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Streefland, Leen (ed.)

The legacy of Hans Freudenthal. (English)

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The core of this volume published in memoriam Hans Freudenthal consists of articles written by Dutch mathematics didacticians: Fred Goffree, A. Treffers, L. Streefland, J. de Lange; and a French contribution written from a similar perspective. With varying balance between the ingredients they blend description of HF's work, ideas and accomplishment with presentation of didactical and curricular innovations. The perspective is definitely Dutch and often that of the initiate – non-initiates thus have to wait 42 pages after the appearance of Wiskobas and "Wiskobassers" before we are told in another article that this is a project on "mathematics in primary school"; much in this core is commemorative of what we are all supposed to know rather than really informative. There is no discussion of the international and historical background to HF's work, beyond his opposition to the Bourbakiste 'new math' reform, and his loyal disciple's tend to regard him as the inventor of all the hot water he tapped for them (on page 111 the editor of the volume even tells that HF "anticipates" in 1968 what Kühnel is told in the previous line to have published in 1916). Loyalty also extends to faithful borrowing of HF's idiosyncratic prejudices, e.g. his view on Piaget exclusively through Piaget's book on 'La genèse du nombre' and on his often misguided use of mathematical metaphors, which prevented HF from seeing how much of his own stance and of his criticism of 'new math' was in line with and could be argued theoretically from a Piagetian position (Piaget's own flattered acceptance of the Bourbakiste interpretation notwithstanding). In this core, only de Lange's article takes up seriously the problems inherent in current reforms. Four contributions fall outside the core. One is by HF himself, and contains his "Thoughts on Teaching Mechanics". It is a piece of what its author on other occasions would call armchair didactics, didactical proposals which have not been confronted with the reality of teaching. This, however, is precisely what makes it interesting, as an example of HF's "didactical phenomenology" in pure form, as yet unconstrained by other considerations. W. T. van Est contributes a brief commemorative address dealing with HF's professional career and mathematics and concentrating on the period before 1950; an appendix tells about homotopy theory and Lie groups and about the results which HF obtained in these fields. Henk Bos, in an equally brief but truly historical essay discusses HF's analysis of Hilbert's 'Grundlagen der Geometrie', showing that this was, itself, a real historical study – yet revealing at the same time that HF's attitude to Hilbert, Russell and Klein remained that of the mathematician who felt entitled to reproach the colleagues their failures and shortcomings. The closing article is a review of HF's posthumous 'Revisiting Mathematics Education', 'China Lectures'. The character of the book, as well as the particular occasion, makes Christine Keitel consider HF's work on mathematics education in general. In the final paragraph she addresses the question which always confronts us when charismatic personality leaves us: how much depends precisely on the person, and how much can survive and be brought to fruition by the disciples?

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