Boffin Access
FOSTERING KNOWLEDGE

Open Access Journal | Volume: 2.2

International Journal of Veterinary and Animal Medicine

ISSN 2517-7362

Directors of Veterinary Services in the Anglo-Egyptian Sudan: Joshua Timothy Richard Evans (Director 1952-1955), 1930-1955

R Trevor Wilson* | Bartridge House, Umberleigh, UK

Abstract

Joshua Timothy Richard Evans was born in South Wales on 3 September 1907. He graduated with a Bachelor of Science degree from the Royal Veterinary College in London and was elected a Member of the Royal College of Veterinary Surgeons on 3 September 1928. Following a short period in private veterinary practice in Wales he joined the Sudan Veterinary Service in 1930. As Assistant Veterinary Research Officer and Veterinary Research Officer he worked in the laboratory in Malakal in the south of the country on the production of vaccines against rinderpest. He married in 1938 and had two daughters. Posted to Khartoum in 1942 he continued to work on rinderpest for the next few years before transferring his interest to trypanosomosis. Having produced earlier scientific papers on rinderpest all his subsequent publications were on trypanosomosis mainly related to prophylactic and therapeutic treatment of the disease with new drugs. He was promoted to Senior Research Officer in 1945 and Assistant Director (Research) of Veterinary Services in 1947 and also became Commissioner, Animal Trypanosomiasis Control. Evans was instrumental in the establishment of the Sudan Veterinary Association and of the Livestock and Veterinary Policy Committee of the Board of Economics and Trade. Promoted to Director of Veterinary Services in 1952 he was the twelfth and last expatriate officer to occupy this post. He retired at the end of 1955 as Sudan became an independent country on 1 January 1956. He did not take up any other full time work after his retirement and lived in rural areas in the west of England for the remainder of his life. He died on 20 May 2007 aged 99 years.

Keywords

Animal diseases; Livestock exports; Anti-rinderpest vaccine; Animal trypanosomosis; Veterinary policy; Sudan Veterinary Association

Introduction

After wrenching power from the Egyptian administration in 1885 an Islamic Sudanese nationalist group ruled the country until 1898 [1,2]. A Condominium was established between Great Britain and Egypt following the reconquest of Sudan by their joint armed forces. The initial concern of the newly established veterinary service staffed entirely by British army officers seconded to the Egyptian Army was the health of the thousands of pack and transport animals needed to operate the country [3]. In 1924 the British War Office stopped seconding officers to Egypt. Some in Sudan resigned their commissions to be immediately employed by the Sudan Defence Force such that Directors were still serving military officers. By this time the emphasis of veterinary work had moved from transport to meat and milk and prophylactic and curative treatments for production diseases were sought and applied [4,5].

Joshua Timothy Richard Evans was the twelfth and last of the expatriate directors of the Sudan Veterinary Services of the Anglo-Egyptian Condominium between 1899 to the end of 1955. He first served as an Assistant Veterinary Research Officer in the south of the country and then successively as Veterinary Research Officer, Senior Veterinary Research Officer, Assistant Director (Research) and finally Director of Veterinary Services over a period of 25 years from 1930 to the end of 1955.

Early life (1907-1928)

Joshua Timothy R(ichard) Evans was born in the village of Cilycwm in the Llandovery Civil Registration District in Carmarthenshire, South Wales on 3 September 1907 [6]. Aged 3 in April 1911 he was living with his recently widowed father at Fro Farm Felinfach, Cardiganshire together with four sisters, two brothers and a domestic servant [7].

Evans graduated with a B.Sc. in Veterinary Science from the Royal, Veterinary College of the University of London in1928 [8]. He was admitted as a Member of the Royal College of Veterinary Surgeons (MRCVS) on 3 September 1928 [9]. For a short while after his graduation Evans was in practice at Tynlane, Llangadoc, Carmarthenshire as a Veterinary Surgeon.

Article Information

DOI: 10.31021/ijvam.20192122

Article Type: Review Article

Journal Type: Open Access

Volume: 2 **Issue:** 2

Manuscript ID: IJVAM-2-122

Publisher: Boffin Access Limited

Received Date: 03 September 2019

Accepted Date: 10 September 2019

Published Date: 15 September 2019

*Corresponding author:

R Trevor Wilson
Bartridge House, Umberleigh
EX37 9AS, UK
Tel: +44 (0)1769 560244
E-mail: trevorbart@aol.com

Citation: Wilson RT. Directors of Veterinary Services in the Anglo-Egyptian Sudan: Joshua Timothy Richard Evans (Director 1952-1955), 1930-1955. Int J Vet Anim Med. 2019 Sep;2(2):122

Copyright: © 2019 Wilson RT. This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 international License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

Sudan (1930-1955)

Mr JTR Evans, aged 22, departed Liverpool on board the City of Canterbury of the Clan Line on 15 October 1930 bound for Port Sudan where he arrived on 29 October [10]. He joined the Sudan Veterinary Service as an Assistant Veterinary Research Officer and was initially posted in Khartoum

Early in 1932 Evans was posted to Malakal in Upper Nile Province in the south of the country (the first Veterinary Inspector had been posted there in 1930). He remained there until the end of 1941 although he was promoted to Veterinary Research Officer early in 1936 (Table 1). This posting was to the Malakal serum station which had been established in 1926 in a series of improvised huts in order to produce anti-rinderpest serum in the country to avoid it having to be imported from Egypt and Kenya. The first attempts at serum production showed that the southern Nilotic cattle were very suitable to virus production and were also much easier to handle than the Arab cattle of the north [12]. These cattle would have been obtained from the as-yet-not-integrated-into-the-modern-world Dinka or Nuer tribal groups (Figure 1) who loved their cattle and sang songs in praise of them (Figure 2) whilst continuously fighting each other and raiding each other's cattle [13].

Figure 1: Nuer woman and child and group of dancing men (Source: [12])

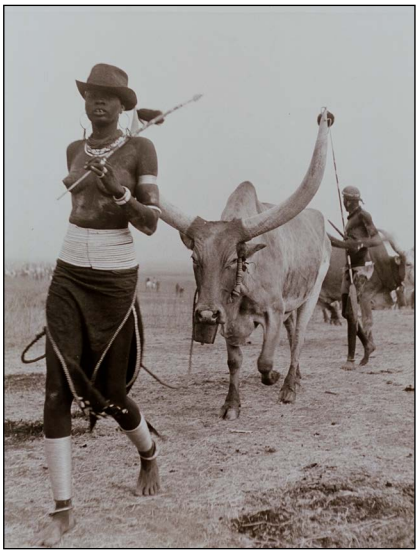


Figure 2: Dinka man with his song bull (Source: Sudan Archive, Durham University Special Collections, Durham. SAD_718-010-004)

Evans was soon into research scientist mode and had already published a paper in 1934 in collaboration with his more senior colleague SCJ Bennett. This described attempts to prepare cattle plague antiserum by intrarumenal hyperimmunisation of cattle. The virus dose was twice that used in parallel hyperimmunisation of other cattle by the intramuscular route and was 50 per cent larger than the dose used in Tanganyika Territory and was repeated at shorter intervals. The resultant serum was grossly inferior to that prepared by the intramuscular process and was incapable at the usual dose rate of protecting cattle against a simultaneous injection of virus. In addition, the serum obtained after four or five hyperimmunisations was of no higher potency than that obtained from the first [14].

In 1907 the veterinary department annual report noted that trypanosomiasis, of all classes of animals, was undoubtedly the most serious veterinary question in the Sudan [15][1]. It is clear that at this stage the main concern of the veterinary services was the health of transport animals and particularly that of camels which were highly susceptible to non-tsetse transmitted trypanosomosis outside the areas infested by *Glossina* species. Some 40 years later Evans was opposed to this belief and considered that although trypanosomiasis due to *Trypanosoma congolense* was widespread amongst cattle in Africa it was confined to comparatively small well-defined areas in Sudan and was one of the country's minor problems. It was important, however, for his own work at Malakal as it had appeared amongst the bulls used for production of cattle plague antiserum. Most of the animals used for this work were from the part of Sudan bordering Abyssinia (Ethiopia) at about the geographical parallel of 9° N where tsetse fly *Glossina morsitans* were known to occur. Infected animals at the laboratory lost vitality due to the effects of hyperimmunisation and bleeding and, as was to be expected, trypanosomiasis soon manifested itself where previously the infection had been dormant. In order to satisfy the heavy demand for serum all apparently recovered animals, after treatment with Antimosan and Surfen C, were returned to serum production as soon as the improvement in their general condition warranted the change [16]. Much later Evans admitted that much of the research at this stage was *ad hoc*, undertaken with very limited facilities and financing, that calculated risks had to be taken and accidents would happen but the work was still worthwhile otherwise many people already on the borderline of famine would suffer acute famine [17].

From his early consideration of trypanosomosis being a relatively minor problem Evans later changed his mind about the importance of the diseases as will be seen later in this paper. In addition, the world in general changed its mind about the taxonomic classification of *T. congolense*, renaming it as *Trypanosoma evansi* [18][2].

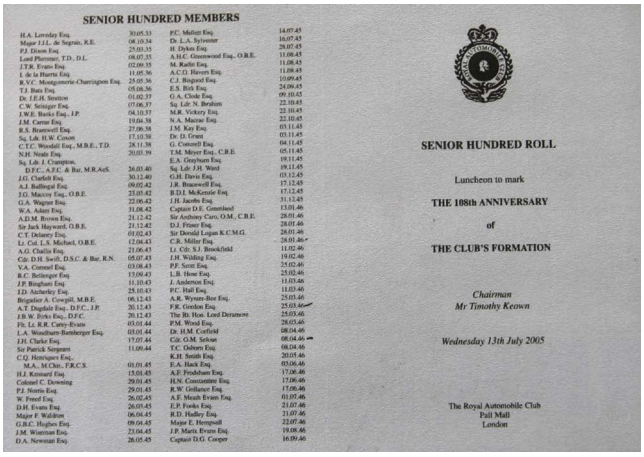
During the 1930s Evans benefited from the usual perquisites of expatriate civil servants in Sudan, including annual home leave. On his home leave of 1935 he became a member of the British Royal Automobile Club on 2 September (Figure 3). Although this was a club with advantages for motorists, membership was open to any one who could fulfil the arcane requirements for admission to a London West End gentlemen's club including its luxurious accommodation, fine dining, expensive wine list, gymnasium, massage parlour and heated indoor swimming pool. Evans maintained his RAC membership throughout his life. On 13 July 2005 he had been a Member for almost 70 years and was one of the Senior Hundred Roll (the 100 longest serving members) and was in fact the fifth most senior member of the Club (Figure 4) [19].

On another annual leave Joshua Evans married Mair Gwendolen Evans in the summer of 1938 in North Cardigan (now Ceredigion County Council with Aberystwyth on the southwest coast of

[1]In this paper "trypanosomiasis" is used wherever the word appeared in the documentation: "trypanosomosis" is use where the Author makes comments or remarks.

[2]At this time the parasite was found under various, often nationalistic, names including *T. soudanense*, *T. marocanum*, *T. aegyptum* and *T. cameli* before the single taxon *T. evansi* was accepted. Note that the specific *evansi* does not refer to the Evans who is the subject of this paper

Figure 3: The Royal Automobile Club premises in Pall Mall, London



SENIOR HUNDRED MEMBERS

SENIOR HUNDRED ROLL

Luncheon to mark

THE 108th ANNIVERSARY

of

THE CLUB'S FORMATION

Chairman
Mr Timothy Keown

Wednesday 13th July 2005

The Royal Automobile Club
Pall Mall
London

Figure 4: Menu card for 2005 Celebratory Luncheon for Senior Hundred Roll of the Royal Automobile Club (Source:[18])

Wales as its main centre) [20]. Mair had been born on 4 May 1913 at Llandilofawr in Carmarthenshire. In spite of his marriage Evans was still in experimental mode and published a paper with his senior officer on the effect of the virus load on cattle vaccinated against rinderpest [21]. It is not clear if the new Mrs Evans returned to Sudan with her husband immediately after the marriage but in September 1939 Mair G Evans was living at Cefn Gornoeth, Bryn Road, Aberystwyth described as married and employed on unpaid domestic duties [22].

Following his promotion to Veterinary Research Officer at the beginning of 1936, Evans was posted to Khartoum at the beginning of 1941 (Table 1). Shortly afterwards the Research Section was listed separately as a subordinate entity in government official documents. Early in 1945, on the retirement of SCJ Bennett as Assistant Director and Senior Veterinary Research Officer, Evans was again promoted, this time to Senior Veterinary Research Officer (Table 1) [23].

Sudan's livestock had done rather well throughout the 1939-1945 War. Exports of cattle, sheep and camels (many of these last of an "informal" nature) had greatly increased, destined for the Allied Forces in Egypt and the Middle East. The incidence of rinderpest and Contagious Bovine Pleuro-Pneumonia had generally been low. In 1945 and 1946, however, rinderpest again assumed epidemic proportions, especially in Darfur Province which was a major source of slaughter stock for internal consumption and of live animals for export [24,25]. The first really large scale vaccination campaign began in 1947 for which a new laboratory was built in Nyala, Darfur's capital city. Some 150 000 cattle were vaccinated in the first year and later the scheme was extended to other provinces. The project did not exactly endear itself to the livestock owners and losses were reported in vaccinated herds. In 1949 the more effective attenuated goat virus was used for the first time. A lapinized virus vaccine was later used on calves which were then inoculated with goat virus 12 months later: the number of deaths dropped dramatically [26,27].

It was around the end of the 1939-1945 War that Evans began to accept that trypanosomosis was a serious disease problem in both cattle and camels. Almost 40 years later he wrote [17]:

> The 80,000 square miles of tsetse infested country on the south western border of the Sudan is fairly clearly demarcated and normally cattle owners kept their [...] well away from it. Bovine trypanosomiasis was then rarely encountered. However in 1946 exceptionally heavy rains in equatorial Africa in turn caused exceptional flooding of the Nile, with the result that very large areas of swamp land where cattle normally grazed during the dry season remained flooded for a much longer period than usual. During this period some of the cattle were forced to find grazing elsewhere and they sought it inside the tsetse belt where they of course became infected with trypanosomiasis. Later, after the floods had eventually receded they returned to the dried swamps, came in contact with the main herds, when biting flies (other than tsetse) greatly increased in density due to the lengthened flooding period, caused widespread mechanical transmission of the disease. Catastrophic losses in due course occurred – in the Upper Nile Province alone cattle were dying at the rate of about ten thousand a month – causing severe hardship nd great disruption of social life of the primitive tribesmen. At the time there was no effective drug available for treatment and serious political repercussions through tribal unrest threatened.

In addition to converting Evans to the cause of trypanosomosis – all his subsequent scientific publications related to trypanosomosis rather than rinderpest [28-30] -- this problem created awareness in the central Administration of the economic value to the nation as a whole of the Nilotic cattle herds and led to an increase in veterinary service provision in the southern states.

The interest of Evans not only in the development of veterinary services but of the veterinary profession in Sudan as a whole is clear from some of his activities at this time. In 1946, largely due to his low-level politicking, the Sudan Veterinary Association came into being. Evans was a Founder Member and the First President of the Association. A year later, in 1947, he was instrumental in the creation of the Livestock and Veterinary Policy Committee of the Board of Economics and Trade. The Board was composed of the Director of Economics and Trade (as Chairman), the Director of Veterinary Services, the Director of Agriculture and Forests and a Representative of the Civil Secretary. The Terms of Reference were "to study the livestock problems of the country as a whole and to make suggestions [...] for the country's future livestock and veterinary policy in all its aspects (including animal husbandry and dairying importance) [...]". The Board's first recommendation was "that in view of the of animals in the life of the Sudanese, to the fertility of the soil, and, with the limitations of native conservatism, to the economic development of the country, there is urgent need for increasing the staff of the Veterinary Department". Amongst the other recommendations were development of the veterinary capabilities of the Sudanese people, conservation of pastures and opening up new areas for grazing by the provision of water, either by drilling tube wells or providing surface water by means of 'hafir' [25][3].

Evans was promoted to Senior Research Officer early in 1945 and then to Assistant Director two years later (Table 1). At this second stage, together with a general post-war increase in veterinary personnel, the creation of posts for an Entomologist, for Pasture

[3]Neither of these two types of water supply achieved their objectives in the long term. The supply of water was supposed to match the perceived carrying capacity of an area: in theory bores were to be shut down when grazing became scarce but a low level local government worker was never going to face up to an irate livestock owner armed with a shotgun who wanted water for his thirsty cattle (and in any case was probably a cousin of some sort). A 'hafir' was a surface pond dug out with a bulldozer whose volume capacity was supposed to supply enough water for rational use of the available pasture but bulldozer operators were not saints and their discretion was often overcome by threats to their valour.

Date	Appointment	Rank and name	Location	Notes
29-Oct-30				Arrived in Sudan
01-Jul-31	Assistant Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
01-Jan-32	Assistant Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
01-Apr-32	Assistant Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	For leave June [no date]
01-Jul-32	Assistant Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	For leave 24 June
01-Oct-32	Assistant Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	From leave 29 October
01-Jan-33	Assistant Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	
01-Apr-33	Assistant Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	For leave 4 July
01-Jul-33	Assistant Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	For leave 9 July
01-Oct-33	Assistant Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	From leave 15 October
01-Jan-34	Assistant Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	
01-Apr-34	Assistant Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	
01-Jul-34	Assistant Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	For leave 22 July
01-Oct-34	Assistant Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	From leave 27 October
01-Jan-35	Assistant Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	From leave 8 January
01-Apr-35	Assistant Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	
01-Oct-35	Assistant Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	From leave 27 October
01-Jan-36	Assistant Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	
01-Apr-36	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	
01-Jul-36	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	For leave 19 July
01-Oct-36	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	From leave 23 October
01-Jan-37	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	
01-Apr-37	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	
01-Jul-37	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	For leave 11 July
01-Oct-37	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	From leave 26 October
01-Jan-38	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	
01-Apr-38	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	For leave 27 June

01-Jul-38	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	For leave 3 July
01-Jan-39	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	
01-Apr-39	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	
01-Jul-39	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	For leave 7 July
01-Oct-39	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	
01-Jan-40	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	
01-Apr-40	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	
01-Jul-40	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	
01-Jul-41	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Malakal	
01-Jan-42	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
01-Jul-42	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
01-Apr-43	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
01-Jan-44	Veterinary Research Officer	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
01-Mar-45	Senior Research Officer	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
01-Sep-45	Senior Research Officer	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
01-Mar-46	Senior Research Officer	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
01-Sep-46	Senior Research Officer	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
01-Mar-47	Asst. Director	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
01-Sep-47	Asst. Director	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
01-Mar-48	Asst. Director (Research)	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
01-Sep-48	Asst. Director (Research)	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
01-Mar-49	Asst. Director (Research)	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
01-Sep-49	Asst. Director (Research)	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
15-Mar-50	Asst. Director (Research)	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
15-Sep-50	Asst. Director (Research)	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
15-Mar-51	Asst. Director (Research)	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
15-Sep-51	Asst. Director (Research)	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
15-Mar-52	Asst. Director (Research)	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
15-Sep-52	Director Designate	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
15-Mar-53	Director	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
15-Sep-53	Director	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
15-Mar-54	Director	Mr J T R Evans MRCVS, B.Sc.	Khartoum	
15-Mar-55	Director	Mr J T R Evans MRCVS, B.Sc.	Khartoum	

Source: [11]

Table 1: Outline of the career of Joshua Timothy Richard Evans in Sudan, 1930-1955

Research and for Hides and Skins development were indications of the greater value attributed to livestock by the Sudanese government. In addition to general responsibilities as Assistant Director of Veterinary Services, Evans had serving directly under him two Veterinary Research Officers who were both in Khartoum. Early in 1948 he was redesignated as Assistant Director (Research).

Some time later in 1948 Mrs MG Evans left Liverpool bound for Port Sudan on 25 October on board the SS Orbita lodged in HMT (Hired Military Transport) Class on board the SS Orbita, serving as a Troopship. She was described as a Wife (there was no husband present!), aged 35, and was accompanied by Miss SM Evans aged 7. Her last address in the UK had been Gwindy, Goodwick, Pembrokeshire [31]. Mrs MG Evans again left England on 8 December 1950 travelling First Class on the SS Prome of the Henderson Line departing Liverpool for Port Sudan. She was now a Housewife, aged 37 and accompanied by Master SM Evans aged 9 and Miss JA Evans aged 1 plus Miss AD Wilcox a Nurse aged 22. Their address prior to departure had been Gwindy, Goodwick, Pembrokeshire [32]. Early the next year, the SS Matiana of the British India Steam Navigation Company Ltd docked at Plymouth on 12 April 1951. On board, travelling First Class were Miss Sian M Evans, a Student aged 9, Miss Judith A Evans a Child aged 1 and Miss Deirdre Mills, a Child's Nurse aged 22: all three were going to Gwindy, Goodwick, Pembrokeshire [33][4].

Back at the Office in the late 1940s/early 1950s Assistant Director Evans was fully committed to trypanosomosis. In 1949 he was appointed to the new post of Commissioner, Animal Trypanosomiasis Control. In this capacity he produced two papers for the Interafrican Bureau of Tsetse and Trypanosomiasis Control, the one on the disease situation in Sudan, the other a preliminary note on the effects of a new compound on control of *Trypanosoma congolense* and *T. vivax* infections in cattle [34,35]. A more substantive report of the latter based on work in the Khartoum Veterinary Research Laboratory was later produced by a visiting scientist in collaboration with a Sudanese researcher [36].

In the three years 1949 to 1951 the Commissioner, Animal Trypanosomiasis Control produced a substantial report each year to present to the Livestock and Veterinary Policy Standing Committee. These were entitled "Bovine Trypanosomiasis in the Southern Sudan; First Report" and then, of course, Second Report and Third Report. The First Report set the scene. The Second and Third Reports then provided successive updates of progress against the disease in the south of the country. Prophylactic and therapeutic use of Antrycide and Dimidium Bromide were discussed, the numbers of animals treated were provided, the incidence of trypanosomiasis in the southern provinces was detailed as was the progress of a survey of tsetse fly areas. Methods of controlling or eradicating the fly were compared (especially with regard to control of wildlife numbers and distribution). Livestock development as a whole was treated in detail as was the establishment of an Animal Husbandry Advisory Committee. Evans considered that control of trypanosomiasis in the southern areas could increase the risk of East Coast Fever becoming endemic (although the tick vector *Rhipicephalus appendiculatus* was not known to occur in Sudan) [37-39]. In large part due to these reports a Tsetse Survey and Reclamation Team was established in 1951.

Evans became Director Designate of Sudan Veterinary Services in mid-1952 with the impending retirement of Waldo Hearne Glanville [40]. He assumed full control of the veterinary services towards the end of 1952 whilst his previous position of Deputy Director (Research) remained vacant. New posts of Deputy Director and Assistant Director (Administration) were created at the same time as was one of Chief Veterinary Research Officer but this was also vacant in September 1953. One of Evans' first outputs as Director was a lengthy internal paper on the state of animal production in the country which included (his) recommendations for the future development of the livestock sector [41].

When Evans became Director in 1952, constitutional changes (with a view to national independence on 1 January 1956) were already imminent, but progress continued to be made. A new Ministry of Livestock Resources was created on 9 January 1954 to which Sayed Bullen Alier de Bir was appointed as Minister. The veterinary services now became a subordinate of this Ministry as the Department of Animal Production in which Evans continued to be Director. A Veterinary Council came into being in 1954 (this was the first Sudanese council created specifically to organize and regulate the practice of a profession). Once again Evans was a prime mover in this development which laid down a new policy for disease control and animal production and underlined Evans' great abilities and his sound judgement of concepts. When he eventually retired at the end of 1955 he bequeathed a strong and flourishing Department to his Sudanese successor [4].

Later life (1956-2007)

Little is known of the life of Evans after his retirement in 1955 at the age of 48. It appears, however, that he never worked again as his death certificate of 2007 gives his occupation as "Director, Sudan Veterinary Service (retired)". His work in Sudan was appreciated, however, long after his retirement and by his former (then very young) Sudanese colleagues and subordinates. A celebration to mark the 25th anniversary of the founding of the Sudan Veterinary Association was held in Khartoum on 10 December 1971. On this occasion, votes of thanks were made to three former expatriate Directors of Veterinary Services. The incumbent SVA President, Dr Ga`afar Karrar, President remarked [42]:

> Mr Evans graduated from London in 1928. He joined the Department of Veterinary Services in the Sudan as Assistant Veterinary Research Officer in October 1930 and was posted in Ma1akal Laboratory. He was promoted to the post of Veterinary Research Officer in 1937 and for about 11 years he worked in the production of Rinderpest vaccine and in the diagnosis of that disease. In 1941 he was transferred to Khartoum and promoted to the post of Senior Research Officer in 1944. In 1952 he became the Director of Veterinary Services and retired in 1955.
>
> During the period he spent in the Research Division he published several scientific papers on cattle plague and bovine trypanosomiasis. As Commissioner for Trypanosomiasis he organized and conducted mass treatment campaigns using dimidium bromide and antrycide drugs which saved the lives of millions of the cattle population in the Sudan.
>
> His efforts in organization of the department and in laying down a new policy for disease control and animal production in 1953 reflect his great abilities and sound concepts. Mr Evans was the first president of the Sudan Veterinary Association and the man who helped bring it into existence. He was behind many of the achievements made during that era and worked hard for the creation of the Veterinary Council which came into being in 1954 as the first Council in the Sudan to organize and legalize the practice of a profession.
>
> The Council of the Sudan Veterinary Association appreciates the efforts made by Mr Evans in creating and organizing the official organ of the veterinary profession in the Sudan and commends his valuable contribution towards the advancement of the veterinary services in this country. In gratitude the Council offers Mr Evans this homage.

[4]Note the error in the sex of "Master" SM Evans on the journey to Port Sudan. Note also that on that journey the name of Miss Wilcox had been struck out on the typed passenger manifest and the name Mills substituted in inked handwriting and Nurse had also been struck out and replaced by Teacher, hence it was Miss Mills and not Miss Wilcox who returned to England with the children: it seems possible that Miss Mills was recruited as Nurse at the last minute to replace Miss Wilcox (such errors are not designed to make the life of a researcher any easier!). The two children were the offspring of JTR Evans and his wife Mair: Sandra (again not Sian as listed on the incoming manifest) M Evans had been born in the summer of 1941 with her birth registered in the East Glamorgan District whereas Judith Ann Evans had been born in the Haverford West Registration District towards the end of 1949.

In early January 1975 Evans participated in a conference on the conservation of natural resources in Africa. He presented a short paper on animal resources in the Sudan which was a not totally balanced account of the achievements of the Sudan Veterinary Service during the period from 1902 to 1955 [43]. Some few years later it is learned through his exchanges of correspondence with a Norwegian academic who was writing a thesis on the Sudan Veterinary Service [5] that he was living in 1982 at Townsend Corner, Merriot, Somerset [17].

Joshua Timothy Richard Evans lived to a great old age. He had moved to Tavistock in Devon in later life, towards the end of which he was a resident at a care home for elderly people at Venn House, Lamerton, near Tavistock (Figure 5). He died of senile dementia, however, at another care home, the Devonia Nursing Home at Leg O'Mutton Corner, Yelverton, near Tavistock on 20 May 2007 aged 99 while his wife was still alive.. His death was reported to the Registrar by his younger daughter Judith Ann Roberts (the child who had travelled out to Sudan in December 1950 and then returned to England four months later in April 1951 when she was only 1 year old) [44,45].

Figure 5: Venn House, Lamerton, Tavistock, the care home for elderly people where Evans spent the last few years of his life

References

1. Churchill WS. The River War (2 vols). Eyre and Spottiswoode Ltd. 1899, London.
2. Colville HE. History of the Sudan Campaign (two volumes). Her Majesty's Stationery Office. 1889, London.
3. Smith VR. Annual Report: Veterinary Department, 1902. In: Reports on the Finances, Administration and Condition of the Sudan :1902. Al-Mokattam Printing Office, Cairo (1905). 1902:202-207.
4. Jack JDM 1961. Part V The Sudan. In: West JP (ed) A History of the Overseas Veterinary Services Part One. British Veterinary Association, London. 1961:123-143.
5. Tvedt T. Colonial Technicians: The Sudan Veterinary Service 1898-1956. Thesis. University of Bergen, Bergen, Norway. 1983.
6. GRO. England and Wales Civil Registration Indexes, Births. Deaths. Llandovery, Oct-Nov-Dec 1907, 11a 1187. General Register Office. Dublin. 1907.
7. TNA. Census Returns of England and Wales, 1911. Class: RG14; Piece: 33413; Schedule Number: 5. National Archives of the UK, Kew. 1911.
8. University of London 1928. University of London Student Records 1836-1936. Senate House Library, University of London, London.
9. Clare Boulton. Head of Library and Information Services, RCVS Knowledge: personal communication. 2017 Apr.
10. TNA. Board of Trade: Commercial and Statistical Department and successors: Outwards Passenger Lists. BT27. Records of the Commercial, Companies, Labour, Railways and Statistics Departments. Records of the Board of Trade and of successor and related bodies. National Archives of the UK, Kew. 1930.
11. Sudan Government. Monthly return of senior officials, Sudan government, and British officers temporarily employed in Sudan government service, showing appointments & stations on 1 July 1931 and probable moves during the month [and other monthly and quarterly returns in same series]. 1931.
12. Evans-Pritchard EE. The Nuer: Tribe and Clan. Sudan Notes and Records. 1935;18(1):37-87.
13. Kennedy W. Annual Report, Veterinary Department 1903. Sudan Government, Khartoum. 1930.
14. Bennett SCJ, Evans JTR. Cattle plague anti-serum prepared by intrarumenal hyperimmunisation. Journal of Comparative Pathology and Therapeutics. 1934;47:87-93.
15. Olver A. Annual Report, Veterinary Department 1907. Sudan Government, Khartoum. 1907.
16. Evans JTR. Trypanosoma congolense infection in cattle. Treatment by Antimosan and Surfen C. Journal of Comparative Pathology and Therapeutics. 1936;49:160-162.
17. Evans JTR. Personal letter to Torbjøn Tvedt dated 17 August 1982 (see also reference [5]). Sudan Archive, Durham University Special Collections, Durham. 1982.
18. Hoare CA. The Trypanosomes of mammals: A zoological monograph. Blackwell Scientific Publications, Oxford. 1972.
19. RAC. Menu for Senior !00 Roll Luncheon 2005. Royal Automobile Club, London. 2005.
20. GRO. England and Wales Civil Registration Indexes, Marriages. Cardiganshire North. General Register Office. 1938 Jul-Aug-Sep.
21. Bennett SCJ, Evans JTR. Influence of the dose of virus employed in testing the immunity of cattle vaccinated against cattle plague. Journal of Comparative Pathology and Therapeutics. 1938;51:1-8.
22. TNA. 1939 Register; Reference: RG 101/7555. National Archives of the UK, Kew. 1939.
23. Wilson RT. Directors of Veterinary Services in the Anglo-Egyptian Sudan: Sampson Charles Jenkin Bennett (Assistant Director and Senior Research Officer 1936-1944), 1925-1944.
24. Evans JTR. Annual Report of the Veterinary Department, 1945. In: Annual Report. Sudan Government, Khartoum. 1945.
25. Evans JTR. Annual Report of the Veterinary Department, 1946. In: Annual Report., Sudan Government, Khartoum. 1946.
26. Evans JTR. Annual Report of the Veterinary Department, 1952/1953. In: Annual Report. Sudan Government, Khartoum. 1953.
27. Evans JTR. Annual Report of the Veterinary Department, 1953/1954. In: Annual Report. Sudan Government, Khartoum. 1954.
28. Evans JTR. Trypanosoma congolense infection in cattle in the Sudan; Treatment with Dimidium Bromide (Phenanthridinium 1553). Veterinary Record. 1948;60(35):418-420.
29. Evans JTR. Rinderpest and trypanosomiasis. Sudan Wild Life. 1949;1:7-9.
30. Evans JTR. Bovine trypanosomiasis in the Sudan: mass treatment with Antrycide. Veterinary Record. 1950;62:59-60.
31. TNA. Board of Trade: Commercial and Statistical Department and successors: Outwards Passenger Lists. BT27. Records of the Commercial, Companies, Labour, Railways and Statistics Departments. Records of the Board of Trade and of successor and related bodies. National Archives of the UK, Kew. 1948.
32. TNA. Board of Trade: Commercial and Statistical Department and successors: Outwards Passenger Lists. BT27. Records of

the Commercial, Companies, Labour, Railways and Statistics Departments. Records of the Board of Trade and of successor and related bodies. National Archives of the UK, Kew. 1950.

33. TNA. Board of Trade: Commercial and Statistical Department and successors: Inwards Passenger Lists.; Class: BT26; Piece: 1273. National Archives of the UK, Kew. 1951.
34. Evans JTR. Control of bovine trypanosomiasis in the Anglo-Egyptian Sudan (Publication No 113/0). Bureau permanent interafricain de la tsé-tsé et de la trypanosomiase, Léopoldville. 1950.
35. Evans JTR. Preliminary report on the chemotherapeutic action of newly discovered Phenanthridine compounds in infections of Trypanosoma congolense and T. vivax in cattle (Publication No 195, Part 1). Bureau permanent interafricain de la tsé-tsé et de la trypanosomiase, Léopoldville. 1952.
36. Neal RA, El Amin El Karib. The chemotherapeutic action of Phenanthridine compounds: Part VII: The effect of 2:7-Diamino-9-oc-Thienyl-lo-Methylphenanthridinium Chloride (621C47) upon infections with Trypanosoma congolense and T. vivax in cattle. British Journal of Pharmacology. 1954;9:37-41.
37. Evans JTR. Bovine Trypanosomiasis in the Southern Sudan: First Report. Livestock and Veterinary Policy Committee, Khartoum. 1949.
38. Evans JTR. Bovine Trypanosomiasis in the Southern Sudan: Second Report. Livestock and Veterinary Policy Committee, Khartoum. 1950.
39. Evans JTR. Bovine Trypanosomiasis in the Southern Sudan: Third Report. Livestock and Veterinary Policy Committee, Khartoum. 1951.
40. Wilson RT. Directors of Veterinary Services in the Anglo-Egyptian Sudan: Waldo Hearne Glanville (Director, 1944-1952), 1928-1952.
41. Evans JTR. Animal industry in the Sudan, with recommendations for its expansion. Sudan Archive, Durham University Special Collections, Durham. (SAD.719/4/1-67). 1953.
42. Karrar G. Speech by Dr. Ga`afar Karrar, President of the Sudan Veterinary Association at its 25th anniversary celebrations. Sudan Archive, Durham University Special Collections, Durham. (SAD.719/5/16-20). 1971.
43. Evans JTR. Animal Resources: The Sudan. Paper presented at the Symposium on Africa in the colonial period. The conservation and development of natural resources. 10-12 January 1975, Nairobi. Sudan Archive, Durham University Special Collections, Durham. (SAD.719/5/21-24). 1975.
44. GreyPower Deceased Data. England and Wales Death Index 2007-2017. Wilmington Millennium, Shipley. 2017.
45. County of Devon. Certified Copy of an Entry Pursuant to the Births and Deaths Registration Act 1953: reference BBV 594473. Devon Registration District, Exeter. 2007.