

50th Anniversary Guest Editorial

Introduction

The *Canadian Geotechnical Journal* is special. With its excellent reputation for publishing high-quality papers, it is a Canadian ambassador for good geotechnical practice. Each of us was privileged to work closely with authors, Associate Editors, reviewers, and publishers to help keep it relevant and meaningful to its readers.

In the middle of the Journal's 50th year, we were invited by Ian Moore, the current Editor, to articulate the history and evolution of the Journal, the features that make it unique, and the challenges and opportunities it faces. With our common experience and ongoing interest in a successful Journal, we discussed how we should reply. Some readers will be interested in where the Journal has been. Although our past deserves recognition, it is important to examine where the Journal might be in the future. That is our primary focus.

History and evolution

In 1997, for the 50th Annual Canadian Geotechnical Conference, former Editor of the Journal D.J. Bazett wrote:

"Publication is vital to a profession. Discoveries are shared and knowledge advances on the experience of all; profit arises from the common pool of knowledge. The (Canadian Geotechnical) Journal represents a considerable effort by the Canadian geotechnical community, a commitment by the National Research Council of Canada, and an awesome contribution by volunteer editors, associate editors, and reviewers."

(A full copy of Don Bazett's paper can be found at page 63 in *Geotechnical Engineering in Canada: An Historical Review*; <http://www.cgs.ca/lectures.php?lang=en>.)

The Journal was initiated in Toronto by what was then the Toronto Soils Group, with strong support and input from practitioners, academics, R.F. Legget at the National Research Council of Canada (NRC), and H.Q. Golder, who was earlier involved in the beginnings of *Géotechnique*. All parts of Canada were represented on the initial Editorial Board.

In the beginning, publishing four issues of the Journal each year was largely the work of Victor Milligan and Golder Associates in their Toronto office. The first issue was prepared for September 1963, with Dr. Legget and Dr. Golder personally guaranteeing payment to the University of Toronto Press if the new journal could not meet its printing bill. It did.

In that first issue, Dr. Legget identified the new journal as a resource for practitioners.

"The Journal is intended to provide a medium for the publication of papers in the applied geotechnical field."

Much effort was directed towards documenting case studies of both successful and unsuccessful projects in the many different and difficult soil and rock conditions in Canada. The new journal was well received by practitioners and academics.

After five successful years, Dr. Legget persuaded the NRC to publish the Journal as one of its Research Journals. Relationships between the Journal, the Canadian Geotechnical Society (CGS), and the NRC have always been strong. For example, an award for the best paper published in the Journal is sponsored by the CGS through the Canadian Foundation for Geotechnique.

The CGS provided technical resources — Editor, volunteer Associate Editors from industry and universities, an ongoing flow of

high-quality papers, and subscriptions that were a required component of society membership. NRC Research Journals (NRC Research Press' name at the time) provided management, support to the Editor, and distribution services. Gradually, as NRC Research Journals was increasingly required to control costs, the Society's Journal evolved into the NRC's Journal. The Journal is now technically and financially independent of the CGS. NRC Research Press appoints Editors, approves appointments to the Editorial Board, and sets editorial policies.

An important development for the CGS and the Journal was the decision by NRC Research Press to publish online beginning in 1997, and to make the electronic version freely available to all Canadians in 2001. The impact on membership numbers in the CGS was considerable. As the business model developed, an agreement was reached that the CGS would donate early issues of the Journal for scanning. NRC Research Press would provide the electronic Journal at no cost to CGS members although others would have to pay. Free online access to all 50 volumes of the Journal is an important benefit of CGS membership, and is widely valued by the Canadian geotechnical community.

In 2010, NRC Research Press transitioned from the NRC into a not-for-profit organization operating under the name Canadian Science Publishing. It continues to publish the NRC Research Press journals.

Uniqueness

In most research journals, papers are written by academics, edited and reviewed by academics, and read by academics. In geotechnical engineering, every site is different and every project presents new challenges that must be researched. There is a symbiotic relationship between practice and research.

In the first issue of the Journal, Karl Terzaghi wrote

"... (regional) developments are the link between theoretical and applied soil mechanics and provide the practising engineer with the means to take advantage of our knowledge of the basic principles of soil mechanics without the risk of unwarranted generalization."

Collaboration between researchers and practitioners is to their mutual benefit. Collaboration is not unique to geotechnical engineering or to Canada, but it has been promoted here by the need for local knowledge in highly variable postglacial soils; by the existence of local consulting companies, regional research institutes, and provincial agencies; and by the long history of publishing case studies in the Journal. There are many examples of close professional relationships between practitioners, professors, and students. As one example, long-time Ottawa consultant Gordon McRostie involved a newly minted graduate employed by the Division of Building Research at NRC in instrumentation for a deep excavation in downtown Ottawa. The resulting paper provided valuable linkages between elemental test observations and field behaviour of the Champlain Sea clays in the Ottawa area.

The flow of case study papers has depended to some extent on the background, contacts, and interests of the Editor. For example, the late Jack Clark and other Editors promoted the importance of publishing in the consulting world despite the pressures of time and money. While developing local knowledge remains important, collaboration on field studies in basic areas such as resource development and waste management produces information that is of universal benefit. In visiting other countries we are frequently told of the unique value of the Journal's case studies.

The Journal is a “top tier” international journal seated in Canada. Citations and other statistical information are useful in confirming that relevant and meaningful papers get referenced more often. Impact Factor is an imperfect measure of journal quality, but one that is widely used. The Journal’s 5 year impact factor is currently 1.12. A new ranking metric, SJR, indicates that in 2011, the Journal was fifth of 96 geo-journals, after three specialty journals and between the important geotechnical journals published in the UK and the USA. The Journal is the only international journal that publishes papers in both English and French. Its policy of publishing in French attracts high-quality papers from academics and practitioners in other countries.

In 1963, the title of the new journal was purposely chosen to be *Canadian Geotechnical Journal*: it was to include papers on all topics relevant to the geotechnical community — not only soil mechanics. In the first issue, R.F. Leggett wrote:

“Papers dealing with associated subjects such as engineering geology, pedology, muskeg, hydrology, and the mechanics of snow and ice will always be welcomed.”

The range of topics that are now accepted has also changed over the years, keeping pace with changes in practice and research in all areas of the broad discipline of geotechnical engineering. In parallel with the technical divisions of the CGS, the Journal publishes papers on soil mechanics, rock mechanics, engineering geology, hydrogeology, geoenvironmental engineering, geosynthetics, cold regions engineering, and other areas of geotechnical practice. We can think of no other major international journal with this range of subject areas.

Challenges

We have divided this section into “Operational challenges” and “Quality challenges”. Most of the challenges are probably not unique to the Journal, but are similarly faced by other major journals. In passing, we note that as the Journal has become bigger and publishing has become more business-like, the partnership between the CGS and NRC Research Press has become somewhat less personal.

Operational challenges

Most authors are ethical and interested in publishing their work in a responsible, comprehensive manner. From time to time, however, authors experience difficulties with journals, and journals experience difficulties with authors. This is normal.

What is needed is for both sides to recognize that authors need to publish, and journals need publishable authors whose papers are meaningful and relevant to the journal’s readers. Mutual respect is helpful. The *Canadian Geotechnical Journal*’s review process involves the Editor selecting an Associate Editor to handle a new paper. The Associate Editor selects two or more reviewers. Reviewers report their assessments back to the Associate Editor, who then summarizes their opinions and provides a recommendation to the Editor. The Editor is responsible for the final decision.

Editing a scholarly publication is akin to umpiring major league baseball — a keen eye and unbiased “calls” are required. Because the talents and knowledge of any individual are limited, Editors depend on Associate Editors just as an umpire depends on field judges. There are currently 38 Associate Editors representing a wide range of geotechnical topics and countries.

As in many journals, the first issue raised by authors is the time it takes to get a decision on acceptance or rejection. We hear from others, and have experienced ourselves, that the review process in the Journal tends to be slow, even at a time when transmission of manuscripts and reviews can be done quickly by internet. We know, too, that the Journal is working towards shorter review times.

Generally, we find that reviewers are thoughtful, informed, and helpful, though they are not always consistent. That is the nature

of reviewing. We encourage reviewers to give a high priority to reviewing. Some reviewers want fast reviews of their own papers, but are not willing to provide fast reviews for other authors.

While each of us was the Editor, we saw rare cases of blocking new researchers and new ideas from publication, conflict of interest situations, and occasional use of review material in reviewers’ own publications. These were dealt with firmly. Most routine challenges are dealt with by diplomacy and common sense. A solution used by at least one other journal is to have an Ombudsman on the Editorial Board to resolve differences of opinion.

From the Journal’s point of view, authors should not submit the same paper to more than one journal and hence abuse the review process. Other behaviours that should be avoided include submission of material that has already been published elsewhere; promotion of vested interests; undue aggression; submission of multiple papers when one comprehensive paper could have been submitted; papers with large numbers of authors; and issues of plagiarism, including self-plagiarism.

We suggest that research journals should seek ways of reducing the competition to publish large numbers of papers — the “publish or perish” syndrome. Counting papers gives no valid measure of their usefulness to other researchers and practitioners. Laboratory studies, and especially valuable field studies, take much longer than numerical modeling.

Quality challenges

The rush to publish, the increased number of publishing outlets, and greater time demands on practitioners and academics have all led to more papers being published. We comment that this larger number of papers may result in proportionally less meaningful content and impact on readers and the technical community as a whole. We note, too, that online searches for earlier publications generally only identify relatively recent publications. As older researchers and contributors ourselves, we take the liberty of suggesting that some older published work may be as good as recent work. The longevity of a paper often speaks to its value and impact.

As the Journal has increased its international standing, it receives and publishes an increasing proportion of overseas papers, not many of which are case studies. We encourage overseas authors to submit their best work to the Journal, especially case studies related to field performance.

To maintain the high quality of the Journal, the first objective must be to retain a strong flow of comprehensive papers on seminal theoretical topics or case studies of field performance. Preparing these papers generally requires significant time and financial commitments. Contributions will be required from both academia and industry.

We also hear of a reduced willingness of Canadian companies to invest in preparing their most significant projects for Journal publication. We recognize that many of these projects are presented in relatively brief form in the annual conferences of the CGS, but note that their impact is somewhat limited. We return to Don Bazett’s remark in 1997 that “Publication is vital to a profession” and urge a greater commitment from industry. We also note that during the first 50 years of the Journal, five out of the 11 Editors were from industry. This demonstrates the commitment and desire of the Journal to recognize and highlight the very important collaborative linkage between academia and industry.

The Journal, like other journals, has provided opportunities for written discussion and the airing of opposing views, often with passion and conviction. Such debates are often valuable and a delight to readers. Important insights can often be gained from these published debates.

Opportunities

The Journal and the CGS face challenges due to major shifts in the industry and in publishing. We need to convert these challenges into opportunities.

Authors hold the key to quality. Well-written papers describing innovative work will be published in highly regarded journals. The reverse is also true: poorly written papers on derivative work will not get accepted.

Currently, the Journal receives large numbers of papers that are not suitable for publication. We encourage a search for ways of developing initial screening of submissions, perhaps in partnership with authors. The objective would be to increase the proportion of “good” papers dealt with by reviewers and Associate Editors, and at the same time reduce waiting times for authors who might want to send their work to another journal. Instructions to authors should be clear about the required quality of writing and figures. Diligent Associate Editors are often the key to resolving problems. They need to be identified, appointed, cultivated, and recognized. There are opportunities to involve more young minds from academia and industry in publishing and reviewing for the Journal. Frequently, the more thorough and thoughtful reviews are performed by our younger colleagues.

As we said earlier, the relationship between the Journal and industry is symbiotic — a strong Journal is a valuable asset to practice: a willingness of companies to invest in publishing leads to a more informative Journal. Encouraging publications from industry may lie outside the immediate responsibilities of the Journal’s Board; however, it is an objective that could be successfully taken up by the CGS. We encourage the Editorial Board to pursue this with the President and Directors of the CGS. Improved ways of recognizing authors who present quality papers would show that the Journal places high importance on papers that are relevant and have impact on both practitioners and researchers. Engineering projects often collect valuable field and laboratory data that cannot be readily analysed by the project team within project constraints. Such projects represent excellent subjects for postgraduate students and university–industry collaboration.

It may be helpful to promote the publishing priorities of the Journal more actively at CGS conferences and during cross-

Canada lecture tours. We suggest that the annual report from the Editorial Board of the Journal be published annually in *Geotechnical News* and should provide information on ranking, Impact Factor, and other statistical factors.

Volumes from the beginning of electronic publishing in 1997 are fully searchable — earlier volumes, which are also available online, do not appear to be. Developing a simple search index based on key words would be useful.

Consulting practice in geotechnical engineering has seen major changes in the last 10 to 15 years. Small- and medium-size employee-owned firms have been bought out by large multidisciplinary, publicly traded companies. This means there are now fewer companies that practice exclusively in the area of geotechnical and geoenvironmental engineering. As a result, the link between the CGS and industry appears to be somewhat weaker than in the past. The CGS and the Journal need to deal with this new reality and ensure that links between industry, the CGS, and the Journal remain strong. In this context, “theme”-based special issues of interest to industry could be published by the Journal, possibly in the form of one special issue per year. We also encourage leaders in industry to recognize and acknowledge the importance of industry’s participation and contribution to the overall technical community by encouraging and supporting their employees and colleagues to publish. The reward will be to both the individual and the company.

There may also come a time when the Journal’s Editorial office workload needs to be shared as is done by other NRC Research Press scholarly journals, with co-editors handling specific technical areas of expertise.

With quality contributions from authors throughout the world, and with effective editorial policies, we are confident that the Journal will continue to be a major-league international journal.

**Dennis E. Becker, James (Jim) Graham,
Robert J. (Bob) Mitchell, and Arun Valsangkar**

Former Editors

Canadian Geotechnical Journal