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PLEASE CITE THE PUBLISHED VERSION

https://doi.org/10.1007/978-3-319-44654-7_10

PUBLISHER

Springer

VERSION

VoR (Version of Record)

PUBLISHER STATEMENT

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REPOSITORY RECORD

Jons, Heike. 2019. "The University of Cambridge, Academic Expertise, and the British Empire, 1885–1962". figshare. <https://hdl.handle.net/2134/24738>.

Chapter 10

The University of Cambridge, Academic Expertise, and the British Empire, 1885–1962

Heike Jöns

When Sir Frank Leonard Engledow (1890–1985), Drapers’ Professor of Agriculture in the University of Cambridge, traveled to Southern Rhodesia and South Africa from 13 May to 17 September 1948 to advise the British colonial government on agricultural development in Southern Rhodesia, he kept one of his neatly organized travel journals. The first pages contained the most recent pictures of his botanist wife Mildred (née Roper, 1896–1956) and their four daughters Margaret (aged 26), Catherine (24), Ruth (20), and Audrey (15). These images were followed by notes on his travel kit, itinerary, personal encounters, correspondences, expenditures, field observations, to-do-lists, and readings. At the end, he had noted a few biblical verses, including “Fear God & keep his commandments: for this is the whole duty of man” (Ecclesiastes 12: 13; see Engledow, 1948).

Engledow was a devoted Christian, who had a profound knowledge of the Bible, attended church regularly, and served as a churchwarden (Bell, 1986). From a post-colonial perspective, his Christian beliefs stood in stark contrast to the prevailing racial discourses of scientific development work in the 1940s (Butlin, 2009; Tilley, 2011). At a meeting with Mr. K. M. Goodenough, High Commissioner in the United Kingdom for Southern Rhodesia, at Rhodesia House on 6 November 1947, Engledow was told that the relationship between white settlers and local Africans would be rapidly changing due to: “(a) Native betterment demanded by S. Rhodesian natives and by world opinion. (b) Ignorant natives useless to industry and may ruin land by erosion, etc. (c) Every member of the country’s small population must produce as much wealth as possible” (Engledow, 1947).

This chapter is an extended version of an article original published in the SAGE journal *Environment and Planning A*. It is republished within the journal’s terms and conditions. For the original article, see Jöns, H. (2016). The University of Cambridge, academic expertise and the British empire, 1885–1962. *Environment and Planning A*, 48, 94–114. doi:10.1177/0308518X15594802

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This briefing by Goodenough provides a glimpse of colonial discourses about Africa in the mid-twentieth century that often still reinforced the stereotyping of an “inferior” indigenous population. Powerfully exposed by Said’s (1978) seminal work *Orientalism* in eighteenth- and nineteenth-century British and French discourses, this process was inextricably linked to a feeling of European superiority and the desire of advancing commerce by “civilizing” indigenous peoples, even if the legitimizing racist ideologies contradicted Christian principles. On the eve of decolonization, this situation and growing economic challenges led to increasing competition and clashes between European settlers and indigenous populations over land, labor resources, and cash crop market shares, which created a large demand for scientific expertise (e.g., Engledow, 1949, 1950) and eventually resulted in the replacement of colonial reform by a policy of decolonization (Flint, 1983).

My aim in this chapter is to examine the complex role that university science and scholarship played for interactions between Britain and its colonies. The inquiry is guided by three research questions: To what extent and why did British university scientists and scholars travel to destinations within the British empire? How did the nature and geographies of imperial travel by British academics change over time? And in which ways did their expertise contribute to academic knowledge production and imperial interests? To answer these questions, I situate the travels of individual Cambridge academics within all documented imperial and international travel in the University of Cambridge from 1885–1886, the academic year in which leave of absence was first recorded, to 1954–1955, when looming decolonization and new forms of travel, specifically by air, began to alter the nature of academic mobility.

This chapter builds on previous research that has used the unique longitudinal data set on leave of absence from the University of Cambridge to analyze the geographies of academic knowledge production by type of academic work (Jöns, 2008) and disciplinary identities (Heffernan & Jöns, 2013). The following analysis contributes a highly original perspective to this progressive research agenda by responding to four research desiderata in wider geographical and interdisciplinary debates about knowledge production, travel, and imperialism, thereby providing a pioneering academic study of the extent to which British academics working across the sciences and the humanities contributed to British imperial governance.

Firstly, my research strengthens the dimension of empire in an emerging body of work that studies transnational linkages, circulations, and networks of universities at the level of institutions rather than nation states (e.g., Charle, 2004; Heffernan & Jöns, 2007, 2013; Meusburger & Schuch, 2012; Pietsch, 2013; Taylor, Hoyler, & Evans, 2008). Secondly, this chapter aims to complement prevailing biographical studies of imperial scientific travelers (e.g., Driver, 2001; McEwan, 2000) by situating individual practices within collective academic travel and analyzing how the former reproduced and changed patterns of academic engagement with different parts of the colonial world over seven decades. Thirdly, this study speaks to a growing body of work on the contribution of academic expertise to colonial and postcolonial networks (e.g., Hodge, 2007; Stuchtey, 2005; Tilley, 2011) by comparing the origins, natures, and geographies of personal, institutional, academic, and govern-

mental imperial knowledge networks. Fourthly, this essay charts novel territory by examining the involvement of Cambridge academics in imperial agendas because previous research has characterized the University of Oxford as an important arena within which British imperial ideology was formulated, whereas Cambridge has mostly been regarded as preoccupied with education and learning rather than theology and politics (Symonds, 1986/1992). Overall, I argue that a profound understanding of the interplay between academic expertise and imperial governance requires an integrated analysis of macropatterns and microperspectives.

Knowing the Empire

This study is situated at the intersection of geographers' engagement with the development, nature, and critique of British imperialism (e.g., Bell, Butlin, & Heffernan, 1995; Butlin, 2009; Godlewska & Smith, 1994) and studies of exploration and travel for the production and circulation of scientific knowledge in imperial and international contexts (e.g., Driver, 2001; Heffernan, 1994; Jöns, 2008; Livingstone, 2003; McEwan, 2000). Both lines of inquiry are evoked in Said's (1978) compelling argument that science, scholarship, and empire have been mutually constituted projects since the eighteenth century. They have become popular international and interdisciplinary endeavors with converging interests in the spatiality of knowledge production and the conceptualization of empire and science as networks linked by various circulations (e.g., Hodge, 2011; Lambert & Lester, 2006; Ogborn, 2000).

This chapter's first original approach to imperial travels of scientists and scholars relates to its comparative disciplinary research perspective, which studies academics working across all disciplines. Venturing beyond the disciplinary tradition particular to geography situates this chapter within studies on the geographies of scientific knowledge that have examined the difference location has made for the supposedly universalist claims advanced in other disciplines (e.g., Livingstone & Withers, 2011; Meusburger, Livingstone, & Jöns, 2010). Drawing on Livingstone's (2003) argument that the locations where scientific knowledge was generated, communicated, and displayed profoundly shaped the development of science, those studies have emphasized how European colonial empires were constituted by the circulation not only of traded commodities but also of ideas, theories, practices, objects, and people; by acts of translation between different languages and cultures; and by a complex, scalar politics of exchange and authority (e.g., Ogborn, 2008; Raj, 2010).

Recent geographical studies of empire have also developed highly differentiated perspectives of a networked empire by emphasizing multiple experiences in different national and imperial contexts (e.g., Lambert & Lester, 2006). This includes examinations of the role of previously underplayed factors such as race, class, and gender for the creation, articulation, and circulation of geographical knowledge (e.g., Blunt & McEwan, 2002), as well as circulations between imperial and colonial nodes with central and peripheral standing and the complex interactions of

European and non-European knowledge producing practices within the colonial “periphery” (e.g., Bravo, 1999; Driver, 2001; Ogborn, 2000; Raj, 2010).

This chapter’s comparative geographical research perspective thus constitutes a second original approach to imperial academic travel because it accesses those multidimensional circulations by exploring how Cambridge academics contributed to the spaces of British imperial regulation, authority, and control in different parts of the empire. By focusing on knowledge production through circular academic travel, this study complements Pietsch’s (2010) work on appointment practices of universities in different regions of Britain’s settler empire that stresses the great extent to which academic careers focused on British imperial networks in the early twentieth century. The question of how the frequency, nature, and geographies of imperial travel from the University of Cambridge changed in the context of early decolonization also adds to a growing body of research about the wider impact of decolonization on postcolonial relationships (e.g., Blunt & McEwan, 2002; Craggs, 2011; Craggs & Wintle, 2016).

Conceptually, the present study frames circular academic travel from the University of Cambridge as an integral part of systematic mobilization processes in a scientific “center of calculation” (Latour, 1987, p. 215). Such mobilization processes have facilitated knowledge production at the home base through the accumulation and subsequent transformation of heterogeneous resources into new scientific and scholarly arguments (De Certeau, 1986). The notion of a center of calculation has been especially useful for geographical studies of knowledge production in modern institutions, such as the University of Cambridge, where circular academic travel generated important cumulative effects for the emergence of a modern research university and an Anglo-American academic hegemony (Jöns, 2008; for a government institution, see Barnes, 2006). The concept has also been of great value in different imperial contexts as mobilization processes in centers of calculation have become inextricably linked to the global spread of European science, capitalism, and imperialism (Jöns, 2011).

Based on this conceptualization, this chapter links individual and collective travel behavior in the university by situating the “geographical biography” (Livingstone, 2003, p. 182) of the plant scientist and agriculturalist Sir Frank Engledow within the changing nature and geographies of all recorded imperial and international travel by Cambridge academics in order to trace some of the origins, dynamics, diversities, and impacts of related knowledge networks. This integrated comparative approach of macro- and microperspectives seeks to contribute new insights about the historical geographies of knowledge production to an emerging global history of science and scholarship that has hitherto prioritized biographical over structural accounts and rarely attempted a combination of both (for related debates, see Ogborn, 2000, 2008; Heffernan & Jöns, 2013; Taylor et al., 2008).

An integrated analysis of individual and collective academic travel also helps to assess the value of the archival data on all applications for leave of absence by Cambridge University Teaching Officers as they are recorded in the minute books of the university’s General Board (GB) from 1885–1886 to 1954–1955. These minutes contain information on each applicant and in most cases also on the reason, length, and destination of the planned leave of absence. As Cambridge academics

were free to travel during vacations, the data captures not all travels from Cambridge but those during full term time, research leaves of one to three terms, and all travels of more than 3 months because this was the length of the longest vacation during the summer.

The plant scientist and agriculturalist Sir Frank Engledow was chosen as a biographical case study because his career in Cambridge was more than anyone else's characterized by a close relationship between scientific research, imperial policy making, and colonial development. Engledow's academic career spanned more than seven decades, from his first enrollment at St. John's College in 1910 until his death in 1985, and resulted in most granted leaves of absence of over 1 month from 1885–1886 to 1954–1955. He mainly used these for inquiries on agriculture in the tropical empire, which included reporting to more than a dozen royal commissions (Bell, 1986). While his vital role for the renaissance of British agriculture has been discussed (Perkins, 1997), this study argues that Engledow is also an important but understudied figure in the British empire of knowledge production (Hodge, 2007).

Comparing the records on Sir Frank Engledow's leaves of absence with all of his academic journeys documented in St. John's College Library¹ shows that 10 out of 11 overseas journeys during his employment at the university up until 1955, the end of data recording for this study, are listed in the minute books (plus two planned journeys—one was not approved, the other did not take place). The additional journey was a trip to Assam in the Christmas vacation 1953–1954, which lasted 1 month and was thus shorter than the other journeys of 1.5–4.5 months. The leave of absence data is thus reliable in regard to journeys of over 1 month, while shorter trips, especially those to closer overseas destinations that Engledow did not undertake because of his focus on the tropics, have most likely not been captured adequately. The historical geographies of academic travel discussed in this chapter therefore focus on research leaves and overseas journeys of several months.

Capitalizing on the Empire

In the late nineteenth and early twentieth centuries, the University of Cambridge underwent substantial changes through growing numbers of students and university academics, new scientific laboratories and research institutes, and the introduction of research-based PhD degrees (1920). These innovations were accompanied by three university reforms, launched by the Royal Commissions of 1852, 1874, and 1922, which gradually professionalized research, teaching, and academic service

¹ The Engledow papers include 17 travel journals, a number of notebooks, and reports. His daughter Ruth Steketee (Eindhoven) kindly provided in-depth knowledge about her father's life and access to further papers, including the "blue diary," an annual notebook on the weather; political, professional, and family events; and his U.K. and overseas travels for the period 1909–1980. These private papers entered St. John's College Library in September 2014.

and thus transformed the ancient center of learning into a modern research university (Brooke, 1993).

From 1885 onward, professors and readers were required to apply for leave of absence from the university during those periods that exceeded the strictly defined rules of residence throughout full term time. The resulting records show that the volume of academic travel from Cambridge remained relatively low until the periodic research leave, or sabbatical, was introduced in 1926, which raised the annual number of applications for leave of absence from consistently less than 10 to 31 in 1927–1928 (Jöns, 2008, p. 346). A similar reform had been pioneered by some American universities, where regular sabbatical leave had first been introduced at Harvard in 1880 (Eells, 1962). Almost 50 years later, Cambridge academics were now also entitled to devote one term for every six of normal service to their research, which encouraged university academics across all disciplines to travel for their research and thus elevated travel to the key research technique (Heffernan & Jöns, 2013).

The considerable increase in academic travel from Cambridge after 1926 ended abruptly with the outbreak of World War II, when many academics enrolled in war service, but after 1945, the rapidly expanding community of Cambridge academics became markedly more mobile as a consequence of commercial air travel and the growing significance of overseas travel in the research process. Within 10 years, the number of annual applications for academic leave rose steadily from 30 (1945–1946) to 96 (1954–1955) and thus at a faster rate than the number of university academics (Jöns, 2008). Three-fourths of those awarded academic leave from 1885–1886 to 1954–1955 traveled overseas and thus globalized academic knowledge production in Cambridge.

About one fifth of all recorded overseas travels by Cambridge academics in the period 1885–1886 to 1954–1955 involved destinations in the British empire (22%, or 167 out of 751 journeys), defined here as British dominions, colonies and other possessions at the height of colonial expansion in 1914. Since most of these territories remained part of the Commonwealth of Nations after gaining independence, the following analysis sheds light on the changing meaning of the British overseas empire for academic travel in the early stages of decolonization.²

²Relevant territorial changes include the Dominion status of Canada (1867), Australia (1901), New Zealand (1907), Newfoundland (1907), and South Africa (1910) and the independence of Afghanistan (1919), Egypt (1922), and the Indian subcontinent (India, 1947; Pakistan, 1947; Burma, 1948; Ceylon, 1948). The macroanalysis ends before decolonization started in Africa (Sudan, 1956; Ghana, 1957), continued in Southeast Asia (Malaya, 1957), and peaked in the 1960s (Butlin, 2009).

Imperial Travels Until 1945

Up until 1945, imperial travel followed the overall pattern of academically motivated overseas journeys from Cambridge. A slow but gradual increase of travels was followed by a steep rise after the introduction of the research leave scheme in 1926 and a slight reduction in the decade dominated by World War II. From 1906–1915 to 1936–1945, the British empire received fairly equal shares of 27–29%, which reveals a steady commitment to the imperial project. By that time, however, most academic travel from Cambridge was already directed to the United States, where emerging research universities had fostered transatlantic exchange through invited lectures since the turn of the century and through visiting appointments since the late 1920s, when regular research leaves allowed more Cambridge academics to accept these lucrative posts (Table 10.1). Mainland Europe received a similar proportion of academic travelers as the British empire, even if this varied considerably between the decade affected by World War I (1916–1925: 11% versus 29%) and the subsequent one, in which European interactions reached its peak due to a growing

Table 10.1 Destinations of overseas academic leaves at the University of Cambridge by decade (in percentage of overseas academic leaves with one or more destinations)

Destination	Decade								N
	1886–1895	1896–1905	1906–1915	1916–1925	1926–1935	1936–1945	1946–1955	1886–1955	
(1) United States of America	40	58	41	50	29	36	40	38	289
(2) Continental Europe	20	25	27	11	34	28	34	32	240
(3) British Empire overseas (as of 1914)	40	25	27	29	27	28	19	22	167
(a) Dominions	0	67	67	75	26	37	40	39	65
(b) British India	100	0	17	25	26	37	23	26	44
(c) British Africa	0	33	17	0	20	7	31	23	38
(d) British West Indies	0	0	0	0	20	19	5	10	16
(e) British southeast Asia	0	0	0	0	14	4	2	5	8
(4) Other places	20	0	5	14	15	10	11	11	85
	Number of overseas academic leaves								
	5	12	22	28	129	98	457	751	751

Adapted from the minutes of the University of Cambridge General Board (GB), Min III.1 to Min III.7 and GB 160, Boxes 301–308

attractiveness of short-distance travel for conferences and lectures (1926–1935: 34 % versus 27 %).

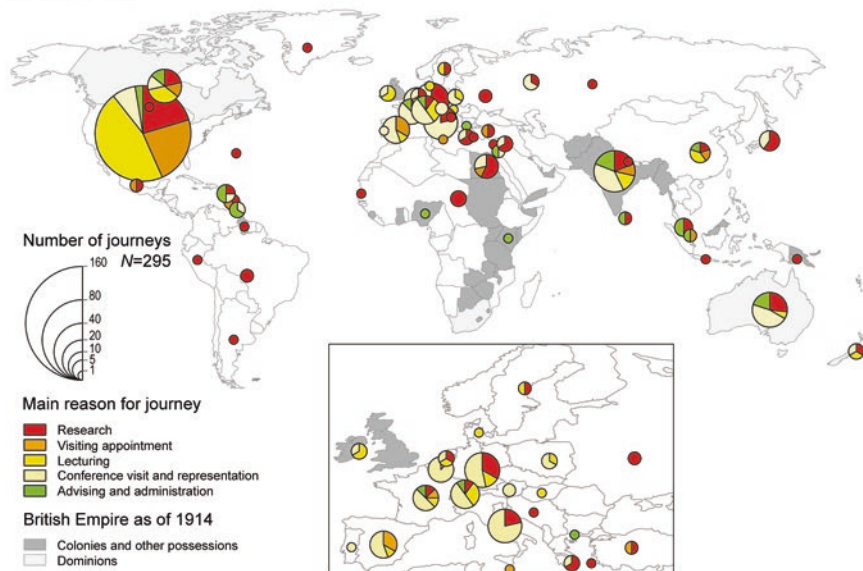
Different parts of the empire played very different roles in academic travel from Cambridge as these were visited to a different extent and for very different reasons, both of which changed over time (Fig. 10.1). In the two decades before the end of World War II, the relatively affluent Dominions and British India attracted not only most but also equal and growing shares of imperial travelers from Cambridge. Visits to British colonies in Africa, the West Indies, and Southeast Asia were rare and mainly focused on the decade 1926–1935 (Table 10.1). Imperial destinations were most often visited for research in the applied natural and technical sciences, for visiting posts and conferences, and for the provision of scientific expertise to imperial organizations, but the integration of different parts of the empire into academic circles differed in similar ways as their role in imperial trade networks (Pietsch, 2010).

Research travelers mostly visited imperial destinations for scientific fieldwork, often in connection with larger expeditions. For example, James Alfred Steers, Lecturer in Geography, joined an expedition of the Royal Geographical Society to the Australian Great Barrier Reef in 1928, whereas Edward Nevill Willmer, Lecturer in Physiology, took part in the Cambridge expedition to British Guiana in 1933 to investigate the fauna of local rivers and swamps (University of Cambridge General Board, 1928, 1933). In contrast to these dispersed fieldwork destinations, the few laboratory and theoretical scientists, who visited research institutions in the empire during the 1930s and 1940s, mainly went to established centers in Canada, Australia, and New Zealand that were able to afford the immense input of money, training, and machines required for highly specialized laboratory equipment and expertise.

Many fieldwork locations in the empire were easily accessible because of existing infrastructure or were required due to the thematic focus. Research travel thus rarely served specific imperial interests, an exception being the educational journey of Edward Granville Browne, the newly elected Sir Thomas Adams Professor of Arabic (1902), who went to Cairo in the Lent Term of 1903. Browne was keen to improve his Arabic language skills and “to obtain openings for some of our students who may be able to acquire a competent knowledge of Arabic” (Browne, 1902, p. 20) because this would be taken into account in the appointment to the London Civil Service. Imperial structures and networks were thus used for research travel if relevant to the research agenda in a particular field but, in similar ways as Ellis (chapter in this book) argues in regard to British academic networks from 1850 to 1914, rather than being determined by imperial ties and interests, research travel from Cambridge reached out beyond the confines of empire (Fig. 10.1a). It also shifted its geographical focus from imperial destinations in the decade 1926–1935 (36 %) to the United States in the decade 1936–1945 (57 %).

Conference travel from Cambridge mainly focused on existing European centers of knowledge production that provided the infrastructure, funds, and like-minded colleagues required for organizing such socially and academically important gatherings, but it also targeted some of the more affluent regions of empire such as India,

A. 1886-1945



B. 1946-1955

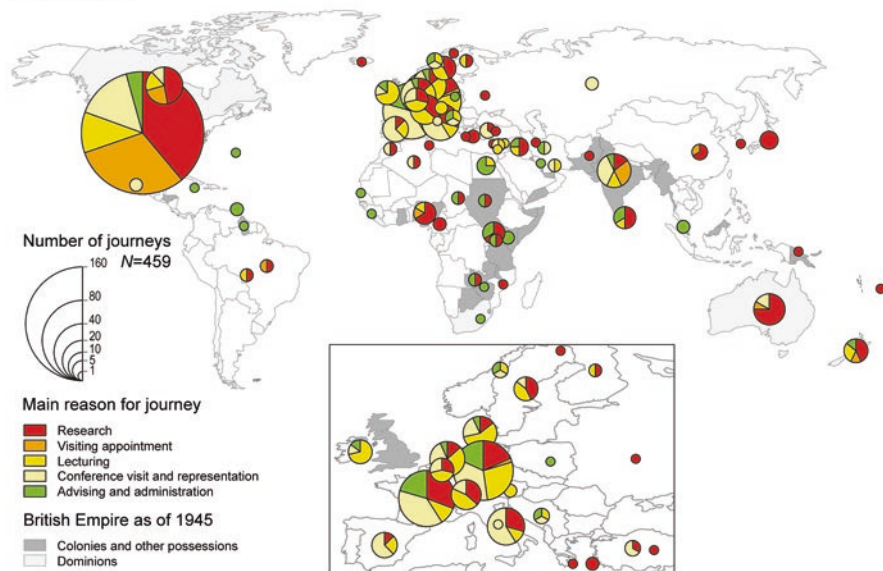


Fig. 10.1 Overseas academic leaves of Cambridge academics by type of work. Adapted from the minutes of the University of Cambridge General Board (GB) Min III.1 to Min III.7 and GB 160, Boxes 301–308 (Design by author)

Australia, and Canada, where large international conventions were either held by the British Association for the Advancement of Science or modeled after these meetings (Withers, 2010). Likewise, invited lectures by Cambridge academics concentrated on the Dominions and British India, while visiting posts were held at established institutions in different parts of the empire (e.g., Gleb Anrep, Cairo University, 1930; Max Born, Indian Institute of Science, Bangalore, 1935; W. A. Fell, Singapore Medical College, 1935; see University of Cambridge General Board, 1930, 1935).

In contrast to Symonds's (1986/1992) assumption about a prevailing disengagement with British politics, several Cambridge academics contributed to British imperial governance and economic revenue by providing their expertise in the context of mostly externally funded in situ inquiries that required academic travel. This analysis shows that from the 1920s onward, Cambridge expertise was sought by colonial organizations to support the creation and maintenance of a network of imperial institutions and to advice on government and corporate policies. Almost three-fourths of all overseas advisory work by Cambridge academics from 1886 to 1945 was located in the British empire (Table 10.2). Largest demand was for academics working in agriculture and forestry and thus in disciplines that had been employed systematically for exploiting the resources of the colonies since the eighteenth century (Vessuri, 1994, as cited in Butlin, 2009).

The 1930s did not only bring the Great Depression along but also strikes and riots throughout the empire and significant reforms of British colonial policy that Flint (1983) regarded as “the origins of decolonization” (p. 394). From this perspective, three events were directly responsible for the colonial reform movement that created a consensus for “state-managed colonial development” (Hodge, 2007, p. 18) and thus increased the need for scientific expertise in the 1940s and 1950s. Firstly, widespread riots in the West Indies since the mid-1930s “destroyed the long held axiom that colonial territories must live off their own resources on *laissez faire* principles” (Flint, 1983, p. 394). Secondly, the publication of Lord Hailey's African Survey in 1938 suggested that supporting the emergence of an English-speaking literate professional class of Africans through education would create a legitimate comprador strata that could eventually “inherit colonial sovereignty” (Flint, 1983, p. 400). Thirdly, Malcolm Macdonald was appointed as Secretary of State for the Colonies from 1938 to 1940. He was determined to replace indirect rule with a consistent British colonial policy and to promote, for the first time, self-government as its central long-term goal:

Even amongst the most backward races of Africa our main effort is to teach those peoples to stand always a little more securely on their own feet . . . the trend is towards the ultimate establishment of the various colonial communities as self-supporting and self-reliant members of a great commonwealth of free peoples and nations. (Malcolm Macdonald addressing the summer school on colonial administration at Oxford University on 27th June 1938, as quoted in Flint, 1983, p. 398)

Table 10.2 Destinations of overseas academic leaves at the University of Cambridge by type of academic work and decade (in percentage of overseas academic leaves with one or more destinations)

Destination	Type of work												Total
	Research		Visiting posts		Lecturing		Conferences		Advisory work		Total		
	1886–1945	1946–1955	1886–1945	1946–1955	1886–1945	1946–1955	1886–1945	1946–1955	1886–1945	1946–1955			
(1) United States of America	30	46	50	83	68	24	11	29	12	16	35	40	
(2) Continental Europe	22	26	13	1	17	59	58	52	12	30	29	34	
(3) British Empire overseas (as of 1914)	29	22	28	16	13	12	25	9	73	44	28	19	
(a) Dominions	39	53	22	55	70	50	45	44	21	5	38	40	
(b) British India	26	15	22	36	30	30	40	56	26	14	30	23	
(c) British Africa	17	35	22	9	0	20	10	0	21	55	14	31	
(d) British West Indies	17	0	22	0	0	0	10	0	21	18	15	5	
(e) British southeast Asia	9	0	11	0	0	0	0	0	16	9	7	2	
(4) Other places	27	15	9	3	4	8	7	11	7	14	12	11	
	79	156	32	69	76	85	81	97	26	50	294	457	

Adapted from the minutes of the University of Cambridge General Board (GB) Min III.1 to Min III.7 and GB 160, Boxes 301–308

Imperial Travels After 1945

The British colonial reform movement that flourished after the end of World War II exemplifies how scientific expertise was increasingly used at the eve of decolonization to reform colonial policies in times of crises (Secretary of State for the Colonies, 1945). Accordingly, the first of three main trends in academic travel from Cambridge during the post-1945 decade was a geographical shift of imperial travels from British India to British Africa (Table 10.1). Supporting Tilley's (2011) observation that "the African Survey played a decisive role in shaping research priorities in both Britain and colonial Africa" (p. 5), this postwar shift affected advisory work and research inquiries, the latter mainly aiming to study "exotic" flora and fauna in the African rain forest (Fig. 10.1b).

Reflecting the new emphasis on African empowerment through education, scientific experts from Cambridge supported the founding of new institutions for research and higher education, served as trustees, chairmen, and board members of existing institutions, gave invited lectures, and acted as external examiners for London degrees. The contribution of Frank G. Young, Sir William Dunn Professor of Biochemistry, to the commission on a higher college for Africans in the British Central African Territories in 1952, which subsequently became the University College of Rhodesia and Nyasaland, illustrates how Cambridge academics contributed to the new imperial agenda of local empowerment through the provision of tertiary education, even if this process, as Flint (1983) pointed out, paradoxically provided the University of London with "an educational colonial empire as part of the road to decolonization" (p. 403; see University of Cambridge General Board, 1952).

In the context of colonial reform planning, Cambridge expertise was employed for managing increasing conflicts and tensions in the African dependencies. This included Engledow's official inquiry into the agricultural development of Southern Rhodesia in 1948, which was discussed at the beginning of this essay, and a range of other crisis interventions that Cambridge academics undertook for the Colonial Office. For example, Frank Debenham, Professor of Geography, reported on the water resources of Northern Rhodesia and Nyasaland in 1946, whereas Mr. C. W. Guillebaud, Lecturer in Economics and Politics, served as an arbitrator in a dispute between the copper mining companies of Northern Rhodesia and the Union of African Mine Workers in 1953 (University of Cambridge General Board, 1945; 1953).

All these imperial interventions after 1945 were an integral part of the "bi-partisan policy of colonial planning and reform [that] had emerged, and would remain in effect until it foundered in Central African problems in the 1950s" (Flint, 1983, p. 409). According to Flint (1983), colonial reform eventually failed and had to be replaced by a policy of political decolonization for four main reasons. Firstly, the notion of planning was itself fundamentally imperialistic; secondly, the colonial service showed strong resistance toward the Africanization of administration, which the government in London had not foreseen; thirdly, related racism compromised

any sensible cooperation with the educated elite; and fourthly, postwar Britain lacked the financial resources that would have been necessary for implementing colonial empowerment in orderly evolutionary stages.

The second trend in the development of imperial travels from Cambridge in the post-1945 decade was a profound deepening of the uneven integration of different areas of empire into British academic networks. This resulted in a growing divide between the relatively affluent and well-connected Dominions and the resource-intensive but academically fairly disconnected colonies in Southeast Asia and the Caribbean (Table 10.2). After 1945, the Dominions attracted about half of the imperial travels from Cambridge for research, visiting posts and invited lectures respectively. This was encouraged by new research facilities and the availability of Commonwealth schemes and institutions that funded visiting academics from metropolitan centers of knowledge production in these prospering sites of empire.

Some of those Cambridge scientists, who were invited to Australia, New Zealand, and Canada, conveniently visited family and friends along their routes, thus reflecting longstanding networks in the “British academic world” (Pietsch, 2013), but more and more academic visitors in Canada combined their stays with touring attractive research facilities in the United States to keep up-to-date with latest developments in their fields. In sharp contrast to this, the new focus on Africa led to a very different kind of “empowerment” in British Southeast Asia and the West Indies because these became, apart from only six inquiries for advisory purposes over 10 years, entirely disconnected from Cambridge academics’ postwar interactions (Table 10.2). Academic research and advisory work also shifted away from postcolonial British India, but the Indian subcontinent remained a preferred destination for conference travel, visiting posts, and invited lectures because of its well-established universities that “had existed for 90 years before Independence” (Symonds, 1986/1992, p. 292).

The third trend saw an overall decline in the significance of imperial destinations for academic travel from Cambridge after World War II because of two developments. The first was a growing Americanization of research and visiting posts spearheaded by the expensive laboratory sciences that increasingly channeled academic flows toward powerful U.S. research universities and national research laboratories. From 1946 to 1955, 40% of all overseas academic travel from Cambridge was directed to the United States. The second development was an Europeanization of advisory work and invited lectures as a result of the high demand for expertise created by the reconstruction of a shattered post-war Europe. This new phase of European cooperation reduced the focus of advisory work on the British empire from 73% in the pre-1945 period to 44% in the post-1945 decade (Table 10.2).

Within the same time frame, the United States and mainland Europe raised their shares of Cambridge academic travelers from 35 to 40% and from 29 to 34% respectively, while the share of the British empire dropped from 28 to 19%. Visits to decolonized destinations differed from travels to colonized destinations through much less advisory work and visits by professors; fewer visits in the applied sciences with a complete retreat of the agricultural sciences; and slightly more visits for conferences, lecturing, and visiting posts, thus indicating a transition from the

use of Cambridge expertise for the support of imperial structures to the fostering of transnational academic exchange, as especially evident in the Dominions and British India. Despite the wider trend of withdrawal, most of the Dominions and those states that were independent by 1955 continued to mobilize expertise from Cambridge, but to a lesser extent.

Empowering the Empire

The nature of imperial advisory work and the underlying personal connections and networking practices can be exemplified by the extensive overseas travels of the agriculturalist Sir Frank Engledow, whose academic career in Cambridge peaked during the very period in which overseas travels proliferated. Between the start of his lectureship in 1926 and his retirement in 1957, Engledow made 13 applications for academic leave of absence to the General Board, 12 of which were approved. He took thus more academic leaves of over 1 month and traveled more frequently to imperial destinations than any of his Cambridge peers. The following biographical analysis situates Engledow's 19 overseas journeys from 1914 to 1962, each of which involved parts of the British empire, within the previously outlined collective travel patterns from the University of Cambridge to examine how he reinforced and changed these wider trends and contributed to imperial knowledge production.

Sir Frank Engledow was born on 20 August 1890 in Deptford, Kent, as the youngest of five children. Unlike most of his professorial colleagues at Cambridge, who were able to draw on private wealth, he came from a modest middle-class background. His father was a police sergeant, who had grown up in Norfolk, and his mother, who came from a farm in Essex, was in service before raising their five children (Bell, 1986). Engledow had attended Upland Council School, Bexleyheath, and Dartford School before his parents, who provided their children with educational opportunities they had lacked, supported his enrollment at University College London (UCL) in 1909 (Bell, 1986), when only 1.3% of an age cohort went to university (Jarusch, 1983).

After obtaining a BSc in mathematics with physics at UCL in 1910, Engledow entered St. John's College, Cambridge, where he received a BA in the natural sciences (1913). Subsequently, he started working at the Plant Breeding Institute (PBI) in the School of Agriculture with Professor Rowland Harry Biffen, Cambridge's first Professor of Agricultural Botany (1908–1936) and the PBI's founding director (1912–1936), who created a significant center for plant genetics and agricultural research in Cambridge (Bell, 1986; Hodge, 2007). Engledow's postgraduate studies led to three journal articles in 1914, one of which was coauthored by the British statistician Udny Yule, an important mentor and long-term friend, but this trajectory was interrupted by a 4.5-year-long overseas career in the military during World War I that subsequently shaped his academic career in profound ways.

Engledow sailed to India with The Queen's Own 5th Royal West Kent Regiment (5th RWK) in October 1914. He spent the subsequent 3 years in the north of British

India, where he suffered from typhoid (1915) and malaria (1917) but also began to document inquiries about agricultural production at the site of the British military headquarters in Rawalpindi (1916), especially in regard to wheat, sheep, dairy farms, and daily rations of Indian troops (Engledow, 1916). The 5th RKW Battalion sailed for Mesopotamia in December 1917, where Engledow became assistant director of agriculture to the Mesopotamian Expeditionary Force under the directorship of Geoffrey Evans (1918–1919) (Engledow, 1917). Geoffrey Evans's postwar career included positions in the Empire Cotton Growing Corporation and the Imperial College of Tropical Agriculture in Trinidad (ICTA), both of which sought Engledow's expertise in the subsequent decade.

In May 1919, Engledow returned to Cambridge, where he completed his MA in the natural sciences and became a Fellow of St. John's (1919–1985). On the invitation of Biffen, he returned to the PBI for research in crop breeding that sought to improve varieties of wheat and barley (Bell, 1986). Soon afterward he met Mildred Roper, a postgraduate student in botany from South Africa, who had arrived at Newnham College in 1919 and ended her academic pursuits in Cambridge's Botany School when marrying Engledow in March 1921 (Bell, 1986). Engledow's university lectureship in 1926 was granted to him after a series of important publications and a formative journey through the United States and Canada. This journey for "the stimulus and education of foreign travel" (Engledow 1925, p. 1) was funded by a "Travelling Research Fellowship in Plant Genetics" and resulted in a highly acclaimed report on North American agriculture for the British Ministry of Agriculture and Fisheries (Engledow, 1925).

Seven weeks of railway travel in the summer of 1924 through the United States and Canada, from New York via Washington DC–Chicago, IL–Minneapolis/St. Paul, MN–Toronto–Guelph–Ithaca, NY–Raleigh, NC– and Upper Wilmington, MD back to Washington DC and New York, acquainted Engledow with the latest agricultural practices and technological developments in the world's rising hegemonic power. He became conscious of "that close relation of American agricultural science to business which was everywhere noticeable" (Engledow, 1925, p. 5) and attended the fortnight of meetings and excursions of the British Association for the Advancement of Science in Toronto, appreciating that many "Dominion and American agriculturalists were present" (p. 8). Touring North America provided Engledow, like several other aspiring researchers from European universities in the twentieth century, with the necessary expert knowledge, personal networks, and intellectual credentials for a distinguished academic career.

After Engledow had been appointed University Lecturer in Agriculture in 1926, he gradually turned into a scientific advisor on agricultural policies in the tropical empire, where he aimed to implement economically viable and sustainable agricultural practices in regard to the three main cash export crops cotton, rubber, and tea (Fig. 10.2). This career change was most likely encouraged by his wartime companion Geoffrey Evans at a time when the Colonial Office, as Hodge (2007) discusses, built up a network of advisors, standing committees, central research stations, and postgraduate training facilities. Engledow first traveled to Nigeria and Ghana for 2 months in 1927–1928 because he had been asked "to make proposals for the

Empire Cotton Growing Corporation on cotton breeding and seeds supply for Nigeria” (Bell, 1986, p. 215), which coincided with Geoffrey Evans’s employment at the Empire Cotton Growing Corporation. In 1929, he inspected the Cotton Research Institute and the ICTA in Trinidad for the Empire Marketing Board, when Geoffrey Evans served as the ICTA’s principal (1927–1938). This clearly underlines the existence of closely knit, intersectoral imperial networks that in Engledow’s case can be traced back to his overseas military service in World War I.

Appointed Drapers’ Professor of Agriculture in 1930, Engledow undertook three important overseas journeys in the 1930s that cemented his role as one of the Colonial Office’s key advisors on tropical agriculture. He presided over two commissions of inquiry—one on the affairs of the Rubber Research Institute in Malaya (1933) and the other on the scientific development of the Indian Tea Association (1935–1936)—and was also a member of the Royal Commission on the West Indies (1938–1939). Engledow’s work for the Indian Tea Association entailed an extended tour of tea-growing areas in Assam, Ceylon, Sumatra, and Java that was marked by two innovations. The first was a visit to Batavia, a knowledge hub in Dutch-ruled Java, which was most likely encouraged by his Dutch host, Professor J. Boerema, and represented the only overseas location Engledow visited outside of British imperial territories after 1926 (Fig. 10.2). The second innovation was Engledow’s first airplane flight, on 1 January 1936, that took him from Batavia to Palembang as part of a 3-day journey to Calcutta with multiple stops. While in the air, he scribbled notes on the colorful KLM Royal Dutch Air Lines route map, commenting about the changing landscape and the pilot’s generous extra circles, one on starting in Medan “in honor of a former lady passenger who had turned up to see the plane” (Fig. 10.3a) and the other for an unsuccessful “elephant hunt” (Fig. 10.3b).

Two years after Engledow experienced these revolutionary changes in long-distance travel, he directly contributed to the imminent landmark shift in British colonial policy as a member of the Royal Commission on the West Indies chaired by Lord Moyne. The Moyne Commission was appointed on 5 August 1938 as the British government’s response to severe labor unrests and bloody disputes between workers and colonial forces in the West Indies (Whitham, 2002). Consisting of ten expert members—seven men and three women—and two male secretaries, the commission toured the British West Indies with the twofold aim of reporting on the colonies’ economic and social conditions and formulating policy recommendations. Living and traveling between the islands on Lord Moyne’s motor yacht *Rosaura* for 5 months, the royal commissioners became a public sensation and were frequently greeted by large crowds (Fig. 10.4). They heard formal evidence “in 26 centres from 370 witnesses or groups of witnesses” (Secretary of State for the Colonies, 1940, p. 8), including sugar workers, trade unionists, and representatives of various associations, and received 789 additional memoranda for consideration.

In their report, the commissioners revealed extremely poor living conditions for most Caribbeans that contrasted with the high living standards of European colonials (Fig. 10.5). They exposed striking deficiencies in regard to voting rights, social services, and private and public sector economies and criticized British colonial policy in the strongest terms (Moyne Commission, 1945). As an immediate response

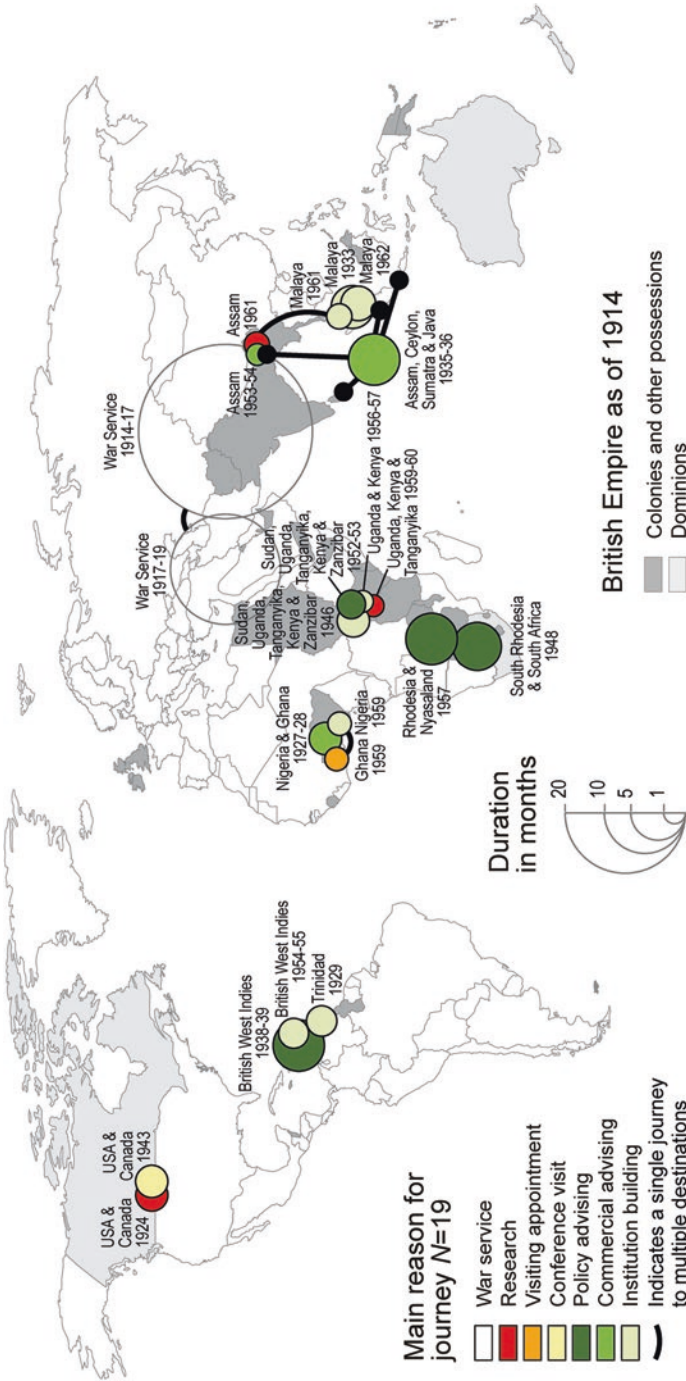


Fig. 10.2 Overseas journeys of Professor Sir Frank Leonard Engledow (1890–1985). Adapted from Bell, 1986; the minutes of the University of Cambridge General Board (see Fig. 10.1); and the Papers of F. L. Engledow, St. John’s College Library, University of Cambridge (Design by author)

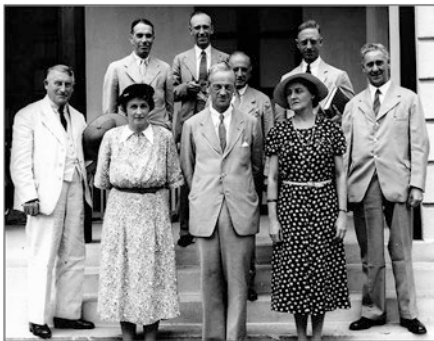


A. First leg: Batavia to Palembang, 01/01/36



B. Final leg: Rangoon to Calcutta, 03/01/36

Fig. 10.3 KLM route map with annotations made by Professor Engledow during his first airplane flight. Source: Engledow, 1936. Reprinted with permission



A. Professor Engledow, 2nd from right, with other commission members



B. The commission's landing at Portsmouth Dominica, 1939

Fig. 10.4 The Moyne Commission, 1938–1939. Source: Engledow, 1938–1939. Reprinted with permission



A. Hut with family who answered Engledow's food questions in Tortola



B. The British overseer's quarters at Blairmont Sugar Estate, British Guiana

Fig. 10.5 Fieldwork of the Moyne Commission, 1938–1939. Source: Engledow, 1938–1939. Reprinted with permission

to this colonial critique, the British government increased the funds available for colonial development and launched the Colonial Development and Welfare Act of 1940, but the commissioners' report of December 1939 was not released to the public until after the end of World War II, in July 1945, because the British government feared that the Axis powers would use it for anti-British propaganda (Lapping, 1985). The publication of the Moyne Commission's full report thus belatedly introduced a major change in British colonial expertise to other experts, policy makers, and the wider public, which might explain why the impact of Lord Hailey's African Survey on British colonial reform has hitherto received more scholarly attention.

The Moyne Commission's work also confirms Tilley's (2011) argument that late colonial scientific advisors both undermined and supported the cause of empire "by introducing new concepts, new ways of knowing, and new methods of understanding" (p. 25), because the royal commissioners strongly criticized the lack of public provision across all sectors of society in the West Indies, while at the same time supporting imperial rule and planning through efficiency-driven policy recommendations. Engledow's expertise, for example, reoriented the emphasis of colonial agricultural policy from export-oriented production toward more diverse and self-sufficient local food supply, but it still encouraged increased productivity and thus demanded the replacement of indigenous shifting cultivation by more intensive mixed rotational farming practices, which often turned out to be impractical because of the only gradually recognized, rapidly declining soil fertility in the tropics (Hodge, 2007).

This chapter therefore suggests that late colonial advisors such as Engledow represented a new generation of professional academic experts, who operated within the imperial agenda but were distinctively "post-Victorian imperialists" because they were caught up in striking ambivalences. Engledow's advisory work in the tropical empire, for example, was simultaneously based on a deep faith in a Christian god and a strong belief in the superiority of the Anglo-Saxon race; on humanitarian ethics that cared for "the peasant farmer living at subsistence level" (Bell, 1986, pp. 205–206) and scientific planning that sought to increase the economic revenue of plantation-owning white settlers; and on closely knit interpersonal networks and a genuine desire to improve agricultural production throughout the empire by means of organization, research, education, and training.

During World War II, Sir Frank Engledow's academic reputation continued to grow in Britain, where he took on a series of responsibilities in regard to domestic agricultural policy and strategy, such as the role of Ministry Liaison Officer of the War Agricultural Committee for the Midland counties in June 1940, the first time he advised on domestic agricultural policy (Engledow, 1940). In 1943, he attended the United Nations Conference on Food and Agriculture in Hot Springs, Virginia, United States, as a U.K. delegate and became a Founder Trustee of the Nuffield Foundation. In return for his distinguished services, Engledow was knighted in 1944 and elected a Fellow of the Royal Society in 1946 (Bell, 1986).

Immediately after World War II, Engledow returned overseas and contributed, like other Cambridge academics, to African empowerment through both education and colonial reform. In 1946, he was involved in selecting the site for the new East

African Agricultural and Forestry Research Organization at Muguga near Nairobi during the delegation's 2-month journey through Kenya, Uganda, Tanganyika, and Zanzibar (Hodge, 2007). Almost a decade after his commissioned evaluation of Southern Rhodesian agriculture (Engledow, 1949, 1950), Engledow attended the seventh degree day of the Gwebi College of Agriculture in Rhodesia on 17 October 1957, where he was honored for his contribution to the institution's foundation in 1950 (Certificate, 1957).

Engledow's overseas journeys after 1945 mainly reinforced the wider geographical shift of academic expertise to Africa. At these advanced stages of his professorial career, he did not participate in the trend of increasing academic travels to the United States and continental Europe but kept moving within the highly selective and exclusionary imperial networks that linked the British worlds of governance and academia (Hodge, 2007; Pietsch, 2013). These postwar journeys contributed in some ways to the growing disparities between different parts of empire because Engledow returned seven times to Africa, three times to Malaya, twice to India, and only once to the British West Indies. Following a recommendation of the Moyne Commission, Frank Stockdale had been appointed "first comptroller for the development and welfare in the West Indies" in 1940 (Hodge, 2007, p. 193), which had reduced the need for British academic expertise. When traveling to the West Indies in 1954–1955, Engledow thus mainly visited the ICTA in Trinidad that he had first inspected in 1929, under the directorship of his wartime companion Geoffrey Evans, and on whose governing bodies he had served in London for many years (Bell, 1986).

Engledow's postwar journeys also show that certain British colonial networks outlasted decolonization at least for some time because he traveled to India, Ghana, and Malaya after independence (Fig. 10.2). In 1953–1954, he chaired a commission of the India Tea Association to redo a small-scale version of the inquiry on the challenges of tea growing that he had undertaken under the auspices of the Colonial Office in 1935–1936 (Bell, 1986, p. 216). The important role of India's long established institutions of higher education and research for the formation of lasting post-colonial academic networks can also be exemplified by Engledow's PhD student, Benjamin Peary Pal, who had graduated from Rangoon University before undertaking doctoral research in Cambridge from 1929 to 1933. Pal later became a distinguished imperial economic botanist in India, who was appointed first director of the Indian Council of Agricultural Research in 1965 and elected a Fellow of the Royal Society in 1972 (Perkins, 1997).

Sir Frank Engledow became Emeritus Professor of Agriculture in 1957, 1 year after his wife died from cancer and decolonization began in British colonial Africa (Bell, 1986). His role as a visiting lecturer at Kumasi College of Technology in Ghana in spring 1959 shows how colonial expertise was also remobilized for the support of higher education in postcolonial Africa. At the end of the same year, he undertook what appears to be a farewell tour through colonial agricultural institutions in Uganda, Tanganyika, and Kenya. Engledow's final two overseas journeys, in 1961 and 1962, brought him once more to India, for research on tea, and to independent Malaya, where he still served on the Coordinating Advisory Committee at

the Rubber Research Institute in Kuala Lumpur (Bell, 1986). Diagnosed with hip arthritis in 1962, at the age of 72, Engledow stopped traveling overseas just as decolonization hit its prime time. After a final publication on tropical agriculture in the journal *Nature* (Engledow, 1961), he refocused his work back on the British homeland for the two decades to come.

Conclusions

This chapter has examined the role of imperial destinations for knowledge production in the University of Cambridge and the contributions of Cambridge academics to the governance and economic revenue of the British overseas empire from the 1920s to the 1960s. Whereas Symonds (1986/1992) remarked that “Cambridge appeared less interested in the Empire and its governance than Oxford” (p. 302), this study has illustrated how Cambridge academics across all disciplines, particularly in the applied natural and social sciences, used the British empire for mobilizing resources for academic knowledge production and provided expertise to imperial governments and institutions through often externally funded advisory work. This was especially possible after the introduction of regular research leaves in 1926 because these allowed Cambridge academics to undertake extended overseas journeys, a process that was only formalized in Oxford after 1954 (Heffernan & Jöns, 2013).

This study contributes seven main findings to the literatures on knowledge production, travel, and imperialism. Firstly, the analysis shows that circular imperial travels of Cambridge academics accounted for a similar share (1900–1930: 32%) as the imperial engagement of British academics who had undertaken study or work in the British empire prior to their professorial appointment at the University of Manchester (1900–1930: 30%; see Pietsch, 2010). As this also applies to imperial career mobility by Oxford matriculates from Balliol, Keble, and St. John’s Colleges, it appears that different forms of academic mobility were part of the same imperial networking practices (1918–1919 to 1937–1938: 19 versus 18%; the latter figure applies to jobs of at least 2 years, excluding military and diplomatic posts; see Symonds, 1986/1992).

Secondly, this research has underlined that Cambridge expertise was of particular importance to imperial organizations at the eve of decolonization because of a lack of scientific infrastructure and serious social conflicts in the colonies. Academic travels to both British India and British Africa peaked in the respective decade before decolonization, which resulted in a geographical shift of post-1945 advisory work toward British Africa that was reinforced by the impact of Lord Hailey’s African Survey on a growing interest in African affairs (Tilley, 2011).

Thirdly, existing disparities in the integration of different areas of empire into British academic networks intensified after 1945 due to shifting types of academic work. Increased travel to the Dominions for laboratory research and visiting posts and to British Africa for field research and advisory work coincided with the attrac-

tion of British India changing from research and expertise to visiting posts and conferences, whereas imperial destinations in Southeast Asia and the West Indies were nearly abandoned by Cambridge academics. This reinforced asymmetric power-relations between different parts of empire and thus confirms the existence of multiple, geographically distinct imperial knowledge networks that changed over time (Lambert & Lester, 2006).

Fourthly, this study has revealed that despite an increase of imperial travels in the decade after World War II, the relative significance of imperial destinations for academic travel from Cambridge decreased because of a reduced need for British expertise in decolonized states, a growing Americanization of research and visiting posts encouraged by powerful U.S. laboratory sciences, and a Europeanisation of advisory work and invited lectures in the context of postwar reconstruction. This suggests that decolonization was not merely the withdrawal of British political and military presence but also led to an adjustment of academic work away from the former colonies, even if the Dominions and the first independent states continued to draw on Cambridge expertise to some extent.

Fifthly, the juxtaposition of collective and individual travel behavior in the university confirmed that the growth of university-based science, research, and travel in the first half of the twentieth century gave rise to the figure of the modern academic expert (Hodge, 2007). This study has characterized senior colonial advisors in British universities such as the agriculturalist Professor Sir Frank Engledow as distinctively post-Victorian imperialists, whose contributions were shaped by an ambivalent positionality in the intersection of personal faith, colonial friendship networks, prevailing racial discourses, humanitarian ethics, as well as scientific planning and training. These emerging modern academic experts took empire for granted, while at the same time criticizing some of its basic features, which explains why their contributions to the new colonial reform policy of local empowerment through education in post-World War II colonies, somewhat paradoxically, paved the way for decolonization and national independence.

Sixthly, while previous studies stressed the pivotal role of the African Survey for a profound change of direction in British imperial policy after 1938 (Tilley, 2011), the interplay of macro- and microperspectives employed in this chapter suggests that the Moyne Commission on the West Indies (1938–1939), of which Engledow was a member, played an equally important role for the new colonial reform movement but has most likely received less scholarly attention because the publication of its controversial findings was delayed until after World War II (see also Flint, 1983). The historical geographies and impacts of the Moyne Commission therefore emerge as a fascinating subject for future research.

Finally, Professor Engledow's extensive overseas travels have verified the large emphasis placed on the acquisition of local knowledge in imperial advisory work from the 1920s to the 1960s (Hodge, 2007; Tilley, 2011). However, the particularly high frequency of his travels made him an exception in the University of Cambridge. This can partly be explained by his modest background that prevented him, the son of a police sergeant, from feeling a sense of belonging to the elitist Cambridge academic community. His regular escapes from Cambridge also required a strong

involvement with government work because in contrast to most of his academic peers, Engledow did not have the private means to finance such prolonged overseas travels himself (personal communication by Ruth Steketee, Eindhoven, 12 January 2013).

In conclusion, this chapter therefore argues that Engledow's largely government-funded, distinguished career as one of the Colonial Office's key advisors on tropical agriculture seems to be the logical, if contingent, outcome of several biographical coincidences, including his humble origins, his growing concern with agricultural production in Cambridge at a time when this became an important means for colonial development, and the personal companionship of Geoffrey Evans since military service that most likely encouraged the new emphasis on imperial advisory work in Engledow's early academic career. The important role that late colonial academic advisers such as Engledow played for imperial governance and the rise of a wider culture of expertise was very much indicative for the new professionalism of modern academic experts and is particularly evident in Hodge's (2007) observation that their intellectual legacy resonates in international development discourses up until today.

Acknowledgements I extend my sincere gratitude to Ruth Steketee-Engledow, the late Frank Steketee, Ady Steketee, Riens Rozendal, Mike Heffernan, Sarah Holloway, Kathryn McKee, Tamson Pietsch, the EPA editor Trevor Barnes, the anonymous EPA reviewers, and the technical editor of this volume, James Bell, for supporting this research. Material from the Engledow papers is reproduced by permission of the Master and Fellows of St. John's College, Cambridge. Documents from the Cambridge University Archives are quoted with kind permission of the Syndics of Cambridge University Library.

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