

TropicalS'85 - 1st Intern. Conf. on Geomechanics in Tropical
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FOREWORD

Such a Conference as this represents a tremendous undertaking; unfortunately the developing world's "economic crisis" (or somewhat chronic ailment, more blatantly surfaced for a period) has taxed efforts much more heavily than anticipated. The efforts and results will stand as a modern monument, the writings, preserved as a testimonial, for all of which we are grateful.

The underlying principle, of particularized attention to a region's dormant geomechanical problems, is bold, and pregnant with possibilities and hopes nurtured, like the planting of a seed. In this particular case there may even occur a healthy release of intellectual tensions pent up cumulatively over decades, during which the best geotechnical professionals of the developing tropical world have been taxed with doubts, all the more ponderous the more the engineering project was major and envisaged to constitute a significant contribution to the region's development.

From the beginning, soil engineering recognized the crucial conditioning by geology, and the inexorable variabilities whereby no two cases are exactly alike. The differences become most significant under natural conditions (natural slope stability or rainy period sliding, surface erosion, etc..) and in connection with modest engineering works (secondary highways, low cuts and fills, canals, low-cost housing, etc..) wherein incremental effects of our projects maintain the range of behavior close to Nature's patent condition of equilibrium just above the $FS = 1.00$ of progressive natural selection. Are grain size and Atterberg Limit index tests valid for classification of Tropical Saprolites and Laterites? Is a real cementitious cohesion applicable as a dependable design parameter? Are any of the empirical correlations established in dominant international textbooks and publications, for field and laboratory test parameters, applicable as design recommendations?

Imperceptibly the necessary, and gratefully received, idealizations of teachings based on pure sands, remolded clays, Boston Blue Clay, London Clay etc..., became distilled into a pseudo-universality of geotechnical engineering information, rather than of soil mechanics and engineering principles as a method. Somehow, the keener the student and young teacher, the stronger the dominant transmission of knowledge, of the behaviors of soils intensely investigated in advanced geotechnical centers of the upper Northern Hemisphere. So many, and so well-recognized are the benefits derived by tropical geotechnical engineering from these advanced research and teaching centers, that some thoughts may be summarized, without hurt, regarding concomitant regional difficulties and needs:-

(1) The privileged few brighter geotechnicians of the tropical world that have access to Northern research centers tend to be engaged in parts of some forefront problems of the host institution, such problems having little relation to those applicable to their region and comparative stage of development needs.

(2) Having acquired such specialized knowledge, their obligations, difficult to fulfill, impose the need to distinguish between information, knowledge, and wisdom; plus the wisdom to adjust all their acquired expertise to local problems and conditions.

(3) The complex of emulation of the material glitter that is the modern measure of worth, forces the geotechnical engineer to overdesign to meet sophisticated architectural and industrial demands much ahead of his environment's stage of development. These added difficulties and costs have conditioned the development of adequate local geotechnical practices in the tropical world.

(4) Finally, the lack of communication and of apparent authority of any locally proven practices and publications, presents another obstacle, when foreign loaning and investing agencies exercise the right to impose criteria, misinterpreted as universal; local practices cannot support themselves with the incremental firmness, backed by research and authority, needed to convince the prudently inclined foreign owner, designer, or consultant.

Communication is the purpose of an international specialty conference. Tropical soil engineering must accept the obligation to set down its findings and practices in the agora of international debate. It must seek to catalyze Research Cooperation initiatives across national and regional boundaries. It must seek recognition and merit credence.

The International Society's membership will gain and retribute: even geotechnical colleagues not specifically faced with the region's problems and solutions will gain much from the reminder of the challenging differentiations conditioned by geology-meteorology. And, most specifically, our companions of the human Societies of the tropical developing world should expect to gain from these efforts: foundations, earthwork and civil engineering, constitute the earliest first cost, on which time levies the interests that bear on benefit/cost ratios affecting the betterment of our living standards.

The International Technical Committee's podium, and this venue's international agora of discussions and conclusions, however nominal and transitory, will mark a milestone on the road of quest, decision, and action. May geotechnical and civil engineering draw full benefits from this first step. May the perpetuation of the Committee, and of future periodic International Conferences, crown the efforts, in gratifying recognition of a valid intention.

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President ISSMFE, 1981-1985