Arthur Tansley turned the old plant geography into the new science of ecology, teaching botanists to look at vegetation rather than individual plant species. He recognised that vegetation is continuously changing and how, especially in the British islands, it is influenced by man’s activities. Safeguarding wild places from the pressures of agriculture and industry would demand, he argued, not sterile preservation but active conservation within nature reserves – places where the principles of ecology could be applied to the scientific management of plants and animals.

Author of a best-selling book on psychology, and a respected philosopher, Tansley was no mere academic. He used his authority and political skills to achieve practical results, such as the foundation of the Nature Conservancy, of which he was the first Chairman. In the ecological principles he laid out, most notably the ecosystem, he left an invaluable legacy for ecologists and conservationists worldwide.

Peter Ayres was taught by, or worked with, several of Tansley’s closest friends. He was for seven years Executive Editor of the New Phytologist, the journal founded by Tansley. After a career teaching plant physiology and pathology at Lancaster University, his interest in the history of plant sciences has led him to write Harry Marshall Ward and the Fungal Thread of Death and The Aliveness of Plants: The Darwins at the Dawn of Plant Science.
Shaping Ecology
Shaping Ecology: The Life of Arthur Tansley

Peter Ayres
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More pictures of Tansley may be seen at www.newphytologist.org/tansley/, and of his family at www.branscombeproject.org.uk/Attic%20Trunks.pdf.
Arthur Tansley was one of the few people who can claim the distinction of being one of the founders of a discipline. He was present at the birth of the modern discipline of ecology, a science whose name was only coined – in German – at the end of the 19th century. Tansley was a man of vision but also a great moderniser, whose influence is still strongly felt. He was a botanist and something of an iconoclast, who railed against the rigid and old-fashioned teaching methods of his day. His solution was also very modern: he harnessed media power by founding and editing a new journal, albeit one with a very traditional name – the *New Phytologist* – which is today one of the most successful international plant science journals. Not content with that, he was instrumental in converting a committee set up to study British vegetation into the world’s first learned society for ecologists, the British Ecological Society (BES), and became its first President (and also the only person yet to have been President twice!) and more importantly the editor of its journal, the *Journal of Ecology*, which similarly has survived to be among the leading journals today. That trio of achievements gives him an unique legacy in British science, since all have prospered. At the time, too, they gave him a remarkable and very beneficial influence on the way that ecology developed in the UK.

Tansley had a genuinely international outlook and was in close touch with botanists and ecologists (not that they called themselves that at first) in the rest of Europe and in the USA. He was also a man of diverse interests and in the period after World War I became intensely interested in psychoanalysis. He held teaching posts at both Oxford and Cambridge and so influenced generations of students, and during and after World War II played a major role in the development of the modern conservation movement in Britain, jointly chairing (with Julian Huxley) the Wildlife Conservation Special Committee, whose report led to the establishment of national parks in England and to the creation of the Nature Conservancy and the beginnings of a national approach
to nature conservation. My own link with Tansley, apart from having been an editor of both of ‘his’ journals and President of the BES, is that my father was secretary to the Committee.

This period was a productive one for Tansley, freed from some of his earlier commitments. In 1939 he also produced his magnum opus *The British Islands and their Vegetation*, a tour de force that distilled 50 years’ experience of studying the landscape and shaped the thinking of British plant ecologists for 50 years; it is strikingly modern in its understanding of the role of environment in ecology. His far-sightedness is perhaps best illustrated by his coining of the word ‘ecosystem’ in 1935, an insight that enabled the discipline of ecosystem science to develop, mainly in the USA, and which underpins the modern concept of ecosystem services – the goods that we as humans receive for free from the natural world.

Science tends to have a short memory. Research papers rarely cite work that is more than 20 years old and Tansley’s work is no exception to that. But the lack of direct mention conceals an enormous debt that the modern discipline owes to him and his is one of the few names from that generation familiar to the current one. The New Phytologist Trust (which owns the journal) has already celebrated its centenary and created an outstanding series of Tansley review articles to honour its founder, and the BES will follow suit in 2013, hosting the International Congress of Ecology to mark its 100th annual meeting; again, Tansley’s name will be much in evidence. But for a wider audience, Peter Ayres has done a great service in providing this account of a great man and how he came to achieve so much, in a manner which should make his achievements accessible to anyone who wants to understand the intellectual roots of modern ecology and conservation science.

*Alastair Fitter*
As the young science that was to be called ecology emerged in the first half of the 20th century its development was indelibly shaped by Arthur Tansley. His name is, however, largely unrecognised and few beyond a relatively small group of professional ecologists are aware of the priceless practical legacy that he left to everyone who cares about wildlife and its conservation. In writing this book I have tried to show why all of us – not just Britons – should be grateful to him and remember his name.

As I researched Tansley’s life I discovered a man whose influence extended beyond ecology, to psychology and philosophy. I discovered too a man who fought effectively to defend freedom in science when it was under threat. The major events in his life are described in several obituaries written by his friend, Harry Godwin, but these only whet the appetite for they give little impression of the Arthur Tansley behind the published works. Moreover, they largely ignore the context of his life – the times in which he lived. Times that included two world wars and several economic depressions, events that critically affected political and public attitudes towards what he was trying to achieve. Encouraged by those who knew far more about Tansley’s contribution to ecology than I did, I embarked on the task not just of making his achievements better known but of presenting a broader picture of this complex man and his world.

I had learned a little about the man after being asked to help his edit ‘his’ journal, the New Phytologist, and to join its Trust. A fellow trustee and ex-student of Tansley’s, Jack Harley, would sometimes recount his personal experiences of the great man – always amusingly, and usually after a dinner and wines of which Tansley would have approved. It was, however, only after I met Tansley’s grandchildren, Margaret Lythgoe-Goldstein and Martin Tomlinson, that I was able to grasp a fuller picture of the man. They shared with me memories of their grandfather – not always happy – correcting any false impressions that I had, and they helped me access family letters and photographs. I thank them and other members of the family, Alice Lythgoe-Goldstein, Louisa Tomlinson, and Peter Dickens, for their help. Where family matters are concerned, I thank also
Branscombe’s (Devon) historians, Barbara Bender and John Torrance, for guiding me through hundreds of letters remaining at an old family home in that village. I thank Jennifer Newton (née Clapham) for allowing me to quote from her father’s letters. Finally, I thank Donald Pigott – probably the last ecologist alive to have worked with Tansley – for completing my picture of Tansley.

Laura Cameron (Queen’s University, Ontario) and John Forrester (University of Cambridge) gave me invaluable help where Tansley’s involvement with psychology was concerned. Andrew Smith, Robin Darwal-Smith, and Stephen Harris (University of Oxford) escorted me through Tansley’s Oxford years, while Simon Bailey, Keeper of the Archives at the Bodleian library was unfailingly helpful. I owe special thanks for individual pieces of research to Christine Alexander and David Briggs (Plant Life Sciences, Cambridge), Chris Jakes (Cambridgeshire County Library), and Michelle Losse (archivist, Royal Botanic Gardens, Kew). Enthusiastic help was received also from Mark Seward (University of Bradford), Rebecca Farley (Field Studies Council), Andrew Roberts (University of Middlesex), and David Elliston Allen. I thank David Wilkinson (Natural England) for his guidance concerning the recent history of nature reserves and protected sites. Several of those named above, plus Malcolm Latham and Rich Norby, helped further by commenting on draft chapters.

John Sheail was generous with ideas, advice, and information about Tansley and the people who surrounded him. Above all, I thank John for the encouragement he gave me to complete the project, and my wife, Mary, for her unfailing support throughout its considerable length.

I am most grateful to the New Phytologist Trust and the British Ecological Society for their financial support.

I hope I have not distorted the truth for, as Tansley wrote,

We must never conceal from ourselves that our concepts are the creation of the human mind which we impose on the facts of nature.

Tansley 1920, p.120.
Arthur Tansley photographed during the 1930s when he was Sherardian Professor of Botany at the University of Oxford. (By permission of the Cambridgeshire Collection, Cambridge Central Library.)
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’. 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’ when his parents sent him away from home in London to...