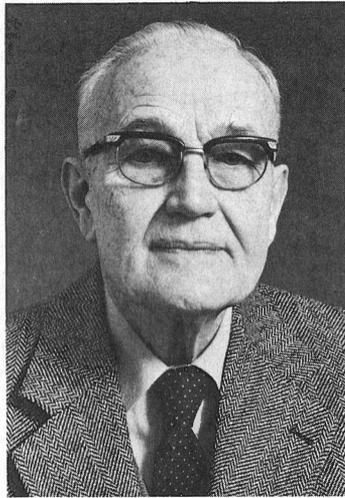


IN MEMORIAM



Prof. Dr Ir R.W. van Bemmelen
April 14, 1904 – Nov. 19, 1983

On November 19, 1983 Reinout Willem van Bemmelen, emeritus professor in Economic Geology of the University of Utrecht passed away, his death the outcome of a last and agonizing fight with intestine cancer.

Rein van Bemmelen was born April 14, 1904, in Batavia, Netherlands East Indies, the son of Dr Willem van Bemmelen, then director of the Magnetic, Meteorological and Seismological Observatory. As for many Dutch geologists of his generation, growing up in Indonesia seems to have naturally prepared him for his future career. Eight years old, he decided to become a volcanologist, when taken by his father to the summit of a volcano near Bandung. In 1920 he left for Holland to finish his secondary education in Haarlem and the next year he began his studies a.o. under the guidance of H.A. Brouwer and G.A. Molengraaff. In 1927 he qualified as a mining engineer and later in that same year he obtained his doctorate in the technical sciences (cum laude) on a thesis on the geology of the central part of the Betic Cordilleras, Spain.

After a short educational leave during which he studied volcanoes at Alfred Rittmann's institute in Naples van Bemmelen returned to his native country where he took up appointment with the Dienst der Mijnbouw, his work the geological mapping of Sumatra and Java. In 1934-1935 on leave in Europe he studied soil mechanics at the Technical University in Vienna. In 1940 he became Chief of the Volcanological Survey of the Netherlands East Indies. The years before World War II were good and productive years with exciting fieldwork and the publication of various geological maps and papers on volcanotectonics, the origin of

magma and pyroclastic rocks, and on structural geology. This work formed the basis for his later opus magnum, 'The Geology of Indonesia'.

For Rein personally those pre-war years were happy years with highlights his marriage to young and beautiful Lucie van den Bos in 1930 and the birth of their son Nout in 1932. The idyllic life ended cruelly, however, with the outbreak of war in the Pacific. From 1942 to 1945 Rein van Bemmelen was interned in Japanese prisoner of war camps, whereas Luus and Nout were imprisoned in separate camps for civilians. Following his release Rein traveled through war-ravaged Java in search of his wife and son. Deprived of all means at the end of the war the van Bemmelen family then were caught in the hostilities that started the revolution, which eventually led to Indonesian independence. At last, in 1946, the family was evacuated and they returned to Holland, where they settled in The Hague.

There Rein began the compilation and synthesis of the general and economic geology of Indonesia, a job for which he was commissioned by the Dutch Government. This tremendous task was finished in 1949 with the publication of the well-known three volume treatise 'The Geology of Indonesia'. The manner in which these volumes were produced, a complete rewrite of the original German manuscript that was lost during the war, tells us something about Rein van Bemmelen's dedication, tenacity and resilience.

In 1949 he became a research associate of Professor Trooster at the University of Utrecht. After the untimely death of Trooster in 1950 van Bemmelen handed in his resignation and became a consultant to the Bataafse Petroleum Maatschappij in The Hague, an assignment he kept on a

part-time basis for ten years. Later in 1950, he was reappointed in Utrecht as Professor in Economic Geology, in an extraordinary capacity on behalf of the Utrecht University Fund.

In the summer of 1950 he worked in Iceland, following his interest in volcanology and volcanotectonics, together with his Utrecht colleague Martin Rutten. The results of that expedition were laid down in their jointly written book 'Tablemountains of Northern Iceland' (1955). Much of van Bemmelen's time and energy in those years was dedicated to the improvement and verification of his Undation theory, rudiments of which already appeared in his thesis (1927). In 1954 van Bemmelen published 'Mountain Building', a book in which he reiterated and synthesized his ideas on orogenesis.

According to van Bemmelen the primary cause for mountain building lies deep in the mantle. Geochemical differentiation of the mantle induces density and volume changes which in turn lead to vertical migrations of material at various depths which are manifest at upper levels and at the surface as up- and downwarps (undations), disturbances of the isostatic equilibrium (primary tectogenesis). The disturbances are subsequently evened out by gravitational sliding and spreading (secondary tectogenesis) and thus equilibrium or dynamic harmony is restored.

This summary hardly acknowledges the vision van Bemmelen developed on a dynamic, living earth. Elements of his ideas, theories and models, form an important aspect of the notion we presently have about the geological evolution of our planet.

In 1959 the van Bemmelen's experienced a tragic loss when their only child Nout, shortly after finishing his studies in Economics at the University of Amsterdam, fell to his death during a climbing holiday in Vorarlberg, Austria.

In 1961 van Bemmelen was appointed to the chair of Economic Geology (Ordinary professor), a position he held until his retirement in 1969. Retirement certainly did not mean the end of his scientific career. In 1972 Elsevier published his 'Geodynamic models' in which we find a synthesis of his work adapted to and integrated with the then rapidly evolving theories on global or plate tectonics. Apart from the four books mentioned van Bemmelen published more than 200 scientific papers. Under his supervision 14 students obtained their doctorates, 7 on subjects in economic geology, mineral resources and hydrology, 7 on the analysis of the structure of the southern (Austrian and Italian) Alps. His work in totality is a reflection of his search for harmony in the evolving universe in which man also has to find his place. In the publications of his later years he drew attention precisely to man's position in evolution, showing ways in which he believed man can cast his bonds and aspire to fulfillment in dynamic harmony with the internally and externally evolving

reality.

For his scientific work he found recognition in the form of honorary degrees, memberships and medals of learned societies and universities (see *Geologie en Mijnbouw*, 58, p. 98, 1979). In 1970 our Society acknowledged in him a great and original thinker and dedicated member of the Society and awarded him the van Waterschoot van der Gracht Medal. On the occasion of his 75th birthday a special issue of *Geologie en Mijnbouw* was dedicated to van Bemmelen, 'Fixism, mobilism and relativism, van Bemmelen's search for harmony', with contributions from friends, former students and colleagues (*Geologie en Mijnbouw*, 58, nr 2, 1979).

His students remember Rein van Bemmelen as an inspiring teacher. Especially in the field he encouraged them to comprehend the entire, whole geological picture, which he himself with his agile mind was quick to grasp from what sometimes appeared flimsy evidence. He was a firm advocate of Chamberlin's method of multiple working hypotheses, advising his students to always conceive alternative interpretations of the available data, which subsequently should be thoroughly tested. Many contacts from those university years with Rein van Bemmelen and his delightful wife Luus grew into warm personal friendships that survived the years. This is testified by a lively and extensive correspondence with friends all over the world and by the frequency of visitors at their modest home in The Hague.

Unfortunately, after-effects of the years in Japanese prison camps exacted their toll and the health of both Rein and Luus deteriorated rapidly in the last few years. Shortly after the death of his beloved Luus in 1983 Rein left The Hague and settled in Austria in a small village in the Drau valley, according to the locals 'at the end of the world where the fox says good night'. There, in Unterpirkach he spent the last months of his life attended by the simple and friendly people of the valley. On November 22 they laid him to rest in sight of the mountains he so dearly loved.

It seems appropriate to finish by quoting Rein van Bemmelen from a letter he wrote in July 1981 addressed to an old anonymous friend:

'We will be able to depart this life with the quiet peace-giving notion, that we were permitted to contribute to the happiness of many who will live after us. In our long lives we endeavoured to unfold the collective consciousness. In our lives we have known hell and heaven; the final balance, however, is that we helped pave the way to dynamic harmony in this earthly house. That, I believe, is the meaning of this life.'

Utrecht, February 1984

Willem J.M. van der Linden