

## **Lessons Learned by a Geotechnical Engineer**

by Dr. George Geoffrey Meyerhof, C.M., P.Eng, Faculty of Engineering  
Dalhousie University, Halifax, NS, Canada

When I was asked by the Editor of the internationally renowned "Canadian Geotechnical News" to write a short article about lessons learned, I accepted this invitation with pleasure. I have learned from other geotechnical engineers, other and more experienced than me, that human issues play an important role in our work, as they do in all professions and, indeed, in our daily life.

At the same time the proficiency, which we have gained, is only the basis on which we build. As we advance in our geotechnical careers, we learn that there is much that we do not know. We should at all times be prepared to increase our knowledge about new developments, not only in our engineering specialty, but also in related fields and human experience. As the English poet Shelly has written about 1800: - "The more we study, the more we discover our ignorance."

Indeed, the half-life of a geotechnical engineer is generally considered to be about five years. Thus, we should enroll in summer courses or extension courses during other seasons to keep up-to-date.

Let us remember that engineering is partly a science and partly an art. Thus, analytical methods in geotechnical engineering can at best be only our guide, to which good judgement and experience based on similar circumstances should be added. This is particularly important for large-scale geotechnical engineering projects in our complex society. Such so-called mega-projects call for close cooperation between many different specialists and for teamwork on an interdisciplinary basis. Since geotechnical engineers serve the community, they must justify their proposals to society and strike a balance between technological, environmental, social and economic factors. Thus, the planners also have to consider human factors and make subjective value judgements. These stress the need for human experience, as mentioned earlier.

We should, therefore, acquire more knowledge, enlarge our experience and broaden our views by participating in the affairs of our professional societies. We should enroll in the Canadian Geotechnical Society and participate in its annual conferences. We should add to the storehouse of geotechnical experience by making careful observations on full-sized structures. We should write these up in papers for review by our peers towards publication in the "Canadian Geotechnical Journal."

As geotechnical engineers we must recognize that we are not free to do what we like with the natural and human environment. We have to accept, that we are not the master but rather the trustee of the environment. Moreover, we have a responsibility to future generations and we should evaluate realistically the nature of our geotechnical work and the likely consequences of it. We ought to try to bring the two cultures, engineering science dealing with facts, and art, dealing with values, more closely together in our working life.

As geotechnical engineers, we have the task to improve, even in a small way, the happiness and civilization of mankind. We should carry out our geotechnical work with love and care and, primarily, with honesty and integrity to justify the confidence placed in us. By perseverance and dedication to what we do, we will get satisfaction from our geotechnical job, when it is fulfilled according to our best ability and judgement.

Above all, let us try to enjoy whatever we are doing and do it in a good mood. Let us remember the old saying:- "... the possible we do today, while the impossible takes a little longer."