

Chapter 2 Forestry in Reconstruction South Africa: Imperial Schemes, Colonial Realities, c. 1901–1905

‘South Africa is wonderfully devoid of trees’ T.R. Sim, 1927¹

The British military and political annexation of the former South African Republic (ZAR) and Orange Free State at the end of the South African War (1899–1902) integrated the former Boer republics within British South Africa and the wider British Empire.² Among a broader suite of reforms, reconstruction officials established government forestry programs in the Transvaal and Orange Free State (renamed the Orange River Colony from 1900 to 1910).³ Though a few historians have mentioned forestry, studies of the reconstruction period have not yet documented and analysed the establishment of professional forestry in the Transvaal and ORC.⁴ Forestry received considerable attention from reconstruction leaders, including Alfred Milner, **High Commissioner** of South Africa and **Governor** of the Transvaal (1901–1905). Milner and his colleagues saw forestry as a key pillar of rural resettlement and reconstruction. Part of the immense post-war reconstruction effort led by Alfred Milner and his ‘kindergarten’, an elite circle of young pro-imperial Oxford graduates who sought to establish modern bureaucratic governance in the Transvaal and ORC.⁵

Milner had a free hand from the **Colonial Secretary** Joseph Chamberlain to construct a new imperial South Africa. Milner sought first and foremost to make a modern, capitalist, *British* South Africa where all residents, Briton, Afrikaner or African, showed loyalty to the Crown and empire; where Briton worked with but dominated the Boer; and where whites dominated politically over

¹ Sim, *Treeplanting in South Africa*, 1.

² Historiographical debates focus on the strategic and economic imperatives causing the war’s origins, development and conclusion. For the strategic argument see, R. Robinson and J. Gallagher, *Africa and the Victorians: The Official Mind of Imperialism* (London: Macmillan, 1961); T. Pakenham, *The Boer War* (New York: Random House, 1979); A. Porter, *The Origins of the South African War: Joseph Chamberlain and the Diplomacy of Imperialism, 1895–99* (London: St. Martins Press 1980); I.R. Smith, *The Origins of the South African War, 1899–1902* (London: Longman, 1996).

³ We use the name Orange River Colony in this article only to describe official titles and the official government during reconstruction. The name Orange Free State and Free State are used interchangeably.

⁴ Forestry is usually mentioned in passing when discussing agricultural policy and reconstruction. See D.E. Torrance, *Strange Death of the Liberal Empire: Lord Selborne in South Africa* (Montréal: McGill-Queens University Press, 1996), 18; P. Cranefield, *Science and Empire: East Coast Fever in Rhodesia and the Transvaal* (Cambridge: Cambridge University Press, 1991), 55; M. Meredith, *Diamonds, Gold, and War: The British, the Boers, and the Making of South Africa* (New York: Public Affairs, 2007), 484; H. Giliomee, *The Afrikaners: Biography of a People* (Charlottesville: University of Virginia Press, 2003), 265.

⁵ S. Marks and S. Trapido, ‘Lord Milner and the South African State Reconsidered’, in M. Twaddle (ed.), *Imperialism, the State and the Third World* (London: British Academic Press, 1992): 80–94.

indigenous Africans.⁶ Milner sought to ‘irrevocably transform’ South Africa as a capitalist state, modernised according to liberal principles that would create the secure conditions within which the business class could make a profit.⁷ The two former Boer republics he regarded as backward peasant states, best transformed by swamping the rural Afrikaner through an agrarian program based on mass immigration of a progressive British yeomanry. Cheap labour for mines and industry was to be secured through a common native policy and migrant labour system, designed to underpin racial capitalism for the following 100 years.⁸

The Milner administration faced the immediate task of repatriating 200,000 Boer farmers and their families, half of whom were still in the concentration camps, and the 60,000 Africans in camps.⁹ On this basis, his administration set about re-starting the mining industry and expanding agricultural productivity by facilitating resettlement of land and **creating** modern scientific and technical departments to aid farmers. The restored mineral revolution drove renewed and accelerated demand for timber; agricultural settlement laid the conditions for conflict about water resources, with the sudden springing up of a plantation sector as the immediate scapegoat party in the conflict.

Many historians have argued that Milner’s grand reconstruction plans—such as the attempt to populate the country with Britons, to make English the dominant language and to break the power of Afrikaners—were political and social failures, what Darwin describes as an ‘imperial fantasy’ and Denoon a ‘grand illusion’.¹⁰ A substantial body of literature has challenged the belief that Milner’s plans failed by pointing out that reconstruction, though politically damaging for Milner and unsuccessful in terms of the overall Anglicisation of South Africa, did effectively lay the foundations for capitalist expansion, imperial integration and white supremacy—all outcomes that Milner sought.¹¹ Scholars tend to agree that agricultural policy fulfilled many of the aims desired by

⁶ A. Thompson, ‘The Language of Loyalism in Southern Africa, c. 1870–1939’, *English Historical Review*, 118 (2003): 617–50, 635.

⁷ We acknowledge that wider strategic concerns drove British imperial policymaking but suggest that the material factors played a driving role in reconstruction efforts, especially in areas relating to mining. See R. Hyam and P. Henshaw, *The Lion and the Springbok: Britain and South Africa Since the Boer War* (Cambridge: Cambridge University Press, 2003), 4–5.

⁸ P.E. Louw, *The Rise, Fall, and Legacy of Apartheid* (Westport, CT: Praeger Publishers, 2004), 1–26.

⁹ *Ibid.*, 12.

¹⁰ For the quote see J. Darwin, *The Empire Project: The Rise and Fall of the British World-System, 1830–1970* (Cambridge: Cambridge University Press, 2009), 249; D. Denoon, *A Grand Illusion: The Failure of Imperial Policy in the Transvaal Colony during the Period of Reconstruction, 1900–1905* (London: Longman, 1973). Milner himself recognised that the British could never be supreme throughout the entire countryside. See I. Waag, ‘Rural Struggles and the Politics of a Colonial Command: The Southern Mounted Rifles of the Transvaal Volunteers, 1905–1912’, in S. Miller (ed.), *Soldiers and Settlers in Africa: 1850–1918* (Leiden: Brill Press, 2009): 251–86, 253.

¹¹ S. Marks and S. Trapido, ‘Lord Milner and the South African State’, *History Workshop Journal*, 8 (1979): 50–80.

Milnerites, namely increased production, land resettlement and the expansion of white farmers' agricultural and pastoral reach.¹²

Efforts to create a modern forestry program during reconstruction also had its successes, if success is defined as Milner's achieving some of his goals, namely encouraging afforestation in the Transvaal and ORC, reserving what remained of indigenous forests and maintaining the supply of timber to mines. By 1904, professional foresters directed newly formed state forestry programs in the ORC and Transvaal. They immediately began reserving forests, establishing trial plantations, and working closely with farmers to encourage small-scale tree planting. Early limited efforts laid the foundation for a gradual shift of power from Cape foresters to those in the Transvaal. Milner predicted such developments when he noted in early 1902 that in many areas, 'the Cape will be overshadowed by the enormous development of the Transvaal'.¹³ Knowledge gained in the Cape helped lay the foundation for the northern and eastern parts of the Transvaal to become the centre of the country's plantation forest and processing industry after 1910. At Union, the government established a single Forestry Department, headquartered in Pretoria, the new executive capital of the Union of South Africa. Transvaal concerns and officials played a disproportionate role in shaping national Forestry Department policies from 1910 and after.

But forestry was also a great disappointment, at least to Milner, one of the great forestry enthusiasts. From his vantage point when he left the country, forestry seemed to be yet another failing reconstruction effort.¹⁴ An early start at tree planting had been aborted in the ORC. His attempt to find an elite British forester to direct the Transvaal's new forestry program had failed. Forestry was chronically underfunded by governments in both colonies. Milner left South Africa worried about the institutional reforms he had helped set in motion. In his farewell speech, in Johannesburg on 31 March 1905, Milner reveals: 'As certain as I stand here Nature intended wide tracts of South Africa to be forest country', but discusses his worries that forestry funding might be cut after he left: 'unless people can be awakened to their vital permanent interests [i.e. the planting of trees], the first responsible Ministry which has a difficulty in squaring the Budget will starve the whole thing [state forestry] to death'.¹⁵ That same year, Natal abolished the position of conservator, a vacancy that remained until the reestablishment of a conservancy after Union.

Putting aside questions about the 'balance sheet' of reconstruction for a moment, one notable aspect of forestry during the reconstruction period was that Cape foresters came to direct state forestry throughout South Africa. By 1904, Cape foresters headed all four colonial forestry departments. However predictable this progression may seem, the spread of Cape foresters across Southern Africa, and the wider integration of forestry programs in the Transvaal and ORC with those of the

¹² J.L. Thompson, *A Wider Patriotism: Alfred Milner and the British Empire* (London: Pickering and Chatto, 2007), 94; P. Rich, "'Milnerism and a Ripping Yarn': Transvaal Land Settlement and John Buchan's Novel *Prester John*", in B. Bozzoli (ed.), *Town and Countryside in the Transvaal* (Johannesburg: Ravan Press, 1983).

¹³ Milner to Lewis Michell, 29 January 1902, in C. Headlam (ed.), *The Milner Papers (South Africa) 1899–1905* (London: Cassell Press, 1933), 403.

¹⁴ D.E. Hutchins, 'Forestry in South Africa', 1.

¹⁵ Lord Milner, *The Nation and the Empire: Being a Collection of Speeches and Addresses* (London: Constable, 1913), 87.

Cape and Natal, was by no means an inevitable development. The deployments occurred because of a series of contingent events, and not because of the plans of Milner and his colleagues. Quite to the contrary, they had initially focused on bringing in experts from outside of South Africa. How Cape foresters came to direct all of South Africa's forestry departments illuminates the imperial dimensions of **reconstruction conservation policies**, and provides the groundwork to understand post-1910 developments in the Transvaal and the rest of the country **centred on afforestation**.

What is clear from actions of imperial officials in the Transvaal and ORC is that colonial progressives from the Cape and Natal figured little in early discussions about determining the formation of major scientific institutions and the hiring of professionals to run them. Reconstruction officials did not set out to purposefully mirror 'the scientific and administrative approach to rural development which had already started in the Cape' because they did not look to the Cape as a unique model.¹⁶ The approach to rural development in the Cape—including the creation of agriculture, forestry and veterinary departments, and the building of railways—was based on earlier precedents in India, Egypt, Australia, New Zealand and Canada. This expression of state science in South Africa, comparatively, was not novel in the empire at the time. For instance, forest laws and institutional structures drew heavily on British Indian precedents. But many intellectual movements there (such as the strong emphasis on bioclimatic modelling) *were* unique, and in the actual practice of forestry Cape foresters departed greatly from their professional counterparts in Europe or India. Scholars seeking to find the 'origins' of forestry in South Africa, and elsewhere in the empire, should clearly discern between institutions and ideas, theory and practice.

Reconstruction officials sought to establish a modern government forestry department in the Transvaal and **Orange River Colony** as part of the wider tool kit of colonial state-making. Milner and his acolytes did not look to the Cape for a model forestry department—they looked first and foremost to India. As Barton demonstrated, the prestige of forestry in India allied with a general shift towards **bureaucratic, utilitarian naturalist expertise** led colonial elites throughout the British Empire to create forestry departments and demarcate forest reserves.¹⁷ India had the largest forestry department in the empire and the most prestigious forestry educational program in Britain, at the Royal Engineering College at Cooper's Hill (succeeded by the forestry school at Oxford in 1905). Though the influence of Indian foresters varied, the reconstruction government in the Transvaal and ORC clearly looked first and foremost to India for its men.

Milner was not interested in South Africa as such, but rather in empire. He and his Kindergarten did not view Southern Africa's population or its intellectual elite to be particularly innovative or inspiring.¹⁸ To a large extent, these attitudes reflected Milner's views of Cape society. Soon after his arrival in 1897, Milner's 'distaste for Cape Town soon became well known' among the city's British

¹⁶ Brown, 'Tropical Medicine and Animal Diseases: Onderstepoort and the Development of Veterinary Science in South Africa 1908–1950', 516.

¹⁷ Barton, *Empire Forestry and the Origins of Environmentalism*.

¹⁸ Many Cape leaders were less than enthusiastic about Milner's imperial pretensions. See S. Dubow, 'Colonial Nationalism, The Milner Kindergarten and the Rise of "South Africanism" 1902–10', *History Workshop Journal*, 43 (1997): 53–86, 56–57.

and Afrikaner elites.¹⁹ He worked with Cape progressives, but as much as a way to oppose the Afrikaner Bond (the anti-imperialist political party) as to champion local progressive causes.²⁰ Milner showed little care for the Cape's political elite after the war when he proposed to suspend the Cape's constitution in order to harmonise constitutions among Britain's South African colonies and to keep control of the Bond.²¹ Even with close friends, Milner always focused on the empire. Torrance points out that '[Milner] did not subordinate his interest to those of Johannesburg', even though he was personally friends with the mining leaders of the Transvaal Progressive Party.²²

Throughout reconstruction Milner and his kindergarten looked consistently *outside* of southern Africa for expertise and advice; they only hired people from the Cape for higher-level appointments when they failed to get a 'first-rate' man from abroad. As an informal rule, British officials tried to bring in high-level administrators and judges from Britain and technical staff from India and Egypt. This is because appointments in those colonies were seen as being more prestigious than the settler colonies; thus the men were considered to be of a higher calibre and better social standing. From the perspective of London or a would-be British scientist, the Cape Colony was a far less prestigious appointment than India, governed by the empire-like Indian Office, or Egypt, governed by the elite Foreign Office. Milner brought in a colleague from Egypt, William Wilcocks, to survey the country's irrigation needs to create a productive agricultural economy. The head of the new Transvaal Department of Agriculture was a Colonial Office appointee from Britain, Frank S. Smith.²³ And, unlike judges previously appointed in the Cape Colony, the judges for the Transvaal and ORC were 'distinguishable from their colleagues because they were born in England'.²⁴ Milner specifically asked Chamberlain for 'a good man from Home' to fill these judicial roles.²⁵ 'Home' was frequently on the minds of Milner and his inner circle.

Forestry in the Transvaal and ORC was no different than agriculture, irrigation or law: attempts to establish new forestry programs focused on recruiting top-rate men from outside of Southern Africa. But, as it turned out, Cape foresters were eventually selected to direct the forestry department in the Transvaal, Orange River Colony and Natal. From 1902 to 1905, Cape-based foresters founded new forestry departments in Natal, Transvaal and the ORC and drafted reports for Southern Rhodesia, Basutoland, Kenya and Sierra Leone. The botanist and forester Thomas Sim went to Natal in 1902, K. A. Carlson moved to the Orange River Colony in 1903, and Charles Legat moved to the Transvaal in 1904. That Cape foresters came to direct the whole of forestry in Southern Africa was

¹⁹ J.L. Thompson, *Forgotten Patriot: A Life of Alfred, Viscount Milner of St. James's and Cape Town, 1854–1925* (Madison, NJ: Fairleigh Dickinson Press, 2007), 113.

²⁰ Thompson, *A Wider Patriotism: Alfred Milner and the British Empire*.

²¹ Giliomee, *The Afrikaners*, 267.

²² Torrance, *Strange Death of the Liberal Empire*, 19.

²³ For Smiths' biography and background see, Cranefield, *Science and Empire*, 54–55.

²⁴ S.D. Girvin, 'The Influence of an English Background on Four Judges Appointed to the Supreme Courts of the Transvaal and Orange River Colony, 1902–10', *Tijdschrift voor Rechtsgeschiedenis/ Legal History Review*, 62 (1994): 145–63, 146.

²⁵ *Ibid.*, 153.

not in the Milnerite plan. Contingency and competence, rather than imperial design, explains how Cape foresters came to dominate tree-planting efforts throughout the entire subcontinent by 1904.

Forestry in reconstruction **Southern Africa**

The South African War acted as a great shock to the entire Southern African region. War mobilised over 100,000 foreign troops, caused the destruction of the agricultural backbone of the Transvaal and Orange River Colony, and in its aftermath integrated the mining wealth of the Rand with the pastoral economies in the Cape and Natal. The war took a high toll on the country's environment, as troops pillaged and burned farms, cut down trees, and depopulated the countryside by putting people into concentration camps. A series of pre-war events exacerbated the economic and environmental change. Successive waves of drought, coupled with the rapid spread of the epizootic disease, the rinderpest (1896–99), led to a collapse in the subcontinent's wider cattle economy, killing up to 95% of all African cattle in parts of what is now South Africa.²⁶ The entire rural economy of the Transvaal and ORC required rebuilding.

Forestry was an important part of Milner's program, one of the key pillars of reconstruction.²⁷ Discussions of forestry focused not only on establishing a proper system of forest conservation, but it also included proposals for the settlement of British farmers, who would themselves help to embower with trees the countryside of both former Boer republics.²⁸ A recurring question was how to get the 'right sort' of person to run state forestry programs, and how to find 'good' British stock farmers to help develop the countryside. These farmers would help provide a political and economic counterweight to disgruntled rural Afrikaners. Anglicisation drove imperial politics during the reconstruction period, and beyond.²⁹

The development of mining, and the subsequent building of railways, caused a precipitate change in tree planting. The Cape administration established railway plantations of eucalypts at Epping, Beaufort West, and Worcester for sleepers and fuelwood. Displacement of wagon transport by the railways brought down the price of imported timber, rendering extraction from indigenous forests unprofitable. Farmers and mining houses began with speculative plantations for mine-support timbers. An example of the latter is the Maccauvlei plantation, established on land where major coal deposits were found in the Orange Free State, south of the Vaal River, in 1878. A German horticulturalist appointed in 1893 started by planting 100,000 **common oak** trees, but the plantation eventually grew to nearly 2,000 hectares, with *Pinus radiata* and *P. pinaster* the main species; the

²⁶ P. Phoofolo, 'Face to Face with Famine: The BaSotho and the Rinderpest, 1897–1899', *Journal of Southern African Studies*, 29 (2003): 503–27, 503–8. Also see E. Kreike, 'De-Globalisation and Deforestation in Colonial Africa: Closed Markets, the Cattle Complex, and Environmental Change in North-Central Namibia, 1890–1990', *Journal of Southern African Studies*, 35 (2009): 81–98.

²⁷ Milner to Selbourne, 30 November 1899, in Boyce (ed.), *Crisis of British Power*, 97–8. Cited in Thompson, *A Wider Patriotism*, 88.

²⁸ See Chapter 7, on the Tzaneen Government Estate.

²⁹ See K. Fedorowich, 'Anglicisation and the Politicisation of British Immigration to South Africa, 1899–1929', *Journal of Imperial and Commonwealth History*, 19 (1991): 22–46.

estate later had its own forest railway and electrically powered sawmill.³⁰ More important was the early 1902 investment in afforestation by the then Transvaal Gold Mining Estate, which marked the beginning of serious corporate investment in plantation forestry (see Chapter 4). In Natal and the Transvaal, Black Wattle plantations began to expand, and many eucalypt plantations grew on the interior plateau, near the mines.³¹

Official policy discussions regarding the establishment of a program for afforestation began in Johannesburg just before reconstruction began. Richard Adlam, former curator of Johannesburg's Joubert Park, got in touch with Milner through Herbert Maxwell, a British MP with a strong interest in forestry.³² Adlam proposed that 'in my judgment no tract of country is so well suited for Forestry on a large scale as the High Veld', an area he said encompassed all around Johannesburg.³³ Adlam's letter reached the reconstruction government officials in Johannesburg in early 1902, months before peace was concluded. Milner discussed the letter with his close officials, telling them that, 'I have got this matter very much at heart, and am distressed that I have not been able to do anything yet'.³⁴ He recommended to Lionel Curtis, Town Clerk, that Curtis consider increasing its funding to the gardens of Joubert Park. Milner also agreed to meet with Adlam to discuss the issue personally.³⁵

Milner's interest in forestry reflected wider concerns of colonial Southern Africans who wanted to put each colony on a firm economic footing after the war ended. Forestry had received a good deal of attention in Natal during the war. In 1900, Maurice Evans, MP for Natal, called in **parliament** for the creation of a forestry department for the colony.³⁶ As the war was winding down in early 1902, the Natal government sent its entomologist, Claude Fuller, to inspect the Cape Colony's forestry program.³⁷ Fuller recommended that Natal bring Joseph Storr Lister, then Conservator of the Eastern Conservancy, to report on how to best establish a conservancy. Storr Lister visited Natal

³⁰ R.L. Leigh, *Vaal Triangle History*, 1968, <http://www.vaaltriangleinfo.co.za/history/maccavlei/> (accessed 2 June 2013).

³¹ Appearance of the eucalyptus snout beetle on the Highveld in the early 1920s rendered these plantations marginal, so that mine-timber plantations subsequently concentrated in more favourable climates, remote from the mines. See P. DeBach and D. Rosen, *Biological Control by Natural Enemies*, 2nd ed. (Cambridge: Cambridge University Press, 1991), 178–81.

³² For a brief biography of Adlam, see M. Fraser (ed.), *Johannesburg Pioneer Journals, 1888–1909* (Cape Town: Van Rieebek Society, 1986), 33.

³³ R. Adlam to H. Maxwell, 15 November 1901, CO 201, National Archives of South Africa Pretoria [NASA-P].

³⁴ Milner, 'Forestry on the High Veld', 10 February 1902, Governor's Office [GOV] 613, PS 360/01, NASA-P.

³⁵ *Ibid.*

³⁶ T. Sim, *Report of the Conservator of Forests* (**Pietermaritzburg**: publisher????, 1903), 3–4. Evans was born in Manchester, UK, before emigrating to Natal in 1875 to establish a farm. For a biography of Maurice Evans see G.M. Frederickson's introduction in, M.S. Evans, *Black and White in the Southern United States: A Study of the Race Problem in the United States from a South African Point of View* (New York: Longmans, 1915), x–xi.

³⁷ Sim, *Report of the Conservator of Forests*.

from May to July 1902 before writing an influential report that laid out the outlines for the colony's future department. He advised the government in Natal to hire Thomas Sim, a Scottish immigrant who had trained as a botanist in Scotland, England and America before emigrating to the Cape in 1889 to take up a role as the botanist at the King Williams' Town botanic garden. He joined the Forestry Department in 1894 and by 1898 had worked his way up to the position of District Forest Officer for King William's Town.³⁸

Once appointed as Conservator in Natal, Sim sought to reserve indigenous forests and help establish government and private timber plantations. Drawing on his experiences working with foresters such as Hutchins and Fourcade, Sim advocated a bioclimatic comparative method for selecting possible exotic trees to plant. He noted the general 'un-reliability of European text-books under South African conditions'.³⁹ He warned that 'even the behaviour of the numerous species can hardly be predicted from their well-known behaviour elsewhere. Success under similar climatic and thermal conditions is the safest guide when dealing with unknown exotics'.⁴⁰ But the Natal government abolished the Forestry Department and his position as **Conservator** three years later, in 1905; the second time in Natal's history when the attempt to start a forest conservancy was abandoned. Sim stayed in Natal, establishing a nursery in Pietermaritzburg, travelling to England in 1907 to represent South African timber producers, and writing a report on Portuguese East Africa's (Mozambique's) forests. Like Hutchins, Sim was a prolific author who worked hard to popularise ideas of forest conservation amongst educated English reading audiences.⁴¹ The closure of Sim's conservator post in Natal was a clear indicator of the fragile security of conservation reforms in Southern Africa at the time.

Around the same time Sim came to Natal, Hamilton Gould Adams, Lieutenant Governor for the **ORC**, brought over a 'young man' from the Cape Forestry Department to plant trees, which were seen as needed because of the devastating toll of the war on the countryside of the ORC. But Adams grew dissatisfied with the person, who lacked sufficient 'energy', and he was summarily dismissed after planting approximately 100,000 trees.⁴² Milner derided the experiment and the person.⁴³ British officials in the Transvaal and **Orange River Colony** took a lesson from this initial mistake: they tried later to only hire experienced professional foresters, preferably those from outside of the Cape.

³⁸ See T.R. Sim, 'Memoir Vol. 1', Stellenbosch University Engineering and Forestry Library.

³⁹ Sim, *Tree Planting in Natal*, 8.

⁴⁰ Ibid.

⁴¹ After leaving his post he authored numerous articles and books. See T.R. Sim, 'Recent Information Concerning South African Ferns and their Distribution', *South African Philosophical Society*, 16, 1 (1905): 267–300; *The Forests and Forest Flora of the Cape of Good Hope* (Aberdeen: Taylor and Henderson, 1907); *Forest Flora and Forest Resources of Portuguese East Africa* (Aberdeen: Taylor and Henderson, 1909); and *Tree-planting in South Africa* (Pietermaritzburg: Natal Witness, 1927).

⁴² Curzon to Hely-Hutchinson, 22 June 1903, No. 711-F, CO 201, NASA-P.

⁴³ Milner, 'Forestry on the High Veld', 10 February 1902, GOV 613, PS 360/01, NASA-P.

British administrators in Johannesburg and Bloemfontein worked closely together to design a forestry program focusing on afforestation and the protection of remaining indigenous forests.⁴⁴ Milner and his Kindergarten all agreed that the Transvaal, a region more ecologically and climatically diverse than the ORC, required its own conservator and forestry department. But they remained undecided about the future of the ORC, situated on a high plateau with extreme temperature fluctuations and dominated by wind-swept, treeless grasslands. They went back and forth on whether the seemingly inhospitable ORC should have its own forestry department and conservator or whether the reconstruction governments for the two former Boer republics should pool their resources.

Sir Harry F. Wilson, Colonial Secretary for the ORC, initially discussed the issue with the Director of Kew Gardens, William Thiselton-Dyer, and communicated his discussion to Adams. Thiselton-Dyer encouraged Wilson to pursue a larger survey, similar to Willcock's 1901 *Report on Irrigation in South Africa*.⁴⁵ Thiselton-Dyer told Wilson that he knew a forester in India who would be suitable for such a role.⁴⁶ Frank Smith, Director of Agriculture in the Transvaal, cast doubt on Thiselton-Dyer's idea of undertaking an extensive survey and questioned the quality of his proposed candidate. Smith noted that Thiselton-Dyer 'would like to rule the British Empire' by offering advice and promoting his candidate. Smith commented wryly that, 'his selections have many of them been anything but happy'.⁴⁷ Instead, Smith contacted Dr William Somerville, a former lecturer in forestry at Edinburgh University, to inquire about the right person.⁴⁸ In his views, Smith concurred with other British officials about the need to import a first-rate man: 'I should like a man versed in Continental and Indian methods'.⁴⁹ But failing this, he was 'inclined to obtain from the Cape because they have already had considerable experience there of forestry upon a large scale, and under conditions somewhat similar to those obtaining in this country'.⁵⁰

Milner himself was undecided on whether 'the afforestation of the Orange River Colony is a question of sufficient importance to justify the engagement of a good man independently of the Transvaal'.⁵¹ Yet he told Adams that he 'should certainly not raise any objection' if Adams saw it as

⁴⁴ The High Commissioner for the Transvaal and Orange River Colony and the Governor of the Orange River Colony sat in the Transvaal until 1907. Milner presided over all three roles until 1905.

⁴⁵ Adams to Milner, 29 October 1902, CO 201, NASA-P; Smith to Adam, 7 October 1902, CO 201, NASA-P. See W. Willcocks, *Report on Irrigation in South Africa* (Johannesburg, 1901). Also see Beinart, *The Rise of Conservation*, 176–82.

⁴⁶ Adams to Milner, 29 October 1902, CO 201, NASA-P.

⁴⁷ Smith to Adams, 7 October 1902, CO 201, NASA-P.

⁴⁸ Somerville was part of a broader Scottish 'lobby' that shaped forestry in India, the British colonies, and back in Britain. See J. Oosthoek, *Conquering the Highlands: A History of the Afforestation of the Scottish Uplands* (Canberra: ANU E Press, 2012), 38–39.

⁴⁹ Smith to Adams, 7 October 1902, CO 201, NASA-P.

⁵⁰ Smith to Adams, 7 October 1902, CO 201, NASA-P.

⁵¹ Milner to Adams, 20 October 1902, CO 201, NASA-P.

a sufficiently important issue to appoint a conservator specifically for the colony.⁵² Milner recommended that Adams invite Hutchins to write an interim report on the colony.⁵³ Milner's recommendation was based on his own decision to invite Hutchins to the Transvaal. This was part of a plan he had devised earlier that year: if he could not hire a forester straight away, he noted, 'I should engage a man at once—provisionally—if I could find him'.⁵⁴ Hutchins was seen as the 'right sort' of forester: Milner told Adams that '[Hutchins] has European training, Indian experience and recently great experience and success in South Africa'.⁵⁵ Turning down the offer of Hutchins, Adams informed Milner that he believed the best plan would be to get a 'thoroughly good man for the Transvaal', who could be loaned to the ORC.⁵⁶

As a result of this decision, the government sought to engage a leading Indian forester for the Transvaal. Milner sent a formal request to Lord Curzon, Viceroy of India, to loan the Transvaal one of India's leading foresters: Robert S. Troup, Deputy Conservator of Forests in Burma.⁵⁷ Curzon declined, noting that his own staffing was 'insufficient' at the time.⁵⁸ At the same time, Hutchins had approached Troup privately. He laid it on thick, describing the job as 'one of the best, in my opinion, since modern Forestry has been known amongst Englishmen'.⁵⁹ Hutchins's letter caused a stir at the highest level of the Indian government. Curzon discovered the exchange and wrote an inflamed letter to Walter Hely Hutchinson, Governor of the Cape Colony, complaining about Hutchins's, 'very serious breach of official etiquette'.⁶⁰ Curzon protested that Hutchins's letter would lower Troup's morale because he could not accept the Transvaal's unofficial offer. Hutchins probably did act officially (though not through the 'official' channel). The rule-bound and haughty Curzon may have used the pretence to keep one of India's most respected foresters. Indian officials had probably become afraid of losing their best officers as a result of other colonies constantly poaching them.

In the wake of the Troup fiasco, Milner and his entourage had to go back to the drawing board. Meanwhile, Hutchins had toured the Transvaal on instruction of the Milner administration, and had published his 1903 *Transvaal Forest Report*. His recommendations effectively laid down the scientific, legal and administrative blueprint for the future Transvaal Forestry Department. He recommended copying the *Cape Forest Act of 1888* and establishing an extensive network of plantations and forest reserves. His *Transvaal Forest Report* strengthened Hutchins's reputation among Colonial Office administrators, who later drew on his services in Kenya, Australia and New Zealand.

⁵² Milner to Adams, 20 October 1902, CO 201, NASA-P.

⁵³ Milner to Adams, 20 October 1902, CO 201, NASA-P.

⁵⁴ Milner, 'Forestry on the High Veld', 10 February 1902.

⁵⁵ Milner to Adam, 20 October 1902, CO 201, NASA-P.

⁵⁶ Adam to Milner, 23 October 1902, CO 201, NASA-P.

⁵⁷ Governor of Transvaal to Governor of India, 2 June 1903, CO 201, NASA-P.

⁵⁸ Governor of India to Governor of Transvaal, 11 June 1903, CO 201, NASA-P.

⁵⁹ Hutchins to R.S. Troup, 25 February 1903, CO 201, NASA-P.

⁶⁰ Curzon to Hely-Hutchinson, 22 June 1903, No. 711-F, CO 201, NASA-P.

On his Transvaal tour, Hutchins was unimpressed with what he saw. He criticised the over-cutting of indigenous forests during the ‘Kruger régime’,⁶¹ by both indigenous Africans and Boers. Africans came under scrutiny for practising slash-and-burn agriculture and destroying forests.⁶² Hutchins was prejudiced against the Boers. He lamented the destruction of indigenous forests at Woodbush by the ‘old Boers’.⁶³ To control both groups, Hutchins recommended demarcating forest reserves, policing them strictly and passing forest legislation. Hutchins, who lived in India during the debates leading up to the passing of the **1882 Madras Forest Act**, believed that over time—and with judicious policing—both the Afrikaner and African would adjust to, even enjoy, state forest conservancy.

Hutchins noted that most attempts to plant trees as commercial ventures had failed. However, the promise of plantations that would pay their way was evident. A number had been created around Johannesburg after the discovery of gold. Miners recognised that the high cost of imported mining timber could be overcome by production from plantations. Buoyed by the fast growth of some species, they raised money and invested in plantations. In his report of 1905 Hutchins noted:

Unfortunately, altogether fallacious estimates were based on the profits to be realised from these plantations. The rapid growth of isolated and avenue trees was taken as a basis for the growth of trees in masses. Sufficient allowance was not made for the reduced growth consequent on the increased drain on subsoil moisture when trees were planted in dense forest. It was often assumed that so many trees planted per acre would leave a nearly equal number of trees to fell at the final cutting; and, worst of all, there was little climatic selection.⁶⁴

He found that early attempts at plantations had proved to be disappointments.

[Insert Figure 5/2.1 HERE]

Figure 5. The landscape in the vicinity of Woodbush, c. 1910. The isolated patches of forest occur scattered through the natural grassland that was later planted to pine forest.

Source: Department of Agriculture, Fisheries and Forestry, Pretoria; photographer unknown.

Hutchins argued that people in the Transvaal needed to select the right trees for each region. Prior to his arrival, there had been no systematic program of tree planting. He was familiar with the *ad hoc* nature of tree planting having witnessed a similar phenomenon in the Cape: ‘the Transvaal, like others of the South African Colonies, has planted its trees entirely neglecting this most important consideration of climatic fitness’.⁶⁵

⁶¹ D.E. Hutchins to R.S. Troup, 25 February 1903, CO 201, NASA-P.

⁶² Hutchins, 21.

⁶³ Hutchins, 17.

⁶⁴ Hutchins, ‘Forestry in South Africa’, 18.

⁶⁵ Hutchins 1903: 124.

His report of 136 pages includes 83 pages that are devoted to species recommended as suited to the different parts of the colony. While most of these were species intended for other purposes than timber, he advocated planting eucalypts and Mexican pines in the Woodbush Range east of Pietersburg (Polokwane). Hutchins wrote that ‘the countries to which one would naturally look to furnish trees for the Transvaal are not winter rainfall areas such as the Mediterranean and California, but summer rainfall areas such as Mexico’.⁶⁶ Not only did Hutchins want timber plantations, he sought to sow self-propagating trees throughout the colony, where possible. With this in mind, Hutchins recommended planting self-propagating pines and wattles, along the south-eastern border of Swaziland.⁶⁷ He pointed to expanding populations of cluster pine (*Pinus pinaster*) at the Cape as an example of how this could proceed.⁶⁸

The Transvaal government appointed the Cape forester Charles Legat in 1904 to work as the first Assistant Chief Forester for the Transvaal, then under the Department of Agriculture.⁶⁹ Legat specifically followed Hutchins’s advice to establish government nurseries to supply seeds to government plantations and private individuals. Legat emphasised the uniqueness of the Transvaal, contrasting its environment to that of the Cape, where he first worked. Echoing Hutchins’s ideas, he distinguished South African conditions from those in Europe:

In Great Britain and other European countries there is no necessity for the Government to undertake work of this sort, because transplants of forest trees can be bought from private firms as cheaply as they could be produced by the Government, and because afforestation there, from a climatic point of view, is not such a pressing need as here ...⁷⁰

By 1905, the Forestry Department had received a land grant from the city of Pretoria to found a nursery at Irene and had purchased land to establish nurseries and small timber plantations at Ermelo, Lichtenburg, Belfast, Potchefstroom, and Gemsbokfontein.⁷¹

The timber found by trial and experience to suit Reef mining conditions best had small dimensions, six inches being ideal. Timber of this size could be grown quickly and profitably in plantations of Saligna Gum (*Eucalyptus grandis*) and Black Wattle (*Acacia mearnsii*), with little silvicultural treatment or cost; private growers in Natal and especially mining corporates in the Transvaal rapidly supplanted imported timber for the mines.

While early work on establishing plantations proceeded, protecting the indigenous forests presented a different set of challenges. Work began on demarcating forests and regulating forest access.

⁶⁶ *Ibid.*, 18.

⁶⁷ Hutchins, *Transvaal Forest Report*, 6.

⁶⁸ *Ibid.*

⁶⁹ Hutchins, ‘Forestry in South Africa’, 6.

⁷⁰ Conservator of Forestry, *Transvaal Department Agricultural Report 1903–4* (Pretoria: Government Stationary Office, 1905), 322.

⁷¹ Transvaal Department of Agriculture, *Annual Report of the Director of Agriculture 1st July 1905 to 30th June 1906* (Pretoria: Government Stationary Office, 1907), 14–15.

Protective measures caused friction between foresters and a variety of groups who utilised the indigenous forests. Race and class exacerbated, but did not cause, tensions relating to the onset of state forestry in South Africa. Historical interpretations of forestry in South Africa have tended to emphasise how *white* foresters ‘technically colonised’ forests once used by *black* Africans and reshaped landscapes previously managed by indigenous groups.⁷² This is, as a descriptive statement of particular localities, undoubtedly true. But foresters also battled with whites, both rich and poor, to demarcate forest reserves in Southern Africa. This resistance is best described as a larger resistance to the expanding bureaucracies of nation-states: white people protested forestry reforms in France and the United States.⁷³ It is safe to say that the impact of colonial forestry in Southern Africa often affected the lives of indigenous people more than *most* whites, but this was not true for all groups, such as poor whites in Knysna.

From the perspective of foresters, the actions of extractive capitalists and poor Africans alike had to be regulated. This put them at odds with the mining lobby, land commissions and agents employed to look after the interests of Africans. In the aftermath of the war, the Lands Commission and the **Agricultural Department** wanted to maintain a free flow of timber to the gold mines because they were ‘anxious not to cripple the mining industry’, then South Africa’s biggest export and source of taxes.⁷⁴ Adam Jamison, Commissioner for Lands, allowed the Transvaal Gold Mining Company Ltd to cut timber near Pilgrims Rest, Lydenburg, freely from July 1903 until such time as a legal licensing regime was in place.⁷⁵ Yet foresters sought to curtail this free-for-all, which they believed had led to the loss of most indigenous forest cover. A letter from the District Forester to the **Company** in September 1903 told them, ‘in future no person will be allowed to cut timber on Crown Lands without being duly provided with the necessary authority’.⁷⁶ This action led to protests from the Company, who complained that local Africans were ‘burning down the bush between Pilgrims Rest and Sabie’ for agricultural purposes. An official questioned the amount of taxes which the **Company** had to pay.⁷⁷ Legat responded to the Land Commissioner that the Company had miscalculated the tax, and told him that foresters had ‘no power’ to legally regulate whether Africans burnt land on private property, though he deplored it as an ‘evil’.⁷⁸ Regulating

⁷² See Tropp, *Natures of Colonial Change*, 1–7; Showers, *Imperial Gullies*. For East Africa see T. Sunseri, *Wielding the Axe: State Forestry and Social Conflict in Tanzania, 1820–2000* (Athens, OH: Ohio University Press, 2009).

⁷³ See for instance P. Sahlins, *Forest Rites: The War of the Demoiselles in Nineteenth-Century France* (Cambridge, MA, publisher???, 1998); K. Jacoby, *Crimes against Nature: Squatters, Poachers, Thieves, and the Hidden History of American Conservation* (Los Angeles and Berkeley: publisher???, 2003).

⁷⁴ A. Jamison to E.F. Bourke, 3 July 1903, G1938/4, Transvaal Agriculture Department [TAD] 435, **SANA-P**.

⁷⁵ A. Jamison to E.F. Bourke, 3 July 1903, G1938/4, TAD 435, **SANA-P**.

⁷⁶ Acting Forestry Assistant to E.F. Bourke, 22 September 1903, G1938/4, TAD 435, **SANA-P**.

⁷⁷ E.F. Bourke to Commissioner of Crown Lands, 30 November 1903, TAD 435, **SANA-P**.

⁷⁸ C. Legat to F. Smith, 20 January 1904, TAD 435, **SANA-P**.

legal and stopping illegal timber cutting in indigenous forests such as Pilgrims Rest and Woodbush took up a great deal of foresters' time.⁷⁹

The ORC presented a different set of challenges, largely environmental.⁸⁰ The Colony had little tree cover, neither indigenous nor exotic, a reflection of the extreme fluctuations in rainfall and temperature and the evolutionary history of the fire-dominated grassland biome. Many of its rural inhabitants did not see tree planting as a profitable enterprise, although many farmers had planted trees for local wood, shade and shelter. According to the first conservator, Carlson, many farmers living in rural areas objected to tree planting because they believed that forests encouraged ticks or they argued that trees could not grow in many areas without irrigation.⁸¹ There had been some larger-scale attempts by wealthier farmers to plant trees in well-watered sites. The largest of them was located on Fichardt's farm outside Bloemfontein, established around 1865; on Charles Newberry's Prynnsberg estate near the then Basutoland, which he established from 1881 onward;⁸² and on the Vereeniging Estates near the Vaal River (see earlier).⁸³ These were isolated initiatives, and if rural residents had overly negative attitudes, it was equally the case that Carlson overestimated the region's ability to produce commercially valuable timber, that is, beyond timber necessary for local usage.

An early appointment of a forester had led to the establishment of 100,000 young trees, most of them from species that were 'known to thrive in the country, but experiments are already being tried with other valuable trees'. After the **War** ended, the government encouraged a number of 'good British settlers' who migrated into the Colony, to plant trees.⁸⁴ Frank Smith, the Transvaal **Secretary** for Agriculture hoped to give saplings to farmers to eventually make 'a considerable portion of the country wooded'.⁸⁵ But reconstruction officials remained disappointed **with their achieving little for their efforts** to encourage the immigration of skilled farmers who would populate rural areas.

ORC officials decided finally to bring in the Cape's Conservator of Forests, Lister, to survey the countryside and recommend on how to establish a department. The decision to bring in Lister was an about-turn on the initial policy of joint management of the Transvaal and ORC, and followed the failure to recruit Troup, while recognising that forestry in the ORC would necessarily focus on experimenting with exotic trees in Southern African conditions. In 1904, Lister made

⁷⁹ See the analysis of Charles Edward Lane Poole's time at Woodbush during the reconstruction period in J. Dargavel, *The Zealous Conservator: A Life of Charles Lane Poole* (Perth: University of Western Australia Press, 2008), 16–18. Lane Poole was a British forester who disliked his time in Southern Africa.

⁸⁰ **T. Smith to 25 July 1902.**

⁸¹ K.A. Carlson, *Forestry in the Free State, Bulletin 6, Union of South Africa* (Pretoria: Government Printer, 1912), 1.

⁸² *Dominions Royal Commission*, 290; **Adam** to Milner, 23 August 1902, CO 201, NASA-P.

⁸³ Carlson, *Forestry in the Free State*, 4.

⁸⁴ Milner to **Adam**, 20 October 1902, CO 201, NASA-P.

⁸⁵ Smith to Adams, 7 October 1902, CO 201, NASA-P.

recommendations to Wilson about how to create a forestry program.⁸⁶ Wilson then recruited K. A. Carlson, a Norwegian who worked as a forester in the Cape, and who arrived in the ORC to direct forestry efforts there.

Carlson worked alongside Colin C. Robertson, who was appointed in late 1903.⁸⁷ Robertson was the well-connected nephew of H. F. Wilson, the Colonial Secretary (1901–7), former private secretary for Chamberlain and member of the secret Cambridge ‘Apostle’ society.⁸⁸ Wilson’s influence no doubt helped to build on Adam’s earlier actions, but by no means did he ‘introduce’ forestry in the Colony (as indeed, forestry began as part of the earliest stage of reconstruction in mid 1902), as suggested by Carlson, who was probably seeking to flatter either Wilson or Robertson.⁸⁹ Robertson always showed great talent as a forester, was described as ‘a monument of integrity’, and like so many of his peers, had a reputation as ‘a prodigious worker’, but his family connections may help explain his later rapid rise up the ranks of the Union Forestry Department’s **Research Branch**. Robertson went to Yale University for his Master’s degree in 1905, returning in 1907.

In 1906, during his summer vacation while at the Yale forestry school, Robertson conducted a reconnaissance of Mexico over several months, primarily with a view to finding tree species potentially suited to the ORC, but also with the requirements of the other provinces in mind. This responded to Hutchins’s recommendations (and perhaps Fourcade’s too) and followed on a ‘hurried’ visit to the same country that G. A. Wilmot made in 1905. Robertson’s approach was thorough, and he consulted leading taxonomists of the conifers including G. A. Shaw at the Arnold Arboretum at Harvard, and the ‘veteran collector of the Mexican flora’, C. G. Pringle, visited forests in several states of Mexico, and brought back seed of candidate species. His unpublished report ‘Notes on the Trees of Extra-tropical Mexico’ served as his dissertation for his **Master’s** degree at Yale. Robertson planted trials of the Mexican pines on his return, and some of the trees are still to be seen in the arboretum in Bloemfontein.⁹⁰

Forestry in 1905

Work in forestry had only just begun when it was threatened by the storm raised by Milner’s controversial policies. Milner had arrived in the Cape Colony in 1897 with the support of Conservatives and Liberals alike, but his close relationship with Chamberlain, and the decisions he

⁸⁶ **65** H.F. Wilson to High Commissioner, 29 December 1904, enclosing J. Storr Lister, ‘Forest Officers: Scientific Training Of’, 29 November 1904, TAD 540, 1181/06, NASA-P; K.A. Carlson, *Transplanted: Being the Adventures of a Pioneer Forester in South Africa* (Pretoria: Minerva Drukkers, 1947), Chapter 7.

⁸⁷ H. Cox to C. Robertson, 13 January 1903, CO 201, NASA-P.

⁸⁸ On Wilson, see W.C. Lubenow, *The Cambridge Apostles, 1820–1914: Liberalism, Imagination, and Friendship* (Cambridge: Cambridge University Press 1998), 158.

⁸⁹ Carlson, *Forestry in the Free State*, 1.

⁹⁰ C.C. Robertson, ‘The Cultivation of Mexican Pines in the Union of South Africa, with Notes on the Species and their Original Habitat’, reprinted from *Empire Forestry Journal* (1933), 1–83, 2–3; C.E. Legat, ‘The Late Mr. C. C. Robertson’, *Journal of the South African Forestry Association*, 15 (1947): 6–7; letter Mrs D.M. Rowsell to H.A. Lückhoff, early 1982, Sabie Forestry Museum.

made as **Commissioner** engendered anger among Afrikaners and Africans, and disloyalty among politicians in Britain. Back in Britain, the political winds drove against Chamberlain, who went into the 1905 election campaign proposing to abandon Britain's free-trade status to move to a system of imperial preferences and Federation. Within South Africa, Milner's reputation suffered greatly from a number of political blunders; the most disastrous being his decision to import Chinese workers into the mining industry beginning in 1904, the last year of his appointment. This inflamed the former British *uitlanders*, an Afrikaans term for 'foreigners' who worked in the Transvaal, as well as Afrikaner nationalists, who were represented increasingly by the *Het Volk* Party, an organisation attempting to provide political and economic power to Afrikaners, especially poorer ones. Boers in rural areas bristled at overt and secret attempts to Anglicise rural districts.⁹¹ Hyam and Henshaw argue that 'Milner's long-term legacy was the poisoning of Anglo-South African relations for fifty years'.⁹²

With his popularity flagging, Milner worried that forestry was perceived by many Transvaal residents to be just another of 'Milner's fads', something ultimately to be discarded when he left.⁹³ Natal's decision to disestablish forestry that year did little to assuage this concern. On top of this, forestry had received very little funding from the Transvaal government for that year. When one considers the vast sum of money spent on reconstruction—around £19 million—the fact that Milner complained resentfully that Transvaal's **parliament** could not appropriate a measly £100,000 per annum on afforestation shows how unimportant forestry was to Transvaal's political and economic elite. Milner would at that time have agreed heartily with J. M. Powell's description of Australian colonial forestry: 'recognisable forestry—I mean as a scientific and technical field—was nonetheless a minor enclave, where lonely and frustrated inhabitants basked from time to time in the imperial vision'.⁹⁴

Forestry in the period of reconstruction following the Anglo-Boer War had no well-shaped policy or institutional structure. However, **the perception of the need** for a reliable domestic supply of timber—driven by the mineral revolution, which drew with it the railways, to substitute for imports, and to alleviate the destructive extractive pressures on the small and diminishing indigenous forests—was growing in strength and clarity, and the option of afforestation was becoming obvious to many. Foresters with experience in the successes and failures of afforestation trials in the Cape had strengthened their leadership role across what was to become the Union of South Africa, and had begun energetically to expand trials and forest nurseries at suitable sites throughout the territory. Fortuitously or not, attempts to import heads of the new forest departments from the imperial network had failed, leaving the field open to local expertise. From the 1890s, the Cape government

⁹¹ Darwin, *The Empire Project*, 248. Plans included having Rhodes and other Randlords purchase land quietly in rural districts to provide farms for Britons.

⁹² R. Hyam and P. Henshaw, *The Lion and the Springbok: Britain and South Africa since the Boer War* (Cambridge: Cambridge University Press, 2003), 54. Also see J. Benyon, *Proconsul and Paramountcy in South Africa: The High Commission, British Supremacy and the Sub-continent, 1806–1910* (Pietermaritzburg: University of Natal Press, 1980).

⁹³ Milner, *The Nation and the Empire: Being a Collection of Speeches and Addresses*, 86.

Ibid., 86.

⁹⁴ J.M. Powell, *An Historical Geography of Australia* (Cambridge: Cambridge University Press, 1988), 37.

had strengthened its capacities by sending candidates to Cooper's Hill for graduate training, while others had joined the service after education overseas at their own initiatives.⁹⁵ These formed the core of the professional forestry capacity that served the **department of forestry** in the Union government, assuring the South Africanisation of forestry, a process reinforced by a coherent policy of forest education, the subject of the following chapter.

⁹⁵ Cape foresters sent to Coopers Hill included C. B. McNaughton, J. S. Henkel, R. Burton, and K. A. Carlson. Those educated at their own initiative included C. C. Roberston and G. A. Wilmot (Yale) and E. J. Neethling. See also Chapter 4.

