

DECOLONIZING VETERINARY HISTORY: ON THE BENEFITS OF TELLING THE STORY OF DR JOTELLO SOGA, THE FIRST SOUTH AFRICAN VETERINARIAN

by

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Although nearly erased from history, the first formally trained South African veterinarian was the little-known Dr Jotello Festiri Soga (1865-1906), son of the Xhosa Reverend Tiyo Soga and his Scottish wife. By detailing Soga's remarkable trajectory, this paper helps to decolonize the history of veterinary medicine, long dominated by the 'great deeds' of a succession of white men, and only recently beginning to diversify. This sort of knowledge decolonization has been increasingly advocated by numerous scholars and a growing number of students globally. Dr Soga qualified as a Member of the Royal College of Veterinary Surgeons in 1886, after studying at the Royal (Dick's) Veterinary School in Edinburgh. Appointed Assistant Veterinary Surgeon for Cape Colony in 1889, he made pioneering contributions to veterinary toxicology and vaccination methods over the next decade. Soga was also one of the earliest to warn of the impending disaster of rinderpest, and he played an instrumental role in the containment and eventual eradication of this devastating disease. He provided essential help in communicating with indigenous South Africans about livestock diseases, although his feelings about his countrymen were sometimes conflicted. The processes of decolonization are complex, and frequently difficult, but the benefits are great.

Keywords: veterinary history; South Africa; decolonization

INTRODUCTION

How we tell our histories matters in more ways than we usually imagine. That is certainly what many of the students in South Africa thought in 2015 when there was a 'student-led rebellion' at the University of Cape Town. Students occupied administrative offices and demanded that the

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¹ Lungisile Ntsebeza, 'Whose history counts: an introduction', in *Whose history counts: decolonising African pre-colonial historiography* (ed. J. Bam, L. Ntsebeza and A. Zinn), pp. 1–12 (African Sun Media, Stellenbosch, 2018).

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statue of colonial leader Cecil Rhodes be removed and the curriculum 'decolonized'.² The statue was removed within a month but decolonizing the curriculum proved to be more complicated. In 2016, during protests over a fee increase for university students, demands to decolonize the university curricula continued and resulted in protests, clashes with police, and a complete shutdown of all South African universities for a period of time.³

In some ways, this is not new but similar to earlier and subsequent calls to change the Eurocentric focus of so much of our education and knowledge production. Nor are such pleas for change unique to South Africa, as we have them now in many countries and regions around the globe. We also find calls for decolonization increasingly common in academic disciplines from geography, ecology and history, to sociology and education, to medicine and public health. In African countries, it is not infrequently said that the Eurocentric curriculum needs to be replaced or accompanied by an Afro-centric curriculum that takes 'as its point of departure, African conditions and the experiences of Africans'.

The ultimate question is: whose history counts and why? Histories can maintain the status quo, and perpetuate half-truths, biases and inequalities, or they can contribute to greater historical accuracy, equality and emancipatory change. In the related fields of the history of science, global health, and the histories of veterinary and human medicine, 'a specific agenda for decolonization has yet to be articulated' or agreed on in any detail.⁷

- 2 Ibid., pp. 4-5.
- 3 Ibid., p. 5.
- 4 The Black Lives Matter movement and the current debate over the AP (Advanced Placement) African American History class in the USA are cases in point. For a recent overview, see Anemona Hartocollis and Eliza Fawcett, 'The College Board strips down its A.P. curriculum for African American Studies', *New York Times*, 9 February 2023, https://www.nytimes.com/2023/02/01/us/college-board-advanced-placement-african-american-studies.html (accessed 20 March 2023).
- 5 Sarah A. Radcliffe, Decolonizing geography: an introduction (Polity Press, Cambridge, 2022); Kimberley Peters, 'The territories of governance: unpacking the ontologies and geophilosophies of fixed to flexible ocean management, and beyond', Phil. Trans. R. Soc. B 375, 1-10 (2020); Amanda Behm, Christienna Fryar, Emma Hunter and Elisabeth Leake, 'Decolonizing history: enquiry and practice', Hist. Worksh. J. 89, 169-191 (2020); Jesse B. Bump and Ifeyinwa Aniebo, 'Colonialism, malaria, and the decolonization of global health', PLoS Global Public Health 2, 1-12 (2022); Ali Murad Buyum, Cordelia Kenney, Andrea Koris, Laura Mkumba and Yadurshini Raveendran, 'Decolonising global health: if not now, when?', BMJ Global Health 5, 1-4 (2020); Kareem Zuhdi, Ayesha Khan, El-Kolalli, Ayesha Anwer and Catherine Wilkins, 'Spotlight on El-Zahrawi, father of modern surgery: reflections on his impact on contemporary medicine and the need for greater medical education on pivotal figures in medicine', Teach. Learn. Med. January, 1-5 (2023); Megan Youdelis, Justine Townsend and Jonaki Battacharrya, 'Decolonial conservation: establishing indigenous protected areas for future generations in the face of extractive capitalism', J. Polit. Ecol. 28, 1-31 (2021); Michalinos Zembylas, 'Decolonial possibilities in South African higher education: reconfiguring humanising pedagogies as/with decolonising pedagogies', S. Afr. J. Educn 38, 1-11 (2018); Jasper Knight, 'Decolonizing and transforming the geography undergraduate curriculum in South Africa', S. Afr. Geogr. J. 100, 271-290 (2018); Xolela Mangcu, 'Decolonizing South African sociology', Du Bois Rev. 13, 45-59 (2016); Nicolas Lainé and Serge Morand, 'Linking humans, their animals, and the environment again: a decolonized and more-than-human approach to "One Health", Parasite 27, 1-9 (2020); and Diana K. Davis, The arid lands: history, power, knowledge (MIT Press, Cambridge, MA, 2016).
 - 6 Ntsebeza, op. cit. (note 1), p. 6.
- 7 Bump and Aniebo, *op. cit.* (note 5), p. 2. The history of veterinary medicine has long been focused on the military, livestock production and food safety in the 'developed' world. The authors of most histories of veterinary medicine have been primarily Anglo-European and other elite men until fairly recently. Over the last couple of decades this has started to change, especially in the veterinary history of Africa and Asia, with broader representation in authorship, as well as greater diversity of topics covered within veterinary history. See, for example, Wesley Mwatwara and Sandra Swart, "Better breeds?" The colonial state, Africans and the cattle quality clause in Southern Rhodesia, c. 1912–1930', *J. Southern Afr. Stud.* 42, 333–350 (2016); Abigail Woods, Michael Bresalier, Angela Cassidy and Rachel Mason-Dentinger, *Animals and the shaping of modern medicine: One Health and its histories* (Palgrave Macmillan, Cham, 2018); Susan Jones and Peter Koolmees, *A concise history of veterinary medicine* (Cambridge University Press, Cambridge, 2022); Alan Mikhail, 'Veterinary medicine in nineteenth-century Egypt', in *Plague and contagion in the Islamic Mediterranean* (ed. N. Varlik), pp. 117–134 (Amsterdam University Press, Amsterdam, 2017); Saurabh Mishra, *Encounters of the Raj: livelihoods, livestock and veterinary health in North India, 1790–1920* (Manchester University Press, Manchester, 2015); Diana K. Davis, 'Brutes, beasts and empire: veterinary medicine and environmental policy in French North Africa and British India', *J. Hist. Geogr.* 34, 242–267 (2008); and Wesley Mwatwara and Sandra Swart, "'If our cattle die, we eat them but these white people bury and

Decolonization is a complex and ongoing process but some general principles often taken into account include 'critical reflection, and cross-cultural dialogues, while also maintaining the importance of decentering European narratives and bringing to the fore hidden and erased Indigenous voices'.⁸

Importantly, as the historian of science Jesse B. Bump and the geneticist Ifeyinwa Aniebo have recently reminded us, 'decolonization is not fundamentally a rejection of knowledge accumulated under colonial arrangements, nor a return to pre-colonial conditions; instead it is a question of how we change objectives and accountabilities in favor of development and autonomy, and how we use that knowledge to move away from the production of inequality and dependency'. ⁹

What are the implications, then, of the fact that the first formally trained veterinarian of any race or ethnicity in South Africa, a biracial man named Jotello Soga (MRCVS 1886), was nearly erased from history for about a century, and what do we have to gain by writing him back in? In this paper I argue that bringing the hidden history of this half-Xhosa/half-Scottish man to the fore has multiple potential benefits for many stakeholders in South Africa and beyond. These benefits include giving credit where it is due, inspiring many different pools of students to become veterinarians, diversifying the profession, combating racism and exclusion, and thus likely increasing animal care services in under-served areas and stimulating the economy. Further benefits could potentially be to provide new perspectives on veterinary medicine and treatment in local settings which should lead to innovations that improve care and lower costs, decrease inequality, and thereby improve overall quality of life. Moreover, there are benefits to expanding the ways in which veterinary history is written, with more appropriate attention to myriad historical actors, both indigenous and European immigrants, in an effort to place indigenous peoples more centrally in their histories, as many Africanist scholars have been trying to do for a number of years.

Telling Dr Soga's story as fully as possible, despite the partial archive, demonstrates his numerous achievements, brilliance and hard work. At the same time, however, it also reveals some of the difficulties and complexities for efforts at 'decolonization' of which we should be aware. This is especially true for those like Dr Soga, who belonged to more than one ethnic or culture group and had to straddle two (or more) worlds, often a difficult task.

BACKGROUND AND FAMILY HISTORY

Jotello Festiri Soga attended the Royal Dick Veterinary School in Edinburgh, Scotland, and qualified as an MRCVS (Member, Royal College of Veterinary Surgeons) in 1886, becoming the first South African of any race/ethnicity to become a qualified veterinarian (see figure 1). Born in 1865 in the Transkei, he died in 1906 after an intense career of veterinary service in

burn them!" African livestock regimes, veterinary knowledge and the emergence of a colonial order in Southern Rhodesia, c. 1860–1902', *Kronos* 41, 112–141 (2015).

⁸ Efram Sera-Shriar, 'From museumization to decolonization: fostering critical dialogues in the history of science with a Haida eagle mask', Br. J. Hist. Sci. 1–20 (2023), at p. 7. (doi:10.1017/S0007087423000043)

⁹ Bump and Aniebo, *op. cit.* (note 5), p. 9. To do this, scholars have long pointed out that the underlying structures that foster inequality in formerly colonial regions, such as education, infrastructure, banking and finance, production systems, health care, etc., need to be taken into account and likely reconfigured. See, for example, Robert G. Wallace, Luke Bergmann, Richard Kock and Marius Gilbert, 'The dawn of structural One Health: a new science tracking disease emergence along circuits of capital', *Soc. Sci. Med.* 129, 68–77 (2015).

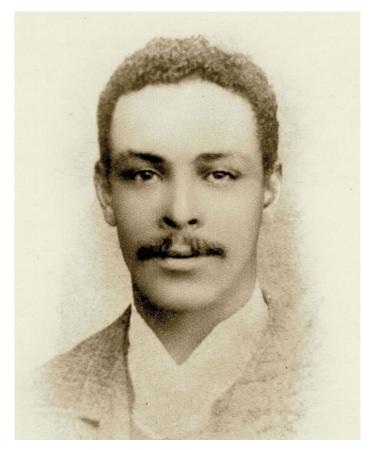


Figure 1. Photograph of Jotello Festiri Soga. Source: Public Domain via https://www.blackpast.org/global-african-history/jotello-festiri-soga-1865-1906/.

British Cape Colony during which he made several breakthroughs and significant contributions. He became well known and respected throughout the region. Despite these achievements, less than a decade after his death, in 1914, the influential veterinarian Arnold Theiler claimed that the Afrikaner Philip R. Viljoen (MRCVS 1912) was the first formally trained and qualified South African veterinarian. This became widely accepted 'received wisdom', though patently false, often repeated as the truth. It would take about a century after Soga's MRCVS for the second non-white from South Africa to graduate as a qualified veterinarian, in 1985. ¹⁰

Jotello Festiri Soga was born in the Eastern Cape, the youngest son of Reverend Tiyo Soga (1829–1871, from a noble, probably royal, Xhosa family) and his Scottish wife, Janet Burnside (1827–1903).¹¹ Tiyo and Janet had met in Scotland while Tiyo was studying for

¹⁰ See André Hess, 'Going back in history', *OP News* **16**, 7–8 (2016), https://library.up.ac.za/c.php?g=879032&p=6317572 (accessed 22 April 2023). I am grateful to Dr Bradford Wittbooi, from the 1994 graduating class, for bringing this article to my attention and to André Hess for helping me find it.

¹¹ Nomathamsanqa Tisani, 'The enigmatic Nosuthu Jotelo', *Mail & Guardian*, 30 November 2020, https://mg.co.za/special-reports/2020-11-30-centre-for-women-gender-studies (accessed 9 September 2022).

the ministry in the United Presbyterian Church, and they were married in Glasgow in February 1857. ¹² Upon returning to the Cape later that year, they founded a mission at Mgwali, a few miles from King William's Town. Tiyo is notable for becoming the first Xhosa ordained minister in South Africa and for contributing to early struggles for Black equality and power and helping to develop early thinking on African Nationalism. ¹³ The couple lived for a decade at Mgwali until moving to Tutura to found a new mission in 1867. Tiyo and Janet had four sons and three daughters. ¹⁴

After Tiyo's death in 1871, Janet returned to Scotland with her children, settling in Fife, and all of the children were educated at Dollar Academy with financial help from the United Presbyterian Church. The oldest three sons had been sent to Scotland for education the year before, in 1870. Of the three daughters, Isabella (1864–1884), Frances Maria Anna (1868–1942) and Jessie Margaret (1870–1954), none married and only Isabella and Frances returned to South Africa, where they worked as missionaries. ¹⁵ Jessie stayed in Scotland.

While relatively little has been published about the daughters, more is known about the sons, all of whom had notable lives and careers. The oldest son, William Anderson Soga (1858–1916), studied medicine at Edinburgh and received his medical degree from Glasgow University in 1883, possibly inspired by his father's brief experience with medical training in Scotland (see note 12). He married a Scottish woman (Mary Agnes Meikle), established the Miller Mission in the Eastern Cape and practised as a physician. ¹⁶ William also had an interest in anthropology and local medical knowledge and treatments. He wrote his medical thesis on a local indigenous group, the Bomvanas. ¹⁷ The final third of this thesis is devoted to their indigenous medical knowledge and practices, including the use of botanicals and some references to treating animals. ¹⁸ He is noted as the first non-white to receive a medical degree in South Africa and to qualify as a doctor. In his later years he also served as a justice of the peace. ¹⁹

The second son, John Henderson Soga (1860–1941), became a minister like his older brother and father, founded a mission at Mbonda, and later took over his brother's Miller Mission. He, too, married a Scottish woman, Isabella Brown. John Henderson was a

¹² For more details about the Soga family, see Anon., 'Janet Burnside Soga', https://www.sahistory.org.za/people/janet-burnside-soga (2011); Natasha Erlank, 'The history of the Soga family, race and identity in South Africa in the late 19th and early 20th centuries', in the Oxford research encyclopedia of African history (ed. Thomas Spear), 26 May 2021, https://doi.org/10.1093/acrefore/9780190277734.013.776; and Joanne Davis, 'Family trees: roots and branches: the dynasty and legacy of the Reverend Tiyo Soga', Stud. World Christ. 21, 20–37 (2015). It is relevant to note that Tiyo Soga had two months' medical training while studying for the ministry in Scotland and that he supported inoculation. See *ibid.*, p. 21. He is reported to have helped with smallpox inoculation when returning to the Eastern Cape. See Erlank, op. cit. (this note), p. 5.

¹³ John M. Mackenzie and Nigel R. Delziel, *The Scots in South Africa: ethnicity, identity, gender and race, 1772–1914* (Manchester University Press, Manchester, 2007).

¹⁴ Erlank, op. cit. (note 12), p. 11.

¹⁵ Ibid.

¹⁶ For more detail and fascinating discussion, see Surya Chetty, 'The scientific life of William Anderson Soga', conference paper, 'African scientists in colonial and postcolonial contexts conference, Royal Society, London, 2022.

¹⁷ I am grateful to Professor Surya Chetty for bringing William's thesis to my attention and for sharing her conference paper with me

¹⁸ Dr William Soga's 1894 hand-written MD thesis for his degree at the University of Glasgow is titled 'The ethnology of the Bamvanas of Bomvanaland, an aboriginal tribe of South East Africa; with observations upon the climate and diseases of the country, and the methods of treatment in use among the people'. It is available at: https://theses.gla.ac.uk/73985/1/1894SogaMD.pdf (accessed 13 September 2022).

¹⁹ Erlank, op. cit. (note 12).

published author and wrote two books on the peoples of the region, as well as a translation of *The pilgrim's progress* into Xhosa.²⁰

The third son, Allan Kirkland Soga (1862–1938), was also a writer and was active in government and in politics. He had studied law and humanities at Glasgow University, earning his degree there before returning to South Africa. After working as a labour agent and magistrate, his interests turned towards journalism and politics and he became the editor and manager of the African newspaper *Izwi La Bantu*. Allan Kirkland is often credited with being an influential figure in the founding of the South African Native National Congress in 1912 (later known as the African National Congress from 1923) and a champion of equal rights in South Africa. Allan Kirkland was the only son to marry a South African Xhosa woman, Ellen Mba.

Jotello Festiri Soga, the fourth son and youngest brother, was born at Mgwali Mission and was only six years old when his father Tiyo died and his mother took him and his sisters to Scotland. After completing his primary education at Dollar Academy, he entered the Royal (Dick's) Veterinary College in autumn 1881 (see figure 2) and qualified as an MRCVS in 1886, at the age of only 21. Despite having to repeat the RCVS exam for his first year at the Veterinary College, he rose to distinction with high marks in botany, and passed the final year RCVS ('pass') exam on 22 April 1886 to obtain the MRCVS. He was the first 'Black' member of the Royal College of Veterinary Surgeons. Though he was also likely the first formally trained indigenous

- 20 *Ibid*; Anon., *op. cit.* (note 12). John Henderson's translation was of the second half of *The pilgrim's progress*, the first half having been translated into Xhosa earlier by his father, Tiyo.
 - 21 Erlank, op. cit. (note 12).
 - 22 Ibid; Chetty, op. cit. (note 16), p. 7.
- 23 Anon., 'Examinations of the Royal College in Scotland', *Vet. J.* 22–23, 425 (1886). He was entered in the student register at the Royal (Dick's) Veterinary College for the terms beginning November 1881, November 1882, November 1883 and summer term 1884. (See Royal Veterinary College, *Student Register EUA IN2/4/1*, University of Edinburgh, 1881–1884, Centre for Research Collections, Edinburgh. Special thanks to Elin Crotty for her help with this information.) It is possible that Dr Jotello Soga was inspired to attend veterinary school, in part, by family stories of the widespread impact of the epizootic of CBPP that struck Cape Colony in the 1850s, resulting in very high cattle mortality, accompanied by the disastrous Xhosa cattle-killing episode of 1856–1857. Although this is speculative, stories may have been told about this period of terrible hardship since Dr Soga's grandfather was 'Soga Senior', an important advisor to two of the most important leaders of the Xhosa: Ngqika and later Sandile. Dr Soga's father, Tiyo, returned from being ordained in Scotland in 1857, just after the cattle-killing episode and so witnessed the difficult aftermath. Moreover, Tiyo had spent his childhood herding cattle until he went to school in his mid-teenage years, and was a proponent of inoculation, of which Jotello likely knew. Jotello, too, would have had experience with livestock and might have done some herding before moving to Scotland after his father's death. Although Tiyo died in 1871, Soga Senior lived until 1878 and may have told stories about this period that could have motivated a young Jotello Soga to decide to become an animal doctor in order to help the livestock in his home country. For family details see Davis, *op. cit.* (note 12); Erlank, *op. cit.* (note 12).
- 24 Recorded in the 'Records of Pass Examinations from 1877–1890', Archives of the Royal College of Veterinary Surgeons (RCVS), London, item RCVS/3/1/6. See also 'Records of First and Second Examinations from 1873–1886', item RCVS/3/1/4, for the earlier exams. For details on veterinary education and the examinations given by the RCVS, see Iain Pattison, *The British veterinary profession, 1791–1948* (J. A. Allen, London, 1984). Special thanks to Clare Boulton and Lorna Cahill Bannister at the RCVS for their help with this information. The standard length of study for students of veterinary medicine at this time was approximately two and a half years. See Royal (Dick's) Veterinary College, *Prospectus, 1884–85* (Royal (Dick's) Veterinary College, Edinburgh, 1884), pp. 11–12. See also O. Charnock Bradley, *History of the Edinburgh Veterinary College* (Oliver & Boyd, Edinburgh, 1923). As Soga did not pass all of his Veterinary College exams at the first attempt, it appears that he was likely made to take some extra time for study and this may explain the roughly 4.5 years it took him to obtain the MRCVS.
- 25 Clare Boulton, 'Making history: UK's first black vet', *RCVS Knowledge Blog*, 26 October 2012, https://www.rcvskblog.org/making-history-uks-first-black-vet/ (accessed 18 September 2022). It is mentioned in several places that Dr Soga won a gold medal in botany during his studies at the Veterinary College. See, for example, Thelma Gutsche, 'Soga, Jotello Festiri', in *Dictionary of South African biography* (ed. D. W. Kruger and C. J. Beyers), pp. 746–747 (Tafelberg-Uitgewers Ltd, Cape Town, 1977). There are no records, however, at the University of Edinburgh (current home of the Royal (Dick) School of Veterinary Studies), at the Royal College of Veterinary Surgeons (RCVS) or at the Royal Highland Agricultural Society of Scotland (RHASS) of any medals for botany

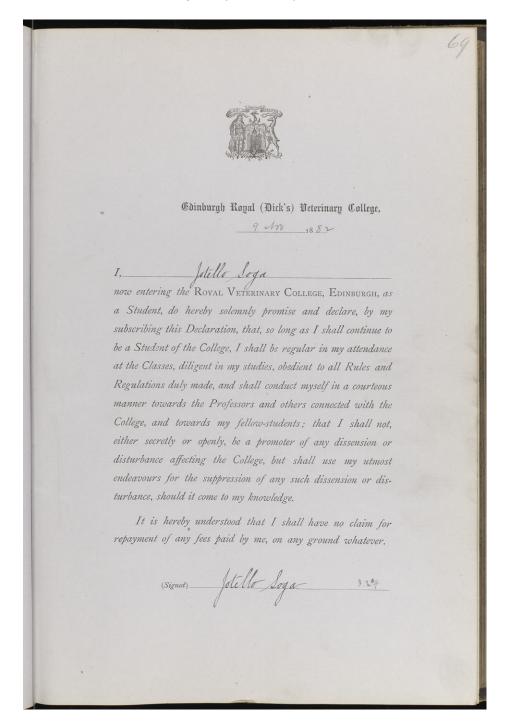


Figure 2. Jotello Soga's Certificate of Matriculation, with his signature, Royal (Dick's) Veterinary College, 1882. Source: *Declarations by students*, EUA IN2/4/1, University of Edinburgh, courtesy of the Centre for Research Collections.

veterinarian in Sub-Saharan Africa, he was not the first on the African continent. Egyptians were formally trained at the French veterinary school built in Egypt, in the 1820s and 1830s, as well as educated in France itself about half a century before Dr Soga obtained his MRCVS in 1886.²⁶

Dr Soga returned to South Africa later in 1886, and set up private veterinary practice in the Eastern Cape, where he worked for about three years. This was a time of recurrent drought, failed harvests, periodic locust swarms and many serious livestock diseases that had been plaguing the South African region for decades.²⁷ The need for qualified and competent veterinarians was growing and the office of the Colonial Veterinary Surgeon for British Cape Colony had been established in 1876 and staffed by the Englishman Dr William Branford until 1879.²⁸ It was not until 1880 that Dr Duncan Hutcheon, MRCVS 1871, a Scotsman who had also attended the Royal (Dick's) Veterinary College, was appointed as Colonial Veterinary Surgeon that the office became organized and effective.²⁹ By this time a few private veterinarians had begun to arrive in Cape Colony. Dr Hutcheon communicated with some of these and several of the military veterinarians to try to understand and better treat the livestock diseases in the region. He also recruited the first colonial bacteriologist, Dr Nunn, in 1887, a crucial improvement in understanding livestock disease and veterinary care.³⁰

Two years later, in 1889, the first Assistant Veterinary Surgeon for Cape Colony, Dr J. D. Borthwick (MRCVS 1888), a Briton, was appointed by Dr Hutcheon. Borthwick was appointed in March as a Junior Veterinary Surgeon with pay of 400 pounds sterling a year. Eight months after this, in November 1889, Dr Soga was appointed as an Assistant Veterinary Surgeon with pay of 300 pounds sterling a year. He was second in a team of government veterinarians that would become as large as eight members over the next few years. He was much esteemed by the Colonial Veterinary Surgeon, Dr Hutcheon, and was given important posts. Soga was sent to Fort Beaufort in the east and charged primarily with inoculating for a problematic disease known as lung-sickness. Like his father and two of his brothers, he married a Scottish woman, Catherine Chalmers, in 1892,

being awarded to Jotello Soga. The earliest source to mention a gold medal for botany is one of his obituaries but it does not state that it was awarded during his veterinary education. See Anon., 'The late J. F. Soga, MRCVS', *Agr. J. Cape of Good Hope* **30**, 6–7 (1907). It may be that he won a local competition in South Africa for botany.

- 26 Pierre Nicolas Hamont, L'Égypte sous Méhémet-Ali (Léautey et Lecointe, Paris, 1845); Mikhail, op. cit. (note 7).
- 27 William Beinart, *The rise of conservation in South Africa: settlers, livestock, and the environment, 1770–1950* (Oxford University Press, Oxford, 2003), ch. 4. See also Thelma Gutsche, *There was a man: the life and times of Sir Arnold Theiler KCMG of Onderstepoort* (Howard Timmins, Cape Town, 1979). The British had been in the Cape and much of the surrounding region since the early nineteenth century, and their influence, power and control had grown over the course of the century.
 - 28 Beinart, op. cit. (note 27), p. 132.
 - 29 Gutsche, op. cit. (note 27), ch. 2.
 - 30 Ibid., p. 22.
- 31 Ernest Kilpin, *The Cape of Good Hope Civil Service List 1891* (Juta, Cape Town, 1891), p. 26. This pay (and differential between the two) remained for several years. By about 1896, however, Soga had attained the same pay as Borthwick at 400 pounds per year, and the other assistant veterinary surgeons, Dixon, Pattison, Crowhurst and Hutchence, were paid 300 pounds per annum. See John Anderson, *The Colonial Office List for 1896* (Harrison & Sons, London, 1896), p. 98. By 1898, the year before he retired, Soga was earning the highest pay at 450 pounds per year, with Borthwick and the others at 400 per year. See W. H. Mercer and A. E. Collins, *The Colonial Office List for 1898* (Harrison & Sons, London, 1898), p. 102.
- 32 In 1892, these two Assistant Veterinary Surgeons were joined by the German Otto Henning, and by December 1892 four more veterinary officers were appointed: Drs Crowhurst, Pattison, Dixon and Hutchence. Even with a total of eight veterinary officers, the Colonial Veterinary Service in the Cape was severely short-staffed due to the size of the territory and the number of livestock. See D. Hutcheon, Reports of the Colonial Veterinary Surgeon and the Assistant Veterinary Surgeons for the year 1893, for the Cape of Good Hope Department of Lands, Mines and Agriculture (W. A. Richards & Sons, Government Printers, Cape Town, 1894), p. 14.
 - 33 Gutsche op. cit. (note 25), p. 746.

and they had three daughters. His veterinary work demanded a great deal of travel and he was frequently away from home and family for long periods of time.

A TRIAD OF ACHIEVEMENTS WITH FAR-REACHING IMPLICATIONS

At the time of Soga's appointment, several dangerous animal diseases were ravaging the region and occupying most of the Cape Veterinary Service's time and attention.³⁴ The most important of these included African horse sickness, a vectored viral disease with a 90% mortality rate, and lung-sickness, a contagious, airborne, mycoplasma pneumonia of cattle that we know today as contagious bovine pleuro-pneumonia (CBPP), with a mortality rate of about 50%.³⁵ In addition were less deadly but widespread and debilitating diseases including sheep scab, a type of mange caused by mites; red water in cattle caused by Babesia vectored by ticks; heartwater in cattle caused by a rickettsia also vectored by ticks; and 'Nenta' in goats and sheep, a plant toxicosis that could often have a high fatality rate. The combination of all these livestock diseases had taken a very heavy toll on the economy, the military and other sectors in the region.

African horse sickness alone had caused the destruction of so many equines that the army was in a panic and a majority of transportation in the colony was made by ox-cart, a slow and plodding way to move people and cargo.³⁶ This endemic disease was not understood, the toll on agriculture as well as moving people and goods was substantial (forcing greater reliance on oxen), and many quack remedies were tried without success. A sense of nearly constant urgency accompanied veterinary work on this disease since alternative modes of transport were significantly limited in the age before motorized vehicles and such severely limited train service.

The shortage of transport options and the great reliance on ox-cart transport made the problems with CBPP in cattle all the more critical. An imported disease, CBPP had been causing grave problems since it had arrived in 1853 on a Dutch ship, causing estimated mortality rates ranging from 30% up to 70% in different regions.³⁷ However, more success had been obtained dealing with this disease, and a Belgian vaccination method was being tested and modified in the 1870s and 1880s.

As the 'germ theory' of disease had just gotten off the ground in the early to mid-1880s, the causes of these diseases were still mysterious to the Cape veterinarians when Dr Soga began work as an assistant veterinary surgeon. Knowledge of inoculation had grown over

³⁴ See D. Hutcheon, Reports of the Colonial Veterinary Surgeon and the Assistant Veterinary Surgeons for the year 1892, for the Cape of Good Hope Department of Lands, Mines and Agriculture (W. A. Richards & Sons, Government Printers, Cape Town, 1893), and other years of this annual report.

³⁵ For concise, authoritative details on livestock diseases, see *The Merck veterinary manual*, any recent addition, or the online, professional version at https://www.merckvetmanual.com.

³⁶ Gutsche, op. cit. (note 27), ch. 2.

³⁷ The epizootic resulting from the introduction of lung-sickness (CBPP) killed an estimated 50–66% of cattle and overlapped with the Xhosa cattle-killing episode from 1856 to 1857, during which the Xhosa slaughtered most of their cattle to fulfil a prophecy made by a young girl, Nongqawuse. They also destroyed their crops, and the resulting widespread hardship and famine took a great toll on the Xhosa, with long-lasting effects. For more details on this episode, see Jeff B. Peires, *The dead will arise: Nongqawuse and the Great Xhosa cattle-killing of 1856–57* (Jonathan Ball Publishers, Cape Town, 2003). The complex relations between the effects of colonialism, those of devastating diseases like CBPP and the Xhosa cattle-killing movement are still being debated by scholars. See Chris Andreas, 'Preventive inoculation of cattle against lungsickness in the Cape: informal technology transfer and local knowledge production in the nineteenth century', *S. Afr. Hist. J.* 71, 536–559 (2019). Infectious diseases are often more deadly than 'average' when newly introduced to a region with no prior immunological experience with the pathogen, as in this case.

the last few decades, however, leading to much optimism and experimentation. One of Dr Soga's first assignments was to help with inoculation for CBPP, an area in which he became a pioneer. He also regularly lectured at agricultural schools, giving courses on various aspects of veterinary medicine, in addition to acting as judge for a variety of agricultural shows and giving popular talks to farmers' associations. Over the next decade Dr Soga made significant contributions to veterinary toxicology, inoculation for CBPP and fighting and containing rinderpest: a triad of significant achievements.

Veterinary toxicology pioneer

Dr Soga's first pioneering success came in the area of poisonous plants and veterinary toxicology. Within a year of joining the Cape Colonial Veterinary Service, he had identified the toxic plant, Nenta (*Cotyledon ventricosa*), that had been causing disease and death among goats and other animals, especially sheep, for many years. He proved experimentally that it causes the disease locally called 'Nenta' and 'Krimpziekte', a form of cerebrospinal meningitis. Soga, furthermore, devised the most effective treatment for the debilitating and frequently fatal disease. This was a landmark accomplishment and represents the birth of veterinary toxicology in South Africa, a field that did not become well established until the first decades of the twentieth century. The results of his experiments formed the content of his first full-length article, published in January 1891 in the *Agricultural Journal of the Cape of Good Hope*.

Despite this professional experimental success, in what may have been one of his earliest experiences of professional discrimination, the Colonial Veterinary Surgeon, Dr Hutcheon, found it hard to believe Soga's results. Hutcheon ordered the experiment to be repeated by several other veterinarians in the Veterinary Service but they all arrived at the same results. Perhaps this is understandable, and not an example of discrimination, since Hutcheon had been working on Nenta with no success for over a decade and the plant identified by Soga was in a family that had previously not been known to be highly toxic. The colonial botanist, Professor MacOwan, who identified the plant sent to him by Soga, also expressed doubts that it could cause the pathology found in Nenta goats. But in the end, Dr Soga was proven correct and his method of treatment was widely reputed to be the most successful. It was duly described in Hutcheon's overview article on Nenta in 1899, the year Soga retired from service, and was widely adopted thereafter.

Dr Soga's experiments on Nenta and his identification of the poisonous plant that causes the disease have been recognized as 'the first time that a plant was experimentally demonstrated to be toxic to livestock in South Africa'. Although veterinary toxicology did not become well established in South Africa until the 1920s and 1930s, Soga's research on Nenta is commonly viewed as the beginning of the discipline there. This is

³⁸ Hutcheon, op. cit. (note 34), pp. 12-14.

³⁹ Karen Brown, 'Poisonous plants, pastoral knowledge and perceptions of environmental change in South Africa, c. 1880–1940', Environ. Hist. 13, 307–332 (2007).

⁴⁰ J. F. Soga, 'Disease "Nenta" in goats', Agr. J. Cape of Good Hope 3, 140-142 (1891).

⁴¹ D. Hutcheon, 'Nenta', Agr. J. Cape of Good Hope 14, 862-873 (1899).

⁴² *Ibid.*; see especially p. 872, where Soga's treatment is described as the most effective. His treatment regime was still cited many years later in H. W. Henning, *Animal diseases in South Africa* (Central New Agency Ltd, South Africa, 1932), vol. 2, ch. 40.

⁴³ Christo Botha, 'Krimpsiekte in South Africa: historical perspectives', J. S. Afr. Vet. Assoc. 84, 1-5 (2013), at p. 1.

⁴⁴ Brown, op. cit. (note 39).

all the more significant since South Africa 'is notorious for the number and variety of its poisonous plants', and, by the 1920s, 'more livestock in South Africa died from plant poisonings than from contagious and infectious diseases'.⁴⁵

It is noteworthy that when Soga was sent by Hutcheon to investigate the reports of a white farmer that he had located the plant which he thought caused Nenta, Soga also interviewed some local, indigenous herders about toxic plants and Nenta. He reported that 'I have interrogated Kafir and Hottentot herds [sic], as to what they consider is the cause of Nenta, but with no signal success'. ⁴⁶ In this article he identifies the white farmer, Mr Weyer, as the person who brought the correct plant to his attention and it was this plant that formed the basis of his experiments. Given his brother William's interest in indigenous understandings of, and treatments for, disease at about the same time, combined with his father's exhortation to be proud of the African side of his heritage, it seems likely that Dr Soga was more open-minded about indigenous knowledge of livestock disease over the course of his career than were his colleagues. ⁴⁷

Lung-sickness vaccine innovations

Dr Soga's interest in and attention to indigenous knowledge may also have impacted his later work with inoculation for CBPP. From early in his tenure, he spent a lot of his time inoculating cattle for CBPP, which had plagued the region since the 1850s. In 1892 alone, he inoculated at least 1500 head of cattle, most of them with a novel, specially prepared solution developed by the newly arrived Colonial bacteriologist, the physician Dr Alexander Edington. ⁴⁸ Dr Edington trained Dr Soga in the use of his locally produced vaccines in 1891 and later initiated him into bacteriology in January 1896. ⁴⁹

During the first half of 1894, Dr Soga was deputed to conduct a series of experiments in the techniques of inoculating cattle for CBPP, the first ever conducted in South Africa. With thoroughness and dedication, he experimented with the then debated method of tail inoculation (using fluid from the lungs of an infected cow) and with a method known as drenching, whereby the same fluid from the lungs of an infected animal are given to calves by mouth. He wrote up his results in a 15-page report that was first published by the department in 1894 as a stand-alone pamphlet (see figure 3).⁵⁰ The Colonial Veterinary Surgeon, Dr Hutcheon, in his prefatory comments to Dr Soga's 1894 pamphlet, stated that

⁴⁵ L. E. Codd, 'Notes on poisonous plants, with special reference to the Gousiekte problem', J. S. Afr. Biol. Soc. 2, 8–17 (1961), p. 8; Brown, op. cit. (note 39), p. 307.

⁴⁶ Soga, op. cit. (note 40), p. 140.

⁴⁷ For details on his father's encouragement for his sons to be proud of their Xhosa heritage and consider themselves to be 'Kaffirs', see Mackenzie, *op. cit.* (note 13), p. 117; Erlank, *op. cit.* (note 12), p. 7: M. Hirst, 'Famous firsts: the Soga family', *Imvubu* 16, 7–8 (2004).

⁴⁸ Hutcheon, op. cit. (note 34), pp. 12-13.

⁴⁹ Gutsche op. cit. (note 25), p. 746. Edington had been a professor at both the Medical School (of surgery) and the Royal (Dick's) Veterinary College (of comparative pathology) in Edinburgh before arriving in Cape Colony in 1891. For details, see 'Edington, Alexander', in P. J. Posthumus, Past veterinarians in South Africa (1990), vol. 1, http://hdl.handle.net/2263/21238. For Soga's 1896 course in bacteriology with Edington, see D. Hutcheon, Report of the Colonial Veterinary Surgeon and the Assistant Veterinary Surgeons for the year 1896, for the Cape of Good Hope Department of Lands, Mines and Agriculture (W. A. Richards & Sons, Government Printers, Cape Town, 1897), p. 134.

⁵⁰ John Festiri Soga, Report on experiments with lung-sick virus with remarks thereon by the Colonial Veterinary Surgeon (W. A. Richards & Sons, Government Printers, Cape Town, 1894). It appears that here Jotello used an Anglicized version of his name: John.

CAPE OF GOOD HOPE.

DEPARTMENT OF AGRICULTURE.

Report on Experiments with Lung-sick Virus by Mr. John Festiri Soga, M.R.C.V.S., Government Veterinary Surgeon, with Remarks thereon by the Colonial Veterinary Surgeon.

Presented to both Bouses of Parliament by Command of Dis Excellency the Governor.

MEMORANDUM FOR THE UNDER SECRETARY FOR AGRICULTURE.

Experiments with Lung-sick Virus.

In submitting Mr. Soga's report of the experiments which he conducted during the six months ended the 30th June last, with the view of testing the relative value of the various prophylactics which are used by the farmers as a preventive of the contagious Pleuro-Pneumonia of cattle, commonly called Lung sickness, I have the honour to state that the principal points which the experiments were intended to elucidate are:

1. The comparative value of the virus prepared by Dr. Edington, and that procured in the ordinary manner direct from the diseased

lung, as a preventive of Lung-sickness.

2. The value of "drenching," that is, administering by the mouth the liquid found in the pleural cavities of the chest of a beast affected with Lung-sickness, to a healthy beast as a preventive of the disease, and in what doses it ought to be given.

3. The latent period of the disease, or the period which intervenes between the date when the beast is first exposed to the infection of Lung-sickness and the date when the first symtoms of the disease

become manifest.

There were one or two other points which it was intended to test, such as the length of time that inoculation or drenching gives cattle an immunity from Lung-sickness, and the question whether a calf, the progeny of a cow which was affected with Lung-sickness during the time that she was pregnant with such a calf, had a natural immunity from the disease. But the situation of the camp was not considered suitable for conducting these experiments. Cattle which had been inoculated by Mr. Soga some years previously, and which he could certify to have properly taken, would have had

Figure 3. Title page of John Festiri Soga, Report on experiments with lung-sick virus with remarks thereon by the Colonial Veterinary Surgeon (W. A. Richards & Sons, Government Printers, Cape Town, 1894). Source: courtesy of the National Library of South Africa.

the experiment and results detailed 'in Mr. Soga's report are of considerable practical value and have materially increased our knowledge regarding the many points connected with the disease and its prevention'.⁵¹ Dr Hutcheon further noted, in his introductory memo, that the importance of Dr Soga's findings with regard to the incubation period of CBPP were 'of considerable importance in arranging quarantine regulations'.⁵²

Dr Soga's findings and careful instructions on how to inoculate for this virulent disease were so popular that they were reprinted 'at the request of numerous correspondents' of the *Agricultural Journal of the Cape of Good Hope* in June 1895.⁵³ It is noteworthy that he emphasized the need to be very gentle with the cattle while performing the inoculation, stating that 'in great measure, success in this operation is due to the care with which one treats the animals... the operator [needs] care and patience'.⁵⁴ He further provided instructions for follow-up care with dressing ointments and an oral treatment based on sulphur to help with any minor, localized skin infections.

Although the 1895 partial reprint did not contain any instructions for drenching calves, Dr Soga did provide detailed instructions for this method of preventive treatment in his earlier, longer report. This method appears to have likely been invented by the indigenous Korana, a group of Khoekhoe in the more arid inland regions, as early as the mid-1850s. Given his earlier attention to indigenous knowledge of plants in the case of Nenta, it seems likely that Soga may have been more receptive than most to analysing this 'native method' of immunizing calves.

Soga was a strong proponent for drenching calves that were still nursing, explaining 'with such cases the percentage of death is practically *nil*'.⁵⁷ At the time, from the 1870s through to the 1890s, there was considerable debate among the farmers and the few professionals in the region as to the value of any kind of immunization for this disease.⁵⁸ Immunization was not regulated or mandated by the government at this time. Dr Soga's experiments demonstrated that, done properly, drenching was 100% effective and tail inoculation was about 91% effective against this disease that has a 50% mortality rate without treatment, setting the stage for a call for mandatory inoculation in the future.⁵⁹

Dr Soga's techniques and instructions for both methods—tail inoculation and drenching—became the standard methods widely followed in the colony. ⁶⁰ Indeed, in Duncan Hutcheon's 1905 extensive overview article on lung-sickness and its treatment and prevention, although he mentions Dr Soga and his report only twice, quite perfunctorily, he quotes and paraphrases

- 51 Ibid., p. 5.
- 52 Ibid.
- 53 Jotello Festiri Soga, 'Inoculation for lung-sickness', Agr. J. Cape of Good Hope 7 (12), 295–296 (1895).
- 54 Ibid., pp. 295-296.
- 55 Soga, op. cit. (note 50).
- 56 Andreas, op. cit. (note 37), p. 557.

- 58 Andreas, op. cit. (note 37).
- 59 Soga, op. cit. (note 50).

⁵⁷ D. Hutcheon, Reports of the Colonial Veterinary Surgeon and the Assistant Veterinary Surgeons for the year 1894, for the Cape of Good Hope Department of Lands, Mines and Agriculture (W. A. Richards & Sons, Government Printers, Cape Town, 1895), p. 30.

⁶⁰ SAVC, 'Obituary for Dr Jotello Festiri Soga (1865–1906)' (Veterinary Heritage Committee of the South African Veterinary Council (SAVC), 2016). No longer online, available from the SAVC via e-mail. I am grateful to Ronel Mayhew for helping me to find this document that had been prepared in nomination of Dr Soga for 'veterinary professional of the year' in 2016. See also Jesse Lewis, 'Dr Jotello Soga: the first South African veterinarian', *BY Die Burger*, 6 January 2007, pp. 12–13, at p. 12.

extensively from Soga's work without proper citation. ⁶¹ In essence, Hutcheon presents Soga's methods as the best without giving him full credit.

Hutcheon was at this point the Acting Director of Agriculture in the colony, and this influential article appeared in December 1905.⁶² Within the year, a regulation had been passed which mandated either tail inoculation or drenching for any cattle that had been exposed to this disease, to be carried out by a government veterinarian.⁶³ Thus a major government edict regulating veterinary public health was, in large part, the result of Dr Soga's careful experiments and reports, despite his not being properly credited. This type of careful, detail-oriented, forward thinking was displayed even more strongly by him as the next devastating livestock disease bore down on South Africa: rinderpest.

Rinderpest: predicting and defeating a devastating scourge

Only about a year after the reprint of Soga's article on lung-sickness, in 1896 Cape Colony was finally hit with the terrible plague of rinderpest which had been marching steadily south. It is in Dr Soga's attention to rinderpest that we see, perhaps, his most avant-garde character and dedication to hard work. It is also likely that the gruelling fight against rinderpest destroyed Soga's health and probably his spirit, leading to his early retirement as well as possibly to his early death.

Dr Soga appears to have been one of the first (and likely the first) to warn, in 1892, of rinderpest heading to South Africa. This is a year earlier than the earliest warning conventionally noted in the veterinary literature, that by Dr Hutcheon in 1893. Soga noted in an 1892 publication that rinderpest was the 'new Colonial enemy' and that 'lung-sickness and redwater are simply fools to it'. 64 This was three years after rinderpest had broken out in 1889 in East Africa but well before its arrival in Cape Colony in 1896. Dr Soga published two short articles in the *Agricultural Journal of the Cape of Good Hope* (29 December 1892, pp. 286–288), in which he warned of the likely devastation the disease would bring. In these papers, he predicted the rapid spread of the disease towards South Africa and warned that, if proper measures were not taken, 'I make bold enough to say, that more than two-thirds of Colonial cattle will succumb to its ravages'.65

Today's academics estimate that rinderpest wiped out approximately 90% of African cattle and an unknown number of other domestic livestock and wild ungulates. 66 Contemporary reports during the outbreak often estimated the mortality higher at 98% in the years before it reached southern Africa. 67 In this era before vaccination, Soga rightly advocated in 1892 for a policy of cull and slaughter enforced with 'a stringent law, and a heavy penalty for

⁶¹ Duncan Hutcheon, 'Lung-sickness of cattle: contagious pleuro-pneumonia, or pleuro-pneumonia-bovum-contagiosa', *Agr. J. Cape of Good Hope* **27**, 756–773 (1905). This is especially evident in pp. 763–769, the majority of which is taken from Soga's 1894 and 1895 papers. A page-by-page comparison of the three papers is quite illuminating.

⁶² Dr Hutcheon became the Director of Agriculture for Cape Colony from 1906 until he died in 1907, after serving as the Acting Director in 1905. He was in dire financial circumstances despite his great achievements over the course of his career. See Clive A. Spinage, *Cattle plague: a history* (Kluwer Academic/Plenum Publishers, New York, 2003), p. 562.

⁶³ Andreas, op. cit. (note 37), p. 555.

⁶⁴ J. F. Soga, 'Rinderpest', Agr. J. Cape of Good Hope 5, 287–288 (1892), at p. 287. For an example of the influence of Dr Hutcheon's later warning in 1893, see Spinage, op. cit. (note 62), p. 560.

⁶⁵ J. F. Soga, 'Foot-and-mouth disease', Agr. J. Cape of Good Hope 5, 286-287 (1892), at p. 286.

⁶⁶ William Beinart and Lotte Hughes, *Environment and empire* (ed. W. R. Louis), Oxford History of the British Empire Companion Series (Oxford University Press, Oxford, 2007), p. 190; Spinage, *op. cit.* (note 62), p. 499.

⁶⁷ James Harpur, 'The rinderpest of 1897 in Cape Colony', Dubl. J. Med. Sci. 108, 53-62 (1899), at p. 55.

breaking the same'. ⁶⁸ Unfortunately, this advice was not heeded early enough and such an approach of cull and slaughter, allowed by the 1881 Animal Diseases Act, was not implemented until the first Inter-State Rinderpest Conference in April 1896. ⁶⁹

Death rates were highly variable district by district and even from farm to farm within a district. To In general, rinderpest mortality was highest in the northern territories like the Transvaal and lowest at the tip of the Cape, where rinderpest did not arrive until after inoculation had begun. Overall, it has been estimated that, in the Cape Colony, about 60% of cattle survived thanks to culling, quarantines and eventual inoculation, although mortality rates were generally higher in African areas than they were in Anglo or Afrikaner areas. To

Dr Soga also played a significant role in the eventual eradication of rinderpest from South Africa, although it is not often noted in the literature. It was he who brought the rinderpest-infected cow to the Colonial Bacteriologist, Dr Edington, who had set up a mobile laboratory to deal with the outbreak. From this cow, Dr Edington, with Dr Soga's assistance, grew a viral culture that would eventually be developed into Dr Edington's serum method of vaccination. Some of this viral culture was also provided to Dr Robert Koch to help begin his research.

Koch's research, however, rapidly turned to the 'bile method' of vaccination for rinderpest, in use among many farmers already, which he refined. This method turned out to be less effective (about 50% or less) than the slightly later methods of serum inoculation (about 80%) developed by Dr Edington and a pair of scientists sent from the Pasteur Institute to join the effort, Dr Jean Danysz and Dr Jules Bordet. The French team built on work done earlier by Dr Arnold Theiler and Dr Watkins-Pritchford in northern Natal.

With Koch's bile vaccination method, complemented with Edington's method, and other, French, serum-based methods, millions of livestock were eventually vaccinated and rinderpest was finally locally eradicated in 1898, although it returned briefly during the Anglo-Boer

- 68 Soga, op. cit. (note 64), p. 288.
- 69 Duncan Hutcheon, Special report on rinderpest in South Africa, presented to both Houses of Parliament by command of His Excellency the Governor (Cape Town, 1897), p. 12. A series of conferences and meetings was held regarding rinderpest, the first of which was the Inter-State conference on 17 April 1896 in Mafeking (a second interstate conference was held on 31 August 1896). See Spinage op. cit. (note 62), pp. 535–546. Although some have written that Dr Soga attended the first Inter-State Rinderpest Conference at Mafeking, the minutes from the conference do not list him (or any of the other assistant vets) as being present. See P. H. Faur and H. M. Piers, Rinderpest conference held at Mafeking, April 1896, minutes (W. A. Richards & Sons, Government Printers, Cape Town, 1897). Moreover, Dr Soga's own record of his work in the annual report indicates that he was out at the farm of 'Mr. Brink' inspecting cattle on the day of the conference. See Hutcheon, op. cit. (note 49), p. 140.
- 70 Pule Phoofolo, 'Zafa! Kwahla! Kwasa! African responses to the rinderpest epizootic in the Transkeian Territories, 1897–8', Kronos 30, 94–117 (2004).
- 71 Daniel Gilfoyle, 'Veterinary research and the African rinderpest epizootic: the Cape Colony, 1896–1898', *J. Southern Afr. Stud.* 29, 133–154 (2003), at p. 151; and see Posthumus, *op. cit.*, (note 49). Part of the reason for the differential mortality rates is that white farmers had the benefit of subsidized fencing that helped to control, isolate and protect their livestock in paddocks during the epizootic, rather than trekking or grazing communal pastures. See Lance van Sittert, 'Holding the line: the rural enclosure movement in the Cape Colony, c. 1865–1910', *J. Afr. Hist.* 43, 95–118 (2002). A further reason is that vaccines were more slowly accepted among black herd owners because they were more suspicious of possible harm (early vaccine efforts had relatively high side effects and mortality) and because the veterinary services were provided preferentially to white farmers, to the neglect of many black farmers. See Gilfoyle (this note); Phoofolo, *op. cit.* (note 70); C. van Onselen, 'Reactions to rinderpest in southern Africa, 1896–97', *J. Afr. Hist.* 13, 473–488 (1972).
 - 72 Gutsche, op. cit. (note 25), p. 98; Spinage, op. cit. (note 62), p. 425.
 - 73 Robert Koch, 'Rinderpest: investigations at Kimberly', Vet. J. 44, 204-207 (1897), p. 206.
- 74 Gutsche, op. cit. (note 25). For a detailed discussion of the various vaccination methods and the heated debates about them, see Gilfoyle, op. cit. (note 71); Thaddeus Sunseri, 'International collaboration and rivalry in the early fight against rinderpest', Europe Now (2018), https://www.europenowjournal.org/2018/02/28/international-collaboration-and-rivalry-in-the-early-fight-against-rinderpest/ (accessed 17 March 2023).
 - 75 For more details, see Spinage, op. cit. (note 62), ch. 19.

War.⁷⁶ The competing methods of vaccination stirred a lot of controversy and heated debates, but, in the end, the areas of South Africa that were competently vaccinated suffered significantly lower losses. It is not noted often enough in the literature that these early experiments at rinderpest inoculation in South Africa were an important part of the long story of the eventual global eradication of this devastating disease in 2011.⁷⁷

Dr Soga, furthermore, was the veterinarian who informed Dr Koch upon his arrival of the terrible losses in the 'Native Areas', where rinderpest killed tens of thousands of livestock, helping Koch to understand the severity of the outbreak. Due to his ability to speak Xhosa, his amiable character and reported ease at getting along with most people (of any race), Dr Soga was frequently sent to what were called the 'Native Reserves/Territories' where the vast majority of the population was indigenous.

Cattle were highly valued among many of these African groups and for most of them cattle played vitally important social and cultural roles in addition to their economic importance. For the Afrikaners, too, cattle were held in very high esteem beyond their monetary value, in part because their 'Great Trek', to escape from the British-controlled territories in the 1830s and 1840s, was made by ox-drawn wagon trains. Before the policy of vaccination was adopted in May 1897, though, the primary policy was a combination of quarantine, travel restrictions and culling/slaughtering cattle infected or known to be exposed to rinderpest, called 'stamping out'. The cattle shot during culling were usually buried to prevent the infection from spreading (see figure 4).

During this 'stamping out' phase of containing the rinderpest epizootic, Dr Soga was frequently sent to the 'Native Reserves' and to farms to shoot and kill thousands of head of livestock, sometimes killing hundreds in a single day. Few other colonial veterinarians were sent to help with this containment procedure in these areas, sometimes including the head of the service, Dr Hutcheon, who also noted the exhausting and depressing nature of this work. As Hutcheon described, some of the vets, 'notably Soga and Dixon, had to be in the saddle for 48 hours at a stretch, and had to undergo all the discomforts of sleeping on the open veld with nothing but the blanket which they carried on the front of the saddle to cover them. Yet not one of these officers grumbled.'82

Dr Soga and other government vets were often met with opposition from cattle owners. As Soga explained it in one of his articles, 'The natives absolutely refused to have their cattle

⁷⁶ Henning, op. cit. (note 42), p. 412. For more details on the heated debates over types of vaccination, see van Onselen, op. cit. (note 71).

⁷⁷ What was learned in the first vaccine breakthroughs in South Africa later informed (and was a small part of) complex research in Constantinople, Canada and the USA, Japan and Kenya that eventually led to rinderpest eradication in 2011. See Sunseri, op. cit. (note 74); Amanda K. McVety, The rinderpest campaigns: a virus, its vaccines, and global development in the twentieth century (Cambridge University Press, Cambridge, 2018). This was possible, in part, thanks to a participatory approach employing herders themselves and a thermostable vaccine developed, in part, by Dr Jeff Mariner at Tufts University School of Veterinary Medicine. See Peter Roeder, Jeffrey Mariner and Richard Kock, 'Rinderpest: the veterinary perspective on eradication', Phil. Trans. R. Soc. B 368, 1–12 (2013).

⁷⁸ Koch, op. cit. (note 73), p. 205.

⁷⁹ Phoofolo, op. cit. (note 70).

⁸⁰ I am grateful to Jesse Lewis for bringing this to my attention. For more details, see Hermann Giliomee, *The Afrikaners: biography of a people* (University of Virginia Press, Charlottesville, 2009).

⁸¹ Act No. 2 of 1897 mandated compulsory vaccination. See Spinage, op. cit. (note 62), p. 551; Hutcheon, op. cit. (note 49); Hutcheon, op. cit. (note 69).

⁸² Hutcheon, op. cit. (note 69), p. 44.

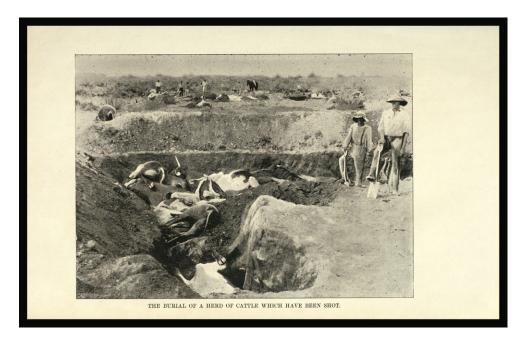


Figure 4. 'The burial of a herd of cattle which have been shot' as part of the 'stamping out' process to contain rinderpest in the early phase of the epizootic. Source: Duncan Hutcheon, *Special report on rinderpest in South Africa, presented to both Houses of Parliament by command of His Excellency the Governor* (Cape Town, 1897), courtesy of the National Library of South Africa.

shot, and would in no way render assistance; instead they threatened to shoot Dr Hutcheon and myself.'⁸³ White farmers were frequently just as hostile and resistant to 'stamping out', as Dr Hutcheon learned when some Afrikaner farmers threatened him with weapons when trying to cull their cattle.⁸⁴ In addition to the cattle's economic importance, the farmers needed them for various forms of agricultural labour and transport.

The gruelling and fraught nature of the work of 'stamping out' is captured by Soga when he notes in his annual report that 'as to our attempt relative to the suppression of the Taungs [Reserve] outbreak, ... over 3,000 head of cattle having been shot by myself and Sergt. Taylor, leaving 22,000, of which now remains, approximately, 600 head'. Soga had been put in charge of rinderpest on the Taungs Reserve. In this case, then, only about 2.4% of the cattle survived, a turn of events that had to be very discouraging, demoralizing and depressing. The Chief of the Molala People in the

⁸³ Jotello Soga, 'Stamping out rinderpest', *Agr. J. Cape of Good Hope* **9**, 647–648 (1896), at p. 648. One of the reasons that the Xhosa were likely reluctant to have their cattle 'stamped out' to contain rinderpest is that they were still reeling from the Xhosa cattle-killing episode from 1856–1857. Since the prophecy that motivated this episode proved to be untrue, it is understandable that some Xhosa and other indigenous groups were extremely reluctant to have their cattle shot when they did not appear ill. For more details on this episode, see Peires, *op. cit.* (note 37). I am grateful to Jesse Lewis for bringing the importance of this to my attention.

⁸⁴ Hutcheon, op. cit. (note 49), pp. 24–25. The opposition of cattle owners (black or white) to 'stamping out' was entirely reasonable since, before the vaccine method was adequately protective, stamping out killed 100% of cattle whereas rinderpest itself had a slightly lower mortality rate in many cases.

⁸⁵ Ibid., pp. 136-137.

⁸⁶ Ibid., p. 20.

Taungs Reserve commented to Dr Hutcheon after a round of killing cattle in September 1896: 'They tell me that you are a doctor, and that you are a great doctor, but can you do nothing but kill?'⁸⁷

A great deal of resistance to the stamping out policy continued. It was while working to convince the African cattle owners from several reserves that Jotello's brother Alan Kirkland Soga, an attorney and labour agent, was called in to work with Dr Soga to help convince the people to allow their cattle to be managed by government policies with demonstrations at Taungs. This was accomplished by inviting indigenous cattle doctors, in December 1896, from several territories to meet to try to treat 99 cattle thought to be infected with rinderpest. Various botanical and other treatments were tried but within a month all the cattle had died of the virus. This was communicated back to the cattle doctors and appears to have helped convince cattle owners to accept the government policies. At this early date, though, the policies still primarily involved killing the cattle.

A few months later in the outbreak, however, after inoculation was being developed, in June 1897, Dr Soga was able to provide more effective help to farmers with early forms of inoculation. One of these farmers, Mr Scully, a long-standing civil servant, notes that 'Soga was of incalculable use to me in the early stages of the trouble. He worked in a most self-sacrificing manner, teaching me and a small but devoted band of helpers all that was then to be learnt about bile cultivation and inoculation.'90

The government was so worried about spreading rinderpest via fomites—that is via objects such as tyres, clothing and boots, or even human skin that may have become contaminated—that they implemented some draconian procedures. They decreed during the height of the epizootic that all travellers had to be thoroughly disinfected before travel. Only the 'natives', however, were completely dipped in disinfectant. In Hutcheon's words, 'It is very necessary ... that all natives should be thoroughly disinfected before leaving an infected area. In fact there is no means short of dipping their bodies, and every stitch of clothes belonging to them, that can be relied upon to thoroughly disinfect them.' Whites did not receive this full-body treatment that was akin to dipping sheep and cattle for mange and ticks by driving them through big pits full of disinfecting liquid. It is likely that gross inequality, poverty and racism underlay this harsh policy.

DIFFICULTIES AND DECLINE

Many of these situations involving rinderpest clearly upset Dr Soga, who, by the accounts of his gentleness with animals, and his emphasis on patience in his veterinary writing, was likely

- 87 Hutcheon, op. cit. (note 69), p. 27.
- 88 Gutsche, *op. cit.* (note 25), p. 747. For more details, including a report by Dr Soga and his brother Alan K. Soga, see Cape of Good Hope Ministerial Department of the Prime Minister, *Rinderpest. Report of visit of native representatives to Bechuanaland* (W. A. Richards & Sons, Government Printers, Cape Town, 1897).
 - 89 Gutsche, op. cit. (note 25), p. 747.
 - 90 William C. Scully, Further reminiscences of a South African pioneer (Adelphi Terrace, London, 1913), p. 323.
 - 91 This was Cape Government Proclamation No. 409 of 1896, as explained in van Onselen, op. cit. (note 71), p. 480.
- 92 Hutcheon, *op. cit.* (note 69), p. 43. See also Spinage, *op. cit.* (note 62), p. 555. By the 1890s, dipping human beings to disinfect them for a variety of infectious diseases was disturbingly common across the British Empire. See discussion in Jacob Steere-Williams, "Coolie" control: state surveillance and the labour of disinfection across the late Victorian British Empire', in *Making surveillance states: transnational histories* (ed. Robert Heynen and Emily Van der Meulen), pp. 35–57 (University of Toronto Press, Toronto, 2019).

very fond of animals and was pained by their suffering. Some situations also apparently caused him to have very strong but sometimes conflicting feelings about his fellow Africans. He described in one of his annual reports some of the scenes that caused him to have anxious, emotional and conflicted feelings.

I may here state that many of the low Vaalpense (an indigenous group of poor gatherers) had brought their pots to partake of the already dead cattle ... these I had dipped, hands and utensils washed These people were a great source of the spread of rinderpest, their wandering habits, mostly by night, was a cause of great trouble. Human vultures in the extreme, they would do anything for meat, a strange magnetism guiding them to dead or infected cattle. These poor people, or, as I might term them, *slaves*, 'which they virtually are,' among the Baralongs, caused us much anxiety. Moreover, it is a *scandalous shame that slavery should exist in our midst.* ⁹³

This may have been much harder on him than many realized given that his father, Tiyo Soga, had been an early advocate of what is now often called Black consciousness and negritude, and has been credited with being an early inspiration to the African National Congress. ⁹⁴ Tiyo reportedly encouraged his sons to be proud to have African heritage and to go forth in the world 'as Kafirs, not as Englishmen'. ⁹⁵

As Dr Soga had to witness far too often, most African herders were absolutely devastated and desperate with most of their cattle dead. One author recounted a moving scene: 'upon entering [a village kraal] I saw the head of the kraal fondling a young calf. He had his arms around its neck and was rubbing his face against its soft skin. "All the others are dead," he said, "but if I can only keep this little heifer alive, she will again fill my kraal." This was at the peak of the epizootic in this region, when most cattle were dead or dying and there were many carcasses strewn across the landscape—often too many to bury in a timely fashion. Soga and some of his fellow veterinarians had spent months shooting cattle, knowing that this would bring immiseration to large numbers of herders and farmers. Hunger, starvation and despair ruled the land, aggravated by severe drought and plagues of locusts. The toll on Soga must have been great.

Several sources recount a general decline in Dr Soga's physical and mental health around 1898, and his eventual retirement in 1899. His 1907 obituary notes that 'the rough life, and unsettling habits connected with work severely tried his health, and the constant traveling, shifting from place to place, undermined his constitution, and forced him to retire prematurely from a cause to which he had devoted his best energies, and in which he had

- 94 Hirst, op. cit. (note 47); Lewis, op. cit. (note 60).
- 95 Chalmers quoted in Hirst, op. cit. (note 47), p. 8.
- 96 Quoted in Phoofolo, op. cit. (note 70), p. 106.
- 97 Ibid.; Gutsche, op. cit. (note 27).

⁹³ Soga's report in Hutcheon, *op. cit.* (note 49), p. 135. Emphasis in original. I am grateful to Nancy Jacobs' personal communication for helping me understand the Vaalpense and other indigenous groups in this region. See also Nancy J. Jacobs, *Environment, power, and injustice: a South African history* (Cambridge University Press, Cambridge, 2003). Jotello's brother Allan Kirkland spoke similarly disparagingly of a different indigenous group in the region, the Batlapins. He wrote that they 'are a mean, degraded race of conglomerate heredity believed to include the offscourings of the inferior races of this continent ... they are not Kafirs'. Cape of Good Hope, *op. cit.* (note 88), p. 3. These racist views had been very common in the UK, Europe and America in the late nineteenth and early twentieth centuries and Jotello and his brothers were likely taught about the 'inferior' races and 'scientific racism' in their university education in Scotland.

⁹⁸ A former civil servant in Cape Colony, Mr Scully, reported that 'after a time his mind seemed to give way under the strain. He took to drink and began obstructing the work'. See Scully, *op. cit.* (note 90), p. 323. This should be interpreted carefully, however, since Scully's own mental health is also reported to have deteriorated at this time. See Phoofolo, *op. cit.* (note 70), p. 106.

won the confidence and esteem of thousands throughout the country'. His obituary further notes that he was provided with a pension from the government, although some sources write that the government never gave him a permanent position. Lewis reports that, according to family letters seen by the anthropologist Dr Hirst, Jotello's wife, Catherine, and their three daughters left for Scotland sometime in 1904. This may have been an indication of how bad things had become for Dr Soga. In 1905, his former boss, Dr Hutcheon, published his article on lung-sickness that appears to have plagiarized some of Soga's earlier published work on the disease. Soga might have been aware of this and it may have contributed to his poor mental state.

After a few years of working on farms and as a private practitioner, Jotello Soga died at the age of only 41 in December 1906, from an accidental overdose of laudanum, only a year after helping to found the Cape of Good Hope Veterinary Association (today's South Africa Veterinary Association). His death certificate appears to state, however, that there was no evidence of suicide and that he had been ill for at least two days. His obituary records that Soga was commended by the British High Commissioner, Lord Milner, for his special services in combating rinderpest. 104

FORGOTTEN BY HISTORY OR ENDURING LEGACY?

Despite all of his accomplishments, research papers and the high profile he enjoyed during his working years, known and liked by most colonial government officials, and a great many white farmers and Africans, by 1914 Dr Soga's memory was being left behind. That year Dr Arnold Theiler, often described as one of the 'fathers' of veterinary medicine in South Africa, claimed that the first veterinarian born in South Africa was Dr P. R. Viljoen, an Afrikaner. For the next century and more, Dr Soga was only mentioned sporadically, and usually in just a sentence or two, a handful of times in the mainstream literature. A second Black/non-white South African veterinarian would not be trained for 100 years after Dr Soga.

Dr Soga was not completely forgotten, significantly, by the people in his home region, the Transkei. In the 1920s the Transkei Native Council wisely advocated that two 'native vets' be trained for work in their native reserve. This did not happen, however, for another 60 years. In 1978, the idea resurfaced during the discussion of the 'Veterinary Bill' in the National Assembly of the Republic of Transkei. At this meeting, Mr Tezapi declared his support and

⁹⁹ Anon., *op. cit.* (note 25). One notable example of Soga's reputation is a description of the mission to Taungs Reserve led by Dr Soga to allow indigenous animal healers to reckon with rinderpest in order to demonstrate the necessity of the stamping out policy. This successful episode was described by Max Sonnenberg, a prominent politician and member of both the Cape Province Provincial Council and the Parliament of South Africa, by extolling Soga and the 'obvious intelligence and goodwill created by a mission such as that sent under Dr Soga'. Max Sonnenberg, *The way I saw it* (Howard Timmins, Cape Town, 1957), p. 45.

¹⁰⁰ What the sources show, however, is that Soga appears to have been hired at similar rates of pay (and sometimes the highest rate) and terms of employment as the white veterinarians working for the Colonial Veterinarian at this time. See note 31 for details and sources.

¹⁰¹ Hutcheon, op. cit. (note 61).

¹⁰² SAVC, op. cit. (note 60).

^{103 &#}x27;Form of information of a death: Act No. 7 of 1894', Cape Colony, hand-marked as 'Inquest Form'. Copy kindly provided by Jesse Lewis. At this time, laudanum, a derivative of opium, was commonly used as a pain killer, and accidental overdoses were not uncommon in many parts of the world. In a strange turn of events, Duncan Hutcheon died five months later, in very bad financial circumstances despite all his hard work. See Gutsche, *op. cit.* (note 27), p. 236.

¹⁰⁴ Anon., op. cit. (note 25).

¹⁰⁵ Gutsche, op. cit. (note 27), p. 380.

stated that 'it is a great pity that after Jotello Festiri Soga qualified in 1886 as a veterinarian he was the first and the last one and up to this day there is a great scarcity of these people'. ¹⁰⁶

Chief Nonkonyana later repeated that Soga was the first and last Black veterinarian and exhorted the Assembly that 'we feel our people should be trained now'. ¹⁰⁷ The Minister of Agriculture concluded by stating 'This bill intends to send your children, who have been repressed all these years since the time of Jotello Soga, for veterinary training. Nothing has been done to educate the native people of this Africa of ours to enable them to be independent as far as stock rearing is concerned. They have been disregarded. ¹⁰⁸

The following year, 1979, the Medical University of Southern Africa (MEDUNSA) was established by law. MEDUNSA provided for the training of Black South African medical professionals, including veterinarians, during the dark days of apartheid. An editorial in the principal veterinary journal at the time explained that 'the faculty will, for the first time, enable Black persons to graduate as veterinarians at a South African University'. After several years of building and preparations, this veterinary school took its first students in 1982 and had graduated 60 veterinarians by 1992. The first graduates were qualified in 1987, including the first Black woman to become a veterinarian in South Africa, Dr Kgabi Mogajane. The veterinary campus at MEDUNSA did not last very long, though, closing when apartheid was abolished in 1994. Today the University of Pretoria houses the only veterinary campus. MEDUNSA did not, however, produce the first non-white veterinarian since Dr Soga. That honour belongs to the Faculty of Veterinary Science at the University of Pretoria, which allowed the first non-white student to matriculate, with a permit, in the veterinary school in 1979. This was Dr André Hess, who graduated and qualified in 1985 and who now practises small animal medicine in London.

Recent news articles make it clear that more veterinarians are needed in South Africa. Dr Tlotlo Kgasi, the president of the South African Veterinary Council, the statutory body for veterinary practice, has said that 'South Africa does not have enough vets—especially in the outlying areas'. This is likely related to the fact that more Black veterinarians are badly needed in South Africa. Another recent article points out that at the University of Pretoria, which graduates about 160 new vets a year, 'only around 14 are black students'. That amounts to only about 8.5% of graduating veterinarians being Black/non-white in a country where roughly 90% of the population is Black/non-white.

- 107 Ibid.
- 108 Ibid., p. 498.
- 109 Anon., 'South Africa's second veterinary faculty', J. S. Afr. Vet. Assoc. 171 September (1981).

- 112 Hess, op. cit. (note 10).
- 113 Anon., 'The history of veterinary medicine in SA', *High Velder News*, 30 April 2022, https://highveldernews.co.za/lnn/1169207/the-history-of-veterinary-medicine-in-sa/ (accessed 13 April 2023).

¹⁰⁶ Republic of Transkei, 'Debates of the National Assembly, Third Session, First Assembly, 15 March 1978 to 16 June 1978' (Transkei National Assembly, 1978), p. 497.

¹¹⁰ Neville Owen, 'Medunsa: the rise and demise of South Africa's second veterinary faculty', in 44th International Congress of the World Association for the History of Veterinary Medicine, Pretoria, South Africa, 2020, pp. 26–28, https://www.wahvm.co.uk/south-africa-2020, at p. 27 (accessed 13 April 2023).

¹¹¹ Tina Joemat-Pettersson, 'Opening speech', in 30th World Veterinary Congress, Cape Town, South Africa, 2011, pp. 1–3, https://www.gov.za/speech-minister-agriculture-forestry-and-fisheries-ms-tina-joemat-pettersson-world-veterinary, at p. 2 (accessed 13 April 2023). I am grateful to Heloise Heyne and Jesse Lewis for bringing this to my attention and sharing related information with me.

¹¹⁴ Sthembiso Lebuso, 'Bursaries up for grabs to train black veterinarians', *City Press*, 11 May 2022, https://www.news24.com/citypress/news/bursaries-up-for-grabs-to-train-black-veterinarians-to-help-sa-plug-the-skills-gap-20220511 (accessed 18 September 2022).

A veterinary student interviewed for the article commented that one of the reasons is that it is extremely difficult to get into the programme but also 'that there is not enough awareness about the field in the country'. The Deputy Higher Education Minister Buti Manamela added in this article that part of the problem was also due to 'the myth that this profession is reserved for young white people'. The under-representation of Black veterinarians in the profession generally has also lately been noted in the flagship veterinary journal in the USA, *JAVMA*.

Only recently, after many years of obscurity, have Dr Soga's outstanding contributions begun to be recognized more widely and among a more diverse audience. Jesse Lewis's article in the newspaper *Die Burger* in 2007 aroused significant interest in South Africa. In 2009, at the University of Pretoria, the Faculty of Veterinary Science named its library in honour of Dr Soga; and the ARC-Onderstpoort Veterinary Institute created the Jotello Soga Ethno-Veterinary Garden in his honour the same year (see figure 5). The South African Veterinary Association (SAVA) that he had helped to found in 1905 now awards the 'Soga Medal', which is given in 'recognition of exceptional community service rendered by a veterinarian ... or a veterinary student'.

By highlighting Dr Soga and analysing his accomplishments as a key part of veterinary history in South Africa, and the world, this article has contributed to the decolonization of veterinary history. It has tried to demonstrate that Dr Soga's story 'counts', for the many reasons detailed above. It thus hopes to help in the ongoing processes of reclaiming lost and suppressed histories. In working to decentre Anglo-European narratives and to bring to the fore hidden and erased indigenous voices, this article aims to encourage changing current trajectories in favour of development and autonomy and away from the reproduction of inequality and dependency. More concretely, this article hopes to inspire more young African students to work to become veterinarians and to believe that they can succeed and make important contributions in the future no matter their background, at the

¹¹⁵ Ibid.

¹¹⁶ *Ibid*.

¹¹⁷ Kaitlyn Mattson, 'Veterinary colleges committed to anti-racism, say Black lives matter', *J. Am. Vet. Med. Assoc. News* 15 August 2020, http://www.avma.org/javma-news/2020-08-15/veterinary-colleges-committed-anti-racism-say-black-lives-matter (accessed 20 September 2022).

Lewis, op. cit. (note 60), pp. 12–13. Clare Boulton, of the Royal College of Veterinary Surgeons wrote a blog devoted to Dr Soga 2012; see Boulton, op. cit. (note 25). Also interesting is the much earlier short encyclopedia entry devoted entirely to Jotello Soga by Thelma Gutsche, op. cit. (note 25), and that by Heloise Heyne, 'Soga, Mr. Jotello Festiri', https://www.s2a3.org.za/bio/Biograph_final.php?serial=2647, 2020 (accessed 14 September 2022).

¹¹⁹ Wiseman Nkuhlu, 'Message from the Chancellor of the University of Pretoria, Prof Wiseman Nkuhlu, at the naming ceremony of the Jotello F. Soga Library' (2009), https://repository.up.ac.za/handle/2263/89397; Erhardt Maritz, 'Veterinary faculty named after the first South African who qualified as a veterinarian, Dr Jotello Festiri Soga', Faculty of Veterinary Science News (2009), https://www.up.ac.za/faculty-of-veterinary-science/news/post_1653024-veterinary-faculty-library-named-after-the-first-south-african-who-qualified-as-a-veterinarian-dr-jotello-festiri-soga; and D. A. Swanepoel and E. E. van der Westhuizen, 'African indigenous knowledge: dissemination of IK related information in the Onderstepoort Veterinary Institute Library and the Jotello F. Soga Library', conference paper presented, 'Positioning the profession: the Tenth International Congress on Medical Librarianship', Brisbane, Australia, 31 August to 4 September 2009, pp. 1–10, at p. 3, espace.library.uq.edu.au/view/UQ:179913 (all accessed 10 April 2023).

¹²⁰ See https://www.sava.co.za/2019/11/21/call-for-nominations-sava-awards-and-honorary-membership-2020/ and https://www.sava.co.za/2015/01/15/role-of-sava-2/ (accessed 16 May 2023).

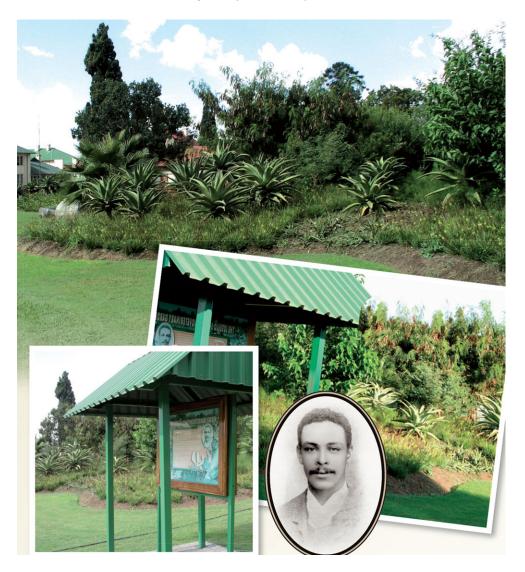


Figure 5. Photomontage of the Soga Ethnoveterinary Garden at the ARC-Onderstpoort Veterinary Institute. Source: R. D. Bigalke and D. W. Verwoerd (eds), *Onderstpoort Veterinary Institute: general history* (Veterinary History Committee of the South African Veterinary Association, Pretoria, 2008), p. 57, courtesy of the Jotello F. Soga Library, University of Pretoria, with the permission of the editors.

same time that it aims to encourage creating welcoming and supportive spaces for them. The benefits, as detailed above, have the potential to be surprisingly wide-ranging in terms of education, equality, environment and the economy.

DATA ACCESSIBILITY

This article has no additional data.

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