UNIVERSITY OF PRETORIA

Fifty years for the Department of Mining Engineering

The University of Pretoria has its origins in mining. The discovery of diamonds in 1867 and the subsequent discovery of gold on the Witwatersrand stimulated the need to provide the faculty and facilities to develop mining engineers for the expanding mining industry in South Africa. In 1894 the Government of the Cape Colony instituted a plan where mining engineering students did a foundation two years of instruction at the South African College in Cape Town, followed by a technical year in Kimberley and a final year in the Zuid-AfrikaanscheRepubliek under the auspices of the Chamber of Mines in Johannesburg. Although the scheme kicked off in 1895 with five students and progressed according to plan, the South African War disrupted progress and resulted in the closure of the School of Mines at Kimberley in 1903 and the establishment of the Transvaal Technical Institute in Johannesburg[1].

The teaching provided was not to stay limited to technical subjects, and the arts, science, and law were added over time. As a result of the increased scope of the tuition offered, the name of the Transvaal Technical Institute was changed to the Transvaal University College in 1906. In 1910 the Arts faculty was moved to Pretoria. This arm developed into an independent institution in 1916 but retained the name Transvaalse Universiteits Kollege, from whence TUKS originates. The University of Pretoria was established from this college in 1930.

It is, therefore, not surprising that the University of Pretoria has since its inception developed mineral-related sciences like geology and metallurgy. The second half of the 1950s saw the creation of a mining engineering department which enrolled its first students in 1961, fifty years ago. This was in part the result of a desire, after the 1948 election, to teach the subject in Afrikaans.

The Department has since its formation had to evolve rapidly, from the development of curricula to reflecting the changing South Africa. From defending itself from integration pressures from industry to gaining its support. From redefining its contribution post-1994 to embracing the New South Africa and encouraging students from all quarters, such that the student body is now no longer 'pale male' but where 78% of students are black and 25% are female. Tutoring is now conducted in English, simply as a practical *lingua franca*, an aspect that made the Department and its activities more accessible. Graduate numbers grew from an average below 10 per annum in the first three decades to typically 20 to 30 graduates per annum in subsequent years. In 2013 the department expects to graduate 45 mining engineers. The rapid advances in technology of the past two decades emphasized the necessity to modernize the curriculum, and modernize the IT infrastructure and facilities[2].

For fifty years the Department has survived and indeed prospered. The challenge now is to ensure that for the next fifty years the department continues to produce world-class graduates. The fundamentals are in place. The mining industry's future is relatively well secured, as eastern economies such as China and India are expected to sustain their growth over the next three decades. Globally, the demise of many western mining schools in the northern hemisphere has created a shortage of graduate mining engineers. The Department is demographically representative, internationally accessible, and enjoys wide industry support. The alumni network ensures industry presence.

What is now becoming important is how the Department is positioned in its environment. In the past, the cultural link to Afrikaans for the University was a strong differentiator. In the future, the historic culture of hard work and discipline will continue to make the Department attractive. This aspect, however, as a contribution to society is intuitively only a starting point. It is important that the provision of appropriate mental and technical training to provide knowledge and leadership material for the mining industry does not over-emphasize the transmission of learning as opposed to the advancement of it[3].

It is for this reason that the research work that is reported in December's SAIMM *Journal* is sò exciting! It represents a further advance in the contribution that this Department is making to society. It enables individuals to develop their capabilities to serve the mining industry; it increases knowledge and understanding by providing faculty and postgraduate academics with the opportunity to advance in their discipline and in so doing benefit the economy not only of South Africa, but of Africa and indirectly the world. This model corresponds to the German conviction that 'only he is effective as a teacher of science who is himself productive in science'[4]. If the professors in the department are world authorities in their fields of specialization and can add value to the industry they serve, it will create differentiation due to the depth of knowledge and creativity they offer in the fields of their study and will secure sustainability for the future.

I would like to take this opportunity to congratulate the Department of Mining Engineering at the University of Pretoria on their fiftieth birthday, and look forward to the next productive and value-adding 50 years. ◆

[1]Lurie, D.J. (2000) The Technikon Witwatersrand A History 1925-2000. Technikon Witwatersrand, Division of Marketing and Communication.

[2]Webber-Youngman, P. R. (2011). Tuks Mining Engineering Annual Report to the Mining Advisory Board 2011. Pretoria, University of Pretoria.

[3]Thomas, K. (7 May 2010). What are universities for? *TLS*, pp. 13–15.

[4]Turner, R. S. (2009). The Prussian Universities and the Concept of Research. *Internationales Archiv Fur Sozialgeschichte der deutschen Literatur* (IASL), vol. 5, 23 November 2009.

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