

CHAPTER 6

THE FIGHT FOR A PROVINCIAL UNIVERSITY

However mollified some of the opponents of the college may have been with the course on engineering, there were others who had seen all too clearly the red flag waved by Jacob and were only too ready to do battle. Nor was it long before Head's strategy was perceived for what it was: an effort to appear to accommodate the will of the province. There had been no fundamental change in the institution. Jacob still sat as principal and, with Bishop Medley still on council, there could be little doubt that the College was still firmly in the grip of the Church of England.

In March, Albert J. Smith launched an assault in the House on the college endowments culminating April 6 with a proposed bill to abolish the endowments as of the first of January, next following¹. Smith, at the time, was a rising star in the House, with a considerable dislike of the established Church of England domination of Education. The debate in the House leading up to

Smith's Bill had already resulted in a damning editorial from Marshall d'Avray, likening Smith to Erostratus of Greek mythology. (Erostratus was the fellow who had toppled the Temple of Diana).

Smith's tirade in the House was long and all-embracing; he included the erstwhile editor in his discussion, after reading the editorial in question into the minutes of the Debates of the House of Assembly:

"The ostensible Editor of the Head Quarters was Professor d'Avray, of King's College; he (Smith) did not know him personally, but believed him to be a public loafer. He would not say how far it was proper for one of the Professors of King's College to abuse a member of this house for bringing in a bill he considered called for by the exigencies of the case, but if he (Mr. Smith) was the Erostratus of New Brunswick, and were to burn King's College to the ground, and this Professor d'Avray in it, he believed it would be a great blessing to the public. This professor had been imported from England at the public expense, and had been supported since from the revenues of the country, and he was willing to make an appropriation out of the college funds to send him off again. He would not send him to Turkey, to fight the enemies of his country - he would not so much disgrace the British army - but he would send him to Russia, where he would find more congenial employment and thus get rid of him."

Smith was in a belligerent, fighting mood. He went on at great length to detail all of the attempts to reform the college, and especially, the denominational aspects. He detailed the various efforts of the House to bring about some change, noting that the House had voted in 1851 to withhold the 1100 endowment, by 18 to 4, but that the Lieutenant-Governor had disallowed the bill.

He remarked on Head's own efforts to effect some change, and how little had occurred as a result. Smith pointed out that after the amendments of 1845, "... Eight or nine years had since elapsed, and the College was still going on in the old way, doing nothing but swallowing up 2200 a year, money drawn from the public purse."

Finally, he got to his objective, that if nothing would convince the college to change: "His aim was to put a stop to it; to close the institution up, for it was impossible to amend it, and a waste of time and money to make the attempt."

"He perceived that for the last few months Mr. Cregan, the Engineer, had been stationed at King's College, and was giving a course of lectures there. He considered that a mere subterfuge, the object being to swell the number of students. Why did they remove him from St. John where his lectures would have been well attended, and bring him here to lecture to empty walls?"

Smith and his cohorts went on to suggest that a portion of the college endowments be applied to the Sackville Academy (Methodist), the Collegiate Schools at Saint John and Fredericton, and the Baptist seminary at Fredericton. Another speaker suggested that instead of closing the college, "... it would be better to sweep away what caused it still to be unpopular - the Divinity chair - and thus make it more conformable to the tastes of the people."

The debate lasted through April 6, 7 and 8, when it was finally agreed: "Resolved, that His Excellency the Lieutenant-Governor in Council be, and he is hereby authorized and required to

appoint a commission consisting of not more than five persons to inquire into the present state of King's College, to management and utility, with the view of improving the same and rendering that Institution more generally useful, and of suggesting the best mode of effecting that desirable object; and should such commission deem a suspension of the present charter desirable, then to consider the best mode of applying its endowment in the meantime for the educational purposes of the Province, and to make a report of their doings to his Excellency the Lieutenant-Governor, to be laid before both branches of the Legislature within twenty days after the opening of the next session."

This passed by a vote of 23 to 14, with some constructive comment. For example, that by Mr. Kerr read: ". . . that it was only during the present winter another science was taught there, and it had secured the attendance of 26 students; and if that was the immediate effect of teaching Engineering there, let other branches of science be taught there, and there was every reason to believe it would produce a corresponding effect."

Albert Smith, the original instigator of the debate to close the college spoke well of Head's efforts, especially Head's letter to the College Council: "It was that letter that had stirred them up to do something, and it had led to procuring the services of a scientific engineer, whose lectures drew twice as many students to the place as all the other things taught there, that letter should cause the people to venerate his Excellency, and it should endear his memory to posterity."

The House reporter, George Fenety, recorded the result in his diary: "The College survived

the shock of battle - it still stands upon the hill, its doors never having been closed once against the admission of students, be their religion what it might, or come from whence it may."

But Smith and others had accurately reflected the feelings of the rural population of the Province. There was a prejudice against the institution which would not soon disappear. The comment on the debate in the Saint John Free Press of April 12 was representative of many which appeared in the press:

"Now we must frankly say that if the Lieutenant-Governor of the Province, who is also the Visitor of the College, could extract no more improvement from the collegiate authorities than this: we are not surprised that axes, hammers and similar instruments should be brought to bear by other hands on such a structure. Let it, however, be adapted to the conditions of the country - altogether remodelled; and instead of being a by-word, and one of the stock and standing grievances of the Province, it may yet become an eminently useful, if not a self-sustaining, institution. Whether the Commission proposed by the Attorney-General will prove a hoax or a benefit we shall know when it submits it's report."

The immediate crisis had been effectively resolved by the legislation to appoint a commission of inquiry. Although there was still active opposition, there was no effort to continue the attack until the Commission should report. It will be remembered that the College Council had provided that the allotment of one hundred and fifty pounds for the support of a course in Civil Engineering be on an annual basis. There is some evidence to show that strong efforts were made to continue the course. For example, Head attempted to pave the way for Cregan to attach himself

to the Crown Land Department². In fact, an offer was made "to employ him as one of the Commissioners for exploring the road from the mouth of the Tobique to the settlements of the Restigouche at the rate of one pound five shillings per day while in the field, and his expenses." The offer went out on behalf of the Surveyor General by Head, who continued: "Such employment to commence from the 1st July next. (After termination of the lectures) that His Excellency must postpone giving a final answer to Mr. Cregan's letter of 16th May, ... (presumably inquiring about lectures for the following year) until after another meeting of the Council ..." (whether the executive council or the College Council is not entirely clear from the context, although the College Council had already placed the matter entirely in Head's hands).

Cregan took some time to think about this interim offer of employment, and apparently discussed the matter with Head before responding³ on June 10th:

"I should be exceedingly glad to serve the Government under your Excellency, but I regret to say that at present I do not enjoy that robust health, which would warrant me to undertake a life in the Woods, and in a remote and uninhabited district of the Province." Cregan goes on to say that he would gladly perform the duties if it should be the personal wish of Head that he do so as he felt "deeply grateful for the kindness and consideration extended both by yourself (Head) and Lady Head ..." However, for the interim, Peto, Brassey and Company, the firm which had employed him all along, had offered him another position in Maine. He eventually accepted the offer with his previous employer, thus closing another chapter in the history of the college. No special lecturer was ever again employed at King's for the purpose of teaching Civil Engineering.

Meanwhile, Head was still to appoint a commission of inquiry. A few years earlier, while

in Halifax, he had met J. William Dawson, the Superintendent of Education for Nova Scotia. It was probably at the suggestion of, and in company with, Charles Lyell, whose friendship with Dawson had extended over the previous several years⁴. Dawson was a geologist and naturalist. He was also a staunch fundamentalist Presbyterian whose views on the development of species contrasted starkly with those of other naturalists of the time. In fact, Dawson never did accept the Darwinian Theory of Evolution. However, he had very realistic notions of the place of education in the new world, and had impressed Head with his ideas on the inclusion of agriculture in college curricula.

For his next choice, Head chose the Reverend Dr. Egerton Ryerson, Superintendent General of Education for Upper Canada. Ryerson was a most dynamic and fiery opponent of any denominational domination of higher education. He was a Methodist who had taken on the fight to release Upper Canadian education from Anglican domination, and had waged a personal battle both in Upper Canada and England, which eventually unseated the powerful Bishop Strachan from his position of influence⁵. It may have been coincidence that Head chose Ryerson, but it was more likely an overt political appointment designed to palliate the Methodists in opposition to the College. J.H. Gray, the influential member for Saint John, and who was one of the moderates in the House, was chosen as Chairman. The other two members were John Saunders, an alumnus of King's College, and a member of the Legislative Council, and James Brown, who was a member of the House of Assembly.

Head's charge to the commission included the suggestion: "My wish would be that one or more of the commissioners should visit Brown's University in Rhode Island and confer with Dr. Wayland, its principal before reporting." The Reverend Dr. Francis Wayland, President of Brown's

University, was generally credited as one of the foremost educational authorities of his time. His reports had influenced Head markedly. Head quoted Wayland extensively in his original letter to the College Council.

A rather droll correspondence on the composition of the commission ensued between Head and Jacob. The Principal wrote Head on June 16, begging to be included as one of the commissioners, presumably in a last ditch effort to wield his authority in the cause he had so long espoused. Head gave short shrift to the plea, replying⁶:

"My dear Sir, I have received your letter of June 16. I do not doubt your disposition to do all you can to make the College really useful to the Province. I doubt, however, whether it would be advisable to appoint you as one of the Commissioners and I scarcely think it necessary to explain the foundation of such doubt. If the report of the Commissioners is to have weight with the Legislature, it must be free from the most remote suspicion of partiality or personal feeling of any kind."

The final appointments to the Commission were made on August 28, immediately following which, Gray organized a meeting of the Commissioners. There is no doubt that he felt some changes were required, for in his letter to Ryerson, Gray says: "... relating to King's College in this province. It has hitherto entirely failed to produce any benefit at all commensurate with its endowments." The first meeting of the Commission was to be in Saint John, September 14th and 15th, following which the Commission travelled to Boston (excepting Dawson) to inspect Harvard. From there, they went to Providence, Rhode Island to confer with Dr. Wayland, in accordance with Head's directive. Some

of the commissioners accompanied Ryerson back to Upper Canada for a tour of the institutions of that Province.

The final report of the commission⁷, submitted December 28, 1854, was a model for future generations to aim at, as to practicality, political expediency, liberality and genuine concern for education attainment. It was, in fact, so much ahead of its time, and its executioners so clerically unbiased, that it could not stand much chance of immediate implementation, except for some few parts. The report contained a proposed act of amendment which would have provided for degrees in arts, law and medicine, as well as diplomas in civil engineering, land surveying, agriculture, commerce and navigation; it would have put the university governance in the hands of a Senate comprised of a Rector appointed by the Lieutenant-Governor, and eight senators, to serve terms of three years each on a rotational basis. A complete curriculum was drawn up for each of the diploma courses, and a schedule of salaries, with provision for hiring of special lecturers in engineering, agriculture, commerce and modern languages.

In the interim, since the inauguration of the Commission, the entire governmental system had undergone a profound upheaval. As Fenety notes in his diary: "In 1854, the reins of power were for the first time wrested from the grasp of those who, for half a century and more, had tightly held them ... (to) usher the dawn of a new political era commencing with the fall of 1854, when a strictly party government upon well defined issues was formed, for the first time, and has been going on ever since ..."

The "reins of power" were held not only by a number of people in the assembly, but also by the Crown, since up to this time New Brunswick had been governed strictly as a colony from the home office. The shift in power meant that people like Albert Smith were now able to command a majority in the House through party politics. (His group was popularly referred to as the Smashers). The real meaning of "party politics" was that responsible government, government by the people of the province over their own fortunes and destiny, was emerging. Coupled with this change in government came the news in June that Head had been offered the position of Governor-General of Canada, an offer which was accepted and announced September 19, 1854. Very shortly after that date, Head left the Province en route for Upper Canada, meeting his successor, J.H.T. Manners Sutton in Boston. Just as Head, ever the astute politician, had closely guarded the reins of power, releasing them gradually to the government of the Province, but always clearly in control, Manners Sutton shrewdly perceived that a much more delicate touch was needed from then on for responsible government to succeed. So he did not push for the expected change at King's College, as had Head. He simply let it happen, judiciously inserting a fine touch of control at critical moments.

With the heat off, as it were, and no lecturer in Civil Engineering, no Sir Edmund Head to steer the course in engineering, no one to take the initiative to action, the experiment came to an end. But the curriculum had undergone a profound change as may be gleaned from the advertised lectures for September of that year. (Table III)

TABLE III

KING'S COLLEGE

Fredericton, September 7th, 1845

LECTURES FOR MICHAELMAS TERM

* * *

By the Principal

- I. Greek and Latin Classics:
 - 1. Thucydides, on Monday and Wednesday at 10 a.m.
 - 2. Euripides, on Tuesday and Thursday
 - 3. Euripides, on Monday and Wednesday at 11 a.m.
 - 4. Livy, on Tuesday and Thursday
- II. Composition and Elocution, on Friday at 10 a.m.
- III. Sacred Literature, by special arrangement with Theological Studies

By Professor Jack

- I. Algebra:- on Monday and Wednesday at 10 a.m.
Geometry:- on Tuesday and Thursday
- II. Solution of geometrical problems by algebra:
Construction of algebraic expressions;
and analytic geometry:- on Monday,
Tuesday and Thursday at 11 a.m.
- III. Pneumatics, including the properties of fluids in
general, and their application to the construction
of the air pump, diving bell, barometer, suction
and force pump, fire engine, steam engine, etc.;
the relations of air to heat and moisture; and the
production and propagation of sound:- on Wednesday
and Friday at noon

- VI. Astronomy, descriptive and practical, by special appointment.

TABLE III (continued)

By Professor Robb

Course of Chemistry, with its applications to Art and Industry

Matter and Force: Weighing and Measuring.
Heat: Expansion, contraction, temperature, fusion, latent heat, evaporation, boiling, steam, conduction, convection, radiation, incandescence, phosphorescence, combustion.
Light: Theory, spectrum, photography.
Electricity: Galvanism, thermo-electricity.
Magnetism: Electro-magnetism, magnet electricity.
Chemical affinity: Composition of bodies, elements and compounds, nomenclature, laws of combination, equivalents, symbols, formulae, analysis, qualitative and quantitative.
Inorganic Chemistry: History of non-metallic elements and their acids, etc.; History of the metals and their compounds; Metallurgy.
Organic Chemistry: Elements of the organic world; History of vegetable principles and products; History of animal principles and products; Metamorphoses of the organic elements:
on Monday, Tuesday, Wednesday, Thursday and Friday at 1 p.m.

By Professor d'Avray

French Language and Literature, including oral translation of English into French, *Tresor de l'ecolier*, and *Litterature Francaise*, on Monday. at 12:00 noon
Theme et analyse, oral translation and *Litterature* on Thursday,
Oral translation, *Tresor*, and *Histoire de Charles XII*, on Tuesday and Friday.

Writing from dictation, and translation of English into French, alternately on Monday and Friday.

Terminal Examination on Wednesday, December 20, at 11 a.m.

E. Jacob, Principal

From the Royal Gazette, September 20, 1854.

As well, the equipment of the College, which Jack and Robb had been accumulating for the previous five years, was still available to provide for a very practical scientific instruction. The apparatus included⁸:

1. A well-stocked chemical supply, with appropriate apparatus.
2. A museum, including rock and plant collections, fossils, shells, skeletons, geological models, models of smelting furnaces, pottery works and tools, and iron rollers.
3. Electrical apparatus: machines, electromagnets, batteries, etc., and magnetic apparatus, etc.
4. Microscope.
5. Mechanical apparatus:
 - (a) wheels, pinions, worms, screws, eccentrics, universal joints, etc.
 - (b) to illustrate planetary motion;
 - (c) whirling table to illustrate tides, revolving planets, etc.
6. Hydraulic apparatus: working models of pumps, archimedes screw, overshot waterwheel, etc.
7. Pneumatic apparatus: pumps, globe, artificial fountain, working models of Watt's steam engine, with boiler, etc.
8. Engineering and Surveying instruments, etc.: chain, theodolite, sextant, transit chronometer, equatorial telescope, camera lucida, magic lantern with astronomical slides, stereoscope, prisms, mirrors, reflectors, etc.

There was also an excellent library of practical and engineering books, for the time (see Appendix I). Up to end of 1853, over 2100 had been spent on the library and the experimental apparatus, exclusive of the telescope. Hence, there was some expectation that the College could

meet the requirement to teach a more "practical curriculum" with the resources at hand, had it not been for the continuing domination of Jacob.

The report of the Commission was published early in 1855, and we have some measure of its progress from the correspondence between John Hamilton Gray, who was attempting to bring it before the House, and Dawson⁹. Gray notes in February that "It tables extremely well - but I am afraid the new Government will hold off - we shall probably go into committee with it some day next week I will let you know the result."

Shortly thereafter, the report was let to the press. The reviews indicated that a strong prejudice against the College still prevailed.)From the Morning News of March 2nd: "(The Commissioners) handed in their report which contained a number of suggestions good, bad and indifferent, for the improvement of the institution Some of the suggestions were considered to be crude and amusing, exhibiting a want of understanding in particular respects of the demands of a first-class educational establishment."

The climate was still hostile to the continuation of King's, regardless of whether the curriculum was practical or not. The fact is, the report had not addressed itself to the specific problem of removing control completely from the domination of the Anglican Clergy, both on Council and as to the Principal. It is not surprising to hear that Gray wrote again to Dawson in April:

"We have had the College Report up two or three times. No man has ventured to assail the

system - but nothing will be done this year. New Government are not exactly agreed and will do nothing this session - I am sorry for it but next year I will drive it through - perhaps the public mind will be more in a state of preparation and urgency than at present."

Gray spoke with authority on the matter. He had presented the report in the House in late March, and defended it in a long and careful speech, thereby winning considerable ground with the opponents. The passing of a few months gave time for further thought and for the public to become somewhat more receptive. At the end of the sitting, Gray wrote again to Dawson with much more optimism: "Nothing could have met a more favourable reception with the public than the report. And I feel an abiding confidence that though not acted upon just now, it will lay the foundation in a short time of an Excellent System of Education for this Province. Next winter, it will probably be taken up by our legislature." But it was not! An outbreak of cholera, combined with a particularly chaotic session, resulted in deferring the matter for yet another year.

If Head had in mind to mollify the various denominations, especially the Wesleyan Methodists, by the appointment of Ryerson and Dawson, he could not so easily foretell that the report was less likely to meet favour with the Tories. No government could safely address the College question, in view of the conflicting ideologies and aims, for some time to come.

While the debates were proceeding, Brydone Jack was embarking upon an assignment of his own making, which was to be of inestimable value to the Province. In June of 1854, he began a serious investigation to furnish the Crown Land Office with data for the compilation of a correct

map of the province by appropriate astronomical observation. This led him to attempt to detect longitudes with the aid of Dr. Toldervy's small observatory in town (next to the telegraph office) and using the telegraph for simultaneous recording with W.C. Bond at Harvard. Eventually, this work¹⁰ received recognition from the government. Although Brydone Jack wrote repeatedly to the Astronomer Royal, C.B. Airy, in England, there is no record that Airy ever agreed with him. Indeed, considerable correspondence exists in which Airy disagreed with Brydone Jack's technique. This notwithstanding, over the next few years, Brydone Jack was asked to correlate measurements with Quebec as well as places at various distances from Fredericton in New Brunswick and Nova Scotia.

At the same time, Brydone Jack made another attempt to extricate himself from King's by making inquiries in regards to a Chair at Melbourne¹¹. He made a more pronounced effort to obtain the Chair at Mareschall College in Aberdeen, applying early in 1856 without success. Manners Sutton wrote a very commendable recommendation for him, as by this time, the Lieutenant-Governor had come to recognize Jack's contributions to the province. This attempt at leaving was not doubt prompted by another debate in the House in regard to King's, since the report had not yet been acted upon. And the populace was again growing weary of the delay. Led by the Reverend Charles Glass, one hundred and fifty Presbyterian adherents petitioned the government to adopt the report¹², thus instigating yet another bill from the Smashers to abolish the college endowments. This time, the opposition was led by Charles Connell, a staunch Methodist, who introduced the bill and led the attack. As in a comic opera, this debate ended in a fight, reported through the eyes of George Fenety¹³: "Hon. Mr. Slasher arose and stated that Mr. Crasher had

yesterday positively said that he would not divide the House on the third reading of the Bill; he was therefore surprised at Mr. Crasher's opposition at this time.

"The scene which followed was of the most disorderly description. Mr. Crasher rose in great haste, and in the heat of his excitement turned round to Mr. Slasher who was sitting alongside, telling him his assertions were false and that he was a _____. (The epithet used and the compliment conveyed were not distinctly heard by this Reporter). In conjunction with the appellation, the gentleman drew himself up, swung his arms about him, and one of his clenched fists for a moment sojourned in the close vicinity of Mr. Slasher's organ of hearing. Great was the consternation which followed. Both gentlemen spoke in high tones, and an immediate rencontre was momentarily expected. Cries of "Chair" rose from all quarters. Amid the din and bustle, the Sergeant-at-Arms received the order to clear the galleries, and thus the combatants were left to settle the fracas and be dealt with by the House. In the meantime considerable excitement prevailed outside, and talk about the probability of duels and pugilistic encounters was for some time the order of the day. It was not until nearly one o'clock that the excitement subsided. The doors were again thrown open, and the even tenor of business was once more resumed in the House."

To alleviate the crisis, Manners Sutton quietly arranged for the resignation of Bishop Medley from the College Council. For, although the bill was sustained, it was thrown out by the legislature. It was not until 1858 that the matter boiled over completely, allowing no room for further delay. In this instance, a conspiracy was mounted between Connell and Smith to obtain the endowment funds for the Methodist institution, Sackville Academy. The first objective was to move that the Academy

become a College, thus instituting "Mount Allison Wesleyan College" with power to grant degrees in the "several Arts and Faculties." The second manoeuvre was to remove the grant from King's in order to reapply it to Mount Allison. The Bill to suspend the grant to King's College passed after a stormy debate lasting several days, although the provision was not to take effect until February, 1859.

The effect of this on Brydone Jack and Robb must have been horrendous. Gone at the stroke of a pen was their entire livelihood. (It will be remembered that both Jacob and d'Avray had other sources of emolument). Brydone Jack at once made application for the vacant Chair at St. Andrews. But fortunately for King's, he was unsuccessful in that endeavour.

He summed up his feelings on the matter in his encaenial oration of 1870, on reflecting:

"During the weary times of trouble and conflict, the position of the Professors was far from enviable. Harrassed by suspense, and filled with anxiety for the future of their families, it is not to be wondered at if their ardour was damped and their vigour and health so impaired as to render some of them prematurely aged. The College itself doubtless suffered from this as well as from the fact that most people were naturally unwilling to send their sons to an institution whose existence could not be depended on for a single year."

From the Council minutes¹⁴ came the notice: "Ordered that notice be forthwith given to the Professors, Scholars, Officers and Servants of the College and to the Masters and Teachers of the Collegiate School that in consequence of the recent Act of the Legislature the College Council

cannot guarantee the payment of their salaries or allowances after the 31 January, 1859." We can quite understand Jack's distress. After the measure had passed, Robb and Jack made representation to Manners Sutton. It was only after the session had ended that the legislators must have realized the enormity of their decision. Manners Sutton, in a very carefully worded memorandum¹⁵, implied that a royal disallowance could occur. And the leader of the House, Fisher, acted to neutralize Connell, by appointing him Postmaster-General, and thus as a member of the government, he was in no position to provide leadership against the College. This left the way open for the introduction of a bill to establish the University of New Brunswick in the place of King's College, thus establishing the long-sought secularized provincial institution. (See Appendix II).

The University of New Brunswick Act made provision for the Civil Engineering Diploma. Although Civil engineering was not taught as a single course after Cregan had left, provision for the award of the diploma recognized the practical nature of the courses currently taught by Robb and Jack. (See Appendix III).

In a final desperate bid to regain control, Jacob appealed to Manners Sutton that the Provincial Act could not supplant a Royal Charter. The Lieutenant-Governor, however, advised Jacob: "I have been requested by the Secretary of State to acquaint you that upon a full consideration of the Act to establish the University of New Brunswick passed by the Provincial Legislature during the last session he is aware of no reason for advising Her Majesty to withhold Her sanction from it." So Jacob lapsed into the Chair of Classical and Moral Philosophy, as the Chair of Theology was abolished. For twenty years, Jacob had fought a bitter struggle to preserve the clerical nature of

King's. Yet the same struggle was being fought throughout the Empire between evolutionist philosophy and Church of England dogmatism. Out of all the combatants at King's, it was only Jacob who remained intransigent to the end, and bitterly so.

Brydone Jack had come so far as to declare of New Brunswick: "Here we have a virgin soil. We need the advice and scientific labours of the geologist and mineralogist we have lands to survey, bridges to build, and railways to construct, arts and manufactures to introduce, and these require the skilled services of scientifically trained engineers."

While Robb's Encaenia oration of 1856 showed that he, too, had softened his attitude somewhat: "If more than general culture is to be attempted, and if the funds for the purpose are sufficient, I should be glad to see, in addition to the sciences, some art or arts of general application, taught in King's College; because, while the advantages of general mental culture and intellectual strength are slowly developing themselves in the progress and history of the country, the direct and immediate return, of men well-trained in the principles and practices of Agriculture, Engineering, Law, Commerce, Education or Theology would satisfy many who now fail to appreciate the true meaning and purpose of collegiate instruction in the country."

Both Robb and Jack expressed the opinion that the students at the College were altogether too young to embark upon any professional training. They made reference to the college ages as ranging from 14 to 18¹⁶ in support of this thesis. The statistics on student age (Table IV) would suggest some exaggeration of facts to support the contention. Although there were some young

graduates in the period, there were also students whose age at graduation was twenty-two or more, roughly equivalent to some of today's graduates in engineering. As well, neither Robb nor Jack appeared to remember that their own professional careers began at an age earlier than that of many of these graduates, Jack arriving to teach at King's at the tender age of twenty-one.

Robb would have been the ideal choice as President of the new university, though this would have constituted a question of propriety in view of the fact that Jacob still occupied a Chair. Perhaps as a further palliative for the Methodist alarmists, Joseph R. Hea, a staunch Wesleyan Methodist, was chosen to assume that post at the commencement of the business of the University¹⁷. Hea had graduated from King's in 1849 and received his M.A. in 1851, and B.C.L. and D.C.L from King's College, Nova Scotia in 1856 and 1858 respectively. He had been an instructor at the academy in

Sackville and gone on from there to

TABLE IV

NAME	ENTRY YEAR	AGE AT 1851 CENSUS	DATE OF DEGREE	PROBABLE AGE AT GRADUATION
James Draper	1851	16		
Arthur Hansard				
John Kirby		19	1854	22
Henry M'Lardy			1854	
George Smith			1854	
Benjamin Stevenson		16	1854	19
Robert Falconer	1850	29	1853	22
George Jarvis		19		
Thomas Thompson		20		
Edward Woodman		19	1854	22
George Chubb	1849	19		
Thomas Currie				
John Davidson		20	1852	21
William Disbrow		18		
Thomas Gregory		17	1852	18
Beckwith Hart		18	1852	19

Thomas Johnston		19		
George Keator		18	1852	19
Thomas Lee		16	1854	19
William Murray			1852	
Thomas Rainsford		18		
Stephen Sinnott		17		
Charles Street		18	1852	19
John Jacob	1847			
George Roberts		18	1852	19
Henry Nichols			1851	
Thomas Street		20	1851	20
Hugh Johnston	1846		1851	
John Marsh		21	1852	22
George Milligan			1852	
Joseph Moore				
Neville Parker			1852	
Henry Pope				
John Read		26	1852	27
Thomas Wood				

establish Acadia Villa, a school in Nova Scotia. Clearly, there were those who hoped that in such a choice, all of the opposing forces might be united to find success in the new school.

ELSEWHERE IN CANADA

John William Dawson had been played a large part in forging the destiny of the University of New Brunswick. By acting as a Commissioner he was also able to appreciate the changing role of science in education. And he was quick to incorporate this new concept into his own ideology. It was not long before he had opportunity to put the idea into practice himself. In 1855, at the suggestion of the Governor- General, Sir Edmund Head, he was appointed Principal of McGill College in Montreal. In his inaugural speech in November¹⁸, he announced a course of Civil Engineering lectures (to be given by Thomas C. Keefer). In the speech, he announced plans to establish "... special courses, each to extend

over two years, and to entitle the student, on examination, to a certificate, or diploma."

"1. A course of Civil Engineering. This will embrace English Literature, Mathematics, Natural Philosophy, Chemistry, Geology and Minerology, Surveying and Civil Engineering, including the construction of machinery. Such a course will be exceedingly serviceable, not only to all young men about to enter on the profession of Civil Engineering, but to many others more or less closely connected with the public works of the Province. In this department of Engineering we hope to enlist the talents of one of your Civil Engineers whose name is favourably known wherever the public works of Canada have been heard of."

The other courses announced were Commercial Education and Agriculture. The former was introduced as Commercial Law at the same time as Engineering. The latter did not appear. Dawson's speech drew heavily on his work with the Commission at King's and quoted heavily from Wayland's correspondence in the matter.

The prospectus for the following year (1856) announced a course of civil engineering "accessible to matriculated students in the third or fourth year." The first graduate of the diploma course was Oliver Gooding¹⁹ who completed the course in 1858. The year 1859 saw the *successful completion of three more graduates, Christopher McLennon, Alexander Bauston, and Robert Crawford. The following year, there were five graduates of whom G. Frost was from Smith's Falls, and T. Walker from Clinton, Canada West. The success of this diploma program continued largely unabated until 1864, when it disappeared for a period of seven years, re-emerging in 1871. Fifteen students had completed the course up to the time of its disappearance from the calendar.

The first instructor (1856) was Robert Crawford as Professor of Road and Railway Engineering, replaced in the next year by Mark Hamilton, who continued for some years thereafter. To obtain the Civil Engineering Diploma, students had to matriculate in arts, attending classes in mathematics, English literature, French, chemistry, natural philosophy,

geology and minerology. In this respect, the course was little different from the diploma course at King's which Dawson had helped implement.

What effect Head had on the introduction of the course is not recorded. However, it is significant that he was Visitor to McGill by virtue of his office as Governor-General of Canada at the time of the introduction of the course, paralleling his role as Visitor to King's for the introduction of Civil Engineering there two years previously. One can at least surmise that Dawson was encouraged by Head in the endeavour.

Civil Engineering, as a profession, was achieving a measure of prominence in Upper and Lower Canada, which was not so evident elsewhere. Various statutes were introduced to lend substance to the profession. One of these included the provision²⁰ that apprentices in land surveying must serve an indenture of three years. The provision in respect to McGill was that "graduates in Civil Engineering having first passed their preliminary examination, may be received as apprentices by any Land Surveyor in Upper or Lower Canada, and shall thereupon be holden to serve as such apprentices during twelve months of actual service instead of three years, before proceeding to their final examination." Thus, the graduates from McGill University were very early recognized by the profession, and in fact, were to achieve a developmental lead which was not equalled elsewhere in Canada for almost three decades. Thanks to the foresight of Head and Dawson, McGill University was early established as an outstanding engineering college²¹. It would seem apparent that Dawson owed some small measure of this foresight to what had occurred earlier at King's College.

It should come as no surprise that Sir Edmund Walker Head was also Visitor to University College of the University of Toronto at the inception of its course of engineering, announced in the calendar for 1857. Not having the benefit of practically experienced lecturers, nor the encouragement of a principal lecturer dedicated to the practical

sciences, this course achieved little success. In fact, there is no evidence that any students embarked on the course, intended as a two- year diploma option, until 1859.

It has already been noted that the principal actors in the affairs of King's College, New Brunswick, had failed to pay heed to the move to secularize institutions of higher learning in Upper Canada. So too, the Upper Canadians ignored the debates in New Brunswick, especially those fought on the issue of making the schools serve the needs of the people of the Province. Hence, a long and bitter battle ensued over the matter of technical education, culminating in a commission of inquiry (1871) on the matter. Even then, it was not until 1880 before the University of Toronto regained control of technical education²².

Dr. Ryerson, who had served ably on the King's College Commission, was credited with the idea of establishing a "School of Technology" in Toronto, although he did not wish it to be associated with the University of Toronto because of the lengthy debates over secularization, and the lack of success of the Civil Engineering course at University College. (Ryerson was made a member of the University Senate and thus, quite likely to be well-informed on this matter). The School of Technology, established in 1872, became the School of Practical Science in 1873, and an integral part of the University complex in 1877, with engineering courses offered to students in the university from the session of 1879 onwards.

Finally, the visions of Dawson, Ryerson and Head had been implemented at not one college, but three. In fact, none of the early Canadian schools in engineering could be considered altogether successful, although that at McGill was most obviously operational and had the most secure foundation financially, academically and practically. It was not until the session of 1878-80 that faculties were established at McGill and Toronto. The Department of Engineering was not

founded at New Brunswick for another nine years.