

Reminiscences

The Past President- Prof. Victor F.B. de Mello

The following interview with Prof. Victor F. B. de Mello, has been previously published, in Portuguese, in the Newsletter of the Brazilian Society for Soil Mechanics and Geotechnical Engineering (e-ABMS, n. 22, August, 2006).

Interviewer: Brazilian Society for Soil Mechanics and Geotechnical Engineering

ABMS stands for Brazilian Society for Soil Mechanics and Geotechnical Engineering



Victor's photo taken in 1977
for the Rankine Lecture

Name: Prof. Victor Froilano Bachmann de Mello

Citizenship: Brazilian (1951) and, in parallel, Portuguese-European (re-acquired)

Undergraduate studies: MIT, B.Sc. in Civil Engineering, June '46

Graduate studies: MIT, M.Sc. in Civil Engineering, September '46 and D.Sc. in Civil-Geotechnical Engineering, December, '48

Main awards: world-wide (that is, OUR HOMELAND) recognition and from co-citizens in the wide-encompassing profession and outside it, in activities with a firm, unique objective (e.g. Academies of Science and Engineering, Rotary, etc.). Invention Patent U.S. (Patent n. 2651619, 1951 – chemical solidification of soils). President of the ISSMFE, Golden Jubilee, San Francisco, 1985. Global network of dedicated friends.

Main activities: learn insatiably, inquire, update and innovate by cross-fertilisation: decide and act in any jobs where he could be useful, always counting on dedicated and enthusiastic disciples.

ABMS: What facts led to your interest in Civil Engineering?

VFBM: When I was about 7 years old, I was impressed by a bridge being built to replace the ferry-boat. I was immediately ravished by the purpose of Civil Engineering, to conform Nature to the benefit of the quality of life and of the environment.

ABMS: Tell us about your graduate studies at MIT.

VFBM: Out of high school, in December 1941, I was admitted to the Polytechnic (ETH-Zurich), however inaccessible. Incredibly fortunate coincidences led me to advance 2,5 years in College in Allahabad and Lahore (India), and to be admitted to MIT, where I should be on July 1st, 1944. Sailing from Bombay, in a boat carrying some 6700 souls, among which the Rector (Lahore), brother in law of Pres. Compton (MIT), we were lucky enough to leave ahead of time, thus escaping the third largest explosion of the war, on April 14, 1944, which destroyed 6 x 15 blocks in the dock area.

End of war period, 70% of the students in the armed forces, the rest from neutral countries, especially from Latin America. I accelerated taking about 150% of the curricular units, and also working in the Central Library and in the Cafeteria for self-maintenance, in addition to the fellowship received from the end of the first quarter on. The "Brave New World" (Huxley) and the horrendous military successes (e.g. Los Alamos and the Atomic Bomb) strengthened my priesthood attitude and goal.

Finished my M.Sc., I was hired by COBAST-LIGHT, just to be subsequently dissuaded in favour of a RESEARCH ASSISTANTSHIP to head a research project in GEOTECHNICAL-CHEMISTRY, solidification of soils for rapid construction of airfields, while dedicating about one third of my time to my D.Sc. studies.

It has all been quite intense, both academically and socially (e.g., creation of the International Club, support to Antonio de Almeida, Baron, student coming from Buenos Aires, in his efforts to establish a 100-member symphony orchestra). Cycle of lectures at the Rotary about colonial policies. The privilege of making personal acquaintance with Norbert Wiener (CYBERNETICS) and many Nobel prize winners.

ABMS: What is it that attracts you most in the geotechnical profession?

VFBM: What attracts me most is the aforementioned priesthood purpose. It occurred to me, in a lecture, to declare "Choose your love and love your choice". From the professional viewpoint, I am attracted by (1) the immeasurable Divine creativity of never presenting us with two simple, identical cases, everything being complex and random, except after the diagnosis of being amenable to simplification and thereby reasonably similar; (2) the Challenge of Diagnostic, of Determination, of Decision in spite of Uncertainty.



Victor delivering a speech in
the Delhi Conference

Reminiscences (continued)

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Victor working in his book in the New Year of 2005/2006 in the Varanda of his farm



Victor at home

ABMS: Is it better to be a designer, a professor or a consultant?

VFBM: All of them, and I would add Executor. It all depends on the attitudes, and in the end combination of it all is what makes it most fruitful and stimulating. A good professor, who stimulates inquiring interruptions from his students, learns a lot from them, if he so desires. We are students all along our lives. Apparently the Consultant and the Designer have more access (chronologically?) to creativity. However, without the experience of the Executor, much is lost. "He who wants, makes it happen, he who does not, simply orders"? Not just that: at present, creativity is flourishing in execution, while theorisation is rather stagnated.

ABMS: What were the most interesting practical problems you tackled?

VFBM: Difficult to summarise 60 years of professional life. In addition, everything can be made interesting. I learned this in the challenge of joining colloidal chemistry and polymerisation with géotechnique (Invention), including the need to reject it as premature and not practical for the civil profession. One unique job was

Edif. Garage América, R. Riachuelo, São Paulo (ISSMFE, London, 1957), with the pioneering driving of soldered double I piles: 7 basement floors being constructed simultaneously with 12 floors above ground level, infra-structure optimisation with resort to all types of foundations. Also the Paranoá dam, Brasília, heightened 32m in 45 days on $\pm 1V:1H$ slope in compacted porous clay to avoid overtopping (such as Orós, 1959). Dramatic underpinning of building on caissons settling 5mm/day, Brasília, 1960. World record discharge of Tocantins river, diverted for the construction of Tucuruí dam, 1980. Jaguará dam. Investigations up to $\pm 20m$ deep to check viability of pneumatic caissons (finally discarded) for Edifício Itália, São Paulo. I have learned surprisingly much in all of them, and always.



Victor in the Torino Slope Stability conference in 2003, with Michele Jamiolkowski, David Carrier and Dick Chandler

ABMS: List particularly significant events in your career.

VFBM:

- A job: several already mentioned.
- A lecture: Rankine Lecture, London, March, 1977.
- A conference: State-of-the-Art Report, Foundations, Mexico, ISSMFE, 1969.
- A tribute: Manuel Rocha Award, Lisbon, 1986.
- A success: Having co-opted 2nd, 3rd and 4th year undergraduates for Civil Engineering, at Mackenzie University, São Paulo, to be later chosen as their PATRON, January, 2006.
- A failure: Many, continuous. Less and less progress by means of symbiosis among Consultant-Designer-Contractor, with support from the Owner and Inspection, which used to be the propelling force of progress in the years 1960-1986.

ABMS: Mention 1 or 2 great names in the history of international geotechnical engineering. And in Brazil?

VFBM: Skempton, Manuel Rocha, Kérisel, Bishop, Bjerrum, Zeevaert, Brinch Hansen, de Beer, Morgenstern, Burland, Jamiolkowski.

In Brazil: Odair Grillo, Dirceu Velloso, Evelyn Souto, Homero Caputo.

Reminiscences (continued)

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Victor and his good friend "brother" Michele
in Torino in 2003

ABMS: Comment on some important benchmarks in the history of ABMS.

VFBM: The fantastic underpinning of the "Cai-Cai" building, severely inclined, R. Libero Badaró, São Paulo, by soil freezing, etc. ... pre-ABMS (founded in 1950), but later published by Arnaldo Dumont Villares, *Géotechnique*, 1956. Intense initial effort of conference cycles, to create and introduce codes. Samuel Chamecki, Curitiba, innovating in soil-structure interaction. Dominant contribution to CBGB (Brazilian Committee on Large Dams) during the period of multiple dams (1950-1985).

ABMS: How does one keep abreast of technological change nowadays?

VFBM: Honestly, it is not a matter of keeping abreast, but rather of recovering from time wasted in accumulation of degenerative practices. "Caminante, no hay camino; el camino se hace al andar ... etc" (*Wanderer, there is no trail; the trail is laid by walking...* Antonio Machado). Inquire always, and know how to reject as much as (or even more than) absorb. Banish the ACADEMY-PRACTICE dichotomy.

ABMS: What important advice would you give to young geotechnical engineers?

VFBM: Try to know yourself and your preferences, Divine gift. Listen, observe, investigate: "choose your love and love your choice". Dare differ from the much followed trail ("engine engineering") towards Ingenuity Engineering. Physics and common sense. Dedicate yourself to the generic "other". Above all, humbly admire complexity and simple probabilistic-statistic randomness. Forgive one's lapses.



Victor speaking at the ICOLD Beijing Conference



Victor and his grandsons and granddaughter in 2006 at his home