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FIXISM, MOBILISM OR RELATIVISM: VAN BEMMELEN'S SEARCH FOR HARMONY

PREFACE

WILLEM J. M. VAN DER LINDEN[1]

As an introduction to this special issue it is only appropriate to dwell a few moments on the significance of the pair we honour, Rein and Luus van Bemmelen. By touching upon some of the highlights and characteristics of Rein's career that are immediately obvious to fellow geologists, it is possible to detect the man and the woman behind it.

The development of Van Bemmelen's geodynamic concepts can be traced along a path strewn with some 200 research papers and 4 books. His work is based on fieldwork he carried out notably in Spain, Indonesia, Iceland, and the Alps and on the careful integration of his own and other people's data and ideas which led into regional and global conceptual models and syntheses. His tremendous output can only be understood if we appreciate the almost obsessive fascination by his profession which drove him to isolated heights in his career. That irresistable attraction to the mysterious is described by Albert Einstein as 'the fundamental emotion which stands at the cradle of true art and true science'.

The results of van Bemmelen's work can be summarily characterised in three key-words: (1) Geology of Indonesia; (2) Undation Theory; and closely associated with the latter: (3) Gravity Tectonics.

(1) His work as a mining engineer and volcanologist in Indonesia, culminated in the writing of the 3-volume, 1000 pages treatise 'The geology of Indonesia'. The significance of that work even today will be clear from the contribution by KATILI & HARTONO (this issue). The manner in which these volumes were produced, completely rewritten after the original manuscript was lost in the war, tells us something about the man behind it and gives a clue to Van Bemmelen's unbelievable resilience in the face of disaster.

(2) The concept of the undation theory appears early in his career, originally as a reinterpretation of Haarmann's 'Oszillationstheorie'. Tracing the development of the theory reveals a fascinating story of scientific endeavour; a continuous process of defining and refining ideas and models, forecasting in prognosis and testing in diagnosis, absorbing, adapting, and modifying concepts on the basis of new facts and insights. In his case intuition and inspiration that was firmly founded on growing experience played an important role in that process.

In his interpretations he kept an open eye for alternative solutions, for as he said 'real progress in this field is hampered when (geodynamic) research is based on a single conceptual model'.

His 'Present formulation of the undation theory' (1978) is the crystallisation of the theory, which, not surprisingly for a man who very much went his independent way, in many respects differs fundamentally from plate tectonics. His letter on the development of the Banda Arcs (this issue) also clearly is an alternative to the interpretations of plate tectonophysicists.

(3) In 'gravity tectonics' or secondary tectonics we see a lot of Rein van Bemmelen's personal believe. There, we find the process that evens out and smoothes the disturbances caused by the primary upheavals or mantle undations, a process that re-establishes equilibrium or dynamic harmony. Elsewhere,

[1] Vening Meinesz Laboratory for Geophysics and Geochemistry, University of Utrecht, Lucasbolwerk 7, 3512 EH UTRECHT, The Netherlands.

in a more philosophical context, he recognises that dynamic harmony as the fundamental law of creation.

In cartoon-like fashion Van Bemmelen has recently illustrated the path his research followed over the years, swinging between two extremes; fixism and its antithesis, mobilism. Intuitively he must always have appreciated and acknowledged the merits in each of these extreme concepts, never completely accepting nor discarding one or the other. The epitomy of his scientific work is the search for synthesis and harmony, between what ultimately can only be apparent differences in those concepts; aspects after all of one and the same Earth.

When trying to grasp the essence of Van Bemmelen, both as a scientist and as a person, we have to look beyond the immediate results of his work and focus on the objectives he tried to reach, the mysterious and the harmony, and on the force that drove and guided him. In a very special way in recent years, but apparent throughout his life, Van Bemmelen has tried to find deeper meaning in the way the Universe unfolds. A statement in one of his books like 'mountain building . . . . . .the very basis of our existence on earth' testifies to that and perhaps we see it even in his remark when in a pessimistic mood he looks in the future at 'the Quinternary, long after the human race has ceased to exist'.

Much less subtle that search for a deeper meaning is contained in his very optimistic notes on reason and morality, 'Shaping the future', that were written and rewritten many times during the mid-seventies and that were disseminated in stencilled form to friends and former students. These 40-odd manuscript pages show in conclusion the way in which he believes man can cast his bonds and aspire to fullfillment in dynamic harmony with the internally and externally evolving reality. To achieve that harmony there is a simple prescription, a recipe for living, which is a concise statement of his and Luus' principles: living by means of inspired reason.

For them, Rein and Luus van Bemmelen, that recipe seems to work. For life has dealt the Van Bemmelens harsh and cruel blows, enough one would think to kill whatever aspirations in life they may have had. Always, however, there was that remarkable resilience, coming from an inner force that made them absorb the experience as a blessing in disguise.

When thinking of Luus van Bemmelen I recall a statement I made in the invitation which I sent around last year to sollicit contributions for this issue. I said that the difference that made Rein van Bemmelen stand out above others was the extra heap of enthusiasm and inspiration that he carried in his bag, a lot of which rubbed off on his students and colleagues. The physical substance of that enthusiasm, I realise, is Luus. Although most of his work is signed by one author, Rein, in truth it should be recognised as the work of a team. It is thus only fitting to honour the two, Rein and Luus.

The contributions that make up the contents of this issue are not easily collected under one or a few headings. We have tried to put them together in order of regional or disciplinary approach. We realise that we have not been too successful in finding harmony in this respect. What binds the issue together, however, is the association we have with Rein and Luus van Bemmelen. It grew out of our professional contact as a student or a colleague and developed into the relation we share.

We are grateful for the way their rich life spilled over in generous and warm friendship for us.