Anniversaries

Arthur William Rogers born 150 years ago

ARTHUR WILLIAM ROGERS, FRS (1872-1946), PIONEER IN THE GEOLOGICAL MAPPING OF THE CAPE OF GOOD HOPE

Sharad Master (SOUTH AFRICA)

Fig. 1 - Arthur William Rogers (1872-1946) (after du Toit, 1948a)

Modern South Africa was formed by the political union of the former British colonies of the Cape of Good Hope and Natal, and the former Afrikaner Boer Republics of the Transvaal and the Orange Free State, in 1910. Until the last decade of the 19th Century, there had been no standardised geological mapping in South Africa, only scattered work in different parts of these four territories by state-appointed geologists. Systematic geological mapping, resulting in the production of standard geological maps, started in the Cape with the establishment of the Geological Commission for the Cape of Good Hope in 1895. This was followed by other state surveys in Natal Colony and the Transvaal Republic. The first Director of the Commission was Dr George S. Corstorphine, under whom were two field geologists, Arthur William Rogers and Ernest Schwarz. Rogers started his career with the Geological Commission, working his way up from Field Geologist to Director, until he was eventually appointed Director of the Geological Survey of the Union of South Africa. He was one of the most distinguished of the early pioneers in the geological mapping of South Africa. He was also the first historian of the pioneers of South African geology. Most of our information concerning Arthur Rogers is derived from several obituaries published by his one-time colleague and protégé, and lifelong friend, Alexander Logie du Toit, who joined the Geological Commission of the Cape of Good Hope in 1903, working together with Rogers and Schwartz (Du Toit, 1946a, b; 1947, 1948 a, b).

Arthur William Rogers was born on 5 June 1872 in Bishop's Hull, near Taunton, in Somersetshire, England. He attended Clifton College in Bristol (1885-1891), where he came under the influence of geologists John G. Grenfell and George Wollaston, and the biologist C. Lloyd Morgan, who had taught at "Bishops", the Diocesan College in Cape Town, and had a keen interest in geology. Rogers was at Christ's College, Cambridge, from 1891-1895, obtaining his BA in geology and zoology. Here he was taught, among others, by Alfred Harker, Albert Seward and Philip Lake, and developed lasting friendships with Frederick R. Cowper Reed, Robert Heron Rastall, and J. Graham Kerr. In later years Seward studied fossil flora of the Cape, while Lake studied the trilobites and Cowper Reed the molluscs and brachiopods, of the Bokkeveld Beds. In 1895 Rogers commenced geological researches on Lundy Island, Devon, but was then recommended for a post at the newly formed Geological Commission of the Cape of Good Hope, by Prof. James Geikie, of the University of Edinburgh.

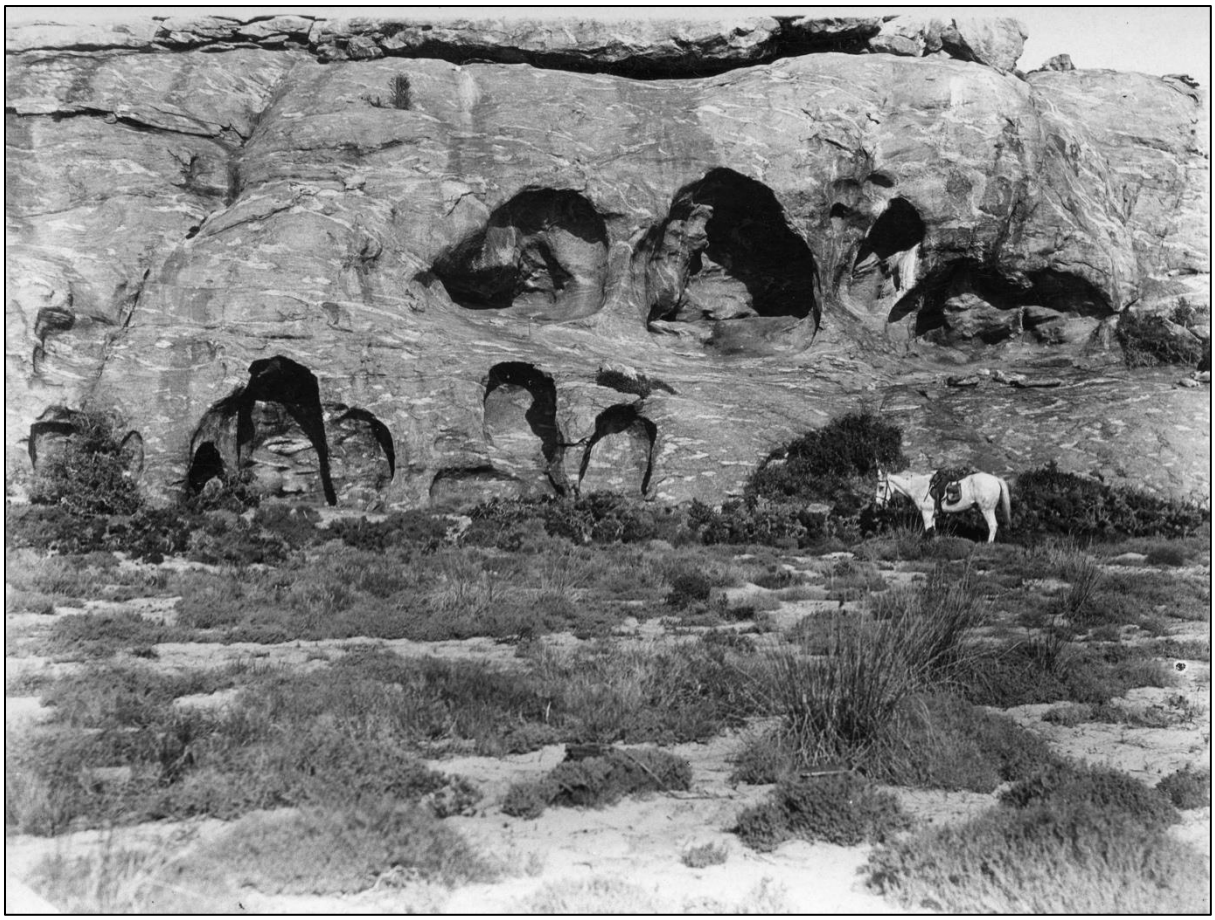

Figure 2: Caves in gneiss, left bank of Spoeg River (Namaqualand), 1 mile from mouth. Photo: A. W. Rogers (UCT, Jagger Library)

Rogers arrived in South Africa in 1896, commencing work with the Geological Commission as an Assistant Geologist, together with Ernest Schwarz. Together and separately, they mapped the Palaeozoic rocks of the south-western Cape, from 1896 to 1902. These Palaeozoic rocks are folded in the Cape Fold Belt, and consist of strata of what are known today as the Cape and Karoo Supergroups. Rogers spent most of 1902 on long leave in the United Kingdom.

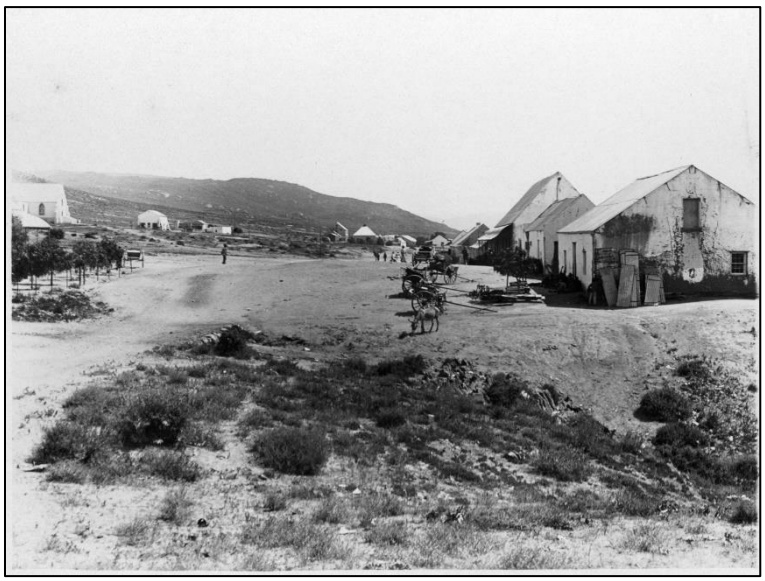

Figure 3: Garies (Namaqualand) from the South End. Photo: A. W. Rogers (UCT, Jagger Library).

In 1903 du Toit joined the commission, replacing Schwarz, and he and Rogers continued mapping in the northern part of the Cape of Good Hope, extending their mapping to the basement rocks underlying the Karoo basin (including what are now known as the granites and gneisses of Namaqualand, and the Ventersdorp and Transvaal Supergroups). Rogers' own photographs from those early years of the 20th Century reveal how undeveloped Namaqualand and the Karoo was then (Figures 2-4).

Among Rogers' important discoveries, aside from the stratigraphy and structure of the Cape-Fold Belt, was the recognition of important pre-Carboniferous glacial beds, in the Cape Rocks, within the Table Mountain sandstone (the Ordovician Pakhuis Formation), and the Precambrian Numees tillites (Neoproterozoic). By 1905 Rogers had accumulated enough geological evidence through his mapping activities with the Geological Commission to publish the first book on the geology of the Cape of Good Hope (Rogers, 1905a), in which the palaeontologist Robert Broom provided a section on the fossil vertebrates. That same year, Rogers (1905b) presented a summary of the "Geology of Cape Colony" at a joint meeting of the British and South African Associations for the Advancement of Science in Cape Town. Within a few years, this book went into a second edition (Rogers and du Toit, 1909). The three authors associated with this book, Rogers, Broom and du Toit, all became Fellows of the Royal Society, but Rogers fell out with Broom over Broom's sale of Karoo vertebrate fossils to the American Museum of Natural History, and they were never reconciled, and du Toit acted as the middleman between them (Master, 2021).

Figure 4: Post cart at Wallekraal (Karoo). Photo: A. W. Rogers (UCT, Jagger Library).

In 1914 Rogers was invited to join the expedition in Deutsch Südwestafrika (now Namibia) of German geography professors Fritz Jaeger and Hans von Staff. This enabled him to compare the geology of the regions north and south of the Orange River, and to study the Brukkaros Mountain, an ancient volcanic complex. Rogers' various reports on Cape geology were published mainly in the Annual Reports of the Geological Commission of the Cape of Good Hope, and in the Transactions of the South African Philosophical Society (see Bibliography in du Toit, 1948a).

In 1916 Rogers was appointed as Director of the Geological Survey of the Union of South Africa, and moved to its headquarters in Pretoria, in Transvaal Province. He became involved in the mapping of the gold-bearing Witwatersrand beds near Heidelberg (Rogers, 1922a, b). He also started with mapping of the Klerksdorp goldfield, but then became mainly involved with administrative duties. In 1929 Rogers became the President of the International Geological Congress, which was held for the first time in Africa, in Pretoria. In time for this Congress, he edited a book on the regional geology of South Africa (Rogers et al., 1929). In 1930, he joined the Vernay-Lang expedition which departed Mafeking, and travelled through the Kalahari of Bechuanaland (now Botswana) and South-West Africa (now Namibia), before ending up in Livingstone in Northern Rhodesia (now Zambia). His researches resulted in two papers on the "solid" and surface geology of the Kalahari (Rogers, 1935, 1937).

Rogers retired from the Geological Survey in 1932, and moved to his home in Mowbray, Cape Town, where he continued his researches on diatoms in diatomaceous earth found in pans (published posthumously as Rogers, 1947). He garnered many awards, honours, and honorary degrees during his distinguished career, and they are tabulated in detail by du Toit (1948a). In his retirement years he produced the first history of the geological pioneers of South Africa (Rogers, 1932), a work that du Toit (1948a) regarded as Rogers' crowning achievement. He suffered from a debilitating heart attack in 1939, but continued working intermittently on his diatom memoir until he died on 23 June 1946.

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Further Reading

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