Features

The History of Canadian Geology

Abraham Gesner (1797-1864), An Early Canadian Geologist—Charges of Plagiarism

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The life and work of the prominent early Canadian geologist Abraham Gesner, M.D. (Fig. 1) has been described in some detail by his son, G. W. Gesner (1896), by Matthew (1897), Sclanders (1955), Beaton (1955), Cumming (1971) and Russell (1969). These accounts, with the possible exception of that by Matthew, stress the more positive results of this famous geologist's work but do not concern themselves with scientific conflicts which Gesner may have had. Considering the lack of information about this aspect of his life a document recently acquired by the writer accusing Gesner of plagiarism is of great interest. This document (Fig. 2), a letter, is signed in the name of Charles T. Jackson and Francis Alger and is addressed "To the Honorable House of Assembly of Nova Scotia". It is stated to be "a copy of the original communication sent to the House of Assembly, February 25, 1840". In this letter it is charged that:

"a large portion of his work (i.e., Abraham Gesner's *Remarks on the Geology and Mineralogy of Nova Scotia*, Halifax, 1836) has been borrowed from them without a candid acknowledgement - that their work has served as the model and basis of his, that discoveries and observations made by them, either appear as his own, or are refered (sic) to others, that in his description of localities, and in his statement of facts - although their very language has been adapted, following their order step by step and describing the same substances - their work is rarely alluded to, except with a view to question or deny its accuracy, and that he has copied their Geological Map almost entire, omiting [sic] a few very important localities, but without adding to it, any thing new or important, excepting the granite along the Southern Shore;".

Charles Jackson M.D., a chemist, and his friend Francis Alger, both of Boston, visited Nova Scotia between 1826 and 1829 and published their observations entitled *A Description of the Mineralogy and Geology of a Part of Nova Scotia* in the then fledgling American Journal of Science and Arts (Jackson and Alger, 1828, 1829). These observations were revised and enlarged as *Remarks on the Mineralogy and Geology of Nova Scotia* (Jackson and Alger, 1831) and a book having a similar title was pulblished the following year (Jackson and Alger, 1832). It was only four years later that Abraham Gesner published his almost identically entitled *Remarks on the Geology and Mineralogy of Nova Scotia* (Gesner, 1836).

After the publication of this work, Gesner appears to have gained considerable recognition and Jackson and Alger in their letter to the House wrote that:

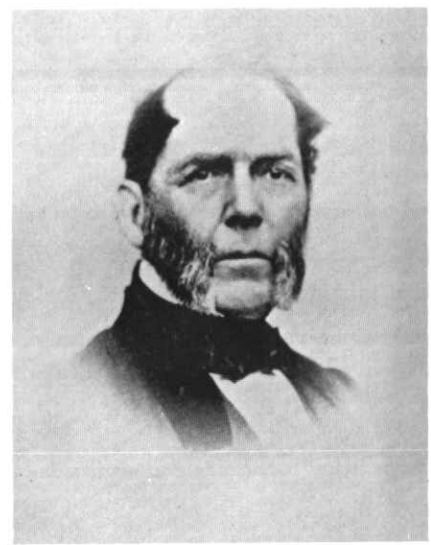

Figure 1
Abraham Gesner, M.D. (1797-1864), early Canadian geologist [From G. W. Gesner (1896)].

"The subscribers are the more anxious that your Honorable Body should look into their work, from the circumstance that since its publication, a volume bearing the same title has appeared in your own Province, of whose merits your Honorable Body has shown its estimation by a vote of thanks soon after its publication; expressive of the service it had rendered in the cause of Science, and the consequent advancement of the interests of the Country".

The purpose of this letter then was to obtain a similar, if somewhat belated, endorsement of their work by the members of the Nova Scotia House of Assembly. This was expressed more explicitly in the following manner:

". . . it would not be thought too assuming in them, if they could show their friends that the importance, the usefulness, or even novelty, of their labors, had been formally, or officially recognised by so distinguished a Body

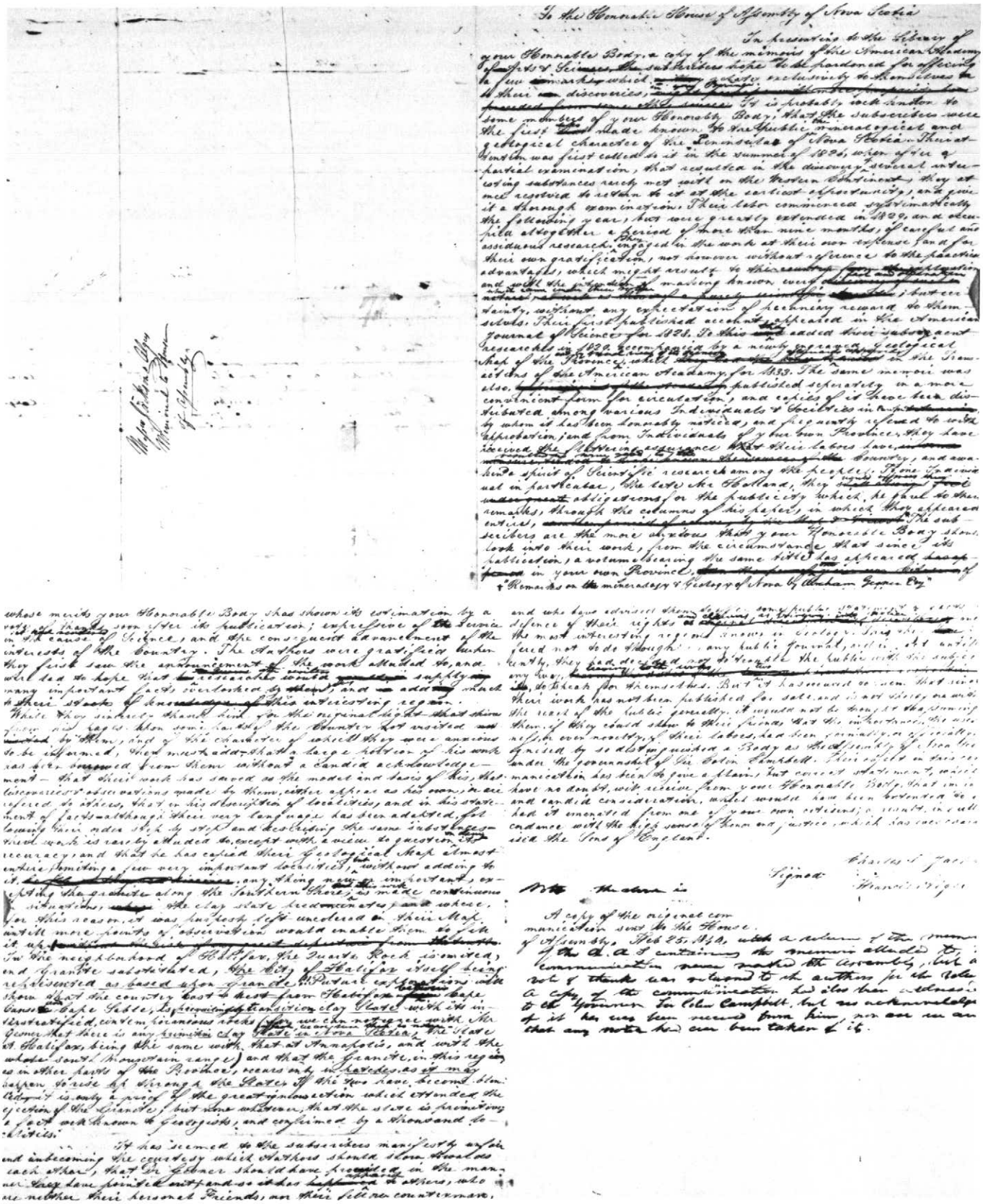

Figure 2

Copy of a letter signed in the name of Charles T. Jackson and Francis Alger of Boston, addressed to the Nova Scotia House of Assembly and sent on February 25, 1840. In this letter these early American geologists accuse Abraham Gesner of plagiarizing their work.

as the Assembly of Nova Scotia, under the governorship of Sir Colin Campbell".

That this recognition was never given is shown by statement below the signatures at the end of the letter:

". . . the communication never reached the Assembly, but a vote of thanks was returned to the authors for the volume (i.e., a copy of their 1832 book). A copy of the communication had also been addressed to the Governor Sir Colin Campbell, but no acknowledgement of it has ever been received from him, nor are we aware that any note has ever been taken of it".

Although neither the Nova Scotia Archives (C. B. Ferguson, pers. commun., 1976) nor the Nova Scotia Legislative Library (S. Elliot, pers. commun. 1976) have a record of such letters having been received, it seems unlikely to the writer that neither the House of Assembly nor Governor Campbell received the communication. This is especially true since the House of Assembly acknowledged the receipt of a copy of Jackson and Alger's volume. In view of the fact that Abraham Gesner had by 1840 achieved some prominence, was a native Nova Scotian, and published his study in the province, it seems likely that the Nova Scotia government chose to ignore the appeal of the two Bostonians. It would clearly have been an embarrassment for the Nova Scotia legislators to have had to cast doubt on the integrity of a successful native son.

The question of the degree to which Gesner relied on the work of the two Americans to write his *Remarks on the Geology and Mineralogy of Nova Scotia* remains to be evaluated. In terms of publication date Jackson and Alger clearly had priority and that there was some reliance was already recognized by Matthew (1897, p. 4) who wrote:

"On comparison with the work of the two former (i.e., Messrs. Jackson and Alger) the reader will perceive that Dr. Gesner has drawn largely for information from this source . . .".

It is not known if Abraham Gesner ever saw, or was made aware of, the communication charging him with improperly taking information, nor is it known if he had met his colleagues from Boston prior to 1840. What is known (Matthew, 1897, p. 48) is that subsequent to 1840, i.e., "early in the forties", Gesner became involved in a law-suit involving the exploitation of Albertite, a naturally occurring hydrocarbon, found near Hillsborough in Albert County, New Brunswick. In this law-suit Abraham Gesner had the view represented that the substance Albertite was not coal but asphaltum. The side claiming the substance to be coal was vigorously represented by Drs. C. T. Jackson and A. A. Hayes of Boston (Matthew, 1897). It seems reasonable to suspect that Dr. Jackson derived some satisfaction from opposing Abraham Gesner's view. The law-suit was decided in favour of Dr. Jackson's side on a technicality and according to Cumming (1971) Gesner lost a two-million dollar fortune.

The other relevant aspect of the document at hand concerns Dr. Jackson's mental health during much or most of his life subsequent to 1836. Starting with the year 1836 and ending only with his death in an insane asylum in 1880, Jackson was involved in a series of famous disputes (Gifford, *in* Gillispie, 1973) in which he claimed to be the inventor of guncotton, the discoverer of surgical anesthesia using ether, as well as the originator of the ideas and principles which led Morse to invent the electric telegraph. The year 1836 appears to mark the beginning of such unusual, if diverse, claims (ibid). It was also the year in which Gesner published his *Remarks on the Geology and Mineralogy of Nova Scotia*. The question which arises after becoming aware of Jackson and Alger's reaction to Gesner's publication is whether or not it was this event that triggered a mental instability in Dr. Jackson, a condition that caused a recent biographer, G. E. Gifford, Jr. (*in* Gillispie, 1973) to write that "he had an irritable personality and it is difficult to avoid putting the label of 'paranoid' on his behaviour".

There can be little doubt (see also Matthew, 1897, p. 5) that Jackson and Alger did not receive the proper credit for their early geological and mineralogical observations made in Nova Scotia. While this sort of treatment would probably affect the mental state of most people it would most likely have affected an ambitious intellectual like Dr. Jackson in a far more serious manner.

Not only does the degree of Abraham Gesner's reliance on the work of the earlier authors remain to be evaluated but a number of other questions are still puzzling. While the authenticity of the document at hand is to some degree supported by the fact that it is written on paper with the water-mark J Whatman Turkey Mill 1839, the question of who actually wrote the letter illustrated in Figure 2 cannet yet be answered with certainty. It seems likely that this was the original written by Dr. Jackson, a speculation that is supported when one compares a known signature (Fig. 3) with that appearing at the end of the letter (Fig. 2.) It also seems likely that before being recopied and sent to Nova Scotia, the letter was edited and altered (in a heavier and less precise script) and subsequently added to (in the remarks after the date February 25, 1840) by Francis Alger.

Acknowledgements

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Figure 3
Charles T. Jackson, M.D. (1805-1880), early American geologist [From Woodworth (1897)].

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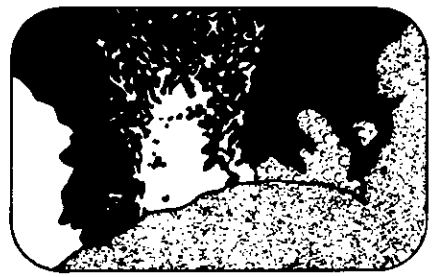

Pyroclasts

Publish and Perish

by J. D. Aitken

In geology at least, the doctrine of "Publish or Perish" has gone far beyond a bad joke. On the one hand, the doctrine is demonstrably important in the alarming inflation of geological literature, the downgrading of the standards of geological publication, and the promotion of a totally cynical approach to the questions of geological research in general and publication in particular. On the other hand, the necessity (under the present regime) for young (and not-so-young) geological researchers to play the "Publish or Perish" game is undeniable.

To put the situation in perspective, let us rate published works in geology on the Richter scale. On such a scale, those rare works that shake the world would be rated at magnitude 7.0 and up. Examples would be Darwin's *Origin of Species*, and Archdeacon Pratt's discovery of the deficiency of mass beneath the Himalayas. A much larger body of significant, but less earth-shaking papers, representing important, though not revolutionary advances, could be rated at magnitudes between 4.0 and 6.9. Examples might be Walcott's identification of stromatolites in the Belt "Series" as structures of algal origin, and Cloos's study of penetratively deformed ooids in the Appalachians.

Judged on this scale, practically nothing presented at the most recent annual meetings of the Geological Association of Canada or the Geological Society of America reached magnitude 3.0, and a shocking proportion of the papers fell below 1.0! An assessment of the technical content of the 1976 International Geological Congress would be almost equally bleak. I decline to give examples.

To use another metaphor, we may have gone to the meeting hoping to be shown, if not great monuments, at least solid dwellings, but instead saw mostly boards, bricks, and half-bricks. I do not suggest that the sawyers of the boards and the bakers of the bricks were in general unrealistic in their private assessments of the magnitude of their contributions.

Every reader of this column understands how this situation, at once tragic and ridiculous, has come about: the promotion committees of both universities and governmental research agencies, and the review committees of the agencies granting research funds, have chosen *published* research results as the prime criterion for advancement and/or monetary support. Each committee must review far too many cases to *evaluate* each paper or abstract presented as evidence of progress, hence rarely gets beyond counting titles, or possibly pages. Those whose output is to be judged in this way are well aware of all this. Although the more thoughtful, at least, recognize that a gifted geologist would do well to turn out papers of magnitude 4.0 or greater more than a few times during his productive life, the competitive scramble started by a few cynics and egomaniacs and now self-reinforcing compels him to emphasize quantity rather than quality. Grind out the titles, inflate the literature and the technical programs, and *abandon hope* of ever completing a thoroughly mature study! If there is a Charles Darwin among us today, he will never write his own equivalent of *The Origin of Species*, except he be independently wealthy!

Is there an alternative to ballooning meetings and exploding literature? Yes. Consider that the microseisms of geological literature have value mainly as evidence of work in progress. There is little, if any justification for their publication in full, and even less for their presentation at the meetings of learned societies, where they interfere with the presentation and thorough discussion of mature works. What is needed, first, is a periodical devoted entirely to brief progress reports, not exceeding two pages. The reports could include diagrams, and should specify the repository of raw data. Such reports could be reviewed satisfactorily by immediate peers. At the same time, both the conveners of meetings and the