from solely its 'instrumental' use by human beings, postulating in

various forms, its additional 'intrinsic value'. Pertinent here is the question as to whether intrinsic value is ascribed by humans or internal to nature itself. For 'subjective' thinkers, such as Callicott (1986: 160), intrinsic value is 'humanely conferred, but not necessarily homocentric'. In sharp contrast, an 'objectivist' account was developed by Rolston (1988: 211), who whilst accepts that humans can illuminate the values of nature, maintains that at least some of those values were already there; inscribed, as it were, through the 'systemic' and 'projective' nature of evolutionary development (ibid, p.225).

In lieu of the above, the question remains as to how to situate civic-transformative value.

In the case of Sheffield, it seems clear that this form of value wasn't 'intrinsic' to the trees themselves, for not only is it inherently pluralistic – discussed in detail, below – it was also wholly dependent on residents valuing them as such. Hence, whilst theoretically we might postulate the objective value of USTs – in more ways than one (c.f. (O'Neill 2003) – in a more practical sense, when it came to campaigners acting to save them, in-itself, intrinsic value wasn't as significant as the wider alliance of values created. Thus, as Sandler (2018: 70) puts it, 'so long as final value is based on evaluative attitudes, it is contingent upon those attitudes' (Sandler 2018: 70). The civic-transformative value of USTs thus wasn't wholly intrinsic, and yet, it wasn't wholly 'instrumental' either, for as we saw in the case of the Chelsea Elm, campaigners mobilised biocentric/biodiversity values – values which arguably weren't reducible to exclusively 'anthropocentric' concerns. One way around this issue, perhaps, is to emphasise not merely the 'intrinsic' or 'instrumental' value of USTs, but rather their wider, 'relational value'. In many ways this emphasis lies at the heart of the 'pragmatic' turn within environmental ethics, one inspired strongly by Bryan Norton's (1991) emphasis on establishing 'convergence' between different forms of value, with an aim for concrete, policy-orientated solutions (Minteer 2012).

Reminiscent of the insights of care ethics (Sandler 2018: 333) which emphasises the importance of ethical *relationships*, proponents of relational value argue that what is central to human relationships is precisely that, and hence any corresponding values are ‘not present in things but derivative of relationships and responsibilities to them’ (Chan et al 2016: 1462). The emphasis on relational value follows on from the earlier discussion of the importance of place, and in terms of our case study, fits nicely. Whilst noted, the campaign morphed into something more than just ‘trees’, there can be no doubt that it stemmed initially from what were quite clearly, in one way or another, residents’ relationships with the USTs themselves. On this basis, on account of the approach’s emphasis on examining the specificity of the relationships at stake (Norton and Sanbeg 2021), whilst sidestepping their more general claim regarding all values, the civic-transformative value of USTs is best characterised as relational.

The civic-transformative value of USTs is place-based, communal, and relational. Finally, it can be characterised as the contingent outcome of a politics informed by flexibility, pragmatism, and convergence. The premise of this point is noting the agonistic nature of the political. Adherents of this view argue that ‘politics’ is an activity which seeks to hegemonically impose a form of order (e.g., ideology, interests, values, etc.) on ‘the political’ – the latter, understood to be an ‘antagonistic dimension which is inherent to all societies’ (Mouffe 2013: 2). For Mouffe, accepting the antagonistic essence of the political is thus the precondition for understanding the nature of politics. Politics is necessarily adversarial, but Mouffe is clear that antagonism needn’t be violent: one can disagree with others on a variety of things without removing their right to do so (ibid, p.7). As its very condition, the key challenge of a ‘vibrant democracy’ is thus allowing an ‘agonistic struggle’ but doing so whilst accepting what can only ever be a ‘conflictual consensus’ (ibid, p.8).

Agonism emphasises tactics and strategy; an emphasis which, within environmental ethics, is mirrored by environmental pragmatism. Emerging as an immanent critical current within the field (Light 2002: 436; Minter 2012;) its most systematic adherent has to be Bryan Norton, who famously argued for what he called the ‘convergence hypothesis’. Simply put, this stipulated that, despite different beliefs regarding nature’s intrinsic and/or instrumental value, in the long run, policies designed to serve humans will also serve the interests of nonhumans, and vice versa (Norton 1991: 240). For pragmatists, excessive theoretical debate obstructs a more empirically focused and policy-orientated approach; one premised on the possibility of finding ways of making the many values at stake ‘converge’ around a shared objective.

Central to campaigners’ success was their ability to do this, and given the range of values at stake, this was skilfully done. In general terms, from the onset it was clear that a range of USTs’ values were being mobilised. This can be gleaned from the petition (cited earlier) to SCC from the ‘Save our Rustlings Trees’ action group, formed in May 2015. Here we find reference to many of the specifically anthropocentric values associated with ‘regulating’ services discussed earlier – e.g., local climate regulation, helping to reduce air pollution, etc. – but also appeals to aesthetic values, ‘enjoyment’ values, and ‘cultural heritage’ values, alongside more bio/ecocentric values such as the plight of bees and bats (Change.Org). What is also apparent in the petition, however, is another of environmental pragmatism’s central edicts – its policy-focused emphasis. Thus, the petition (and campaign on a whole) wasn’t pitched simply in abstract terms – e.g., ‘save our trees’ – but through its reference to ‘alternative, sensitive engineering solutions’ was clear in terms of concrete, practical proposals.

Perhaps more impressive was how campaigners brought together such values - and at times the wider relevant stakeholders who held them - in a place-based and targeted fashion. In other words, particular trees required the mobilisation of a very particular constellation of values to protect them. One is reminded of the two examples discussed earlier – the Chelsea Elm and the avenue on Western Road. With the former, ostensibly, one could argue that it was the set of biocentric/ecocentric values which took priority, and the support enlisted by the local Wildlife Trust and Butterfly Conservation must surely have been significant; as too, and throughout the campaign as a whole, must the advice of the numerous independent tree experts enlisted (see Sheffield and Rotherham Wildlife Trust 2022; Butterfly Conservation 2018; Flinders and Rotherham 2019). In the case of the latter, by contrast, it was the more anthropocentric emphasis on the heritage value of the trees which took priority, and given the context, rightly so.

The cases above demonstrate how campaigners were able to selectively prioritise and successfully deploy a range of USTs' values but did so to suit the needs of a given context. In Norton's (1991: 239, *original emphasis*) terminology, they established 'a hierarchically organised and *integrated* system of values'. Bringing together a range of relevant stakeholders and advisors, when necessary, this also demonstrated the policy-focused nature of the campaign as a whole, which undoubtedly must have added credence to their cause. Finally, linking back to Norton's 'convergence hypothesis', the campaign itself appears to provide some degree of confirmation: despite the evident value pluralism throughout the protests - for now, at least - it was possible to find convergence. In these senses, then, civic-transformative value was the outcome of such strategy. Its transformative character occurred through emboldening its focus from being at once a place-based struggle to protect USTs to raising more fundamental, and perennial political debates (e.g., justice, etc.). Arguably, though, a

deeper understanding of civic-transformative value goes further, for when reiterating Sullivan et al's (2004: 639) notion of 'vital neighbourhood spaces', through being drawn into a struggle initiated by the particularity of the site which they fought to protect, the ultimate transformative process was transforming themselves: from residents to citizens.

CONCLUSION

What Rotherham and Flinders (2019: 189) call the 'street-tree paradox' refers to the fact that, whilst the range of values associated with USTs is overwhelmingly beneficial, given the political and economic context, in the UK, there remain ongoing issues in terms of ensuring they receive the requisite care. The turn to long-term PPP agreements appears to solve the issue, but as seen in the case of Sheffield, this can lead to concerns regarding transparency, accountability, and public engagement (ibid, p.197). Civic-transformative value is a contingent cultural form emerging when particular sites of nature form the backdrop for an articulation of a pluralistic alliance of values. With its place-based, communal, relational, and pluralistic character, whilst USTs were central in the case of Sheffield, theoretically, it provides a framework for considering any other embattled cite of nature.

Overall, there are at least two key points to reflect upon. Firstly, the Sheffield Tree Protests demonstrated the need for inclusive forums of environmental urban governance; something which ultimately all parties eventually agreed to and is expressed in the revised Tree Strategy (2021). The rationale here ranges from better, more informed decision-making, to building trust, education, and a sense of justice and legitimacy (Sheppard et al 2017) – all of which in the case of Sheffield were lacking, actively undermined, and ultimately challenged. Deliberative mechanisms are important for expressing dissenting voices – not all residents were

necessarily in favour of saving particular trees and having the opportunity to deliberate might have reduced animosity (Limb 2020; Salmond et al 2006: 96). Finally, the importance of deliberative forums is important for the purposes of wider inclusivity. On account of urban areas' cultural and social heterogeneity this makes things 'particularly challenging' (Gómez-Baggethun and Barton 2013: 240), but surely this only reiterates its need. Deliberative forums also help marginalised communities raise their own concerns, and also raise awareness of the benefits of USTs/green spaces generally (Salmond et al 2016: 105; Rotherham 2012: 75). Thinking agonistically, though, critical here is ensuring 'inclusive debate' rather than merely emphasising 'inclusivity' – debate must not be stifled in pursuit of an elusive 'consensus' (Matulis and Moyer 2016). Whilst civic-transformative value is the outcome of a pluralistic integration of values, and hence accepts the plurality (and conflictual) range of the latter, this doesn't mean that it is naïve about the unequal and at times structurally entrenched hegemony of some of them. In the case of Sheffield, then, had deliberative forums been established from the onset, it might have been easier to call out the dominance of the specifically monetary values at stake.

Secondly, as a subset of cultural value, civic-transformative value reminds us of just how difficult they are to monetise. Whilst this applies to all or most cultural values, given the contingent nature of the civic-transformative form, paraphrasing Gómez-Baggethun and Barton (2013: 240), in fact it would be 'senseless' to do so. This point links back to the relational character of such values, but this ultimately reinforces why ecosystem models are so problematic in accounting for them. Despite being 'ill fitting' (Chan et al 2011: 8), as seen by SCC's severe underestimation of the range of place-based values campaigners ascribed to their USTs, there can be no doubt as to their potential significance (Dywer et al 1991: 276).

This problem forms the backdrop to a recent report by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (2022). Despite the reality of value pluralism, it argues that ‘policymaking largely disregards the multiple ways in which nature matters to people in that it often prioritizes a narrow set of nature’s values’. Noted specifically is the ‘predominant focus on supporting short-term and economic growth’ (p.4). Ultimately, it adds, ‘there is no *one-size-fits-all* valuation method and available valuation methods may be adapted to address local realities’ (5). Given the relational, place-based nature of nature’s value, as Norton and Sanberg (2021) argue, perhaps in some cases the ultimate solution are appropriately ethnographic methods. Either way, central in the case of Sheffield was the importance of place. In the case of USTs, Rotherham (2012: 73, *original emphasis*) reflected that unlike other related sites such as public parks, USTs have ‘almost no *‘friends’*, or champions to stand up for them. Given the severity of the Earth system’s crisis, nature needs as many friends as it can get. An emphasis on its potential civic-transformative value, perhaps, might go some way in helping the cause.

REFERENCES

Ashton, L. 2020. ‘Sheffield MP Olivia Blake ‘repeats apology’ for council’s tree-felling failures’. *The Yorkshire Post*, 19th October.
https://www.yorkshirepost.co.uk/news/politics/sheffield-mp-olivia-blake-repeats-apology-councils-tree-felling-failures-3008247?fbclid=IwAR3zC-oCPisirRp_kZLOcdRbeotosbvOBPtLLp2_L7DWz31PTPgQr4S9MXg (accessed 14th July 2022).

BBC News. 2018. 'Sheffield tree felling: City's memorial trees to be saved', *BBC News*, November 6th. <https://www.bbc.co.uk/news/uk-england-south-yorkshire-46109297> (accessed 22nd July 2022).

Ball, R., M. Heafey., and D. King. 2007. 'The Private Finance Initiative in the UK'. *Public Management Review*, **9** (2): 289-310. <https://doi.org/10.1080/14719030701340507>

Bramley, E.V. 2018. 'For the chop: the battle to save Sheffield's trees'. *The Guardian*, 25th February. <https://www.theguardian.com/uk-news/2018/feb/25/for-the-chop-the-battle-to-save-sheffields-trees> (accessed 14th July 2022).

Bratman, G.N. et al. 2019. 'Nature and mental health: an ecosystem service perspective'. *Sci.Adv* **5** (7). DOI: [10.1126/sciadv.aax0903](https://doi.org/10.1126/sciadv.aax0903)

Burn, C.2019. 'Top Sheffield councillor says sorry over city's tree-felling saga'. *The Yorkshire Post*, 15th July. <https://www.yorkshirepost.co.uk/news/politics/council/top-sheffield-councillor-says-sorry-over-citys-tree-felling-saga-1752958> (accessed 14th July 2022).

Burn, C. 2020. 'Sheffield Council misled public and acted with 'lack of honesty' over tree-felling scandal, damning investigation finds'. *The Yorkshire Post*, 14th October. <https://www.yorkshirepost.co.uk/news/politics/sheffield-council-misled-public-and-acted-with-lack-of-honesty-over-tree-felling-scandal-damning-investigation-finds-3002854> (accessed 14th July 2022).

Burn, C. 2022. 'Sheffield named among Tree Cities of the World – four years after felling controversy'. *The Yorkshire Post*, 16th May.

<https://www.yorkshirepost.co.uk/news/politics/sheffield-named-among-tree-cities-of-the-world-four-years-after-felling-controversy-3695348> (accessed 15th July 2022).

Butterfly Conservation. 2018. 'Statement on the Chelsea Road Elm in Sheffield'.

<https://butterfly-conservation.org/news-and-blog/statement-on-the-chelsea-road-elm-in-sheffield> (accessed 14th July 2022).

Callicott, J.B. 1986. 'On the value of Nonhuman species'. In Norton, B. (ed.), *The Preservation of Species*. Pp.138-172. Princeton. PUP.

Castle, S. 2018. 'Toxic Tea and Other Tales From an English Tree War'. *The New York Times*, March 13th. <https://www.nytimes.com/2018/03/13/world/europe/uk-sheffield-trees.html?smid=tw-nytimesworld&smtyp=cur> (accessed 14th March 2018).

Chan, K.M.A., T. Satterfield., and J. Goldstein. 2012. 'Rethinking ecosystem services to better address and navigate cultural values'. *Ecological Economics* **74**: 8-18.
<https://doi.org/10.1016/j.ecolecon.2011.11.011>

Chan, K.M.A. et al. 2016. 'Why protect nature ? Rethinking values and the environment. *PNAS* **113** (6): 1462-1465. <https://doi.org/10.1073/pnas.1525002113>

Change.Org. 'Save the 12 Trees on Rustlings Road, Sheffield'.
<https://www.change.org/p/sheffield-city-council-streetsahead-sheffield-gov-uk-save-the-12-trees-on-rustlings-road-sheffield> (accessed 15th July 2022).

Chen, L., Liu, C., Zhang, L. et al. 2017. Variation in Tree Species Ability to Capture and Retain Airborne Fine Particulate Matter (PM_{2.5}). *Sci Rep* **7** (3206).
<https://doi.org/10.1038/s41598-017-03360-1>

Cockburn, H. 2020. 'Anger as council accused of 'sneaking in after dark' to fell healthy trees in Doncaster'. *The Independent*, 25th November. <https://www.independent.co.uk/climate-change/news/doncaster-council-tree-felling-protests-sheffield-b1761076.html> (accessed 11th August 2021).

Cooper, T. 2021. *The Story of Sheffield*. Cheltenham, Gloucestershire: The History Press.

Costanza, R., R. de Groot., L. Braat, L. Kubiszewski., L. Fioramonti., P. Sutton., S. Farber., and M. Grasso. 2017. 'Twenty years of ecosystem services: how far have we come and how far do we still need to go?'. *Ecosystem Services*, **28** (A): 1-16.
<https://doi.org/10.1016/j.ecoser.2017.09.008>

Dale, A., C. Ling., and L. Newman. 2008. 'Does place matter? Sustainable community development in three Canadian communities'. *Ethics, Place and Environment*. **11** (3): 267-281.
<https://doi.org/10.1080/13668790802559676>

Dawe, G. 2009. 'Street trees and the urban environment'. In Douglas, I., D. Goode., M.C. Houck., and R. Wang. (eds,) *The Routledge Handbook of Urban Ecology*, First Edition. Pp.424-449. London. Routledge.

DEFRA. 2021. 'Enabling a Natural Capital Approach guidance'.

<https://www.gov.uk/government/publications/enabling-a-natural-capital-approach-enca-guidance/enabling-a-natural-capital-approach-guidance> (Accessed 20th July 2022).

Dobbes, C., M.J. Martinez-Harms., and D. Kendal. 2017. 'Ecosystem services'. In Ferrini., F., C.C. Konijnendijk., and A. Fini. (eds). *Routledge Handbook of Urban Forestry*. Second Edition. Pp. 51-64. London. Routledge.

Drury, C. 2018. 'Sheffield's tree massacre: how locals battled to protect Europe's greenest city'. *The Independent*, 18th April. <https://www.independent.co.uk/climate-change/news/sheffield-tree-massacre-parks-green-city-spaces-felling-street-council-yorkshire-a8286581.html> (accessed 17th July 2022).

Dwyer, J., H.W. Shroeder., and P.H. Gobster. 1991. 'The significance of urban trees and forests: toward a deeper understanding of values'. *Journal of Arboriculture*, 17 (10): 276-284. <https://doi.org/10.48044/jauf.1991.062>

Feehan, K. 2021. 'Locals fume as council chops down 70ft trees after classifying them as HEDGES'. *The Daily Mail*, July 20, 2021. <https://www.dailymail.co.uk/news/article-9807721/Locals-blasted-Bristol-City-Councils-decision-chop-70ft-trees-classing-HEDGES.html> (accessed 11th August 2021).

Fielder, N. 2022. 'Editor: A return of the big holey title our city never wanted'. *The Star*, April 28th. <https://www.thestar.co.uk/news/opinion/editor-a-return-of-the-big-hole-y-title-our-city-never-wanted-3672102> (accessed 14th July 2022).

Franco, L.S., F. Danielle., and R.A.Fuller. 2017. 'A Review of the Benefits of Nature Experiences: more than meets the eye'. *International Journal of Environmental Research and Public Health* **14**(8), 864. doi: [10.3390/ijerph14080864](https://doi.org/10.3390/ijerph14080864)

Fuller, R. A., P. Devine-Wright., P.H. Warren., and K.J. Gaston. 2007. 'Psychological benefits of greenspace increase with biodiversity'. *Biol. Lett.*, **3**: 390-394. <https://doi.org/10.1098/rsbl.2007.0149>

Gregory, S. 2021. 'Fragile truce reached over street trees as important elections loom'. *Now Then*. https://nowthenmagazine.com/articles/fragile-truce-reached-over-street-trees-as-important-elections-loom?fbclid=IwAR3zE-Z1Bh2fpyITL-6mAL6FBmGzmROP_QVG78r2oYdGxbasbPzz0ou8-Ug (accessed 14th July 2022).

Grote, R. et al. 2016. 'Functional traits of urban trees: air pollution mitigation potential'. *Frontiers of Ecology and the Environment*, **14** (10): 543-550. <https://doi.org/10.1002/fee.1426>

Goodin, R.E. 1992. *Green Political Theory*. Cambridge. Polity.

Goodwin, D. 2017. *The Urban Tree*. London. Routledge.

Gómez-Baggethun, E., and D.E. Barton. 2013. 'Classifying and valuing ecosystem services for urban planning'. *Ecological Economics*, **86**: 235-245. <https://doi.org/10.1016/j.ecolecon.2012.08.019>

Gorvett, Z. 2022. 'The hybrid tree that conquered the world'. *BBC Future*, 2nd June. <https://www.bbc.com/future/article/20220601-are-city-forests-disappearing> (Accessed 20th July 2022).

Hauer, R. J., L.P. Werber., and C.C. Konijnendijk. 2017. 'The History of Trees in the City'. In Ferrini, F., C.C. Konijnendijk., and A. Fini. (eds). *Routledge Handbook of Urban Forestry*, 2nd Edition. Pp. 17-32. London. Routledge.

Heydon, J. 2020. 'Procedural Environmental Injustice in 'Europe's Greenest City': A Case Study into the Felling of Sheffield's Street Trees'. *Social Sciences*, **9**: 1-20. <https://doi.org/10.3390/socsci9060100>

Johnson, M. 2017. *Street Trees in Britain: A History*.

Joy, Y., M. Brengman., and K. Wolf. 2010. 'The effects of urban retail greenery on consumer experience: reviewing the evidence from a restorative perspective'. *Urban for Urban Green* **9** (1): 57-64. <https://doi.org/10.1016/j.ufug.2009.10.001>

Light, A. 2002. 'Contemporary environmental ethics: from metaethics to public philosophy'. *Metaphilosophy* **33** (4): 426-449. <https://doi.org/10.1111/1467-9973.00238>

Limb, L. 2020. 'How it feels to...save the street trees of Sheffield'. *The Sunday Times*, April 2020. <https://www.thetimes.co.uk/article/how-it-feels-to-save-the-street-trees-of-sheffield-3d2rzcfnfp> (accessed 4th July 2022).

Matulis, B.S., and J.R. Moyer, J.R. 2016. 'Beyond Inclusive Conservation'. *Conservation Letters* **10**(3): 279-287. <https://doi.org/10.1111/conl.12281>

Minteer, B. 2012. *Refounding Environmental Ethics: Pragmatism, Principle, and Practice*. Philadelphia. Temple University Press.

Mistlin, A. 2020. 'Tree of the week: "I'd tie myself to this Norway maple rather than see it cut down'. *The Guardian*, December 2020. <https://www.theguardian.com/lifeandstyle/2020/dec/07/tree-of-the-week-id-tie-myself-to-this-norway-maple-rather-than-see-it-cut-down> (accessed 21st January 2021).

Mitchell, R. 2013. 'Is physical activity in natural environments better for mental health than physical activity in other environments?'. *Social Science & Medicine*, **91**:130-134. <https://doi.org/10.1016/j.socscimed.2012.04.012>

Moffat, A. J. 2016. 'Communicating the benefits of urban trees: a critical review'. *Arboricultural Journal* **38** (2): 64-82. <https://doi.org/10.1080/03071375.2016.1163111>

Mouffe, C. 2013. *Agnostics*. London. Verso.

Mullaney, J., T. Lucke., and S.G. Trueman. 2015. 'A review of benefits and challenges in growing urban street trees in paved urban environments'. *Landscape and Urban Planning*, **134**: 157-166. <https://doi.org/10.1016/j.landurbplan.2014.10.013>

NatWest Group. 2021. 'Sheffield names UK's greenest city'.
<https://www.natwestgroup.com/news/2021/11/sheffield-named-uk-greenest-city.html>
(accessed 14th July 2022).

Norton, B. 1987. *Why Preserve Natural Variety?* Princeton. PUP.

Norton, B. 1991. *Towards Unity amongst Environmentalists*. Oxford. OUP.

Norton, B., and B. Hatton. 2005. 'Environmental Values: A Place-Based Theory'. In Kalof, L., and T. Satterfield. (eds). *Environmental Values*. Pp.207-224. London. Earthscan.

Norton, B., and D. Sanbeg. 2021. 'Relational values: a unifying idea in environmental ethics and evaluation?' *Environmental Values* **30** (6): 695-714.
<https://doi.org/10.3197/096327120X16033868459458>

Noor, P.2019. 'Sheffield tree protestors win wrongful arrest payout'. *The Guardian*, 4th February. <https://www.theguardian.com/uk-news/2019/feb/04/sheffield-tree-protesters-win-wrongful-arrest-payout> (accessed 14th July 2022).

Nowak, D. 2017. 'Assessing the benefits and economic values of trees'. In Ferrini, F., C.C. Konijnendijk., and A. Fini. (ed). Routledge Handbook of Urban Forestry, 2nd Edition. Pp. 152-173. London. Routledge.

Office of National Statistics. 2021. 'Census 2021: How has lockdown changed our relationship with nature?'. <https://www.ons.gov.uk/economy/environmentalaccounts/articles/howhaslockdownchangedourrelationshipwithnature/2021-04-26> (Accessed 22nd July 2022).

O'Neill, J. 2003. 'The varieties of Intrinsic Value'. In Light, A., and H. Rolston III. (eds.) *Environmental Ethics: An Anthology*. Pp.131-142. Oxford. Blackwells.

Perraudin, F. 2016. 'Sheffield Council urged to drop plans to fell war memorial trees'. *The Guardian*, 30th November. <https://www.theguardian.com/uk-news/2016/nov/30/sheffield-council-urged-to-drop-plans-to-fell-war-memorial-trees> (accessed 22nd July 2012).

Perraudin, F. 2017. 'Charges dropped against nine Sheffield tree protestors'. *The Guardian*, 2nd March. <https://www.theguardian.com/uk-news/2017/mar/02/charges-dropped-against-seven-sheffield-tree-felling-protesters> (accessed 14th July 2022).

Pidd, H. 2017. 'Mass painting' to call for preservation of WW1 memorial trees in Sheffield', in *The Guardian*, 29th November. <https://amp.theguardian.com/uk-news/2017/oct/29/mass-painting-event-to-protest-removal-of-wwi-memorial-trees-in-sheffield> (accessed 22nd July 2022).

Proshansky, H.M. 1978. 'The City and Self-Identity'. *Environment and Behaviour* **10** (2): 147-169. <https://doi.org/10.1177/0013916578102002>

Radicchi A., and M. Grant. 2021. 'From noise to soundscape in the service of urban health'. *Cities and Health* **5** (1-2): 15-19. <https://doi.org/10.1080/23748834.2020.1851344>

Remme, R.P., H. Frumkin., A.D. Guerry., and G.C. Daily. 2021. 'An ecosystem service perspective on urban nature, physical activity, and health'. *PNAS* **118**(22). <https://www.pnas.org/doi/10.1073/pnas.2018472118> (accessed 22nd July 2022).

Rolston, III. H. 2002. 'From Beauty to Duty: Aesthetics of Nature and Environmental Ethics'. In Berleant, A. (ed). *Environment and the Arts: Perspectives on Environmental Aesthetics*. Pp. 127-141. Aldershot, Hampshire: VT.

Rotherham, I. 2012. 'Thoughts on the politics and economics of urban street trees'. *Arboricultural Journal* **33** (2): 69-75.

Rotherham, I., and M. Flinders. 2019. 'No Stump City: The Contestation and Politics of Urban Street-Trees – A Case Study of Sheffield'. *People, Place and Policy* **12** (3): 188-203.

Roy, S., J. Byrne., and C. Pickering. 2012. 'A systematic quantitative review of urban tree benefits, costs and assessment methods across cities in different climatic zones'. *Urban Forestry and Urban Greening*, **11** (4): 351-363. <https://doi.org/10.1016/j.ufug.2012.06.006>

Sandler, R. 2018. *Environmental Ethics: from theory to practice*. Oxford. OUP.

Salmond, J. A. et al. 2016. Health and climate related ecosystem services provided by street trees in the urban environment'. *Environmental Health*, **15**(1): 95-111. <https://doi.org/10.1186/s12940-016-0103-6>

Schroeder, H., J. Flannigan., and R. Coles. 2006. 'Residents' attitudes toward street trees in the UK and US communities'. *Arboriculture and Urban Forestry* **32**(5): 236-246. <https://doi.org/10.48044/jauf.2006.030>

Schumaker, S.A., and R.B. Taylor. 1983. 'Toward a clarification of people-place relationships: a model of attachment to place'. In Feimer, N.R., and E.S. Geller. (eds). *Environmental Psychology: Directions and Perspectives*. Pp.219-251. New York. Praeger.

Sheffield City Council. 2021. 'Sheffield Street Tree Partnership Strategy'. <https://www.sheffield.gov.uk/sites/default/files/docs/roads-and-pavements/managing-trees/sheffield-street-tree-strategy-2021.pdf> (accessed 14th July 2022).

Sheffield City Council. 2022. 'Streets Ahead'. <https://www.sheffield.gov.uk/roads-pavements/streets-ahead> (accessed 14th July 2022).

Sheffield Star. 2016. 'Secret plan to remove Rustlings Road trees made by Sheffield Council and police one month before raid'. *The Sheffield Star*, December 8th. <https://www.thestar.co.uk/news/secret-plan-remove-rustlings-road-trees-made-sheffield-council-and-police-one-month-raid-450942> (accessed 14th July 2022).

Sheffield Tree Action Groups. 2022a. 'History'. <https://savesheffieldtrees.org.uk/history/> (accessed 14th July 2022).

Sheffield Tree Action Groups. 2022b. 'SORT letter to Sheffield City Council'. <https://savesheffieldtrees.org.uk/s-o-r-t-letter-to-sheffield-council/> (accessed 14 July 2022).

Sheffield Tree Action Groups. 2022c. 'Notable Trees'. <https://savesheffieldtrees.org.uk/notable-trees/> (accessed 22nd June 2022).

Sheffield and Rotherham Wildlife Trust. 2022. 'Sheffield Street Trees'. <https://www.wildsheffield.com/getinvolved/campaigning-for-wildlife/campaigning-history/sheffield-street-trees/> (accessed 14th July 2022).

Sheppard, S. R.J., C.C. Konijnendijk., O. Croy., A. Macias., and S Barron. 2016. 'Urban Forest governance and community engagement'. In Ferrini, F., C.C. Konijnendijk., and A. Fini. (ed). Routledge Handbook of Urban Forestry, 2nd Edition. Pp. 205-221. London. Routledge.

Spence, N., L. Hill, and J. Morris. 2020. 'How the global threat of pests and diseases impacts plants, people, and the planet'. *Plants People Plant*, **2** (1): 5-13.
<https://doi.org/10.1002/ppp3.10088>

Sullivan, W.C., F.E. Kuo., and S.F. DePooter. 2004. 'The fruit of urban nature: vital neighbourhood spaces'. *Environment and Behaviour* **36**(5): 678-700.
<https://doi.org/10.1177/0193841X04264945>

Toynbee, P., and D. Walker. 2020. *The Lost Decade: 2010-2020, and What Lies Ahead for Britain*. London. Faber.

Turner-Skoff, J., and N. Cavender. 2019. 'The benefits of trees for liveable and sustainable communities'. *Plants, People, Planet*, **1** (4): 323-335. <https://doi.org/10.1002/ppp3.39>

Van den Bosch, M. 2017. 'Impacts on urban forests on physical and mental health and wellbeing'. In Ferrini, F., C.C. Konijnendijk., and A. Fini. (eds). *Routledge Handbook of Urban Forestry*, 2nd Edition. Pp. 82-95. London. Routledge.

Uebel, K., M. Marseille., A.J. Dean., J.R. Rhodes., and A. Bonn. 2021. 'Urban green soundscapes and their perceived restorativeness'. *People and Nature*. **3**(3): 756-769. <https://doi.org/10.1002/pan3.10215>

UK National Ecosystem Assessment. 2011. *The National Ecosystem Assessment Technical Report*. Cambridge. UNEP-WCMC.

Wilkinson, J. 2016. 'Protestors fight felling of 'extremely rare' Sheffield Elm Tree'. *ProArb: Professional Tree Care for Tree Surgeons*. January 4th. <https://proarbmagazine.com/protestors-fight-felling-of-extremely-rare-sheffield-elm-tree/> (accessed 13th July 2022).

Wilson, P. 2013. *A-Z of Tree Terms: A Companion to British Arboriculture*. Lyminge. Ethelburga House.

Wolch, J.R., J. Byrne., and J. Newell. 2014. 'Urban green space, public health, and environmental justice: the challenges of making cities "just green enough"'. *Landscape and Planning*, **125**: 234-244. <https://doi.org/10.1016/j.landurbplan.2014.01.017>

Yang, M., and J. Yang. 2005. 'Soundscape and sound preferences in urban squares: A case study in Sheffield'. *Journal of Urban Design* **10**(1): 61-80. <https://doi.org/10.1080/13574800500062395>

Young, G. 2017. 'The hidden secrets of Birmingham that will surprise you'. <https://www.birminghammail.co.uk/whats-on/whats-on-news/hidden-secrets-birmingham-surprise-you-13725235> (accessed 20th July 2022).