Notes on the career of: **MICHAL STANISLAW ZAKRZEWSKI**

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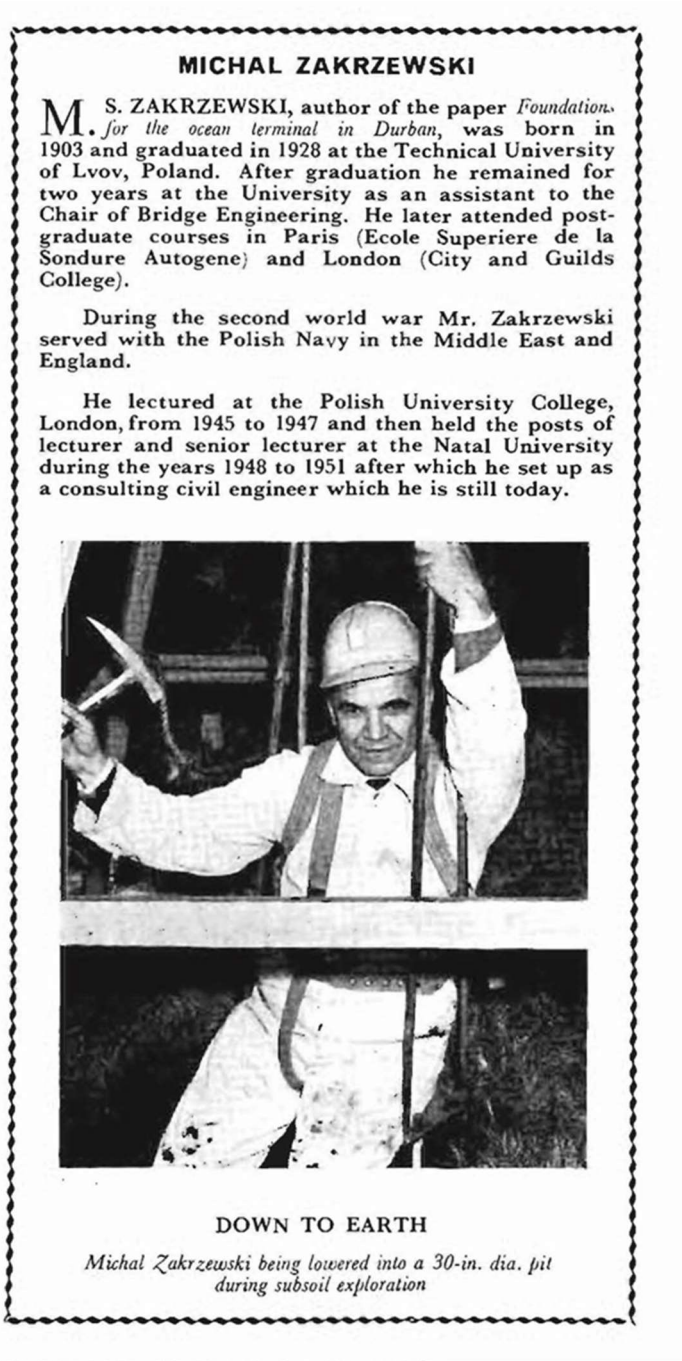

MICHAL ZAKRZEWSKI

M. S. ZAKRZEWSKI, author of the paper *Foundations for the ocean terminal in Durban*, was born in 1903 and graduated in 1928 at the Technical University of Lvov, Poland. After graduation he remained for two years at the University as an assistant to the Chair of Bridge Engineering. He later attended post-graduate courses in Paris (Ecole Superiere de la Sondure Autogene) and London (City and Guilds College).

During the second world war Mr. Zakrzewski served with the Polish Navy in the Middle East and England.

He lectured at the Polish University College, London, from 1945 to 1947 and then held the posts of lecturer and senior lecturer at the Natal University during the years 1948 to 1951 after which he set up as a consulting civil engineer which he is still today.

Extract from DIE SIVIELE INGINIEUR in Suid-Afrika – September 1962.

Date:	**Career:**	**Other events/people relating to Zakrzewski and Partners:**
Born 1903, Trembowla, Poland		
1928, Poland	Studies Civil Engineering at the Technical University of Lvov, Poland, and graduates in 1928. Remains at the University for another two years as assistant to the Chair of Bridge Engineering.	
World War II	Serves with the Polish Navy in the Middle East and England during WWII	
Between 1928 and 1942, Paris	Attends post-graduate course in metallurgy and welding at the Ecole Superiere de la Sondure Autogene, Paris	

1942, London	Begins graduate studies in engineering at the City and Guilds College, London.	
1945-1947	Lectures at the Polish University College, London	
1947 -1951	Lectures at the University of Natal. Accepts an appointment as Senior Lecturer in Civil Engineering at the University of Natal. Settles in Durban.	
1952	Starts his own practice as consulting civil engineer	Zakrzewski recruits two of his past students to join him in the new practice
1959	Authors an article entitled “Design of silos for grain storage” for the South African journal Civil Engineering: “The aim of this paper is to present the experience of the Author as well as the results of his studies in connection with the design of nine silo Installations of various sizes. Grain characteristics are given and Reimbert's analysis of grain pressure is presented.” This article is later included in the manual, “Silos: teoría, investigación, construcción, Volume 1”, where the author notes that with Zakrzewski’s findings, he takes a big step in the knowledge of the lateral pressures of silos.	
1959	M.S. Zakrzewski & Partners is appointed by the SAR&H for the design and development of the Ocean Terminal, comprising the passenger facility, cargo sheds, fruit pre-cooling installations and the administration block.	Janusz Warunkiewicz is appointed as chief architect and lead artist for the Ocean terminal project. Engineering team includes Milek Masojada as structural engineer.
1961		House Masojada is completed. The house was commissioned by Shirley Masojada, wife of Milek Masojada. Milek acts as Structural Engineer. Hans Hallen of Diamond & Hallen, is the architect.
1962	Completes Ocean Terminal. The practice transforms into a multi-disciplinary consultancy. Authors the paper “Foundations for the Ocean Terminal in Durban” for the September 1962 I the journal DIE SIVIELE INGINIEUR in Suid-Afrika, p.175-188, with the following introduction: “The paper describes the piled foundations of the Ocean Terminal in Durban. It outlines various soil investigations carried out on the site and shows how the decision to use piles was arrived at. The piling systems considered, the selection of a contractor and the works programme are also discussed. The paper then deals with the type of prestressed pile adopted and the method of casting and curing. The practical difficulties encountered in driving the piles are described, as well as their test loading and the spectacular failure of some of the piles discovered fortuitously during subsequent excavations. Some useful figures regarding the cost of this type of foundation are also given.”	

	Zakrzewski's credentials are listed as "M.(S.A.)I.C.E., M.I.Struct.E., M.Soc.Ing.C.(Fr.), M.(S.A.) Cons.E., M.A.I.B.S.E."	
1964		1964 Architects Hallen & Dibb produce the winning design for the Voortekker Monument, Winburg. Zakrzewski & Partners acts as consulting engineers for the project. Project is completed in 1968.
c1966	M.S. Zakrzewski & Partners issue a brochure on the practice and outlines their design philosophy of Total Engineering. Indicates offices in Durban, Pretoria, Cape Town and East London, with a staff number of close to 100 men and women. Projects featured: – Durban Ocean Terminal – Grain Silos for Senekal Co-Operative, Senekal, Free State, 1955-1957 – Dano Textile Mill for Messrs Dano Textiles at Hammersdale, KZN, 1965-1966, where the principle of Total Engineering was applied. (In consultation with Hans Hallen for "architectural treatment of the Gate House and entrance area". – Barens Shipyard, Durban, 1965-66. – Design for Connaught Bridge for James Thompson Co. who was awarded the contract by the Durban Municipality, 1959-1960 – Bakers Store at Isando for Messrs. Bakers Ltd. – Civils and Building Works for Factory for Maize Products Co. 1965-1966. – Shell Railway Bridge, Durban, 1960 – believed to be a world record for pre-stressed concrete railway bridges at the time. – Design of road and crib retaining wall at Windy Corner of Van Reenen's Pass between Ladysmith and Harrismith – Design for Blythdale Beach Road, a portion of Main Road 105 between Stanger and Blythdale beach, Natal North Coast. – East London Bridge, proposed bridge over Buffalo River, East London (with architectural advice by Hans Hallen). – Enseleni Bridge featuring fish belly girders, North Coast National Road. – Military Hanger at Louis Botha Airport. – SABM factory complex, Bellville – Viljoenskroon Silo doe Messr. Allem Brothers, built in 1964-1965. – Bethlehem Silo for Co-operative Bethlehem, Free state, 1964. – Brickhill Towers proposed development, Brickhill Road, Durban, 560 flats, and example of total engineering. – New extrusion mill for Non-Ferrous Metal Works Natal (Pty) Ltd, 1966	The brochure list the following members of M.S. Zakrzewski & Partners: M. Zakrzewski - Chairman G.W.H. Rodel – Partner M.E. Masojada – Partner J.M. Pet – Partner, Pretoria C.P. Marias – Partner, East London C.B. Mitchell – Partner, Cape Town D.J. Haliburton – Partner, Roads Division R.E. Purdam – Partner, Industrial Division D. Meldrum – Partner, Project Management M.G. Smith – Partner, Special Projects Division Senior members of staff: *Durban Office 1:* J. Whalley (Architect) H. Bakker (Structural Engineer) E. Howard (Civil Engineer) R.P. Biewitt (Quantity Surveyor) *Durban Office 2:* F. Rodwell (Structural Engineer) J. Long (Quantity Surveyor) K. Kaan (Assistant Architect) *Industrial:* O.F.E. Koch (Material Handling) V.G. Pearson (Electrical Engineer) J.H. D'Arcy-Evans (Mechanical Engineer) The company is structured with M.S. Zakrzewski & Partners as the controlling company with subsidiary companies named "Zakroma". (Presumably based on the first letters of the names Zakrzewski, Rodel and Masojada).

	– Various artworks for the Ocean Terminal, Durban.	
Early 1970's		Alistair Johnstone joined the practice in 1971. Completes ±500 government schools between 1972 and 1995. Al Stratford joins the practice.
1973	Practice locates to ZAI House, 245 Peter Mokaba Road (then North Ridge Road), Durban	Jurak Brejowski acts as the architect for the new offices.
1974 Retires at age 71.	Embarks on an environmental crusade, with special focus on the eco-systems of the coastal regions.	G.W.H. Rodel becomes company president, with M.E. Masojada as vice president.
1990's		ZAI (Natal) Inc acts as structural, electrical and mechanical engineers for the conversion of the Ocean Terminal hall to offices. Project is headed by Protekon Projects, Durban who acts as Project Manager, Architect and Quantity Surveyor
Passes away in 2000.	His obituary in the KZ-NIA journal of January 2000 notes; "Neither an architect nor a member of the Institute, but structural engineer Michal Zakrzewski had a considerable impact on the design of the built environment of the 20th century KZ-N".	
2022		The practice continues to this day, now called ZAI Consultants (Pty) Ltd.

Sources:

- Michal Zakrzewski 1903-2000. Obituries. KZ-NIA Journal 1/2000 p.12
- Michal Zakrzewski. DIE SIVIELE INGINIEUR in Suid-Afrika – September 1962, p.x
- Michal S. Zakrzewski. Design of silos for grain storage. Civil Engineering = Siviele Ingenieurswese, 1959, No.4, P 69-92, https://journals.co.za/doi/abs/10.10520/AJA10212019_16219

- Alistair Johnstone, retired Managing Director of ZAI Consultants, in conversation with Kirk White, January 2023.

- Juan Ravenet Catalá, Silos: teoría, investigación, construcción, Volume 1, Published by Editores Técnicos Asociados, Barcelona, 1976-1983

- Jackson, Allan. 14 November 2015. "Ocean Terminal". Facts about Durban, https://www.fad.co.za/2015/11/14/ocean-terminal/. Includes a pamphlet by Warunkiewicz' family celebrating his life.

- Project Review: conversion of the Durban Ocean Terminal into offices for Portnet. Planning 128. July 1993. https://sahris.sahra.org.za/cases/proposed-demolition-ocean-terminal-building

- Facebook post by ZAI Architects Engineers and Project Managers, 20 September 2019. https://www.facebook.com/zaiconsultants/