'Feavers'. He writes a long and sensible letter, from which we gather that he was actually familiar with the patient's present situation, and that she had persistent abdominal pains, violent sweatings, and great weakness. Dr. Forbes goes on to speak slightingly about yet another doctor, Dr. Simpson, who, it seems, was also treating her. for he writes, 'Try first his pills conforming to his own directions. The pain in stomach would appear to be the effects of the Lemon Juice, for acids doe not agree with my Lady and seldom misse to create some pain.' When she is less weak, Dr. Forbes hopes to attempt some prophylaxis with Peruvian Bark, and adds the very modern advice: 'Let my lady dayly try to gett up altho not for a long tyme. . . see that they that look to her be gentle and easy.' Some undated prescriptions of Dr. Forbes, made out to Pattersone, Chirurgen Apothecary of Inverness, exist, but these, it seems, refer to his attendance on the second countess, fifteen years later, and require further elucidation. At any rate, by September 1699, Lord Tarbat was taking the varied advice of at least five medical men, and word had got around the neighbours. Col. Menzies wrote from Inverness on 8 August inquiring for news by express 'how my lady is, which I long exceedingly for, not only upon her but your own account. I am confident (if my friendship dowth not blindfold my regard) this visitation will contribute verie much not only to her temporal but lykewise to her eternal happiness.' A minister with an unreadable signature was writing with even greater piety that he blessed the Lord for the test he had put her Ladyship to, adding how beloved she was by 'the poore'. Piety and prescriptions were unavailing. The next letter in chronological sequence is from the factor, John MacLeod, written on 9 October to Provost Duff of Inverness, and it is a thought unfeeling, even in a letter between men of affairs: 'I knowed yesternight from Lord Tarbet shewing yt. my lady's dead, wha depairted yesterday about twa o'clock in the morning and withall I am about to send to you for eight bolls of malt.' Another business letter four days later concerns the expenditure of twenty pounds Scots for some of 'the necessities for my Lady Tarbet's burriall'.

This is all that has been extracted about this case, but it is interesting to learn that the distraught husband, five months later and in his seventy-first year, was signing a letter to a beautiful widow: 'Yours or else little better than nothing—T.'. He remarried shortly afterwards.

The final contribution to this meeting was a paper by Dr. K. John McCracken, another member of the Department of History at Stirling University, who spoke on:

SCOTTISH MEDICAL MISSIONARIES IN CENTRAL AFRICA

It is one of the oddities of historical scholarship that perhaps the most important expatriate group in tropical Africa in the late nineteenth century has been largely ignored by modern historians Apart from David Livingstone, the centenary of whose death we commemorate next year, Scottish medical missionaries are obscure and anonymous figures to students of Scottish, as well as of African, history. Yet whereas Livingstone's importance relates essentially to the impact of his personality in Britain, his successors were directly responsible for far-reaching changes in Africa itself.

Livingstone, in fact, was by no means a typical medical missionary. His training, in

the first place, was a good deal more abbreviated than that of most doctors who went to Africa. Two years at Glasgow's Anderson's College were followed by only one year at the British and Foreign School of Medicine in London and climaxed in November 1840 by an hour's examination, which he nearly failed, to qualify him as Licentiate of the Faculty of Physicians and Surgeons of Glasgow, now the Royal College of Physicians and Surgeons of Glasgow.

His activities as an explorer, moreover, bear little resemblance to the experiences of his medical successors. So constantly was he on the move from the mid 1850s—up the Zambesi, to Lake Nyasa and on to Lake Tanganyika—that his medical skills were inevitably used less in dealing with African ailments than they were in sustaining the health of himself and his colleagues.

The success of his 'rousers' is one indication of his medical prowess. Designed as a cure for malaria, these pills 'of equal parts of Resin of Jalap and Calomel, Rhubarb and Quinine' may not, as Livingstone believed, have rendered African fever 'not a whit more dangerous than the common cold' (Chadwick, 1959). But the fact that only three Europeans died in the five years of his Zambesi expedition in the early 1860s, compared with 39 out of 44 on the Niger expedition of 1832, is evidence that to some extent they were effective (Gelfand, 1957).

More typical of the late nineteenth-century medical missionaries were the agents of the Livingstonia and Blantyre missions of the Free and Established Churches of Scotland, which were founded in the mid 1870s in what is now Malawi. These missionaries shared with Livingstone the belief that African economic institutions would have to be revolutionized if the full potential of the local people was to be revealed. A rapid improvement in public health was a necessary precondition to economic change; thus, the recruitment of substantial numbers of doctors to the mission staff was much to be desired. In the years up to 1900 they maintained a de facto monopoly over the new medical resources in the Malawi regions, with no less than twenty-seven medical missionaries being recruited to their stations, and not more than four being appointed to all the other missionary settlements in Malawi.

The character of medical missionary work in the first pioneering period is well exemplified in the varied activities of Robert Laws, the doctor with the first Livingstonia party in 1875, and for over fifty years the outstanding member of the mission. Laws' background is almost a caricature of the pious Sunday-school fable we have all learned to detest. Of working-class origin, like many medical missionaries, he paid his own way through Aberdeen University, taking concurrent courses in theology and medicine. He then worked for a year in Glasgow's Fever and Smallpox hospitals before joining the Livingstonia mission (Livingstone, 1921).

In Malawi the range of his activities almost staggers belief. Head of the mission from 1877, he conducted a voluminous correspondence with the home secretary and organized the business affairs of the mission single-handed and with a concern for detail that made him the terror of those trading companies with which he dealt. He preached every Sunday, conducted evangelical tours through the villages during the week, taught in the central school and supervised the construction of the Livingstonia Institution from the 1890s.

Given the weight of these commitments, it is hardly surprising that Laws' involve-

ment in medical affairs was only sporadic. The leading doctor in the mission—at least until the arrival of Dr. Innes in 1900—he was frequently forced to place the interests of the mission as a whole in front of his particular professional concern. At a time, in the years before 1900, when one in four of the European staff died of malaria or blackwater fever, it was for their health that he felt himself particularly responsible and on which he concentrated most of his medical energies. Africans living near the pioneer stations of Cape Maclear and Bandawe were treated for a host of minor complaints; but as Laws himself was firm to emphasize, 'no glowing report' could be presented 'of a series of brilliant operations and crowds of people daily receiving medicine' (Livingstonia Mission Journal, 1876–77).

In 1876 he conducted the first operation in Central Africa in which chloroform was used, but more commonly epsom salts and rhubarb pills were prescribed and teeth were extracted at a minimal charge. Unable to carry out much follow-up treatment and hindered by the absence of medical research, Laws drew consolation from the fact that medical treatment could be used as an adjunct of evangelization. Not until the creation of a more comprehensive system from the mid 1890s did he begin to regard medical work among Africans as a desirable activity on its own account.

If Robert Laws represented a typical medical missionary of the pioneer period, the new, more specialized breed of doctors of the turn of the century was best represented by Neil Macvicar, a brilliant graduate of Edinburgh who threw up an assistantship at the Royal Infirmary in order to join up with the Blantyre Mission staff in 1896 (Shepherd, 1953). Unlike his predecessors, Macvicar, a Unitarian by persuasion, was not called upon to play any evangelical role in the mission, and instead was free to devote his time to medical matters. The construction of the first permanent hospital in Malawi in 1896 was only the prelude to the introduction of a number of remarkable innovations. Under Macvicar's guidance the first attempts were made to vaccinate widely against smallpox, and at the same time an ambitious medical assistantship scheme was put in train. It led in 1898 to the graduation of the first African dispensers, among them John Grey Kufa, who was to have considerable success dressing ulcers and prescribing simple medicines among his own people on the Zambesi before his rejection of the colonial presence, dramatically demonstrated by the leading part he took in John Chilembwe's rising against British rule in 1915 (Shepperson and Price, 1958). The training of medical assistants capable of carrying medical knowledge into outlying villages was the outstanding contribution made by Scottish missions in this period. With Blantyre's example being quickly followed by Livingstonia, the number of trained dispensers rose sufficiently by the 1920s to satisfy the immediate demands both of the Tanganyikan and Northern Rhodesian governments. Just as Scottish medical men have sought employment wherever in the world they were wanted, so Malawian dispensers have often penetrated into a variety of neighbouring territories.

How can one assess the achievements of the Scottish medical missionaries in the thirty years before government doctors came to shoulder some of the burdens which they had formerly carried alone? A satisfactory attempt would require not only greater medical knowledge than I possess but also a greater degree of historical astuteness than seems to be shown by Professor Gelfand, the doyen of medical historians in this area. Nevertheless, Gelfand's researches have laid the foundations on which others

must build (Gelfand, 1964). What one can say is that many of the achievements of the missionaries concerned the health of the European population—some 300 strong in 1899 in Malawi—and particularly concerned their success in confronting the scourges of malaria and blackwater fever. Before Ross demonstrated in 1898 that malaria was transmitted by the anopheline mosquito, it was generally assumed by missionaries that it resulted from miasma arising from swamps and low-lying areas and particularly from soil which had been turned during road cutting or preparation for planting.

One can therefore say that medical missionaries had some effect on the health of the Europeans but what was their impact on the African population? In the first period of which I have spoken it is probably true that it was felt only in individual cases, and that the health of the population as a whole was not affected. By the mid 1890s the creation of the first network of hospitals, the appearance of the first group of African dispensers and the first public health campaigns against such diseases as smallpox were, it can be argued, beginning to make themselves felt at least in those areas fairly close to missionary settlements. It was not, however, until 1904 that systematic campaigns against smallpox were undertaken; it was not until 1910 that the existence of bilharzia and other parasitic diseases with their damaging effects was recognized; it was not until 1911 that the researches of Dr. Hugh Stannus, a government doctor, into the incidence of pellagra in Zomba gaol revealed the extent of nutritional diseases in Malawi. Diseases allied to changes in dietary patterns have created particular problems.

There is some evidence that, during the second half of the nineteenth-century, the increasing cultivation of such American crops as maize and cassava contributed significantly to the food supplies of many Central African peoples, permitting a larger population to survive. By the beginning of the present century, however, the increase of migratory labour from the country combined with the expansion of cash-crop cultivation, sometimes at the expense of food crops, had created a shortage of subsistence supplies resulting in such cases as the 1914 famine in the Shire Highlands. A further consequence of the increasing migration labour to the mines of South Africa was the emergence of tuberculosis as a major disease among local Malawians. Medical missionaries may have been successful in confronting some diseases in the earlier period of the present century but as economic conditions changed, so new diseases arose to provide them with yet more daunting challenges.

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The meeting at Stirling University brought to a close the Society's meetings for Session 1971-72.

T. R. R. Todd, President H. P. Tait, Hon. Secretary.