

1 Kingley Vale: Worth Fighting For

While fleeing with the remnants of his army from defeat at the Battle of Worcester in 1651, the future King Charles II rode along what is today a long distance footpath, appropriately named Monarch's Way. Local tradition holds that he reined in his horse above Kingley Vale in West Sussex and, looking down on its beauty, exclaimed 'England is surely worth fighting for.' A similar thought must have crossed the mind of Arthur Tansley many times, for Kingley Vale was an inspiration through his long life, a place to which at critical moments he returned in spirit, and often in person.

Tansley regarded the view from Kingley Vale as 'the finest in England.'¹ Situated towards the western end of what is now the South Downs National Park, its natural beauty is imbued with a strong sense of history. The Vale's wooded entrance leads to a huge green amphitheatre; a steep-sided horseshoe whose open end faces southward. At its heart are ancient yews, some more than 1000 years old (Figure 1.1). On its mottled green flanks, younger yews mix with ash. Hawthorn and scattered juniper bushes colonise the higher slopes. The celebrated view is best enjoyed from its closed and higher end, where rabbits and deer keep the chalk-loving grasses and herbs free from invading scrub. More than 50 kilometres of Britain's south coast is displayed; to the southeast lies the old Roman city of Chichester, the spire of its 12th century cathedral rising 85 metres above the coastal plain; to the south-west lies the entrance to Portsmouth harbour, home of the Royal Navy and of Nelson's flagship, *Victory*. The silence is disturbed only by the songs of birds and the sound of the wind funnelling up the horseshoe.

Tansley had fallen in love with what he liked to call the 'great hills of the South country'² when his parents sent him away from home in London to



Figure 1.1 Ancient yews at Kingley Vale.

board at Westbury House Preparatory School in Worthing, a small town on the Sussex coast. For the 11-year-old boy, outings to the nearby South Downs – many of whose hills are crowned with Iron Age forts constructed around 300 BC – were an exciting, keenly anticipated relief from the confines of school life. Among these open grasslands, young Arthur could find freedom and indulge his growing fascination with plants, an interest that – thankfully, for the history of ecology – was encouraged by the school's Principal, Mr J. H. Bloom. Arthur shared his enthusiasm for botany with his sister, Maud, six years his elder:

I have not been able to get any plants yet, but I hope to be able to tomorrow when (if it is fine) we are going up Cissbury [Ring, or fort].

*Arthur to Maud Tansley, 16 April 1883,
from 12 Montague Place, Worthing³*

The plants you sent me were mostly rare and one of them, the yellow dead-nettle, Mr Bloom has not got. The (1) pea and (2) spurge which I send you are (1) a rare one which I should like a better specimen of. And (2) an unnameable spurge on account of the badness of the specimen of which I should like a better specimen. I should like two specimens of the yellow dead-nettle.

Arthur to Maud Tansley, 6 August 1884, address 'at home'⁴

Writing to Mr Bloom during the summer holidays of 1884, the boy's tone was extraordinarily mature:

The other day we had a jolly time on the downs not far from Dorking and I turned up a good many plants. *Galium cruciatum* and *G. saxatile*, *Geum urbanum*, *Lysimachia nemorum*, *Vicia sativa* var. *angustifolia* ... [the list goes on. He adds] Is *Cephalanthera grandiflora* rare? They do not say in my floras.

The next time I go to Mill Hill I will be sure and get you a plant of *Allium ursinum*.

Some of the plants you sent me are labelled Langley Barn. I do not remember it, is it somewhere up Sompting way [near Worthing]? I should think it must be a good place for plants.

Arthur to J. H. Bloom, 2 July 1884, from 167 Adelaide Road, London⁵

In 1884, Arthur contributed to the school's magazine, *The Westbury House Ephemeric*, an article on the genus *Potentilla* (cinquefoils). The subject had local interest for at least two species, *P. sterilis* (barren strawberry) and *P. reptans* (creeping cinquefoil), could be found at the edge of woodlands scattered among the grassy uplands running east-west, a little north of Worthing. Showing 'astonishing maturity',⁶ he compared the taxonomic treatment given to them by four sources, Bentham's *Flora*, the seventh edition of the *London Catalogue*, Hooker's *Student's Flora*, and Babington's *Manual*. Remarkably, Tansley's last research paper, published in 1948 when he was 77 years old, was on 'The nature and range of variation in the floral symmetry of *Potentilla erecta*'.

When aged 25, Arthur Tansley designed a bookplate for his personal library. Seen through an imagined study window, it is a picture of a distant Iron Age hill fort, Chanctonbury Ring, high on the South Downs, 20 miles east of Kingley Vale (Figure 1.2). (The philosopher Bertrand Russell, a friend from Tansley's student days, had once paused on a walk that he and Tansley were taking together to remark, 'I think it may be taken as an axiom, Tansley, that any view that includes Chanctonbury Ring is a good view'.⁷) The bookplate reveals much about Tansley's early life and interests. At its centre is Tansley's desk, upon which there is a contemporary microscope and a magnifying lens, and on a nearby chair a plant-filled vasculum – all tools of his botanist's trade. The upper panels of the window display what he was proud to recognise as critical influences on his education, Highgate School, the London Working Men's College, and Trinity College, Cambridge. In the frame are carefully drawn flowers representative of woodlands, heath, and waysides. There is a selection of books by the authors he revered most, from Shakespeare and Balzac to Matthew Arnold and Shelley, and, from his botanical world, there are books by Charles Darwin and the German masters, Julius von Sachs, Anton de Bary, and Wilhelm Pfeffer. Each detail of the bookplate represents an important facet of the first quarter century of Tansley's life but, most revealingly, at its centre is the British countryside, bringing the whole picture together.

It is only by the deliberate and conscious interference by man ... that the evil wrought by man has been arrested ... Each generation is the guardian of the resources of the world; it has come into a great inheritance but only as a trustee.

Mitchell had pointed out that while 'primitive races' of man were protected in the United States, northern Scandinavia, and parts of the British Dominions, and, in Germany in particular, land had been set aside for wildlife, there were no such refuges, either for man or for the protection of wildlife in Britain.

The SPNR was a product of the ambition, drive, and financial support of Rothschild, a distinguished entomologist and member of a wealthy family of bankers. As a keen supporter of the National Trust, he had helped it acquire for the cost of £10 the first of its several slices of land at Wicken Fen in Cambridgeshire (1899). He was frustrated, however, feeling that the Trust had no clear policy for the selection and acquisition of nature reserves, and that conservation was not high enough on its list of concerns. He believed the SPNR should work in conjunction with the National Trust, identifying sites which the Trust should acquire for reserves. His vision was that once a reserve had been acquired it should be managed by knowledgeable wardens.⁹ In practice, however, he found that after acquiring 300 acres of Woodwalton Fen in 1910, the Trust, with recent experience of the high cost of managing Wicken Fen, was unwilling to accept the additional land. So, he gave Woodwalton to the SPNR together with a bequest of £5000 towards its running costs, although even this sum proved barely sufficient and seriously handicapped the SPNR's capacity to take on further reserves.¹⁰

Membership of the SPNR was by invitation and was an honour. The first List of Members, published in 1914, included Tansley as one of seven distinguished academic botanists who were to be members of its Council, the balance of botanists and zoologists on the Council not reflecting Mitchell's zoologically orientated rhetoric.¹¹

Tansley was an obvious choice because he was President of the British Ecological Society (BES), which only one year earlier had grown out of the British Vegetation Committee, a body whose original aims were to survey the main vegetation types of the British Isles. It was a continuation of such survey work, and its extension throughout the British Empire, that Rothschild saw as a necessary precursor to the selection of reserves. Although lists of potential reserves were drawn up, Britain and its Empire were soon embroiled in World War I (WWI), limiting the fulfilment of the SPNR's plans. The Society survived Rothschild's death in 1923 (and still survives today as the Royal Society of Wildlife Trusts), but it never assumed a leading role in the conservation movement. Also, like other bodies

similarly attempting to protect natural resources in the years of economic depression that followed WWI, the SPNR struggled because neither the mood of the public nor the attention of politicians was yet ready to engage with their concerns.^{12,13}

The patriotism that always accompanies war resurfaced in the early 1940s as broadcasters, film makers, and journalists all echoed the cry around which Frank Newbould based his celebrated bucolic posters, commissioned by the War Office, 'Your Britain: Fight for it Now!'. In step with the mood of the time, publishers such as Collins commissioned cheap, popular books with titles that included *The Englishman's Country* and *Wild Nature in Britain*, their implicit message being that Britons were fighting not just for their freedom and traditions but for a land whose countryside was extraordinarily beautiful. Growing awareness of the richness and diversity of the British countryside brought with it the perception that post-war industrial recovery posed a new threat, a fear fuelled by the idea that somewhere in the past there had been a Golden Age in the British countryside.

... the countryside of Britain reached its supreme beauty at the beginning of the nineteenth century. The fine trees, planted in such numbers fifty or a hundred years earlier, had reached maturity; squalid industrial towns had hardly begun to encroach upon the country ... Since then there has been a general decline.

J. Pennington, *The British Heritage*¹⁴

The industrial revolution and the creation of parks around country houses have taken us down to the later years of the nineteenth century. Since that time, and especially since the year 1914, every single change in the English landscape has either uglified or destroyed its meaning, or both.

W. G. Hoskins, *The Making of the English Landscape*¹⁵

Even Tansley occasionally succumbed to the use of emotive language to support his arguments, as when he wrote to *The Times* about the conflicting demands of post-war military training and nature conservation:

It is obviously futile to preserve rural beauty if the country is to succumb to an invader, but it is disastrous if preparations for its defence are to destroy in detail a very large part of its character and charm.

A. G. Tansley, *The Times*, 3 December 1946

Encouraged to fight for their homeland, and to defend its natural beauty, it is not surprising that the British people expected to be more involved in decisions

affecting the future of its countryside. Through the 1940s public opinion shifted so that it was at last in sympathy with the aims of those who sought to establish national parks. The politicians were, as usual, sensitive to public opinion but, critically, they were also receptive to the urgings of specialist bodies – such as the SPNR and BES – who sought to establish nature reserves, whether as part of, or separate from, national parks.

Tansley was ideally suited to take a leading role in the fight for nature reserves and nature conservation, not just because of the wealth of his knowledge about the vegetation of the British islands, or the high regard in which he was held by peers, but because he was a realist.

In the mid-1900s, while an assistant to Professor F. W. (Frank) Oliver (Figure 1.3) at University College, London, Tansley had been introduced to the vegetation of the rugged coasts of Norfolk and Brittany. He had seen the rapid changes that resulted as shingle banks were moved under the regular pounding of tides and storms; he saw how plants stabilised the sand banks and invaded the salt marshes that built up as silt was deposited in river estuaries. Change was slower in other landscapes but, from the evidence of his own eyes and what he had learned from others, such as Henry Chandler Cowles and Frederic Clements in North America, it was apparent to Tansley that none was static. Preservation, which is merely the maintenance of the status quo, was not an option. If the beauty of the landscape was to be protected it must be through conservation. Implicit in this positive philosophy was intervention by man and the active management of wildlife populations. For Tansley, ecology should inform conservation by first identifying appropriate objectives, and then the most effective methods for attaining them.

Tansley was a realist in another respect. He realised Britain's 'heritage of wild nature' was largely the outcome of past land use. He recognised the essential roles that farming and forestry had played, and must continue to play, in the evolving countryside. He may have regretted the loss of natural vegetation and complained bitterly that the Forestry Commission 'is destroying the beauty of the still wooded Highland glens by substituting close plantations of exotic conifers for the natural oak, birch and pine'¹⁶ but, ever the pragmatist, he did not shy away from Britain's need for more food and timber in its recovery from WWII. For Tansley, fields and forests were integral parts of the whole countryside and their peculiar ecology deserved its own study. In *The British Islands and their Vegetation* (1939a) he had argued, 'Some form of national planning of a systematic "lay-out" of the whole country, in which various interests are duly considered and adjusted – the rural as well as the urban, the spiritual and aesthetic, as well as the industrial and commercial – is now indeed very urgent.'¹⁷



Figure 1.3 Harry Godwin, top left, and F. F. 'Fritz' Blackman, top right (by permission of the Royal Society of London); Frank Oliver, bottom left (by permission of University College, London), and Roy Clapham, bottom right (by kind permission of his daughter, Jennifer Newton).

By 1945 change was unavoidable,

Planning for the preservation of rural beauty must be directed to the deliberate conservation of much of our native vegetation, since this is an essential element of natural beauty ... such planning must be balanced and harmonised with land utilisation for agriculture and forestry ...

... to conserve our native vegetation intelligently and effectively we must understand its nature and behaviour under different conditions, an understanding that is gained through the modern science of plant ecology.

A. G. Tansley, *Our Heritage of Wild Nature*¹⁸

This realism that pervaded Tansley's character was the key to his success in many spheres, not least the political where it put him among that small group of experts who could communicate with notoriously science-shy politicians. He could see the politician's point of view; he could understand their wider responsibilities. In 1945 he was appointed to the government's Wild Life Conservation Special Committee, which was to make the case for National Nature Reserves. He soon took over the chairmanship of that Committee, whose report persuaded the government to set up Reserves that were separate and distinct from National Parks, exactly as Tansley had always wanted.

The founding of the Nature Conservancy in 1952, of which he was the first Chairman, and the Conservancy's establishment of National Nature Reserves (NNRs) (Box 1.1), were the most tangible achievements of Tansley's life. Kingley Vale was included in the Conservancy's first list of Reserves. Acquired henceforward for the nation, Kingley Vale would, like the other Reserves, still be accessible to the public, but would be protected. It would be a site where research and experiment would guide conservation. In 1957 a memorial stone was erected at almost the exact spot in the Reserve from which Tansley had so often enjoyed the view. The memorial is an ancient Sarsen stone and on it a bronze plaque reads: 'In the midst of this nature reserve which he brought into being this stone calls to memory Sir Arthur George Tansley, F.R.S., who during a long lifetime strove with success to widen the knowledge, to deepen the love, and to safeguard the heritage of nature in the British Isles'. The words were written by Max Nicholson, his friend and colleague in the struggle for nature reserves.¹⁹ As they emphasise, Tansley fought for the countryside of the whole of the British islands, not just one small corner of England. And his work shaped the development of ecological science across the world.

Box 1.1 Nature conservation areas

Nature conservation is, as appropriate, the responsibility of Natural England (NE), Scottish Natural Heritage (SNH) or the Countryside Council for Wales (CCW). Reserves in Northern Ireland are designated and managed by the Northern Ireland Environment Agency.

National Nature Reserves (NNRs)

Over 350 sites whose wildlife and/or geology are of national importance have been given the status NNR. Wildlife and scientific research come first, but most have some provision for public access. They are either owned or controlled by NE, SNH, or CCW, or are held by approved bodies such as the National Trust or Wildlife Trusts. All are SSSIs (see below).

Local Nature Reserves

Established in law by the National Parks and Access to the Countryside Act of 1949 (not applicable in Scotland), these are sites of local importance. They are owned or controlled by local authorities. Public access is allowed to these 1200+ sites. Some are also SSSIs (see below)

Sites of Special Scientific Interest (SSSIs)

The first were identified by the Nature Conservancy in 1949 so that local authorities could give them legal protection. Over 4000 have been designated. They are now the responsibility of NE, SNH, or CCW, who advise landowners on appropriate management.

National Parks

Including the new South Downs National Park, the New Forest National Park, and the Norfolk and Suffolk Broads with equivalent status, the 15 parks account for almost 10% of the area of England, Scotland, and Wales. Each park is administered by its own National Park Authority – armed with appropriate legal powers – whose remit is to conserve and enhance the park's natural beauty, wildlife, and cultural heritage, while promoting opportunities for the understanding and enjoyment of their special qualities. The public does not have access to all land. Special funds are available to help landowners comply with the managing authority's plans. Special planning regulations apply to new buildings, renovations, change of use, etc.

Areas of Outstanding Natural Beauty (National Scenic Areas in Scotland)

Approaching 100 in number, these relatively large areas are jewels in the landscape crown, but unlike National Parks they do not have their own administrative machinery, nor is recreation one of their primary objectives. Special planning regulations apply to new buildings, renovations, change of use, etc.

Critical to the government's acceptance of the Nature Conservancy and NNRs were Tansley's personal authority, acquired through forty years in which he had defined and led the fledgling science of ecology in Britain, and his innate political skills. From small beginnings – research papers in academic journals describing tissues that conduct water in mosses and ferns, published between 1896 and 1904 – his writing grew in scope and ambition as he turned his attention to vegetation and plant ecology. His *The British Islands and their Vegetation*, completed after retirement from the Oxford Chair of Botany in 1939, was a landmark book that distilled for ecologists his lifetime's work. Ten years later, his *Britain's Green Mantle* (1949) helped popularise ecology among a wider audience, helping it awaken to the idea that observing and understanding the natural world offered an enjoyable relief from endless post-war austerity.

Tansley was especially concerned to attract young people to ecology. For most of his working life he was a university teacher. There are conflicting reports about his abilities and popularity as a lecturer but there is no doubting the lead he took in redefining the botanical curriculum to include 'newer' disciplines, such as ecology, not just in his own university but throughout Britain. One of his goals in retirement was to stimulate the flow of ecologically minded students *into* universities. To encourage the teaching of ecology in schools, he wrote with his friend Price Evans a simple guidebook for teachers, *Plant Ecology and the School* (1946). Often overlooked among his achievements is the fact that he helped set up, and was the first President of, the Council for the Promotion of Field Studies, later called the Field Studies Council. This was a body that established residential study centres where young men and women could experience the challenges and rewards of practical field work, carried out at locations specifically chosen for their scientific interest.

Tansley's interests and passions ranged exceptionally broadly, from botany to psychology, from sociology to ethics. His character was equally complex, with its generous share of apparent contradictions. Sociable and outgoing as a young man – with a young man's normal interests in the opposite sex, sport,

music, and the theatre – by the second half of his life, that period naturally concentrated upon by his obituarists, he seems to have turned inward. Max Nicholson, whose acquaintance with Tansley did not begin until the 1920s, when Tansley was already middle-aged, found him ‘not easy to know’. In spite of their having worked closely together for more than a decade, Nicholson concluded, ‘much about him remained a mystery. Tansley had a profound philosophic bent, which set him apart from his fellows, and at times made for loneliness and melancholy.’²⁰ His grandchildren recall he was very shy with people whom he did not know and he could end a conversation by abruptly leaving the room. At his most relaxed during field work, a devotion to routine nevertheless travelled with him wherever he went, ‘nothing was allowed to deflect him from tea round about four o’clock.’²¹

Even his most devoted friends and admirers, such as Harry Godwin (Figure 1.3), were well aware that there was a prickly side to his character. Tansley ‘was full of attractive ironic humour and with a very pungent wit’ in Godwin’s view, but he recorded one incident involving Tansley being as harsh to a colleague, a university treasurer, as he could be to his own family. The treasurer, himself an outspoken Australian,

for months afterwards spoke with respectful awe of the terms in which he had been addressed when, without prior consultation, he had chosen to alter the mode of paying Tansley’s salary to him.²²

One of Tansley’s PhD students in Oxford, Jack Harley, found his professor, ‘conversable on any subject, botanical, general or frivolous’²³ but he illustrated the other side of Tansley’s character with an anecdote about a student field trip to the nearby Chiltern hills. To the professor’s annoyance the party was joined by a number of nuns wearing full habit. Tansley insisted on leading the party through patches of brambles where the nuns’ clothes inevitably became snagged.

The same prickliness could be felt by his closest family who often had to step warily around him. His daughters told how during a long summer vacation spent at Blakeney Point, Norfolk, their father slept in a separate tent whenever he was writing. At these times they took great pains not to disturb him, so avoiding the rough edge of his tongue. They joked, ‘father is pregnant again’²⁴ His granddaughter, Margaret, remembers her elderly grandfather as ‘neurotic, a bit scary’, though she loved him dearly. She and his grandson, Martin, agree that at his home, Grove Cottage in Grantchester, his routines were never to be interrupted nor his peace invaded, even by the happy cries of children at play.

Disillusionment with the progress of his career in botany and the end of an extramarital affair helped persuade him in mid-life to study psychoanalysis with Sigmund Freud and to contemplate a different career, away from botany. Though self-doubts clearly assailed him during this period, and may less obviously have always been his companions, he was both bold and innovative at crucial moments in his life. He was unafraid to lead, had the gift of persuasion, and above all an extraordinary talent for melding others into novel organisations, synergising their talents. Tansley was not only the founding President of the British Ecological Society, the first body of its kind in the world, but he belonged to that small handful of scientists – mainly botanists and most of them good friends – who in the first two decades of the 20th century defined the new science of ecology.

He remained modest to the end, painfully aware of his own limitations as a botanist. Although in 1904 he had enthusiastically proclaimed 'Ecology may now be considered almost a fashionable study',²⁵ he was never fully convinced that either his fellow scientists or the public had accepted the 'ecological outlook on biology' which, he thought, was so 'vitaly important, not only to pure science but ... to human life and activity in the widest sense'.²⁶

Notes

1. Hywel-Davies, Thom 1984, p.397.
2. Godwin 1977, p.4.
3. Branscoll (a collection of family letters found at Branscombe, South Devon).
4. Ibid.
5. Ibid.
6. Godwin 1977, p.2.
7. Godwin 1977, p.4.
8. Rothschild, Marren 1997, p.18.
9. Rothschild 1987, p.164.
10. Rothschild, Marren 1997, p.46.
11. Rothschild 1987, p.162.
12. Sheail 1998, p.6.
13. Rothschild, Marren 1997, p.42.
14. Pennington 1948, p.179.
15. Hoskins 1955, p.238 in 1988 edition.
16. Tansley 1939a, p.192.
17. Ibid., p.192.
18. Tansley 1945, preface.
19. Nicholson 1987, p.162.

20. Ibid., p.161.
21. Godwin 1958, p.6.
22. Godwin 1977, p.24.
23. Archives of the New Phytologist Trust.
24. Godwin 1977, p.25.
25. Tansley 1904a, p.191.
26. Tansley 1939b, p.513.