

The Strength of Integration

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"Imagine a world in which all branches of earth science work together. Consider the strength of such integration. Think of the tremendous results such an approach could achieve. Our challenge, as earth scientists, is to look beyond the narrow scope of specialization and see the opportunities that will grow out of collaboration."

Geological Association of Canada Action Plan, 1998

"There are few professions, however humble, that do not present their peculiar advantages of observation: there are none, I repeat, in which the exercise of the faculties does not lead to enjoyment. It cannot be too extensively known that nature is vast and knowledge limited, and that no individual, however humble in place or acquirement, need despair of adding to the general fund."

Hugh Miller, d 1856 The Old Red Sandstone

While these two sentiments were expressed almost a century and a half apart, they convey the challenge of the earth sciences both then and now. The wide-eyed wonderment of a young Hugh Miller as an apprentice quarryman in the 1800s expresses the same awe seen in a child's eyes when gazing upon a dinosaur fossil in the badlands of Alberta today. Our challenge is to provide the opportunities to ensure that child's eyes can be opened to the expanse of knowledge without stifling the enthusiasm.

We now live in a complex world of specialization where the observations of the "amateur" are rarely noted, often scorned, and usually dismissed. Yet, it is amateur astronomers with their persistent observations who detected the major comets of the past few years. Just as in the time of Hugh Miller, there is still a place for the "gifted amateur" to, in the words of this year's GAC-MAC meeting theme, "make an impact."

What do these comments and ramblings have to do with the issue at hand for our earth science societies today? What are the observations upon which we can base our ideas of where we are headed and how we should proceed?

SOME OBSERVATIONS

In Canada we have numerous learned earth science societies, more than a dozen, according to the Canadian Geoscience Council. These societies cater to the needs of their members to keep abreast of the latest developments in their speciality areas. The societies range in size from the CSPG with more than 3000 members to the smaller societies, each with a few hundred members. And remember, these cater to the *intellectual* needs of the members. The *professional* needs are served by provincial associations and by the Canadian Council of Professional Geoscientists. The CCPG estimates that there are more than 7500, and probably closer to 10,000, geoscientists in Canada. For comparison, the National Association of State Boards of Geologists and the American Geological Institute estimate there are 60,000 geoscientists in the United States, which has ten times the Canadian population.

So in Canada we have more geoscientists per unit population than in many countries. Of course this is to be expected given the role of mineral and petroleum exploration and development and environmental geoscience in our economy. In both the United States and United Kingdom their geoscientists are concentrated in the petroleum and environmental fields. We still have an active mineral exploration scene even though it is significantly reduced from its peak.

Our GAC membership has fluctuated over the past decade, reaching a maximum close to 3000 early in the decade and then declining to the level of 2300. Happily, it now appears to be climbing again slowly, probably in response to the major student membership drive initiated this past year. There are several trends that can be discerned in the data which Elliott Burden analysed several years ago. First, there is the demographic composition of the association. As a letter in *Geolog* noted recently, most members appearing in *Geolog* photographs are males over 50 years old. That is the age group affected most by the downsizing in industry and government in the past few years. Many drop their membership on retirement. The second factor is the rise of the professional registration of geoscientists across Canada. Currently six provinces and two territories have legislation governing registration and two others have legislation under consideration. Some members have resigned from the GAC upon becoming registered.

The number of learned geoscience societies in Canada is both a strength and a weakness.

It is a strength in that those who belong to the smaller societies have a sense of community with their fellow members and these societies can focus on smaller, friendlier meetings where everyone knows everyone else. There is more animation and exchange of ideas at such meetings. The negative side is that there may be limited exchange of ideas with others in different disciplines, and a tendency to be introspective. In its latest newsletter, one of our GAC divisions poses the idea of separation from the GAC in order to attract members from cognate disciplines.

There are other drawbacks to the smaller-is-better syndrome as well. In today's frenetically paced world it is more difficult to recruit volunteers who have the time and the energy to devote to the operation of the learned societies. The GAC is a good example. A decade ago the concept of having the association pay councillors' travel expenses to attend Council meetings was poorly received. The argument was that it was a privilege and honour for an employer to have a person serve on Council. Indeed, one of the first requirements for a person agreeing to serve was that the employer would pay the travel expenses and grant the time for GAC business.

Now things have changed dramatically. A significant number of Councillors rely on the GAC for some of their travel expenses. The common response of an employer when faced with a request for an employee to serve in a volunteer capacity, whether on GAC Council or in another role, is to question

who pays and how the time will be made up. Adding to this is the changing nature of the workforce. While the GAC does not have any statistics to support this argument, anecdotal evidence seems to indicate that more members are working in smaller organizations which can ill afford the time devoted to volunteer efforts. The situation is even more critical for those self-employed, where the expenses literally come from their own pockets and the lost time is lost revenue.

As an example of the strains placed on councillors, one has only to note that last year the nominating committee was faced with the difficult task of recruiting 11 new councillors out of a total complement of 20 as a result of resignations that had occurred in the previous year in addition to the normal turnover. This past year, three members of the executive have resigned as a result of other demands on their time.

The GAC's initiatives in the major areas of publications and public awareness depend on the hard work of volunteers, people who are already giving all they can to a demanding job. How then can we expect them to give their remaining waking hours to the Association? Especially as they all have family and social demands to balance. One assumption made several years ago, as we noted the aging of the GAC population and the onset of early retirement packages, was that newly retired members would have time available to undertake much of the work of the association. That simply has not happened; those who were active in the GAC before retirement continue to be so in addition to their independent work. Those who were simply members have, for the most part, resigned. So the solution is not simply to find more volunteers.

Let's look at the financial side of the coin. Of the minimum 7500 geoscientists in Canada, I'd venture a guess that at least 60% belong to more than one learned society, in addition to registration through a professional association in those jurisdictions where that is available. Currently, GAC membership costs \$75, not counting section or division membership. From that, GAC derives an income of \$150,000-200,000 annually. The remainder of the GAC's approximately \$500,000 annual budget comes from revenue from publication sales, annual meeting revenue, investments and corporate memberships. In simplest terms the revenue from publications covers publication costs and usually returns a profit to the association. The remaining revenue sources cover the services for members, usually with a small surplus remaining. The two major contributing factors to a successful *i.e.*, profitable year are a stream of high-demand publications and a highly profitable annual meeting. Currently, the GAC has accumulated equity in the range of \$350,000, built up over its more than 50-year history.

NEW MODEL

The time has come to consider a new model for learned earth science societies, a model based on more co-operation. We in the earth sciences can take a few lessons from other areas. The biological and physical sciences have councils analogous to our CGC, which operate secretariats in Ottawa. Through these they have developed access to the politicians who make the decisions on the spending of money. We have preached for years that we must do such things, but have never succeeded. Why?

But what if there were only one geoscience learned society to which one could belong? Its annual revenue from membership alone would be at least $7500 \times \$75 = \$562,500$, equal to the GAC total revenue in a good year. As a point of refer-

ence, in the United Kingdom there are approximately 8500 members of the Geological Society and in the United States, the GSA membership is approximately 10,000.

Publication sales revenues from such an organization could contribute an amount equal to the member fees. Investment income would dramatically increase as the larger capital from equity of all organizations combined would be substantial. Corporate members may be more easily recruited, corporations would not be chased by several organizations. It is not difficult to see how such an organization could have an annual budget in the \$1-1.5 million range.

Then we could undertake the publications that we all envisage but shy away from because of cost, both for the development and production of the publications and for the marketing. We could develop the short courses that could be given year-round across the country to capitalize on the continuing education requirements of those registered professionally. We could expand on the public awareness initiatives so well developed by the societies and CGC. The co-operation between CSPG and the GAC in Calgary for the Neale lecture tour this year is a good example of how working together enabled us to reach a significant high school audience. We could even expand on the initiatives undertaken through the Partnership Group on Science and Engineering to reach the politicians and state our case effectively and directly.

But what about the specialty interests of the members? Most of them already belong to more than one association, so a single organization with fees at the present GAC level would represent a significant saving. Well-organized and -financed sections and divisions could still take care of specialty needs, but with the advantage of a reasonable budget. There could, and would, still be the NUNA conferences, the annual specialty conferences, the field trips and the local sections.

For the existing organizations, there would be the elimination of duplication of effort and consolidation to achieve greater effect. There would be full-time support and professional staff responsible for the annual meetings, the publications, and membership, thereby eliminating the steep learning curve that faces every Local Organizing Committee in mounting a typical GAC-MAC meeting. Publication and marketing expertise could be engaged full time rather than relying on already over-worked volunteers who are often not experts in the area.

What will it take to achieve this? First, the associations have to develop a trust of one another. This is beginning with GeoCanada 2000. Second, there must be a commitment on the part of the associations, not just their executives which change on an annual basis, but a corporate recognition that this can, and must, be achieved. Third, the associations must co-operate on specific ventures to build the teams that can work together.

From my own perspective over many years' involvement with the GAC and from my experience in the operation of the professional associations, it is not a question of should it be achieved, but of how and when it should be achieved. If we don't do something drastic like this, GAC can continue on its present path. We can't afford more staff and it is harder to recruit volunteers. Calgary 2000 will probably provide a nice addition to the our retained equity, which will allow us to be complacent for several years to come, but is that what we want?

I leave with you the following words I noted on a Sudbury billboard as I arrived to attend this meeting:

"Life is change, Growth is optional, Make a wise choice."