Geoscience Canada

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Volume 12, Number 4, December 1985

URI: https://id.erudit.org/iderudit/geocan12_4fea02

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Publisher(s)

The Geological Association of Canada

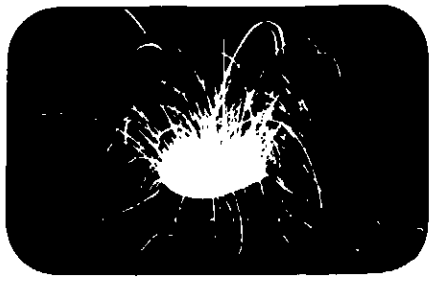
ISSN

0315-0941 (print)
1911-4850 (digital)

Explore this journal

Cite this article

Miall, A. D. (1985). Pyroclasts:: Registration and Accreditation: Whither Deregulation? *Geoscience Canada*, *12*(4), 163–164.



Pyroclasts

Registration and Accreditation: Whither Deregulation?

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Professional geologists and geophysicists in Alberta and the Northwest Territories have for some time been required to be registered with the appropriate provincial or territorial body if they wish to practice as independant consultants and, in some cases, sign reports prepared for such government regulatory organs as securities commissions. For many years there has been a groundswell of opinion that *all* professional geologists should be registered, regardless of their occupation. The Canadian Society of Petroleum Geologists (CSPG) has taken a leading role in this debate, as readers of its newsletter "Reservoir", over the last few years, will have realized. The society is in the process of bringing a series of proposals to the Canadian Geoscience Council (CGC) that will lead to the development of national standards for registration of earth scientists. One of these proposals is that the Council establish a Geological Accreditation Board to examine the degree-granting programs of all Canadian earth science departments. The objective is to standardize the basic professional qualifications across the country, as has long been done for doctors, lawyers and engineers.

All this sounds very straightforward and praiseworthy and in keeping with everyone's general objectives of improving standards in a uniform way across the country. Or does it? On reading the numerous reports, comments, letters and editorials that have appeared in Reservoir since 1981 I have failed to discover a single convincing reason *why* geologists should be registered. In fact it began to seem as if everyone has come to regard the legal requirement for registration as an inevitable outcome of present trends and that we might as well get in on the act and make sure there are no annoying loose ends. I say let us stop right now and re-examine this whole area from the beginning, before we find ourselves with another cumbersome, bureaucratic dinosaur which benefits no one.

There seem to be three kinds of objectives that those in favour of registration have in mind. The first of these was expressed at length by Jack Browning, an enthusiastic pro-registration spokesman, in a letter to Reservoir in January 1982: "Geologists all over the world take pride in being known as a professional or as it is sometimes called, "certified" geologist". Several other correspondents to Reservoir have expressed similar sentiments. So, it makes us feel good? Enables us to charge higher consulting fees? Emboss our correspondence with a nice stamp? Why should the rest of us have to pay for this?

The second objective is to ensure high standards of geological and geophysical practice, particularly among those practitioners dealing with a lay public ill-equipped to evaluate the advice and information they are being provided with. As I argue below, the number of lay individuals in this position occupy a few small and rather specialized areas, and their needs for protection can better be met by a much more modest program than the national juggernaut being proposed to CGC.

A third objective is to ensure that the public is protected through the maintenance of high ethical standards. This, it seems to me, is the most misguided idea of all. Does registration in the other professions prevent medical malpractice, shoddy engineering, or the swindling of the public by crooked lawyers? No, of course it does not. A professional with borderline morals is most likely to be dissuaded from breaking the law by the fear of losing his or her job and being unable to work in the future. However, it is not necessary to install a disbarring procedure to prevent a crook from working. This is achieved just as effectively by potential employers or clients investigating work records, education and job references, a process that works perfectly well throughout the rest of the working world.

Unlike doctors, lawyers, and engineers, earth scientists, for the most part, *do not deal directly with a lay public* but with other professionals, be they in government, industry or the universities. Earth scientists employed directly by industry or government, even those who have foreign qualifications, do not need certification. Their credentials are personally examined by fully qualified professionals at the time of hiring. Companies and government organizations have plenty of in-house knowledge and experience to evaluate the work of their employees, or that of consultants working for them. Registration of such individuals by a provincial body is totally unnecessary. The vast majority of the earth science profession is in this position of working for other professionals, and it seems to me grotesque that a body of regulations and a publicly funded board should be established to interpose between such employees and their employers.

There is one area in which some protection of an ill-informed public may be necessary, and that is in the area of environmental assessment, where earth scientists may be involved in advising untrained property owners or municipal authorities on such subjects as earthquake or landslide hazards, waste disposal, etc. Some of these areas involve more than just earth sciences, for example the combination of hydrogeology and toxicology involved in the evaluation of a chemical dump. Perhaps a separate registration procedure is needed specifically adapted for environmental assessment scientists, who would require training in, for example, chemistry and biology as well as the earth sciences. However, this is a small area relative to the rest of the earth science profession, and I do not see why the rest of us should have to be involved.

I fail to understand the implication that the act of registration stamps the seal of instant professionalism upon a practitioner. Only years of experience, and the attitude and approach of the individual, something untestable by any registration procedure, can assure this. Doctors in Ontario recently refused to bargain with the Provincial Government over the issue of extra billing. This seems to me a singularly unprofessional attitude by a group of registered professionals. A neighbour of mine, a registered professional lawyer, was recently sent to the penitentiary when his cheque-kiting scheme was uncovered - a scheme that swindled millions of dollars from his clients. How did registration prevent this?

Jack Browning (Reservoir, January 1982) stated (quite correctly) that the public lost faith in the petroleum profession during the various supply crises of the late seventies, when wildly varying estimates of petroleum reserves were published in rapid succession by IPAC, CSPG and others. Browning claims that if the geologists had really been professionals (i.e. registered) they would have been more conservative in their estimates. I strongly doubt that having a framed "P.Geol." certificate on their office wall would have made the slightest difference. Reserves estimation is a singularly inexact art, subject as much to economics, politics and wishful thinking as it is to good geology, especially when practiced by powerful interest groups such as multinational corporations and producers' associations (whose estimates were the ones which received such publicity). Browning makes the interesting point that "the average consultant working in a small consulting practice does not make that kind of [exaggerated reserve estimate] statement, and if he did no one would hear it. The major consulting firms certainly do not, because their entire livelihood is based on credibility ...". In other words, those whose work is most likely

to bring them in contact with the non-professional (eg. small investors) are the least likely to need the check of registration to ensure honesty.

Another of the stated aims of the pro-registration lobby is to develop national standards for registration of geologists and national accreditation of those who educate them. However, registration is within provincial jurisdiction and Neil Hutton (Reservoir, July/August 1982) reported that "the Alberta Government has also made it clear that while it recognizes the desirability of the reciprocity and the portability of credentials, it insists that the Province's vulnerability to standards set by national associations be reduced where such standards would adversely affect the public interest" (i.e. that of the Alberta government). These provincial barriers to free trade and free passage within Canada are all too familiar, and a particular worry to a profession such as geology which, by its very nature, involves frequent switching of work areas across provincial and national borders. We are facing the possibility of having to hang eleven P. Geol. certificates on our walls - one for each province and one for the Federal Lands.

The province which has had the most experience with registration is Alberta, where the law is administered by the Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA). The pages of Reservoir record numerous complaints from earth scientists in Alberta about the irrelevance of this organization to professional practice. Its conception of what constitutes a proper professional education is thought by many to be hopelessly out-of-date. It rejects applicants for no clear reason, or subjects them to humiliating and irrelevant examinations. It is unclear, in any case, how registration can ensure good professional practice 5, 10 or 25 years later, during a period of rapid evolution of the earth sciences. Consider the professionalism of a geologist registered in 1965 with a fresh B.Sc. and the required work experience, but who has not taken any courses to upgrade his training for ten years. How are organizations like APEGGA protecting the public against people like these? The answer, of course, is that they are not.

John Maher (Reservoir, October 1985) states that "there is considerable peer pressure from engineers, lawyers, accountants and others to identify the qualified professional geologists to whom they should refer, for engineering, legal and accounting matters which require geological input". This, of course, is partly a desire of union closed shops to close ranks among themselves. And, for reasons outlined above, I maintain that our other professional peers would be grossly derelict in their duty if they rely on the mere fact of registration as indicating a "qualified professional".

To ensure that registration represents at least the beginning of a proper professional education, the CSPG, through its spokesman, John Maher, is proposing that a system of accreditation be established for those Canadian universities granting degrees in the earth sciences. The ideas and the proposed procedures closely mimic those currently prevalent in the engineering profession and, I submit, represent a total misunderstanding of the difference between an education in the earth sciences and one in engineering (or law or medicine).

Alan Beck, in a draft brief to CGC, points out that the function of a university is to educate, not to prepare an individual for a specific job. The rigidity built into many of the professional programs, such as engineering, may tend to inhibit innovative approaches to education, whereas in the core areas of the Natural Sciences, Social Sciences, Arts and the Humanities, innovative teaching and the introduction of exciting new ideas from the professor's research are not only encouraged, but are facilitated by the much greater flexibility of the degree programs. Degrees in, say, geology and geophysics, are not identical from one end of the country to the other, although they contain a core of similar courses. Their diversity simply reflects local faculty strengths and different ideas about how to make the students think. It would be harmful to try to iron this all out through a national accreditation standard, and it would also be irrelevant. A B.Sc. degree is not regarded as an adequate qualification for fully independant professional functioning in any of the earth science sectors. Post-graduate study, on-the-job training and in-house courses are all used to improve an individual's suitability for a specific professional function. A single accreditation standard could not possibly allow for the many diverse functions earth science graduates are now being trained to perform. Is the accreditation board going to fly down to Houston to snoop around in oil company training courses?

A more serious flaw in the CSPG proposals is that they ignore the *self-accrediting* procedures that the universities have taken literally centuries to evolve. Universities are acknowledged by society as being repositories of much of the best research and educational expertise available. They have numerous built-in procedures for ensuring continuing high quality, including stringent qualifications for faculty hiring, tenure and promotion, external visiting committees to evaluate research and teaching performance, and peer evaluation of publications and research grant applications. The maintenance of high standards is the acknowledged function of the university. How can an extra layer of evaluation improve on this?

Experience with an accreditation board would likely result in the irony that much the same group of individuals already involved with the independant appraisal of university activities (eg. as members of visiting committees) would be caught up in the accreditation process, so that the desired function of independance and the satisfaction of particular "professional" viewpoints would be hopelessly blurred. There are only so many individuals qualified to carry out these tasks, for example Research Managers from EMR, Provincial Chief Geologists, senior consultants in industry, and so on. All these people are already overworked with many "outside" tasks like this. Overlapping and repetition should surely be avoided.

Another problem arose during 1984 when APEGGA held discussions with University representatives regarding the status of teachers under the 1981 Engineering, Geological and Geophysical Professions Act (EGGPA). Initially the teaching profession was included in the Act as a recognized category of professional practice. This would have required all teachers to be registered with and under the jurisdiction of APEGGA, in direct conflict with the 1980 Universities Act, which gave universities the autonomy to hire whomsoever they wished. After lengthy discussions (reported in Reservoir, April 1984), it was agreed that those earth scientists engaged solely in teaching and research would be exempt from the EGGPA. Teaching is therefore "not a professional act, and therefore not a professional responsibility of the professors... The argument followed that a professional only begins his/her training after graduation with a degree in Science. The problem is even more complicated in that there is disagreement as to what constitutes the university background necessary for a geologist and geophysicist". (APEGGA newsletter, as reprinted in Reservoir, April 1984). What a delicious irony: university training is not "professional" training because students are not taught by "professionals". Yet they want all degree programs to be accredited! That word "professional" needs to be shorn of all its legal and emotional overtones before this nonsense goes any further.

I keep asking myself, who benefits from all this? Is it merely to assure the continued existence of established organizations whose purpose is to register or accredit geologists? Is it intended to further the career of some ambitious geopoliticians out to carve niches for themselves?

In conclusion, I maintain that registration and accreditation are both misguided and unnecessary. Let us not feebly accept them as inevitable. Whatever happened to deregulation?