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Article abstract

Robert Bell (1841–1917) taught at Queen's College (now University) at Kingston, Ontario from 1864 to 1868, having previously served seven years as assistant at the Geological Survey of Canada (GSC). From Queen's, he rejoined the GSC, serving until he was superannuated in 1908, elevated contentiously to 'Acting' Director from 1901-1906. He was 23 years of age when he took up the Queen's position, but was already recognized among the small local geological community as an authority on the Glacial Period. His time at Queen's was not happy – his predecessor had left under a cloud, there was opposition to his succession to the post, faculty opponents coopted students, who harassed Bell with classroom rowdyism, all of which he met with insistence on the Administration's support and regularization of his appointed 'interim' status and remuneration. At Queen's he lost ground professionally, particularly through his dubious involvement in assessing goldmining properties in Nova Scotia (1868), in which a group of Kingston Town and Gown 'worthies' had invested development capital. However, we can add that gains were also made through several positive factors: i) his completion of the section on 'Superficial Deposits' for Sir William Logan's *Geology of Canada* (1863); ii) membership in James Richardson's GSC party to the Magdalen Islands and Newfoundland (1867); iii) his leadership of GSC field parties to Manitoulin Island (1865, 1866); and iv) visits to Scotland in 1864 and 1868, where he sat at the feet of several eminent scientists at the University of Edinburgh, and met the Glasgow family into which he would marry in 1873.

ARTICLE

Robert Bell's Professorship at Queen's University, 1864–1868

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SUMMARY

Robert Bell (1841–1917) taught at Queen's College (now University) at Kingston, Ontario from 1864 to 1868, having previously served seven years as assistant at the Geological Survey of Canada (GSC). From Queen's, he rejoined the GSC, serving until he was superannuated in 1908, elevated contentiously to 'Acting' Director from 1901-1906. He was 23 years of age when he took up the Queen's position, but was already recognized among the small local geological community as an authority on the Glacial Period. His time at Queen's was not happy – his predecessor had left under a cloud, there was opposition to his succession to the post, faculty opponents co-opted students, who harassed Bell with classroom rowdyism, all of which he met with insistence on the Administration's support and regularization of his appointed 'interim' status and remuneration. At Queen's he lost ground professionally, particularly through his dubious involvement in assessing gold-mining properties in Nova Scotia (1868), in which a group of Kingston Town and Gown 'worthies' had invested development capital. However, we can add that gains were also made through several positive factors: i) his completion of the section on 'Superficial Deposits' for Sir William Logan's *Geology of Canada* (1863); ii) membership in James Richardson's GSC party to the Magdalen Islands and Newfoundland (1867); iii) his leadership of GSC field parties to Manitoulin Island (1865, 1866); and iv) visits to Scotland in 1864 and 1868, where he sat at the feet of several eminent scientists at the University of Edinburgh, and met the Glasgow family into which he would marry in 1873.

SOMMAIRE

Robert Bell (1841–1917) enseignait à Queen's College (plus tard 'l'université') à Kingston, Ontario de 1864-1868, précèdemment étant servait pour sept ans comme assistant avec la commission géologique du canada. De Queen's il rejoindait la commission, et servait jusqu'à son retraitement en 1908, ayant été avancé qu directeur 'suppléant' de 1901-1906.

A 23 ans il se mettrait son position à Queen's, déjà reconnaitrait comme autorité de la période glaciaire. A Queen's il n'était pas heureux – son prédecesseur quittait sous une voile; il y'aient l'opposition à sa succession au poste; des professeurs opposants coöptait des étudiants, qui lui harcelait avec des bouleversements en classe. En total il rencontrait ces blessures avec l'insistance du soutien de l'administration et régularisation de son engagement provisoire et sa rémunération.

A Queen's il se perdrait le standing professionel, en particulière à cause de son participation douteux en l'évaluation des propriétés minières de l'or en Nouvelle-Ecosse (1868), quand une groupe des dignitaires de Kingston ('le pacte') avaient placait l'argent pour le développement. Mais aussi, quelques facteurs gagnait-t-il l'avancement en carrière: l'ecrivant d'un châpitre – 'Dépôts Superficies' – pour le grand sommaire, *La géologie du canada* (1863); participation dans l'exploration de la commission aux Iles de la madeleine et l'ouest de la Terre-Neuve (1867); direction des explorations géologiques à l'ile manitoulin (1865, 1866); ses visites en Ecosse en 1864 et 1868, où il attendait les classes des scientifiiques proéminents de l'université de l'édinbourg; aussi il rencontrait la famille glasgwègienne dans laquelle il mariait en 1873.

EARLY YEARS

Robert Bell, best known amongst geologists for his 50-year career (1857–1908) with the Geological Survey of Canada (GSC), forged a reputation as explorer as much as geologist, having 'geologized' from Great Slave Lake, NWT, to Newfoundland, and from Lambton County, Canada West, to Baffin Island. He was born in 1841, in Streetsville, then located in Toronto Township, Peel County (Pope 1971). In that year, two events are of relevance here – the Westminster parliament constitutionally approved the union of Upper and Lower Canada to form the Province of Canada, which, the same year, granted Queen's College at Kingston its charter.

Robert's father, Andrew (b. 1803 in London, England), was a Presbyterian minister, ordained at York (later Toronto) in 1828. He gained a respected reputation as an amateur naturalist, concentrating on rocks and fossils, and was lauded by Sir William Logan for his contribution to Palaeozoic stratigraphy and paleontology as summarized in *Geology of Canada* (1863). The placid, paternal Reverend Bell was not exactly a copy of his own father, William Bell, also a Presbyterian minister, who had arrived, newly ordained, in 'Upper Canada' from Scotland in 1817 to minister to the

Perth Settlement. All but one of William Bell's fourteen pocket diaries and three ledger books, containing hundreds of pages of personal history, are archived at Queen's. His grandson Robert's papers occupy sixty-four 'brief boxes' at Library and Archives Canada, which left me wondering, among many other things, when he slept! These papers, along with the Queen's University Archives (QUA), are the source of much of the historical information contained herein.

Rev. Andrew Bell's last pastoral appointment, in 1852, was to L'Orignal, on the Ottawa River upstream from Hawkesbury, where he died in March 1856 of the bronchial/pneumonic affliction which was then so common (in 1878 the same killed Robert Bell's brother, a Montréal physician, aged 33) . Andrew's widow, Elizabeth Notman of Dundas, Canada West, would probably have had the care of one of three children born to Andrew's deceased second wife, as well as her own three, Robert, Mary (b.1843), and John (b.1845).

In the spring of 1857 Sir William Edmond Logan (1795–1876), Director of the GSC, knowing that Robert Bell (Fig.1), not yet sixteen and well-versed (under his father's influence) in natural history, would be a good bet to turn into a 'rockhound', took him into the GSC as an assistant. Robert had only three months to get to know the half-dozen staff and the structure of the Survey, then located at 75 rue St. Gabriel, a few steps from the Montréal waterfront, before he was off with a field party to the Gaspé Peninsula, led by staff geologist James Richardson. That field season lasted six months, alternating between roughing it up and down steep, rocky rivers draining the Shickshock (Chic-Choc) Mountains, and sailing inshore, looking for exposures of geological interest. From Rivière du Loup, they crossed to the Saguenay, reaching Chicoutimi, similarly engaged. After one more field season in the Gaspé, in 1859 Robert led his own field party to the Bruce Peninsula and Manitoulin Island, followed by excursions to Sault Ste. Marie with Alexander Murray (1860), solo to southwestern Canada West, (1861), back to Gaspé as leader (1862), then to the Eastern Townships, Québec (solo, 1863); together, these duties honed his talents.

Figure 1. Robert Bell, Montréal, QC, 1865. McCord Museum, McGill University, Notman Collection, catalogue no. I-17981.1.

In 1858, Logan gave Robert leave to register at McGill University; in fact he signed Robert's registration papers as his 'guardian'. Given that there was no Geology program there, he attended the one-year lecture course given by Engineering Professor Mark Hamilton, leading to the degree of Civil Engineer (C.E.). The university had in 1855 appointed as Principal J. William Dawson (1820–1899), a noted Nova Scotian Superintendent of Education and amateur geologist, who gave lectures in basic geology equalling what any geology program would in those days have offered. Robert graduated with a class of 40 in 1861, with the C.E. certificate, a full but unexamined curriculum in Geology, Gold Medal honours, prize copies of Darwin's *Origin of Species* and Hugh Miller's *In the Footsteps of the Creator*, and an appetite for all that available textbooks offered – and this while he was also a practicing geologist!

A TURNING POINT

After six years with the GSC, and collegial relationships established with staff (Logan, Murray, Hunt, Billings, Richardson), receiving wages irregularly ($2 a day), Robert must have more-than-half expected that, especially now with his university experience, Logan would offer him a permanent position. But, five-year appropriations to the GSC had dried up in 1860, and, although it would appear that, informally, Logan considered Bell a 'permanent' staff member, for the following three years subventions were granted only annually.

It was time, therefore, to cast around for a position with prospects. McGill Principal Dawson recommended that Bell apply for an advertised position of Professor of Natural History at Morrin College in Québec City. One of three McGill affiliates (with St. Francis College at Richmond, and Stanstead College on the Québec–Vermont border), today we would call Morrin a 'junior college' or 'CEGEP'. The position would have well suited Bell at the time, being accessible to Montréal, his family, and the GSC; for research opportunities, the 'Azoic' rocks (i.e. Canadian Shield), the flat-lying sedimentary rocks of the St. Lawrence Lowland, and the deformed and metamorphosed rocks of the Appalachians (the 'Quebec Group' as then known) were all within easy reach, and the unconsolidated deposits of the Glacial Period were ubiquitous.

Directly after applying to Morrin, and being accepted, Bell learned that Professor George Lawson had resigned the Chair of Chemistry and Natural History at Queen's College, Kingston, – a position Bell did not have to be advised to apply for. His grandfather played a role from a distance in the establishment of the College, an uncle was its first and long-serving Registrar, and his brother was an undergraduate there. He requested and was granted release from the Morrin position, immediately applied to Queen's, and was quickly notified of success. This appears to indicate that Bell's appointment to Queen's, like that at Morrin, was in the cards before he even applied – that he had already been identified as Lawson's replacement. By whom is not recorded, but it would be reasonable to suggest, i) Rev. James Williamson, Queen's Professor of Natural History, and already a Bell admirer; ii) Rev. John Cook, Queen's Principal a few years before, who, now as Morrin's Principal, had released Bell from that appointment; or iii) Lawson himself, since he and Bell were known to each other through the contributions of Robert and his brother John to Lawson's Botanical Society of Canada and its 'Annals'.

Bell's appointment was recorded by the Executive Committee of the Queen's Board of Trustees, as follows: *"that Mr. Robert Bell be appointed Interim Professor in Natural History and Chemistry until the close of the present session the Trustees guaranteeing to him a remuneration for his services during the period mentioned of Eight Hundred dollars, inclusive of class fees and graduation fees. Mr Bell to enter upon his duties on the 11th inst."* [1]

Fees were about $12 per student, and in 1864-65 he was teaching three courses, in which I estimate there would have been a total of 50 registrations, for a sum of $600. If ten students graduated that year, each paying a $25 fee, another $250 would have gone to Bell – a total of $1650 for the year (slightly more than $21 000 in today's dollars). Whether he knew it or not, this was about $400 less than Lawson had been receiving.

PROFESSOR BELL

Bell arrived at Queen's about half-way through a decade and a half of what could be only a little overstated as 'internecine warfare'. Between 1853 and 1869, Queen's was not a happy campus. Internally, from 1853–57 the college was without a Principal. Like a Lake Ontario steamer launched just down the gentle slope from the campus, this was a vessel with over 150 passengers and crew, without a firm hand on the tiller or a chart of the shoals of academe. Further, in this period the Queen's Faculty of Medicine and Board of Trustees had fought over staff, and over the ownership and use of space and property. Into this situation in 1858 entered George Lawson, aged 31, a former student and coworker of the eminent J.H. Balfour at Edinburgh. Apprised of internal politics, Lawson proceeded to cut a swathe through the tangled undergrowth beside Lake Ontario, forging a reputation as a superb teacher, an accomplished scientist, and a leader in the scientific community following his establishment and leadership of the Canadian Botanical Society and its 'Annals'. Lawson drove hard for revision of salary scales, negotiating for himself a remuneration totalling £425 (£1 then equivalent to $4.85). He also advanced the case for disciplinary subdivision, which would lead in a few years to specialization and the need to appoint more professors. As Zeller (1987) put it:

"Lawson's celebrated appointment and corresponding salary aggravated the strained relations between the trustees and the medical faculty, both of whom he served, into a seething sore. To the trustees' dismay, Lawson tried to reform the college's constitution. … Tensions exploded in January 1863, when new university statutes defining the authority of the trustees over professors were interpreted as a breach of faith… …[Lawson] submitted his resignation, effective on 1 November. A hero to the students and to some of the faculty, [he] left the college in a state of 'riot and confusion."

Faculty sub-division, as Lawson had sought, would, indeed, come about at Queen's, and the Faculty of Natural Sciences was established shortly after Lawson's departure for the young Dalhousie College at Halifax, Nova Scotia. So prolonged and intense had the Lawson affair been at Queen's, that three years later, in September 1866, as if to balance the addition of a Natural Sciences Faculty, the Medical Faculty was disbanded and replaced by the Royal College of Physicians and Surgeons of Kingston, with quarters, not at the college, but at Kingston General Hospital. It was 26 years before it rejoined the academic fold.

Smarting from 'the Lawson affair', a skittish Administration, as we note from its Minutes above, appointed Bell as 'interim' professor. Bell caviled at the tentative salary figure: *"A letter from Professor Bell dated 27th inst was read relating to the salary attached to the office of Professor of Chemistry and Natural History, and requesting that the salary be rendered more definite and secure. Whereupon it was resolved that, until the Board see fit to make other arrangements, Mr. Bell be guaranteed three hundred pounds [roughly $1400] per annum (including class fees), as Professor*

of Chemistry and Natural History". (QUA 1863).

Bell had moved into his rooms at Kingston by the end of October 1863, missing registration in that year's municipal assessment. By 1864, however, 'Robert Bell, Professor' appears in the roll, and until 1868 is given as occupant of residential premises on Lot 6, Sydenham Ward, [northeast] corner of Earl and Clergy Streets. His rent was $40 a quarter, annually about a tenth of his salary, assuming that he paid for the whole year to reserve his rooms during the summer.

On December 28, 1863, Bell delivered a lecture to the local Natural History Society titled 'The Post-Tertiary Clays and Sands of Upper Canada', based in large part on his work on 'Superficial Geology', which Logan had requested he write for the 20-year GSC summary report then in preparation (GSC 1863). The paper dealt with the distribution, physical character and sub-fossil shell content of the water-lain sediments lying above the glacial 'boulder clay' of Canada West. The piece for Logan, the related map of superficial deposits, and two public lectures had, by the time he mounted the podium, established Bell, at 22 years of age, as an authority on the Glacial Period in Canada. McGill Principal, Sir William Dawson, 20 years his senior, was apparently not amused by the rise of this young and vigorous exponent of the 'Glacier Theory', which rivalled his closely defended 'Drift Theory'[2]. He already had to cope with Logan, who had opted for the Glacier Theory (Logan 1847; Smith and Dyck 2007). More than 30 years later, in a preface to his 'capstone' book, *The Canadian Ice Age*, Dawson recalled that he had provided information on the subject for Bell's section in Logan's Summary Report, but that it had been incorporated "in an imperfect manner" (Dawson 1894:6). This, of course, meant that, thirty years later, he still begged to differ.

Queen's Principal Rev. William Leitch (1859–64) had presided over the Lawson affair, and had more ruckus to quell after Lawson's departure. Less than two months after classes had restarted, Bell complained to the Senate about rowdyism in his Chemistry class. Senate did nothing, deciding only to keep the complaint *'in retentio'* for a possible recurrence. But Bell pursued the matter, charging that the Dean of the Medical Faculty (Dickson) had stirred up students against him before he had even arrived on campus (which was true), and, with Professor Fowler, had confronted him, charging him with incompetence and demanding he resign. Dickson mailed Bell a copy of the 'Minutes' of a meeting he had called with Medical students, which purported to show that students agreed on a call for Bell to resign, but it transpired that these 'Minutes' were a two-week-old fabrication containing false accusations. Bell responded spunkily by applying to the Trustees for permanency in his position. This was granted, and his salary was regularized. Some students in his Chemistry class wrote to him, most in his support, suggesting how the instigator of the rowdyism could be identified.

Principal Leitch praised Bell highly to the Trustees, testifying personally to his demeanour and stature: *"… it was imagined that Dr Lawson's loss would be fatal to the college and that rather than lose him, we would make over our own Statutes. When Lawson's resignation was at once and gladly accepted; and when in addition, a lecturer, certainly not of less talent or promise, was at once appointed. … [O]f this I am convinced, that no man could have done better than Mr. Bell, and that just in proportion to his merits would be the opposition sworn against him. …Though so young, so he has already given the most gratifying evidence of his future eminence as a lecturer and man of science."* (QUA 1864).

Meanwhile, with Leitch in failing health, late in 1863 Queen's appointed as Principal Rev. William Snodgrass (b. 1827), formerly rector of St. Paul's, Montréal, where Robert Bell had frequently attended services. Snodgrass held the Queen's post for 13 years, being recognized for his decisive command, which steadied the ship and steered her out into blue water. Withdrawal of provincial funding from 1869 led Snodgrass to institute an endowment fund, which quickly raised over $100 000, including sizeable sums from the (still small) professoriate, and local legal and commercial 'worthies'.

At the commencement of the 1864–65 session, Bell gave a lecture to the Queen's Medical Faculty. This was an 'Introductory Address on Mining Education', which, given the furore aroused in the Medical Faculty by events surrounding Bell's appointment, was particularly courageous. Inspiration for the address might have lain in his desire to strengthen Geology in the evolving Queen's curriculum, perhaps staking some of this territory for himself. This is the first reference to Bell's career-long concern for mining in Canada.

For his Natural History course Bell wrote a 'Prologue', the tenor of which calls for some appreciation of his religiosity. His Presbyterianism was exercised both formally in church attendance as regularly as field-work allowed, and socially in 'good works' and harmonious social relations. It certainly was not dogmatic, to the point of predetermining his pedagogy, as was Principal Dawson's. With Darwin's *Origin* published only four years before his arrival at Queen's, Bell's references in this 'Prologue' to 'Creator', 'God', 'Him', and 'His works' were not contrary to Darwin, who himself left open the role of 'Divine providence' in early editions of the *Origin*. Nor were they contrary to his grandfather's fervent, or his father's more temperate, Presbyterian ministries. Between religion and science, in the 'Prologue' there is a benign acceptance of Nature, which, once Divinely created, shows the scientist how She works – how the individual organism is identified, how it survives, reproduces, disperses – as well as leading to an understanding of higher relations among complex individuals or communities. Nature reveals herself to Science.

A second theme in the 'Prologue', just as forceful, is that of the educative value of the study of Natural History, whereby observation, measurement, classification, distribution, and history could all be applied to other walks of life, lead to an understanding of the forces acting on life, and toward fulfilment of purpose. The young were considered best placed to learn these things, free of dogma and inhibition. Nature study should be seen as self-improving – the particular builds to the general; relationships among objects are discovered to apply to the small and the large, implying a natural hierarchy.

As to Bell's courses at Queen's, notes survive for the following courses and years: Zoology (1863, notes probably prepared in '63 for '64); Natural History (1864); Natural History and Geology/Mineralogy (1864); Applied Geology (1864); Geology (1865); Natural Science (1865); Natural Science (Geology) (1865–66); Botany (1866); Geology (1866); Mining and Economic Geology (no date); Mineralogy (1866); Chemistry (1866); Natural Science (1866); Zoology (1866).

Bell's courses in 1867 and 1868 probably used notes from previous years. The course notes surviving are rather crude, and not very full, probably made during travels or in camp during summer field-work, as suggested by cramped writing on cut sheets of GSC notepaper, limited in supply. This might point to Bell being a fluent 'off the cuff' lecturer; he certainly had a way with field sketching, so probably was a good chalk-board artist as well. In his geology classes, Bell could hardly have avoided field instruction, to which the setting of Kingston ('The Limestone City') was well-suited. One question on the 1865 Geology examination asked students to "account for the parallel grooves on the surface of the limestone, and for the presence of gneiss boulders along the lake shore, between Murray Point and the Principal's residence", while another asked for "a short account of the geology of Cedar Island and the portion of Wolfe Island visited by the class …".[3]

From the remaining, fragmentary lecture notes, Bell's 'Geology' appears to have been 'standard' in terms of what was taught until the 1960s, dealing with rock types, structures, surface expression, fossil content, environments of formation, and the different sub-disciplines then within Geology (physiography, lithology, paleontology, dynamic geology, historical geology). If these divisions are called 'standard', this does not make them boring; it reflects only how new geology then was in college curricula. Of course, some topics were missing because they had not at the time been formulated; for example, environmental and evolutionary paleontology, chemistry and mineralogy of magma crystallisation, rock metamorphism under tectonically elevated temperatures and pressures (although E.J. Chapman at Toronto and T.S. Hunt at the GSC were breaking ground on the chemical and physical conditions of magmas and metamorphism).

Textbooks referred to in Bell's notes are Lyell's *Elements of Geology* (1844), Dana's *Manual of Geology* (1855), and Logan's *Geology of Canada* (1863; although it certainly was not written for students!). Chapman's *A Popular and Practical Exposition of the Minerals and Geology of Canada* (1864) is a significant absentee that Bell must have been aware of; J.W. Dawson's *Handbook of Geology for Canadian Students* did not appear until 1889.

Examination papers surviving indicate that at Queen's, Geology was then a general 2nd year course in the Faculty of Arts, as well as a more specialised 4th year course for which the examination of 1864-65 is titled 'Geology and Mineralogy'. But these 4th year exam questions, although wide-ranging, show no more than a standard content, with wording somewhat more 'learned'. There is one paper in Applied Geology (1866-67), in which six of ten questions are pure Mineralogy; only four are 'Applied', bearing on fertilizers, metal ores, and millstones. The remaining exam papers in the other subjects Bell taught are in Zoology (Senior – 1864, 1866-67), Zoology - Vertebrata (1864-65), Junior Natural History – Invertebrata (1864-65), Chemistry (in the Faculty of Medicine, examined with Professors Litchfield and Fowler, 1864-65, 1865-66), and Elementary Chemistry and Mineralogy (1864-65)[3].

Bell appears early in his academic sojourn to have become aware of his lack of a degree in the discipline for which he had been assigned teaching responsibility. As soon as classes ended in Spring of 1864 he was off to Edinburgh, where for a term he audited lectures at the University by some eminent heirs of the Scottish Enlightenment, including Balfour in Botany, Crum Brown in Chemistry, and Lyon Playfair in Life Science. Throughout his career with the GSC, when he was at odds with its Directors (first Alfred Selwyn, 1869-95, then George Dawson, 1895-1901), and with Clifford Sifton, the responsible (Interior) minister, he usually inserted the 'Edinburgh Connection' into his scientific qualifications to bolster his claim to higher rank and remuneration.

That summer of 1864 Bell also visited a family of Smiths in Glasgow, the head of which, Alexander, owned an engineering company, noted for railway rolling stock used in West Indian sugar plantations after the abolition of slavery in the British colonies. Alex Smith approved sufficiently of Bell that he paid for him to attend that year's meeting in Bath, of the British Association for the Advancement of Science (BAAS), where Robert met Charles Lyell, through the good graces of his boss, Sir William Logan, also in attendance. Bell's mother was a cousin of the matriarch of this Smith family (both Notmans), who eventually bore 14 children, one of whom, who was only 10 years of age on Bell's visit, he was to marry in 1873, when she was nearly 19, he almost 32.

The other activity in which Bell engaged apart from his academic responsibilities at Queen's and summer work for the GSC, was in 1868. Early that summer he returned to Glasgow, having told Principal Snodgrass that he needed to purchase supplies for his Chemistry classes, although, if they proved unavailable in Canada, they would surely have been obtainable in New York. With no record of any professional activity of Bell's in Scotland, it appears that this was solely a social visit to the Smith family. The daughter of the family, Agnes Smith (b. 1854), whom he eventually married, would have been only fourteen that April, so it seems unlikely that he was 'a'courting' on this visit, at 27 years of age.

However, the later part of that summer of 1868 would prove far more significant, not only that year, but possibly for the remainder of Bell's long career. Gold had been discovered in Nova Scotia ten years before, in Halifax and Guysborough counties. Whether on Bell's suggestion or someone else's, a group of Queen's staff and Kingston citizens, known as 'The Kingston Pact', had agreed to invest in the development of the most promising of ten mining properties. In his chosen capacity as geological advisor, Bell, in part encouraged by the owner of gold properties in Québec, spent

large sums from 'The Pact' on mining explorations which proved fruitless. While the Kingston Pact as a body did not pursue legal action against Bell, one lawyer/politician, who happened to be close to John A. Macdonald, did so. Fortunately for both, as it transpired, legal proceedings were conducted in Montréal, so that Bell and plaintiff remained relatively unbesmirched, but one cannot avoid concluding that the trouble Bell experienced advancing through the GSC hierarchy later in his career echoed this turmoil.

At Queen's, as the college grew and disciplines divided, Bell found himself concentrating more and more on Geology, while Chemistry, Botany and Zoology fell to others. At the start of the 1868 session the Board ruled that:

"having heard the statement of the Principal respecting the chair of Natural History, and the proposal of Professor Bell to continue to act as Professor of Geology at a nominal salary: Moved by Mr. Paton [Secretary] and seconded by Judge Logie and resolved that after the first day of May next [1868] the position of Professor Bell in this institution shall be that of Professor of Geology to continue for the period of one year and no longer unless such period be extended by the Board. That his duties shall be to teach Geology to students of the Fourth year in Arts one hour per day during three months of the session as the Senate may arrange, and that his salary be one hundred dollars for the year." (QUA 1868).

Bell, embarassed by the Nova Scotia *débacle*, and his diminished status at the hands of the Queen's Administration, appears to have decided to leave the college. During preparations for his departure, he pointed out the difficulty posed by his close involvement with the college's museum. It would be difficult, he pleaded to the Trustees, to distinguish his from the college's property, to which they answered flatly that he had better so distinguish, and promptly, and just as promptly should give an inventory of the college's holdings to the Estates Committee. Bell dutifully did so, and in detail, even seeking outside advice on the value of some items, among which was his father's bequeathed collection of rocks, minerals, and fossils. His diligence in these tried circumstances I judge, from this and other examples during his career, to stem from his adherence to a code – whatever the task, one must always do one's best. Not to do so would be counted against one, in this world or 'The Next'. Bell found his father's collection contained 3040 items – the rocks and fossils representing every geological formation found in Canada West (all 12, as then defined), as well as mineral specimens. He gave an estimate of its worth at $1200 (nearly $17 000 today). All of the other museum items, from plants to furniture, amounted to only $1500[4]. There is no current record of Andrew Bell's bequeathed collections.

Bell would have been relieved to be leaving Queen's, after such an upsetting five years of service, largely unrecognized, and leaving no legacy to speak of. For Queen's, it would be ten years before Geology was again taught there, by Professor Fowler from 1879 till 1892, after which the Kingston School of Mining and Agriculture (KSMA) was established in 1893. Ironically, an early faculty member at KSMA was Willett Miller, for whom Miller Hall at Queen's is named. Miller had begun his eminent geological career in 1892 as a field assistant to Robert Bell on a survey of the northeast shore of Georgian Bay. It was 1897 before KSM (minus the 'A', which, as far back as the 1830s, had been established at the Ontario Agricultural College at Guelph) became affiliated with Queen's as its Department of Geology.

Signed off at Queen's, in January 1869 Bell travelled to St. John's, Newfoundland, where, at least in part to recoup his losses in the Nova Scotian gold venture, he tried unsuccessfully to chase down several mineral prospects on the west coast of the island that had been reported nearly three decades earlier by J.B. Jukes (Brookes 2010; Cuff and Wilton 1993). Chastened by his experiences at Kingston and St. John's, on his return he rejoined the GSC on permanent staff, and was sent off into the wilds again, farther away than ever before. His first assignment on rejoining the GSC was an exploration of Lake Nipigon in 1869. Fourteen years later, in 1883, Queen's conferred an Honorary LL.D. on Bell. He was nominated by E.J. Chapman, Professor of Geology at University College, Toronto, and supported by more than a dozen professional staff members of the GSC. The citation was read by his old friend, Professor Rev. James Williamson: "A large proportion of what is definitely known of the geology of Canada and of the topography of the more remote parts of the Dominion is due to his assiduous labours" (Queen's College Journal 1882).

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NOTES

[1] Library and Archives Canada, Robert Bell Fonds, MG29.B15, v.61.19 (Executive Committee, Queen's College Board of Trustees, minutes of meeting November 4, 1863).

[2] Dawson was the longest lived and most persistent of Canadian proponents of the 'Drift Theory', which called upon shore-ice and icebergs within a higher ocean to deposit unconsolidated sediments, such as those of the St. Lawrence Lowlands and the Interior Plains. By the 1860s this was being seriously challenged by proponents of the 'Glacier Theory', which invoked the growth of ice-sheets and alpine glaciers to achieve the erosion of smoothed and striated bedrock and deposition of glacial till, moraines, erratic boulders, and associated water-lain sediments.

[3] Queen's University Archives holds all the examination papers in the Robert Bell collection.

[4] Library and Archives Canada, Robert Bell Fonds, - MG29.B15 v. 61.25.

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