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Volume 18, Number 1, Autumn 1988

URI: [https://id.erudit.org/iderudit/acad18\\_1art04](https://id.erudit.org/iderudit/acad18_1art04)

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Publisher(s)

The Department of History of the University of New Brunswick

ISSN

0044-5851 (print)

1712-7432 (digital)

[Explore this journal](#)

Cite this article

Hewitt, M. (1988). Science as Spectacle:: Popular Scientific Culture in Saint John, New Brunswick, 1830-1850. *Acadiensis*, 18(1), 91–119.

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## Science as Spectacle: Popular Scientific Culture in Saint John, New Brunswick, 1830-1850\*

AT THE BEGINNING OF THE 1830S, Saint John, New Brunswick, although a substantial and prosperous city by contemporary North American standards, remained largely untouched by the cultural renaissance which was beginning to be visible in other parts of the region.<sup>1</sup> Attempts had been made to establish literary and scientific societies, but these had had but transient existence, and apart from the city's two subscription libraries, which were themselves amalgamated during the year, none had survived to 1830.<sup>2</sup> The city remained under the thrall of a mercantile elite which seemed to have successfully stifled any flowering of civic culture. Yet in the ensuing 20 years Saint John spawned a profusion of community associations and witnessed the development of a variety of structures which transformed the constricted environment of 1830 into the vibrant and widely supported community life of the 1840s and 1850s. At the forefront of this transformation were a series of institutions and individuals marked primarily by their concern with science, whose combined impact created in the city, particularly between 1835 and 1845, an informal network of activities and participants which amounted to a popular scientific culture.

Science was a universally popular cultural pursuit in the first half of the 19th century, and the social dynamics of science cultures have been widely studied in many other European and North American contexts. Sophisticated in its concepts and methods, much of the recent work on the social history of science has uncovered and demonstrated the way in which science was used as a cultural resource by different social groups to obtain a variety of objects. Science historians have been encouraged to look at scientific activity in terms of what Ian Inkster has described as its "broad social utilities", conceiving of science as a tool with which groups sought to achieve particular purposes in particular social

\*Research for this paper was funded by the Graduate School of the University of New Brunswick and the H.H. Stuart Memorial Fund. Special thanks for their help and encouragement are due to David Frank and Bill Acheson.

- 1 For the social structure of Saint John in this period see T.W. Acheson, *Saint John: The Making of a Colonial Urban Community* (Toronto, 1985). For wider developments see D.C. Harvey, "The Intellectual Awakening of Nova Scotia", *Dalhousie Review*, XIII (1933-34), pp. 1-22 and "Early Public Libraries in Nova Scotia", *Dalhousie Review*, XIV (1935), pp. 429-43.
- 2 J.W. Lawrence, "The Medical Men of Saint John", *New Brunswick Historical Society, Collections*, I (1894), p. 297; *New Brunswick Courier* (Saint John), 16 January 1830; *Observer* (Saint John), 1 January 1832.

situations.<sup>3</sup> While this approach had done much to illuminate the impact of the social contexts within which science developed, it has also tended to focus attention on its more intellectual dimensions, at the expense, on occasion, of other aspects of science history. Even within more sophisticated approaches the tendency has been to downplay the visual demands of popular scientific audiences in favour of concentration on science's intellectual attractions and role in the creation of a specific bourgeois ideology. For example, studies of phrenology — the 19th century science which linked mental powers and attributes to the relative size of certain physically definable areas of the brain — downplay the obvious attractions of the sensationalism of the science in favour of its philosophical affinity with liberal ideology.<sup>4</sup> Where the extent to which popular scientific activity relied for its vibrancy on the use of the novel, entertaining, and spectacular aspects of science is acknowledged, the implication is often left that spectacle was merely an ancillary characteristic of science, useful in maintaining enthusiasm, but complementary to the intellectual significance of science rather than in conflict with it.<sup>5</sup> In Great Britain, the

- 3 I. Inkster, "Introduction: Aspects of the history of science and science culture in Britain, 1780-1850 and beyond" in I. Inkster and J. Morrell, eds., *Metropolis and Province: Science in British Culture 1780-1850* (Philadelphia, 1983), pp. 11-14. The voluminous material on science and industrialization cannot be comprehensively detailed here, but the following can be particularly noted: A. Thackeray, "Natural Knowledge in Cultural Context: the Manchester Model", *American Historical Review*, 79 (1974), pp. 672-709; I. Inkster, "Marginal Men: Aspects of the Social Role of the Medical Community in Sheffield, 1790-1850" in John Woodward and David Richards, eds., *Health Care and Popular Medicine in Nineteenth Century England* (London, 1977), pp. 128-64; S. Shapin and B. Barnes, "Science, Nature and Control: Interpreting Mechanics' Institutes", *Social Studies in Science*, 7 (1977), pp. 31-74; Roger Cooter, *The Cultural Meaning of Popular Science: Phrenology and the organization of consent in nineteenth century Britain* (Cambridge, 1984).
- 4 Cooter, *The Cultural Meaning of Popular Science*, *passim*; D. de Giustino, *Conquest of the Mind: Phrenology and Victorian Social Thought* (London, 1975), pp. 32-72, especially p. 58; S. Shapin, "Phrenological Knowledge and the Social Structure of Early Nineteenth Century Edinburgh", *Annals of Science*, 32 (1975), pp. 219-43; T.M. Parssinen, "Popular Science and Society: The Phrenology Movement in Early Victorian Britain", *Journal of Social History*, 8, 1 (Fall 1974), pp. 1-20, especially pp. 12-3; and A. McLaren, "Phrenology Medium and Message", *Journal of Modern History*, 46, 1 (March 1974), pp. 86-97.
- 5 See, for example, Roger Darnton, *Mesmerism and the End of the Enlightenment in France* (Cambridge, Mass., 1968); J.N. Hays, "Science in the City: the London Institution, 1819-1840", *British Journal of the History of Science*, 7 (1974), pp. 146-65; G. Kitteringham, "Science in Provincial Society: The Case of Liverpool in the Early Nineteenth Century", *Annals of Science*, 39 (1982), pp. 329-48; S. Sheets-Pyenson, "Popular Science Periodicals in Paris and London: the Emergence of a Low Scientific Culture, 1820-1875", *Annals of Science*, 42 (1985), pp. 557-61. T.M. Parssinen's later study, "Mesmeric Performers", *Victorian Studies*, 21, 1 (1977), pp. 87-104 comes the nearest to giving full acknowledgement of the largely visual nature of the popular attraction to phrenology and its associated science, mesmerism. Even here, however, the implication remains (see p. 98) that mesmerism differed from science in the extent to which it was presented as visually attractive.

widening participation in science during the 1830s and 1840s was often accompanied by the fragmentation of associational life and the overlaying of self-conscious political and class dimensions to the struggles for the control of science.<sup>6</sup> In this context the role which spectacle could have as an alternative conception of science to the more intellectualised functionalisms of bourgeois and petty bourgeois has been obscured.

In Saint John the situation was somewhat different. The unindustrialised economy, which limited the harsh impact of social stratification so obvious in much of Britain, and the nature of the political system, in which a nominally wide franchise was coupled with a constitutional structure which limited the power of the voting community, undercut the development of an extreme radicalism. At the same time, the relatively small size of the community, with a population (excluding Portland) of under 13,000 in 1834 and less than 23,000 in 1851, inhibited the development of a more fragmented and discretely divided scientific culture.<sup>7</sup> As a result, community culture maintained, more successfully than in most English cases, an overriding unity within which the struggle of various perceptions of the role of science can be seen with greater clarity.<sup>8</sup> Two themes clearly emerge. The first is the extent to which the role and direction of science in community culture remained a constantly contested issue throughout the late 1830s and 1840s. The second is the degree to which a popular version of science emerged, which, shorn of most of its moral and progressive rhetorics (and hence much of its functionalism), concentrated almost exclusively on the provision of spectacle.

From the outset in Saint John, the various strands of scientific endeavour were thrown together by the presence of an entrenched elite who regarded any possibility of the widening of civic culture with deep suspicion. Thus, although Saint John was not immune from the rhetoric of scientific improvement which was becoming increasingly prevalent in Britain, and despite the successful formation of the Halifax Mechanics' Institute in 1832, Saint John lagged significantly behind her colonial neighbour in joining the institute craze.<sup>9</sup> When

6 For the fragmentation of English science culture see I. Inkster, "Popularised Culture and Steam Intellect: a case study of Liverpool and its region, c1820-1850s", in his *Steam Intellect Societies* (Nottingham, 1985), pp. 44-59; R. Kargon, *Science in Victorian Manchester: Enterprise and Expertise* (Baltimore, 1977), pp. 20, 24-7.

7 Acheson, *Saint John*, p. 252.

8 Although I. Inkster has suggested in "The Public Lecture as an Instrument of science education for adults", *Paedagogica Historica*, 20 (1981), p. 83, that this split did not come in England until the 1840s, the more focussed examination of J. Morrell, "Wissenschaft in Worstedopolis: Public Science in Bradford: 1800-1850", *British Journal of the History of Science*, 18 (1985), pp. 1-23, shows that conflicting political and social strains made it impossible to maintain inter-class co-operation in science in the 1830s.

9 For an example of scientific progressivism see the letter of "Probitas", *City Gazette* (Saint John), 23 July 1833; for comments on the Halifax Mechanics' Institute, *New Brunswick Courier*, 22

schemes were broached for the establishment of literary or scientific institutions, they merely reiterated the exclusive view of the requirements of cultural life which kept its wider flowering in check. Hence *Philomathes*, calling for a literary institute in 1832, commented that

The object of the proposed Institution being to promote the interchange of useful knowledge among its members, it is essential that men of talent and influence in the literary world should have the direction of its proceedings, in order to check any irregularities which may tend to destroy the harmony or divert the objects of the meetings...I am sanguine in the hope that I shall shortly see this institution flourishing and extending its influence to the circle of genteel society, until at length, by the addition of a mechanics' institution, all classes of people may enjoy the advantages resulting from it.<sup>10</sup>

This clear distinction between the wide clientele and hence rather uncontrollable nature of an informal science culture, or even of a mechanics' institute, and the much more closely regulated and socially exclusive body required, was made even plainer by another correspondent of the *Courier* two years later who called for the establishment of a Philosophical society. "I do not mean", he continued, "a ragamuffin debating club, nor a Conventicle of 'Glorious Boys',...nor yet an exhibition room for Telescopic and Microscopic phenomena...but a society in the *real* sense of the expression, for the promotion of *General Knowledge* — a society supported by the influence, exertions and the contributions of the respectable, the opulent, and the educated portions of the community". The author followed up this comment in a later letter with the observation that it was his emphatic "conviction that a *Mechanics' Institute* is *not* precisely the institution which would effectually expand the intellectual energy and real knowledge of the population".<sup>11</sup> When, in 1832, an attempt was made to call a public meeting to establish a mechanics' institute, it seems to have been thwarted by such reactions.<sup>12</sup>

This innate conservatism was also much in evidence in reactions to the informal literary and scientific culture which gradually emerged in the city in the early 1830s. Despite the lack of elite support for a community-based literary and scientific institution, occasional privately organised lectures and demonstrations offered evidence of a fragmentary literary and scientific culture. Various participants can be identified: private school teachers, John Lee and R.K.

December 1834, 13 February 1836.

10 *New Brunswick Courier*, 31 March 1832.

11 Letters of "Pythagoras", *ibid.*, 11, 18 October 1834.

12 For a brief mention of this call, which certainly raised no response in the major Saint John papers, see the *Acadian Recorder* (Halifax), 11 August 1832.

Addison, journalist and editor Patrick Bennett, Arthur Slader, an itinerating teacher who decided to stay in Saint John during the 1830s,<sup>13</sup> as well as local artisans such as James Knott and John Howe.<sup>14</sup> Centred largely around the activities of these “marginal men”, and supplemented by the occasional visits of professional lecturers, this culture produced a growing number of increasingly scientific lectures and demonstrations during the years 1830-35, but struggled to establish itself in the face of the widespread suspicion of the elite. Despite the overwhelming success of the lectures of William Ford, who delighted the city in 1833 with his astronomical demonstrations,<sup>15</sup> such men were seen by an influential section of the populace as mere “spouters”, idlers who made a good living imposing on an overly-gullible public, and only one step removed from the infidel lecturers of London commented darkly upon at contemporary meetings of such bodies as the local auxiliary of the Society for the Promotion of Christian Knowledge.<sup>16</sup>

When even highly restrictive projects for the establishment of science associations failed to break down the underlying suspicion of those concerned with the democratic and potentially subversive tendencies of such institutions, the way was left open for attempts by groups to establish scientific institutions without elite support.<sup>17</sup> In particular, John Hooper, radical editor of the *British*

13 John Lee had a brief but fascinating career in Saint John. After arriving from Ireland in 1833, he became alternately a teacher and lecturer; see *City Gazette*, 18 July 1833, 21 March 1834; *New Brunswick Courier*, 28 September 1833. R.K. Addison was a Nova Scotian who had arrived in Saint John in 1834 to start a school and was by 1836 well known as a public lecturer on Astronomy; see Miscellaneous petitions (for licences), 1836, RS655, PANB and *New Brunswick Courier*, 5 December 1840. Patrick Bennett was an Irishman who combined his lecturing with a succession of unsuccessful publishing ventures in which he championed the interests of the city's Irish immigrants.

14 The artisan demonstrators included James Knott, who established a dyeing business in 1832, and announced at the same time that he had “fitted up an electrical machine with apparatus for performing a variety of curious and pleasing demonstrations”, and John Howe who imported a variety of scientific apparatus to provide the basis for lectures, particularly on the popular science of astronomy; *New Brunswick Courier*, 16 April 1832, 6 April 1833 and 18 January 1834 where it was said of Howe that he “has been for years toiling up the steep and thorny paths of science”.

15 *City Gazette*, 14 November 1833; for the extent of the public excitement see the cruelly sardonic poem in *ibid.*, 16 January 1834.

16 Such attitudes can be glimpsed in the reaction to proposals to establish lectureships in association with a new medical institution in 1832 (“No Theorist” in *Observer*, 24 January 1832), and comments made on figures such as Arthur Slader and John Lee; see, for example, “Ceres”, *Observer*, 30 April 1833; *City Gazette*, 20 March 1834, 29 January 1835. Even after the establishment of the Mechanics’ Institute one correspondent commented that he regretted that the Commander in Chief of the Saint John Garrison “can possibly allow British officers to become itinerant lecturers”; *Weekly Chronicle* (Saint John), 26 April 1841.

17 Ward Chipman was supposed to have considered mechanics’ institutes “democratic in their aims, and saw in the establishment of a Mechanics’ Institute, Trades Unionism in the distance”; *Daily Telegraph* (Saint John), 26 January 1876.

*Colonist*, and a group of men he was able to gather round him, including William Leggat, poet and teacher, and John Lee, occasional scientific lecturer and teacher, rejected the implications of elite inertia and actively sought a more stable institutional forum for the expansion of science. Beginning with the bizarrely titled "Phrenergasticon" established in the fall of 1833, this group went on to establish the Mechanics' and Trades' Literary Institution in 1835.<sup>18</sup> Although this institution was largely ignored by the city's press, the *British Colonist*, in which it was often referred to as "the Mechanics' Institute", gave it a good deal of prominence, and in 1836 at least it offered library, newsroom, and weekly lectures which were popular enough for warnings to have to be given that only members would be admitted free and that non-members would be charged for entrance. Based in the Mechanics' Hall (which became the Mechanics' News Room) in Church Street, the institute appears to have been thriving in 1836, the last year in which Hooper published the *Colonist*.<sup>19</sup>

In the light of the presence of this stridently artisanal mechanics' institution, the support given by the elite to the formation in the summer of 1836 of the New Brunswick Philosophical Society suggests a final realization that the aloofness from the developing science culture which they had adopted, had not prevented the emergence of an increasingly institutionalised science culture. Although founded by Lee, who had broken with Hooper by this time, the Philosophical Society seems to have been supported by the elite as the most appropriate method of attempting to influence the subsequent development of civic scientific activity. Their change of tactic was no doubt facilitated by the society's avowed intention to select members "by knowledge or mechanical faculty, together with general good behaviour". Indeed, the Philosophical Society's establishment, and absorption soon afterwards of a group of master mechanics, along with the departure in the winter of 1836-7 of Lee, one of the more active of the scientific marginals, did help dampen informal scientific activity over the ensuing years, although the Philosophical Society was never able to centralise scientific, or general cultural, enterprise in the city.<sup>20</sup> Nevertheless, elite participation in the Philosophical Society enabled them to engraft onto the progressive version of

18 See *City Gazette*, 21 November 1833. For Hooper see Russell Harper, *The Newspapers of New Brunswick* (Fredericton, 1961), p. 49; Leggat was another private school teacher and locally renowned poet; his *The Forest Wreath* was published just before the establishment of the Phrenergasticon; see *City Gazette*, 11 October 1833.

19 *British Colonist*, 2, 16 February, 26 July, 23 August, 1 November 1836; *New Brunswick Courier*, 7 October 1835, 20 August 1836.

20 Apart from the activities of Robert Foulis mentioned below he also presented several series of "philosophical entertainments" in 1837 and 1838; *Weekly Chronicle*, 17 December 1838, 25 October 1839. John Lee established the Saint John Juvenile Philosophical Society in late 1836; *City Gazette*, 3 November 1836. There was a course of lectures on Phrenology in 1837 (*Weekly Chronicle*, 27 October 1837) and a variety of other less explicitly scientific events during these years.

science being utilised by the producer alliance a due emphasis on the conservative social vision of the promoters of the English mechanics' institutes. Hence, when the New Brunswick Philosophical Society was expanded into the Mechanics' Institute in the fall of 1838, the rhetoric indulged in by institute promoters and their supporters contained two interwoven but quite distinct justifications, one essentially educational and progressive, the other largely social and conservative.

The activities in the late 1830s of Robert Foulis, Scot, scientist, inventor and foundry owner, in delivering courses of lectures designed explicitly for artisans (even going as far as to establish what he called a "school of arts"), undoubtedly substantiated the role of science as an ingredient in industrial progress, and provided concrete backing to the institute promoters' more grandiose visions of advancement.<sup>21</sup> Hence, in a report to the New Brunswick House of Assembly, the directors could justify the plan of artisan education as being "of vast utility...when they are made acquainted with the laws that guide the Planets in the heavens, and act uniformly upon every atom in the universe, they come prepared to meet every contingency, to overcome almost every obstacle, and to render the Chemical and Mechanical Properties of Matter subservient to their design".<sup>22</sup> Henry Chubb, editor of the liberal-conservative *New Brunswick Courier*, welcomed the new institute as the means by which "much useful information [would be] brought to bear on the interests and comforts of mankind at large, which otherwise would have remained in the possession of humble and unpretending mechanics alone". Holding out, by implication, the prospect of the same sort of industrial development for Saint John and New Brunswick, if the opportunities of the institute were properly taken, he continued: "It is to the knowledge, scientific acquirements, and discoveries of her operative mechanics that England owes much of her greatness and superiority in almost every department of her manufactures".<sup>23</sup> The Introductory Address delivered by Abraham Gesner took a slightly different form, emphasising the moral impact which he expected the institute to have, training the intellect of the city's youth, and preventing people from succumbing to the fallacies of trades unionism and becoming "the dupes of cunning and unprinci-

21 For Foulis see Charles MacKinnon, "Robert Foulis" in *DCB*, IX, p. 277. For his activities in Saint John see especially *City Gazette*, 12 January 1837, 30 August 1838.

22 "Report of the Directors of the Saint John Mechanics' Institute", *Journals of the New Brunswick House of Assembly*, 1840, p. clxxxviii.

23 *New Brunswick Courier*, 18 January 1839. The institute fed on its image as the representative of the manufacturing interests of the city throughout the 1840s. See "JM", *ibid.*, 8 January 1842, and the decision to offer certificates for all inventions and improvements sent to the institute in connection with the fair held in 1842. The connexion was also explicitly made between participation and individual advancement, and wealth; see "Annual Report of the Saint John Mechanics' Institute", *ibid.*, 20 April 1839.



pled men".<sup>24</sup> It was argued that the activities of the institute would reduce the prevalence of more frowned-upon pastimes. George Fenety, editor of the *Morning News* and in most regards an advanced liberal, welcomed the opening of the 1839 lecture course in this fashion: "our streets teem at present, every evening with idle and mischievous young men — let us but exert ourselves and the scenes will be changed. Let every one of those be sent to this institution, and not only shall we have the consciousness of having acted in a generous part, but we will ensure to ourselves the gratitude of many who, had they been left to 'run riot', would have proved a disgrace to their connections and a bane to society".<sup>25</sup> Those of less liberal persuasion put the argument in starker terms. Robert Parker, a supreme court justice, commented to the Grand Jury that the mechanics' institute was to be welcomed as "affording a cheap, innocent and respectable place of recreation for all classes, [in which] the younger portion would be weaned by it from resorting to places of bad character, and the indulgence of baser passions".<sup>26</sup>

As well as these specific justifications, the institute shared in the widespread acceptance of science as an important moral discipline. When Ford had lectured in Saint John in 1833 the *New Brunswick Courier* had "in an especial manner advise[d] all wavering Christians and skeptics to attend", arguing that "the former shall be confirmed in true faith, the latter will see and hear sufficient to convince them".<sup>27</sup> By the time the institute was established in 1838, although its supporters felt the need to address themselves on occasion to the old charge of irreligion levelled at the English institute movement in the 1820s, it was clear that the community had fully absorbed the prevailing sentiment that those who studied science and failed to find God were missing the obvious.<sup>28</sup> As James Paterson, local grammar school teacher, Church of Scotland minister, and vice-president of the institute, put it in 1849, despite the rule which proscribed the direct consideration of religion: "I am happy to say that there is no rule to forbid the mind from rising up from nature unto nature's God".<sup>29</sup>

In fact, the changing face of the Saint John Mechanics' Institute illustrates the

24 Gesner's comments were part of what seems to have been a general conservative back-lash in educational thinking in the wake of the 1837 rebellion; see *Constitution and Bye-laws of the Saint John Mechanics' Institute with the Introductory Lecture by Dr. Gesner* (Saint John, 1839), pp. 13-20. See also the comments in M. Hewitt, "The Mechanics' Institute Movement in the Maritimes, 1831-1889", M.A. thesis, University of New Brunswick, 1986, pp. 50-6.

25 *Morning News* (Saint John), 23 October 1839.

26 As reported by Moses Henry Perley, Scrapbook C18, p. 49, New Brunswick Museum [NBM].

27 *New Brunswick Courier*, 30 October 1833.

28 Account of lecture of W.T. Wishart, *ibid.*, 13 December 1845.

29 James Paterson, "Concluding Remarks to the 1848-9 Lecture Course", *ibid.*, 21 April 1849; for a full exploration of this theme see Carl Berger, *Science, God and Nature in Victorian Canada* (Toronto, 1983), *passim*.

working of forces over which the elite retained progressively less control. The creation of the institute was an acknowledgement by the patrician element which had dominated the New Brunswick Philosophical Society that the resources of that society were insufficient to establish a vigorous scientific organization. The expansion into an institute allowed the men who dominated the committee of the institute in the early years to take advantage of the wider justification of institutes, both to obtain grants of public money (which they did with some success) and to lay a stronger claim to the philanthropy of the community. More critically, it gave the organization the wider membership base needed to underwrite its activities. In 1838 174 members joined the institute; by 1842 this had risen to 684, and with subscriptions fixed at 10 shillings p.a., the institute had a potential income of over £350 p.a., a figure well beyond that which could have been boasted by any other community organization in the city. In fact, the institute was never able to collect membership fees from so great a number. By 1843 there were only 206 subscriptions paid, and membership fluctuated around the 200 mark for most of the 1840s.<sup>30</sup>

This fluctuation in membership demonstrates the degree to which the institute needed to be responsive to the preference of a wider constituency than its patrician leaders. That the preoccupations of the former did not coincide with those of the latter was quickly made apparent by the rapid emergence of tensions over institute management. The picture is confusing. Differences of opinion existed on several levels. The management style of the original directors, the subjects covered in the institute lecture course, and the style of the lecturing itself were among the issues raised in the columns of local newspapers between 1838 and 1845. Unfortunately, the anonymous nature of most of these contributions clouds the social origins of the disputants, and the readiness with which all factions attempted to appropriate to themselves the status of mouthpiece of popular grievances further confuses matters. Two themes emerge from the haze: a consistent campaign waged over the first six or seven years of the institute's life to overthrow the cultural patronage of the patrician group and to locate control firmly within the producer alliance; and a widespread debate over the content and style of the science lecturing which was to be provided, in which initial calls for a strictly utilitarian science failed to withstand an increasingly apparent popular demand for a visually spectacular scientific culture.

The fragility of the union which the patrons of the Philosophical Society had attempted to effect through the creation of the mechanics' institute was apparent from the outset. In December 1838, less than a month after its establishment, one member complained that the directors were acting as if they considered the body of the membership as "semi-barbarians", and suggested that they were adopting the procedure of voting by show of hands to impose their own opinions

30 *New Brunswick Courier*, 4 April 1843; W. Jack to Sir W.M.G. Colebrook, Petition 39, 842/pe2, RS24, PANB.

on the whole membership, adding a week later that the directors were “preventing calm and judicious discussion” by keeping everything they did a mystery.<sup>31</sup> Hence an outcry was raised when the directors drew up the institute constitution and sent it to Fredericton to be included in an Act of Incorporation without prior approval from the membership, and repeated concern was expressed that complete directorial control over institute funds was being sought to enable the selection and payment of their friends.<sup>32</sup> The election of institute officers in the Spring of 1839 was marked by complaints about the circulation of a printed ticket of 18 approved candidates, and what one group of members called “the unmanly proceedings of a few of the present officers, in their attempts to lead and bias the votes of many members at the first elections”.<sup>33</sup>

At this stage the directors were able to maintain their control, and explicit controversy on the personnel of the directorate subsided briefly. When, however, G.D. Robinson, vice-president of the institute, incautiously remarked that “the mechanics of Saint John have more wages than the mechanics at other places, and that in consequence their wives were dressed in furs and silks, and that they looked more like \*\*\*\* than decent women”, old wounds were re-opened.<sup>34</sup> A meeting of the city’s mechanics roundly denounced the insult, and a call was made to oust the current directors of the institute and replace them with men who had the confidence of the membership.<sup>35</sup> In the ensuing election Robinson was not re-elected. Although his replacement, Abraham Gesner, Provincial Geologist, and one of the most frequent lecturers to the mechanics’ institute during its initial years, came to be equally identified with the patrician group, the question of control of the institute was once again a prominent issue, especially when in the summer of that year the directors unveiled a plan to spend £1000 of institute funds on the purchase of Gesner’s collection of natural history specimens.<sup>36</sup> In July 1841 accusations were made that a “clique of ‘learned legal gentlemen’ [were] using every trick, quirk and device to foist upon [the institute] a parcel of trash collected by Dr Gesner”; opposition was quickly organised, and at the end of July an institute monthly meeting rejected the directors’

31 “A Mechanic”, *Weekly Chronicle*, 28 December 1838, 4 January 1839.

32 A.R. Truro to the Provincial Legislature, in *New Brunswick Courier*, 2 March 1839; “A Mechanic”, *Weekly Chronicle*, 4, 18 January 1839; “A Member of the Water Company”, *ibid.*, 18, 25 January 1839; “A Citizen” and “A Merchant”, *ibid.*, 8 March 1839.

33 “Citizens” and “A Merchant”, *ibid.*, 8 March 1839; see also the letter of “A Director” complaining about a “splenetic communication in the *Observer*”, *ibid.*, 19 April 1839.

34 Quoted by Bryan Palmer, *Working Class Experience: The Rise and Reconstitution of Canadian Labour, 1800-1900* (Toronto, 1983), p. 32.

35 “Hobshot”, *Morning News*, 3 May 1841.

36 Gesner was one of the most prominent of the region’s scientific men in the 1840s and early 1850s, with a wide range of practical scientific interests.

proposals.<sup>37</sup> The response of many of the defeated directors was to announce the formation, under the patronage of Ward Chipman, the very personification of Loyalist conservatism, of the Saint John Athenaeum, with the intention, it was suggested, of undermining the existence of the institute by competing for provincial and individual patronage.<sup>38</sup>

The *Chronicle* had opened its pages to opposition to the purchase of Gesner's museum largely it would seem out of personal antipathy, but as this personal element declined, George Fenety, editor of the *Morning News* (founded after the initial conflicts) and a past member of the Halifax Mechanics' Institute, placed himself in the vanguard of a continued assault on the institute directors.<sup>39</sup> Fenety, after trumpeting his disgust at the way that Lord Falkland, the Lieutenant-Governor of Nova Scotia, was lionized at an institute soiree, announced that "it is almost unanimously admitted, by right-thinking members of the institute that it is retrograding instead of advancing; and if the members do not rouse themselves, it will — under its present management — crumble and decay".<sup>40</sup> Fenety did not himself express dissatisfaction directly in terms of the social origins and attitudes of the present directors, preferring to talk instead about the need for "men possessed of intelligence and general and scientific knowledge", but the correspondents to whom he opened up his columns were much more specific. Many showed concern for the way in which the institute was being used for individual advancement, a "kind of stepping stone", as one writer put it, "for aspirants after popular favour to mount their favourite Pegasus.... It is as much a mechanics' institute as it is a college of surgeons".<sup>41</sup>

Throughout the lecture course of 1841-42 Fenety orchestrated the opposition in the *Morning News*, printing letters in support of firm action to elect directors who would be truly responsive to the needs of the members.<sup>42</sup> Accusations were

37 "Q in a Corner", *Weekly Chronicle*, 16 July 1841; "Q" went on to state that "if those gentlemen who do the sporting business of the body do not directly know it...the more unassuming part of the body possesses just as much brains as themselves, and are neither to be cajoled or frightened into any measures, but such as their judgment sanctions".

38 "Q in a Corner", and list of officers, 27 August 1841, *New Brunswick Courier*, 13 November 1841. The Athenaeum appears to have had a very brief and undistinguished career.

39 For *Weekly Chronicle*'s attacks on Gesner as a "salaried pretender" see 18 December 1840. Previous dissatisfaction is visible in *Weekly Chronicle*, 19 March 1841; "An Old Soldier", *ibid.*, 23 April 1841; and the editor's previous refusal to publish a letter from a dissatisfied member (despite his own attacks on Gesner), *ibid.*, 4 December 1840. For Fenety's background see I. Allen Jack, *Biographical Review* (Boston, 1900), p. 25, and George Fenety, *The Life and Times of the Hon. Joseph Howe, with brief references to some of his prominent contemporaries* (Fredericton, 1896).

40 *Morning News*, 3 December 1841, 10 January 1842.

41 *Ibid.*, 10 January 1843, and suppressed letter of "A Member", *ibid.*, 13 December 1844.

42 "A Member of the Mechanics' Institute", *Morning News*, 26 November 1841, 3 December 1841; *ibid.*, 17 February 1842.

made that when improvements were made to the hall during the course, the contracts were given on very generous terms to friends of the directors. By the time of the annual meeting, even those sympathetic to the directors were forced to admit the existence of a widespread "spirit of discontent", fuelled by accusations of "culpable negligence and gross mismanagement".<sup>43</sup> Internal divisions even overflowed into the debates of the House of Assembly, where several members opposed the renewal of the institute's grant on the grounds of its combined exclusiveness and unpopularity.<sup>44</sup> Those seeking reform of the institute never achieved a clear cut success in the annual institute elections. The directorate maintained power not because of any great popular support, but because they banded together in support of each other. The ticket of candidates circulated at annual meetings was often elected simply because members were not sure who the opposition might be.<sup>45</sup> The strength of feeling displayed in 1841-2 culminated in a heated and bad-tempered annual meeting during which Francis McDermott, painter and one of the leaders of the city's Irish community, was repeatedly hissed and booed by a section of the members as he tried to speak. At the time this activity effected only a slight change in the make up of the directorate.<sup>46</sup> Nevertheless, by 1844-5, Edwin Fairweather, a joiner, remained the only director who had served continuously from 1838; by the later date, along with shipwright James Lawton and cabinet-maker Thomas Nisbet, who had been directors in 1838 but had not served continually, Fairweather had been joined by a eight artisans, two lawyers, a merchant and a doctor.<sup>47</sup>

In part this war of attrition was the result of wider social tensions and disputes. In part it was produced by different substantive visions of appropriate activities for the institute; one major element of the mix was the nature of the science culture which the institute was to encourage, and over which it was to preside. On one level, throughout the early years of the institute there was an undercurrent of criticism that the science offered by the institute was not sufficiently focussed on the practical needs of apprentices and young artisans: singling out the provision of a course of lectures on geology during the first season of the institute, one critic asserted that "one sound lecture on mechanism

43 "A Member", *ibid.*, 18 March 1842; "A Mechanic", *ibid.*, 8 April 1842; "A Member of the Institute", *New Brunswick Courier*, 2 April 1842.

44 "A Frederictonian", *New Brunswicker* (Saint John), 31 March 1842, and response of "A Member of the Saint John Mechanics' Institute", *ibid.*, 5 April 1842.

45 "Hobshot", *Morning News*, 3 May 1841; "A Member", *ibid.*, 11 April 1843; "A Friend to Justice", *ibid.*, 12 May 1843.

46 *Morning News*, 13 April 1842; "A.Z." on comments on *Saint John Mirror* in *New Brunswicker*, 16 April 1842.

47 The artisans were James Agnew (watchmaker), H.J. Chubb (printer), James Harris (foundry owner), Robert Shives (printer), J.W. Lawrence (cabinet maker), James Pettinghall (carpenter), W.H. Adams (foundry owner), and W.M. Smith (engineer).

on any single branch that can be named, will be of more real value than all the lectures that could be given on geology from January to December".<sup>48</sup> Although two thirds of the lectures delivered during the first five seasons were on scientific topics, William Till, one of the Saint John representatives in the House of Assembly, declared that the institute "had departed entirely" from providing utilitarian education, "and in its hall was heard nothing but high-flown lectures on useless science, above the comprehension of almost all the members".<sup>49</sup> Yet this demand did not come from within the lower echelons of the producer alliance itself. M.H. Perley was particularly active in pushing trades education within the institute, and his lead was followed by L.A. Wilmot, who called into question provincial grants for the institute, unless it did more for the education of apprentices. Although both were identified with the search for industrial progress, they were figures only peripheral to the city's producer alliance and it is perhaps most significant that when the institute, in response to Wilmot's calls, organised a course of practical science lectures for the apprentices of the city, who could be admitted free on the recommendation of their masters, the attendance was so disappointing that the lectures were not repeated in subsequent years.<sup>50</sup> Apprentices and mechanics, it would seem, were far less convinced than their self-appointed champions of the desirability of purely practical science.

What was true for those most likely to benefit from such instruction was even more true for the rest of the population. Quite early in the institute's life its members made it clear that they considered the classroom and not the lecture hall the appropriate place for practical education. As a result, despite its presentation of long courses on chemistry and natural philosophy during its early years, the institute was never able to establish its lectures as a forum for the teaching of practical scientific subjects. Although the proportion of science lectures in the institute course remained quite high during the 1840s, these sciences tended to be those which lent themselves to visual or experimental presentation, such as astronomy and electricity, or those with a more general practical application, including the lectures on health matters given at frequent intervals by local doctor Robert Bayard.<sup>51</sup> Moreover, there are hints to suggest that the support of the membership generally was not as whole-hearted as might

48 "A Mechanic", *Weekly Chronicle*, 28 December 1838.

49 *Morning News*, 23 February 1844. For letters of complaint see "A Member of the Institute", *Morning News*, 26 November, 3 December 1841; "A Member", *Saint John Herald*, 14 October 1842; *Morning News*, 1 March 1848; "A Lover of Modern Science", *ibid.*, 3 March 1848. For statistics on the relative strength of the science element of the institute lecture course see Hewitt, "Mechanics' Institute Movement", pp. 125-7.

50 *New Brunswick Courier*, 13 November 1847, 13 April 1848.

51 On the different styles of science, and on the conflicts this issue raised at other institutions, particularly Halifax, see Hewitt, "Mechanics' Institute Movement", pp. 137-41. For Bayard see *Morning News*, 21 December 1842, 25 January 1843, 8, 11, 20 March 1844.

have been expected, even for classroom education.<sup>52</sup> Although the institute did run classes for most of the 1840s, these were never exclusively scientific, were never well supported, and rapidly became quite miscellaneous in character.<sup>53</sup> In the meantime, most concern over the content of institute offerings centred increasingly around the style rather than the subject, and of the lectures rather than the classes. Fenety himself retained some ambivalence on the matter. He stressed the need to keep the lecturers' platform accessible to those whose mechanical knowledge fitted them for it, even if they had nothing in the way of oratorical skills. However, this was very much a throwback to his early years in the Halifax Mechanics' Institute, and more typically he mirrored the growing demand in the 1840s for lecturers who were original, fluent, and above all, entertaining.<sup>54</sup> Despite concerns that criticism would dry up the flow of voluntary lecturers, institute audiences became increasingly critical during the early 1840s, and lecturers who failed to come up to the expected standard could be treated unmercifully. One Nova Scotian farmer was greeted with laughter throughout his lecture, because of his less than perfect English and muddled subject matter.<sup>55</sup> Typical was the criticism given to James Robb, when he lectured in 1841, that his style and delivery were too pedestrian for the arena in which he appeared.<sup>56</sup>

52 "Verax", *Morning News*, 15 May 1840; "A Mechanic", *Weekly Chronicle*, 18 January 1839. The question of support for the classes is raised by the strange case of G.B. Watson, who was hired to teach the institute classes in October 1839, and who was in dispute with the institute for most of the early 1840s over payment owed to him. His case was seized upon by some as a stick with which to beat the unpopular directorate, but Watson himself, far from blaming the directors alone, suggested that the root of the problem lay in the "essentially democratic" nature of the institute constitution, suggesting that perhaps initially an element of popular indifference to the classes had prompted the directors' actions. See Watson's petition, #252, 842/pe12, RS24, PANB.

53 Hewitt, "Mechanics' Institute Movement", pp. 110-12. Although he does not enter into the popular demand for technical education, the experience of Saint John largely mirrored that detailed in P. Keane, "A Study of Early Problems and Policies in Adult Education: the Halifax Mechanics' Institute", *Social History/Histoire Sociale*, VIII (November 1985), pp. 255-74.

54 *Morning News*, 24 September 1843.

55 "Peter Quill" [M.H. Perley], *Morning Post* (Halifax), 16 February 1841.

56 See letter of "R" in *New Brunswick Courier*, 8 January 1842, responding to a letter in the *Saint John Herald*. Robb, appointed lecturer (subsequently professor) of Chemistry and Natural history at King's College, Fredericton in 1837, was one of the province's leading scientific men for the ensuing 25 years, was quite aware of the different nature of lecturing to different audiences. Commenting in 1837 on the fact that the ladies of Fredericton were planning to come to his university lectures, he remarked: "This however. would be very derogatory and lectures to regular students of a college must be very different from those delivered to Schools of Arts and Mechanics' Institutions". James Robb to Elizabeth Robb, 1 November 1837, in A.G. Bailey, ed., *The Letters of James and Ellen Robb, Portrait of a Fredericton Family in Early Victorian Times* (Fredericton, 1983), p. 3. For an early assessment of Robb's importance see L.W. Bailey, *Dr. James Robb, First Professor of Chemistry and Natural History in King's College* (Saint John, 1898).

An unstable membership and continual financial difficulties meant that institute directors were forced to attempt to accommodate the wishes of its potential audience by utilising the visual potential of science. Visual demonstration of scientific principles in public lectures had long been accepted as providing a useful reinforcer of the knowledge to be imparted. In Saint John, however, illustration was quickly elevated from the status of useful adjunct to that of vital pre-requisite. In the first place, much effort went into procuring a full range of philosophical apparatus. Even with the New Brunswick Philosophical Society's apparatus collection and the utilisation by some lecturers of their own instruments, often transported in at great expense to the institute, the directors confessed that they had been forced to abandon a course of mathematical lectures after three had been delivered, "for the want of some philosophical apparatus".<sup>57</sup> As the directorate changed, so greater emphasis was placed on the acquisition of visual aids to the institute's scientific lectures. In 1843 R.L. Hazen, a prominent Saint John lawyer, was prevailed upon to donate \$50 to help the institute import new apparatus, and in the following year a total of £42 was spent on apparatus, diagrams and chemicals for use in experimental illustrations.<sup>58</sup> In 1844-5 attention was directed to the classification and indexing of the more than 150 diagrams that the institute had managed to accumulate.<sup>59</sup> Despite all this effort, in 1847 the institute was still arguing that its "Philosophical Apparatus is [sic] very deficient consisting only of a set for Pneumatics, and a few instruments for electricity. For the illustration of Mechanics, Hydrostatics, Astronomy, Magnetism and Chemistry, the institute possesse[d] scarcely any apparatus". The result, according to the directors, was that "for want of suitable apparatus...they cannot engage the services of qualified gentlemen to lecture on those subjects".<sup>60</sup>

This emphasis on the acquisition of apparatus indicates the style expected of lecturers before the institute. While evidence of the actual content of the lectures, and the approach usually adopted by the lecturers, is scanty, some sense of content and style can be gleaned from the surviving sources.<sup>61</sup> For example,

57 The Philosophical Society's collection was deemed sufficiently attractive to allow access to the mechanics' institute of its members without the normal payment of the entrance fee: £30 was spent transporting the apparatus of John Gray of King's College, Fredericton to Saint John; "Annual Report of Saint John Mechanics' Institute", *New Brunswick Courier*, 20 April 1839.

58 *Observer*, 23 February 1847; "Annual Report of Saint John Mechanics' Institute", *New Brunswick Courier*, 29 June 1844.

59 "Annual Report of Saint John Mechanics' Institute", *New Brunswick Courier*, 19 April 1845.

60 Petition of Saint John Mechanics' Institute, 847/pe14, RS24, PANB. This preoccupation with the collection of apparatus was common among most scientific individuals and institutions during this period, but it seems to have been pursued with particular singlemindedness by the directors of the Saint John Mechanics' Institute.

61 See the comments in Shapin and Barnes, "Science, Nature and Control", pp. 48-51.



when King's College professor, William Jack, was invited to Saint John to lecture, the institute directors pressed him, somewhat against his own inclination, as he confessed in his introductory remarks, to treat his topic "The Mechanical Properties of Air" in an experimental fashion, since this approach was "most acceptable" to the audience, and most likely "to introduce as much variety as possible".<sup>62</sup> Jack packed 17 experiments into his lecture, including Toricelli's experiment, and a host of others, using as well as the usual glass vessels, an evacuation chamber, an air pump, and copper globes. Interspersed with all this activity was the minimum of explanation, linking together the experiments and commenting on how they illustrated the basic principles of his subject.

Almost always, it would seem, the balance within the science lectures at the institute was heavily in favour of the experiments. Thus James Paterson, perhaps the most active of all the science lecturers, was esteemed most highly by institute members for his skill as a demonstrator, and was always available, should the directors be unable to fill a lecture spot, to deliver his experimental lectures. In 1841 Paterson gave a course of 7 lectures on Natural Philosophy, and in the ensuing years followed these with lectures on the Pendulum, Electricity, the Steam Engine, Physical Science (4), and Pneumatics (3). In providing these lectures Paterson used a variety of apparatus, including voltaic batteries and model steam engines, and contemporary comments on his lectures were usually couched in terms of the success or failure of the experiments.<sup>63</sup>

Thus, although visual appeal was originally utilised in an attempt to make science, which should be studied for its own sake, more attractive, experimental effects came to be enjoyed for their own sake rather than simply as the illustration of whatever scientific truth was under consideration. On occasion an experiment which was particularly enjoyed would be repeated during another lecture, with which it had no connection, simply so that the audience could enjoy the sight again. In 1840, Gesner, according to one newspaper, "by desire of many of the friends of the institute...digressed from the subject of hydrogen, and repeated one of the experiments of the preceding lecture, that of inducing a column of pure oxygen through an aperture in a common lamp, the result presenting one of the most brilliant and intense spectacles of 'LIGHT' ever

62 "An Experimental Investigation of the Mechanical Properties of Air", W.B. Jack lectures, No. 5, Box 1, Shelf 31, NBM. Jack arrived in New Brunswick from St. Andrews in 1840; he later became president of the University of New Brunswick, dying in 1886. See R.A. Jarrell, "Science Education at the University of New Brunswick in the Nineteenth Century", *Acadiensis*, II, 2 (Spring 1973), pp. 59-60. For an account of some of his later public lecturing activity see J.E. Kennedy, "The Brydone Jack Lectures on Astronomy and Related Topics", *Journal of the Royal Astronomical Society of Canada*, 73, 3 (1981), pp. 132-8.

63 See *Morning News*, 8 February, 10 April 1843, 13 February 1844; *Weekly Chronicle*, 2 March 1845, 27 February 1846, 28 January 1848; *Observer*, 1 April 1845.

shown to an audience".<sup>64</sup> Lecturers such as Paterson and Gesner had to compete for audience attendance and popularity amid a lecture culture which placed increasing stress on the novelty and visual impact of the topic, scientific or not. Thus in the winter of 1840-1 George Blatch, a struggling bookseller and journalist, became the talk of the city when he presented a series of four lectures on China, which he lavishly illustrated with Chinese artefacts and examples of Chinese clothing.<sup>65</sup> Every attempt was made to provide the lecture-going audience with something new for their entertainment. In 1846 one lecturer enlivened an exposition of railroads and railroad building by constructing a fully operational model railway system over the sunken seats at the front of the tiered lecture hall of the institute, delivering his analysis of railways while a miniature locomotive and railcars clattered around the track.<sup>66</sup>

Clearly in these two cases, especially the latter, the visual images were no longer an integral but a subordinate part of the lecturer's subject, and had instead assumed an importance as attractions in their own right. The institute's science lecturers were not slow to take up the challenge to produce the spectacular. Two incidents, one from the lectures of Gesner and one from those of Paterson, exemplify the dictates of spectacle within the institute lecture course. In March 1843 Gesner delivered a lecture on "Galvanism", or animal electricity.<sup>67</sup> By this time Gesner's popularity in the city was at something of a low ebb and it seems that he was determined to re-establish himself as a public lecturer by the brilliance of the show he could produce.<sup>68</sup> He announced that he would demonstrate the use of electricity in the resuscitation of the apparently dead. Although he intended to pass the current through the head of a recently killed ox, his difficulty was that an ox's head was required that was fresh, even warm, from the abattoir. This created problems of co-ordination, especially when over 900 people crammed into the hall of the institute. The slaughter of the ox was timed with the aid of a line of boys stationed along the route to the abattoir. Unfortunately everything did not move smoothly. There was considerable delay getting the head to the institute, so that, as one of the audience later reminisced,

64 *Observer*, 7 January 1840.

65 *Ibid.*, 12 January 1841.

66 *Saint John Herald*, 18 February 1846, and a later account in *Centennial Christmas* (Saint John, 1883), p. 5.

67 The study of animal electricity and the effect of electricity on animals developed out of the work of 18th century scientist Luigi Galvani, and particularly his famous experiments with frogs' legs. See J. Heilbron, *The Elements of Early Modern Physics* (London, 1982), pp. 234-6.

68 As well as the storm in the mechanics' institute caused by the attempt to persuade the directors to buy his museum, Gesner had also lost his job as Provincial Geologist.

we were all ready for the bloody head, and would have it, whether the Doctor had it or not, on time. At length, after a hiatus of twenty minutes, the ox's head was brought onto the platform, reeking in its gore.... And such a spectacle! Its eyes were wide open and glazey.... The whole audience was convulsed from contending emotions, stamping, laughing, groaning, shouting, even fainting among the ladies...when the whole electric force was applied, the head moved, the eyes winked, the jaws began to grind, all done in fact as promised by the lecturer, and to the entire satisfaction of the audience.<sup>69</sup>

Paterson's attempt to emulate Gesner was also sufficiently startling to survive in the memory of at least one of his audience for nearly 50 years, although this was not entirely by design. As "An Old Timer" recalled in one of a series of newspaper articles in 1890,

On another occasion, Dr. Paterson gave us a lecture on electricity, and by way of experiment, and to show us the great power of the electric fluid in destroying buildings, rooting up trees, setting fire, killing persons, he had a miniature house prepared and placed on the table by his stand. Instead of warning the audience when the supreme moment should arrive for putting the electric spark in contact, that we might all be prepared for the shock, he suddenly turned on the full force, the lightening flashed, the house went up in a blaze, the table caught fire, and the new institute for a time seemed doomed to its destruction.<sup>70</sup>

The changing control of the Saint John Mechanics' Institute was thus paralleled by a growing emphasis on the spectacular in science, a trend which influenced both those aligned with the defeated patricians and those with the producer alliance. Nor was this process confined to the institute, which represented only the apex of the city's scientific culture between 1835 and 1850. The institute's well publicised lectures helped inculcate a taste for science lectures, and its substantial hall, erected in 1841 and holding nearly 1000 people, provided an ideal venue for public lectures; instead of providing some basic control of the pursuit of science, it rather promoted the flowering of a diverse and vibrant culture. Public interest provided an added spur to the small band of local men of science who had been active before 1839. Although not completely divorced from the improving rhetoric of the institute promoters, these men,

69 Press cutting in Scrapbook C11, p. 55, NBM, and the similar but less graphic account in *New Brunswick Courier*, 23 March 1843.

70 "An Old Timer", *Progress* (Saint John), 11 January 1890; from the similarity of some of the tales told in this column with the contents of the account in *Centennial Christmas*, written by Fenety, it would seem that "An Old Timer" was Fenety.

more immediately reliant on public patronage for their success, broke free from the restraints which the elite continued to attempt to apply even to this more diffuse culture, and in doing so, revealed more vividly still the public demand for exhibition not education.

The symbiosis between institute and independents, and the continuing, but ineffectual efforts at elite control, are well illustrated by the cases of phrenology and mesmerism or animal magnetism, both of which enjoyed periods of considerable popularity in Saint John in the middle of the 1840s. Fuelled by periodical literature and the occasional visit of an itinerant lecturer, by the time the institute was established public interest in phrenology was increasing, and a division of opinion into supporters and opponents had developed. Lectures putting forward both sides of the argument were delivered in the institute course in the winter of 1839-40, and at the same time the subject was debated in the city's most important debating society.<sup>71</sup> It would appear that the institute directors were anxious to place some kind of limited imprimatur on the new science, for in the following winter they took the very unusual step of engaging an American itinerant to deliver a four-lecture course in support of phrenology. The lectures prompted a storm of protest in the city's newspapers and when it became clear that even a moderate endorsement of the philosophical elements of the science was likely to prove unpopular with some of its natural supporters, the institute steered clear of phrenology until 1846 and 1849, when another American lecturer was engaged to lecture on phrenology, as it related to the training of the mind.<sup>72</sup>

In the meantime, the steady trickle of phrenology lecturers who visited the city over the rest of the decade concentrated on the far more popular aspects of their craft. The extended advertisement inserted in the local press by G. W. Ellis when he arrived in Saint John in the fall of 1843 accurately portrays the usual appeal of phrenology. In his six lectures Ellis promised:

Splendid and powerful likenesses of Her Majesty and Prince Albert will be exhibited through a very powerful magic lantern. Also numerous drawings and *Real Human Skulls and Skeletons*. The lectures will be illustrated by Splendid Drawings of all the Temperaments, and a very numerous and valuable collection of CASTS and SKULLS of distinguished men, of notorious pirates, Murderers, savages, and the Cannibals of the Pacific. [Including] A Sandwich Island God, presented to Dr. George W. Ellis by

71 *Observer*, 17 December 1839, 7 January 1840; *Weekly Chronicle*, 27 December 1839.

72 "Annual Report of the Saint John Mechanics' Institute", *New Brunswick Courier*, 4 June 1842. For the essentially conservative nature of much of the opposition to Phrenology see "Atticus", *Morning News*, 24 December 1841, and Young's defence against "the fraternity of these

72 scribblers...of but very small character or intellect", *New Brunswick Courier*, 8 January 1842; *Weekly Chronicle*, 19 December 1846; *Observer*, 9 January 1849.

the King of the Sandwich Islands. It was made upward of 70 years ago by the man who murdered Captain Cook. [Also] An ingenious Phrenological Head, which may be dissected before the audience.... The whole to conclude with a splendid exhibition of the Phantasmagoria lantern, representing all the Kings and Queens of England, from William the Conqueror down to Victoria and Albert. Together with a striking likeness of Mehemet Alli [sic] Pacha of Egypt — Also the Temperaments and a variety of other subjects.<sup>73</sup>

There is nothing particularly unusual about this insertion. Ellis probably used exactly the same text in each of the cities he visited. Nevertheless, the use of the nicely weighted appeal to patriotism, curiosity and sensationalism, epitomised by the claims to have an artefact created by the murderer of Cook, speaks volumes for the nature of the science actually consumed by the majority of the lecture-going public.

While phrenology raised strong passions and prompted heated denials and equally strident defenses in lecture hall, press, and undoubtedly in innumerable private conversations, its apparently serious philosophical pedigree and applications in self-education undoubtedly blunted the edge of the controversy surrounding it. In the case of one of its offshoots, animal magnetism, an early form of hypnotism, elite reaction was more hostile directly as popular enthusiasm became more wholehearted.<sup>74</sup> Animal magnetism first appeared in Saint John in the winter of 1842, just as the controversy excited by the institute's Phrenology lectures was beginning to die down. In this case the elite moved quickly to attempt to quash the new science on its appearance in the city. Gesner used the privileged information he had obtained as one of the invited participants at a private gathering to make a virulent attack on the practice in an institute lecture in March 1843. This in turn brought out the proponents of the new science, and over the course of the next few months, as Henry Chubb pointed out in July 1843, "Animal Magnetism or mesmerism excited a good deal of attention...and its advocates and opponents [had] respectively desired to see the subject investigated by an able practitioner".<sup>75</sup> Unfortunately, the lectures of the expert heralded as the arbiter of mesmerism's claims, the New Yorker Robert Collyer, only raised passions to a new fever pitch.<sup>76</sup>

Collyer arrived determined to vindicate the science and made a pointed attack

73 *New Brunswick Courier*, 23 September 1843.

74 For the development of mesmerism see Darnton, *Mesmerism and the End of the Enlightenment*, pp. 3-81; F. Kaplan, *Dickens and Mesmerism, The Hidden Springs of Fiction* (Princeton, N.J., 1975), pp. 3-26, as well as the articles cited at note 5.

75 "A Lover of Science", *Morning News*, 31 March 1843; *New Brunswick Courier*, 1 June 1843.

76 For a brief biography of Collyer, see Cooter, *The Cultural Meaning of Popular Science*, p. 278.

in the *Courier* on those “men who would forestall public opinion by sweeping assertions and whole scale abuse”, accusing a “certain few” of “having previously determined that the good people of Saint John should only believe so much as they deem it expedient, to suit their own whims and caprices”.<sup>77</sup> His lectures merely provided fuel for the controversy. While he and his supporters pronounced the lectures a complete vindication of animal magnetism, and claimed as many as a thousand converts to the science, his opponents made desperate attempts to discredit the impressive series of experiments which he had performed, producing one of his assistants with an accusation that all had been achieved as the result of deliberate collusion.<sup>78</sup>

Although when Collyer departed the hope was expressed that “turbulent passions will subside into quietude, and sober reason resume its wonted sway”, the cooling of passions proved purely temporary.<sup>79</sup> Little had been achieved by Collyer’s visit, except perhaps to place the issue of the control of the science culture at the centre of debate. The opposition to mesmerism of a small group of the city’s prominent citizenry, and their pretensions to arbitrate on all matters of scientific judgement for the community as a whole, were bitinglly lampooned in a “Great Anti-Mesmeric Meeting” skit which appeared in the *Weekly Chronicle* during July 1843. Although the opposition seems to have succeeded in preventing other itinerants coming to the city to lecture on the science, when a small group of Saint John based aficionados began lecturing on the science in the fall of 1844, the whole controversy not surprisingly reignited.<sup>80</sup> Unlike the largely private disputes which had preceded Collyer, the activities of this group were well reported in the press, and provide a fascinating insight into the immediate appeal of Animal Magnetism.

In November 1844 Robert Addison, a school teacher and lecturer in the city since the mid-1830s, began a course in the mechanics’ institute on mesmerism. By the start of 1845 he had been joined by V.H. Nelson, a local bookseller who had also lectured in the institute course, and by a Mr. Trainor, a newcomer to the Saint John lecturing scene. Addison quickly attracted a full house at the institute, and provoked a good deal of excitement. For a while it would seem that mesmerism was the major topic of conversation in the city. “There is a halo of mesmerism surrounding our city like an atmosphere” commented one news-

77 Letters of Collyer in *New Brunswick Courier*, 1, 15 July 1843.

78 *New Brunswick Courier*, 8, 15 July 1843; *Loyalist*, 10, 31 July 1843; letter of “Leo” in *Weekly Chronicle*, 14 July 1843; and “Account of the Great Anti-Mesmeric Meeting”, *ibid.*, 14, 21 July 1843. Collyer aroused similar passions in Halifax; see the accounts in the *Morning Post* (Halifax), 29 July, 1 August 1843.

79 “Pertinax”, *New Brunswick Courier*, 15 July 1843.

80 The usual contemporary practice for many itinerants or other potential lecturers was not to plan to lecture in a place until the patronage of some prominent citizens had been obtained to provide some guarantee of a remunerative audience.

paper editor.<sup>81</sup> Capitalising on the confidence he received as a local man, Addison proceeded to support the claims of animal magnetism by performing a series of marvelous experiments in which he placed his subjects into a mesmeric trance, and then proceeded to manipulate them. On one occasion Addison had a mesmerised subject whom he had apparently put to sleep identify, with his eyes closed, objects which were handed to Addison from the audience. The subject was then blindfolded and proceeded to play draughts with Addison.<sup>82</sup> On another occasion Nelson caused a considerable stir by producing a man from one of the suburbs of the city who had been deaf from birth, but was now able to hear after what was described as a mesmeric operation.<sup>83</sup>

The combination of such almost supernatural feats and the controversial nature of the subject proved irresistible. These were no solemn gatherings of studious autodidacts. Instead, they turned into something of a carnival affair and audience participation was noisy and frequent. During one of the lectures given by Addison in December 1844 a large and vocal gathering assembled, clearly divided into three factions, those violently in favour, those neutral, and those violently opposed. "The shouting, the stamping, the clapping, the hooting, the yelling the screaming — altogether produced", according to one newspaper report, "such a compound effect that the noise might justly be compared to the letting off steam of a thousand steam boilers".<sup>84</sup> The lecturer began by calling for a volunteer from the audience to supervise the experiments. Each faction proposed their own candidate, and shouted enthusiastically in his support, "and each shout was responded to by hisses from the 'Opposition' benches". The audience had assembled expecting incident, and they were not to be disappointed. Having successfully mesmerised one subject, the lecturer then attempted to manipulate him Phrenologically. "He finally got in among the combative bumps of the patient — which were not to be trifled with —" continued the *Morning News* reporter, "and the next thing we saw Mr. Nelson dancing in the air on the patient's back, who turned upon him with serious viciousness, and with an apparent determination of using him up. While the Mesmeriser was kicking behind him to get on his feet again, he was rubbing before to try and get at the patient's 'benevolence' in order to pacify him". All this, concluded the newspaper report, was "much to the amusement of the audience".<sup>85</sup> In the face of such an appeal, elite opposition could not restrain

81 *Morning News*, 16 December 1844; see also *New Brunswick Courier*, 7, 14 December 1844, where it is noted that the attendance at one of Addison's lectures although less than previous ones was still more than 400; and *Saint John Herald*, 6 December 1844.

82 *New Brunswick Courier*, 15 March 1845.

83 *Morning News*, 17 January 1845.

84 *Ibid.*, 11 December 1844, from which the rest of this account is taken.

85 *Ibid.*

popular enthusiasm. Advocates often explicitly rejoiced in their rejection of elite control: it was the self-conscious boast of one supporter that "I trust that I have sufficient common sense not to be influenced in the slightest degree by the ridicule and obloquy which almost daily I hear applied to it, by men of education and standing".<sup>86</sup>

Hence "vulgar science" was supported despite elite hostility in the same way that the presentation of more respectable science was moulded to the demands of a popular culture. Animal magnetism was new and exciting; so, in the same way, was electricity. That the former should be discredited and the latter triumph should not disguise the similarity of the response they created in Saint John. Science as a whole was extensively mined in search of the spectacular. Thus, in the summer of 1845, a partnership styled "Henry and Keevil" presented two "fashionable soirees" in the institute, at which they demonstrated a planetarium and a collection of instruments for illustrating the causes of tides, eclipses and comets, together with diagrams of comets and nebulae, as well as a diorama of dissolving views of Britain.<sup>87</sup> The directors of the mechanics' institute could not hope to influence the activities of these itinerants, who were attracted by the obvious market which existed for their brand of science. Conscious of the appeal which such a programme would have with institute members, the directors simply negotiated a reduction for members, even persuading the duo to return to Saint John after a planned visit to Halifax, to present two more lectures on "The Polarization of Light", for which it would seem they had imported a novel series of apparatus. The audience revelled in the effects, frequently demonstrating "their astonishment as well as their delight at the wonderful effects produced by the wonderful and brilliant experiments".<sup>88</sup>

In 1845 John Sharp, a Saint John druggist and member of the institute committee between 1840 and 1843, imported from England a collection of scientific apparatus for the basis of a course on Physical Science. However, Sharp did not advertise lectures, but instead announced that he had acquired apparatus, "including INSTRUMENTS and Subjects of Illustration never before exhibited in this province...to give a series of superb SCIENTIFIC EXHIBITIONS accompanied by appropriate EXPLANATORY REMARKS".<sup>89</sup> This announcement, with its choice of the word exhibition and its reference to explanatory remarks demonstrates the complete reversal of the initial use of

86 "Ignoramus", *ibid.*, 1 January 1845.

87 *New Brunswick Courier*, 14 June 1845.

88 *Ibid.*, 12 July 1845.

89 Advertisement of Sharp, *ibid.*, 6 December 1845. Sharp's importations included "a complete series of illustrations by means of a large and brilliant 'Camera Lucida' of the sublime science of ASTRONOMY; a variety of splendid experiments and exhibits in OPTICS; and a superb selection of dissolving views"; only one set of apparatus its equal had been exported from England, it was claimed, and they had gone to India. *Observer*, 2 December 1845.



apparatus as adjuncts to the spoken word. Sharp's apparatus were well received by the audience. Yet even the limited amount of explication of the visual effects given by Edmund Duval, the master of the Mechanics' Institute school, prompted complaints that there had been too much talking. In the opinion of one of those present "if Mr. Duval's matter had been somewhat abridged, and more diagrams shown, it is possible that the audience would have been more gratified". This was "no reflection on Mr. Duval's compilation", continued the critic, "which he delivered in an easy, colloquial style, well calculated for the comprehension and instruction of a mixed audience; but perhaps he could have said quite enough for the amusement and information of the people by confining his matter to the description of the diagrams".<sup>90</sup>

In attempting to delineate the transformation in the science culture between 1835 and 1850 it is important not to erect too absolute a boundary between education and entertainment. The two were treated as complementary rather than contradictory exercises.<sup>91</sup> Nevertheless, in the meeting of philanthropic ideal and community preference, the relative priorities had been reversed, putting amusement uppermost and leaving education as nothing more than a useful undercurrent, able to capitalise on some vague affinity to the predominant improving emphasis of Victorian social philosophy. In this way science became just one element in the range of leisure opportunities which Saint John developed in the 1830s and 1840s, during which time the traditional motifs of the rational recreation ideal were appropriated and diluted by a wide spectrum of popular entertainments. At the start of the 1830s leisure activities had been rigidly divided between the subscription assemblies and concerts of the urban elite, and the occasional entertainments of the producing classes, the theatre which functioned intermittently, or the "menageries of wild animals, troops of horse, with tumblers, jugglers and rope dancers from the United States", commented on with distaste by Gesner in 1847.<sup>92</sup> Science bridged this divide, but in a manner which increasingly incorporated it into the more extensive popular culture frowned upon by the elite.

The extent of the cross-fertilization is epitomised by "Signor Blitz". Blitz was a ventriloquist and magician who had toured Western Europe in the 1820s and early 1830s, and had emigrated to the United States in 1833, where he had continued his performances in New England. In the summer of 1840 he visited Saint John for the first time.<sup>93</sup> His show consisted of a mixture of ventriloquism

90 "Cosmos", *New Brunswick Courier*, 7 March 1845.

91 Cf. comments on a similar shift in Britain at about the same time, P. Bailey, *Leisure and Class in Victorian England* (Toronto, 1978), pp. 56-9.

92 See M. Smith, *Too Soon the Curtain Fell. A History of Theatre in Saint John, N.B. 1789-1900* (Fredericton, 1981), pp. 38-57; A. Gesner, *New Brunswick with notes for Emigrants* (1847), p. 331.

93 For Blitz's background see *Weekly Chronicle*, 30 July 1840, 23 August 1843.

and illusions; the high points were an illusion intriguingly entitled "Dance of the Six Dinner Plates", and another in which he appeared to catch bullets shot from fowling pieces brought by his audience.<sup>94</sup> Clearly Blitz was no man of science; yet on his second visit to Saint John in 1843 Blitz described his show as an "Exhibition of Philosophical Feats, surpassing those of the Hindoos, Egyptians, Sorcerers, Magis and the Persian Astrologists", and in 1849 his performance was said to comprise "a variety of new and pleasing experiments that apparently surpass the operations of the ancient professors of demonology".<sup>95</sup> Reading this marriage of science and quackery, one is tempted to dismiss Blitz as simply another of the series of disreputable entertainers who appealed to those classes unaffected by the higher vision of the mechanics' institute. However, his initial performance in 1840 was attended by a Supreme Court justice, the master of the rolls, and many of the officers of the local garrison. Moreover, on his second visit he featured at an institute *coversazione*, and on this and a subsequent occasion, with the agreement of the directors of the institute (in which all his performances were given), he included one performance for the benefit of the institute.<sup>96</sup> The patronage of the leading lights of the institute suggests that they had largely been forced to accept this type of "rational, moral and interesting amusements", as Blitz's advertisement styled them, as a valid element of the culture of rational recreation over which they presumed to preside.<sup>97</sup>

Neither the mechanics' institute nor the wider scientific culture can be divorced from the rise of this kind of entertainment. The institute directors, despite their undoubted ascription to the vision of science as the motor of industrial progress and the institute as its vehicle, were not afraid to acknowledge their inability to sustain this vision. In 1846 the Annual Report suggested that "in addition to the regular lectures, concerts and other rational entertainments might be given periodically during the winter months, and occasionally during the summer season". With hindsight, Fenety described how the institute came to provide "an *olla podrida* of amusements — a variety that is charming and suitable to every taste, and prices that meet the restraint of the most meagre purses".<sup>98</sup> Contemporaries were occasionally less kind; to one the Saint John Mechanics' Institute was

a mechanics' institute where patientless doctors, briefless lawyers, and scholarless pedagogues new vamp their old wife's [sic] tales; stray ministers do their teaching, amateur vocalists imitate the sonorous

94 *Ibid.*, 31 July, 28 August 1840.

95 *Ibid.*, 28 July 1843; *New Brunswick Courier*, 6 October 1849.

96 *Morning News*, 16 August 1843; *New Brunswick Courier*, 12 August 1843, 27 October 1849.

97 Parsinnen comments on the role of science in legitimating entertainments in "Mesmeric Performers", pp. 102-3.

98 *Centennial Christmas*, p. 4.

melodies of Babel; Fire Kings mimic Vesuvius and Thimble riggers do their feats of skill...[where] in the course of one evening, you may be edified by a sermon, charmed with a concert, mystified by a lecture on the common error that "Turkeys once chewed tobacco", delighted with an Ethiopian song in Character, and astonished with the miracles of art in the person of a downcast Indian Juggler.<sup>99</sup>

In at least one sense "B" was right. While the average institute-goer might wish to be edified, he equally expected to be "mystified", "delighted", or "astonished".

The visual nature of the events meant that novelty was a prized commodity. The fever-pitch excitement generated by the controversies over phrenology and animal magnetism evaporated as the novelty wore off. Gesner's experiments with oxygen or galvanism, or Paterson's with electricity might have borne repetition once, but the initial impact could hardly be recaptured. Itinerant lecturers made great play of exhibiting machines or experiments "never before seen" in the city, and those like Blitz, the minority, who returned to Saint John, took great pains to emphasise the newness of their latest offering. As one commentator put it, "it is somewhat singular that when an individual from the United States comes among us, for the purpose of exhibiting a variety of pictures, or appears in the capacity of a lecturer, he is generally received with a crowded house, although it frequently happens that we have been disappointed in our expectations".<sup>100</sup> The mechanics' institute, with its limited stock of familiar lecturers, was hardest hit by such attitudes, and had to withstand, throughout the 1840s, pressure from its members for the introduction of a greater number of foreign lecturers.

The institute's science lectures were especially vulnerable. Limited apparatus and its small band of lecturers made it impossible for it to satisfy the demands of the audience in the way that the itinerant showmen could. The decline of science in the institute was almost inevitable. Paterson acknowledged the link and its results in his concluding address of the 1849 lecture course. Justifying the reduction in science lectures, he noted that the attendance at previous science courses had indicated that the members did not want them, except for special cases, such as when laughing gas was administered. Commenting that this decline in the popularity of home-produced science was coupled with increasingly impatient calls for more outside lecturers, he argued that even new lecturers would guarantee attendance only for a few evenings, and once their styles were known, the audience would sink back into its usual apathy.

Paterson's acknowledgement that the institute could no longer compete in the

99 "B", *Headquarters* (Fredericton), 9 June 1844.

100 "Subscriber", *ibid.*, 21 March 1845.

field of science entertainment marked a turning point in the history of the mechanics' institution, and heralded a transformation of its lecture course. In place of the visual appeal of science, the institute turned to a new breed of lecturers who used the power of words themselves to entertain.<sup>101</sup> In the later period the lecturer who typified this change was John Boyd, a self-educated Irish merchant, who became, on the basis of his skill as a lecturer and dramatic reader, one of the most popular.<sup>102</sup> However, the man who did most to pioneer the new style was an independent presbyterian minister, William Thomas Wishart. Wishart established strong links with the mechanics' institute soon after his arrival in Saint John in 1841, and lectured on several occasions during the early 1840s.<sup>103</sup> In the mid-1840s, although having no pretensions to great scientific knowledge, he addressed the institute on topics such as "The Peculiarities of Science" or "The Three Tracks of Science", treating his subject more philosophically than was usual among institute lecturers. In the later years of the decade he developed this philosophical strain, lecturing on "The Influence of Association", "Prejudice" and "Invention". However, the subjects of Wishart's lectures were not as important as the style which he adopted, for it was his vivid language and especially his acute and caustic wit which gave him a pre-eminent position among the city's lecturers. As the editor of the *New Brunswicker* wrote in 1850, Wishart "possessed the art of amusing his audience no matter what the subject is", as a result of which "he always has a large audience when he lectures".<sup>104</sup> According to Fenety, Wishart understood "the art of addressing a mixed audience. He enjoys the rare and happy faculty of enlivening his subject, whatever it may be, with strokes of caustic wit and sallies of broad humour".<sup>105</sup> As lecturers such as Boyd and Wishart came to dominate the mechanics' institute, with their miscellaneous lectures designed to amuse as much as instruct, as well as to provide some spring-board for commentary on current affairs and contemporary issues, the visual nature of the mechanics' institute culture finally receded into the background.

At the same time, the informal science culture found it difficult to maintain its prosperity. There was only a limited scope for the creation of novelty and spectacle, and the transportation of apparatus and the consumption of

101 For the change in lecture style see Hewitt, "Mechanics' Institutes", pp. 124-9.

102 Boyd, without ever having held political office, was appointed Lieutenant-Governor of the province in the 1890s. For his lecturing activities see W.G. McFarlane, *New Brunswick Bibliography* (Saint John, 1895); see also [J. Hannay], *Saint John and its Business* (Saint John, 1875), p. 61

103 Wishart's role in Saint John is dealt with briefly by Acheson, *Saint John*, p. 134.

104 *New Brunswicker*, 17 January 1851.

105 *Morning News*, 23 October 1850. A little later Fenety remarked that "It is very doubtful if there is another person in Saint John, even with the talents, who could without opposition...pour out so much *cannister* and *grape* in the course of an evening"; *ibid.*, 25 November 1850.

chemicals was expensive. Increasingly, therefore, during the late 1840s, science was replaced by a variety of showmen selling a glimpse of the marvelous for a shilling. Whether the marvelous was Master Hutchins the Lilliputian Wonder, or Angus McKaskell, the seven foot, 400 pound Nova Scotian giant, whether it was "Rossiter's Magnificent Paintings, 'The Return of the Dove to the Ark' and 'Miriam Exulting over the destruction of Pharaoh's Host'" or the "Largest painting in the world, painted on over 4 miles of canvas", "a moving Panorama of the 'Father of Waters' and its beautiful tributary the Ohio", all claimed acceptance within the circles of rationality and respectability. As one advertisement expressed it, "while the eye is gratified the mind is informed, and actual knowledge gained".<sup>106</sup> In this way science was gradually superseded and the city's popular scientific culture withered.

From this perspective, the claim, frequently made in the Canadian literature on mechanics' institutes, that the ideal of education was abandoned because of the eclipse of science needs to be refined. The declining emphasis placed on science by the mechanics' institutes was often itself only a reaction to a previous dilution of the impulse to education within science itself. If this is so, we must be careful not to be seduced by rhetoric into too rigid a functionalism. Contrary to much of the work done on the social dimension of science in the industrial revolution, which has sought to explain its prominence in terms of the use of science by certain marginal groups as a source of social legitimisation, the history, although short-lived, of a popular science culture in Saint John shows with unusual clarity that a great deal of the prominence, and also the shape of science within society depended on more prosaic and less intellectualised uses. For the majority science was sought not as a social lever, but a source of entertainment.

Although this dimension of science was often obscured or overwhelmed in the British context by more explicitly middle class perceptions and usages of science, the experience of Saint John has something to teach about the nature of the diaspora of British culture in pre-Confederation British North America. The influence of American itinerants in the 1830s and 1840s, as well as the evidence that the Saint John Mechanics' Institute drew its constitution from American rather than British models, suggests that we should be aware of the extent to which the impact of the British diaspora was mediated by Americans' reinterpretation.<sup>107</sup> The attempted use of the institute by the old elite as a means of bolstering their influence, rather than, at least initially, by the challenging groups as a means of breaking down that control, demonstrates the extent to

106 During the period 1840-50 Saint John was visited not only by Hutchins (*Observer*, 19 July 1840), and McKaskell (*Weekly Chronicle*, 29 November 1850), but also by General Tom Thumb himself (*Weekly Chronicle*, 27 September 1850). For the two picture exhibitions see *Weekly Chronicle*, 22 June 1849 and *New Brunswick Courier*, 13 October 1849.

107 Petition of G.B. Watson, #252, 842/pe12, RS24, PANB.

which an apparently simple borrowing can hide a wholesale reversal of function. Ultimately it must be recognised that the different social context within which English concepts and institutions found themselves meant that inevitably transferral across the Atlantic would entail transformation on arrival.

Undoubtedly, therefore, the relative absence of political dislocation in New Brunswick prevented the diversion from 'neutral' subjects such as science towards concentration, especially in periods of particular tension, on political and economic ideology apparent in Britain. Paradoxically, the wider community involvement in science in Saint John merely emphasises the extent to which cultural production there also took place in a contested terrain, in which different parties struggled to influence the shape of community culture. The history of scientific activity in Saint John in the 1840s and 1850s shows that far from simply being a useful adjunct to the utilization of science for the achievement of specific social goals, the popular visual appeal of science distorted the shape of the science culture in ways which largely undermined its effectiveness for these purposes. Unstable institutions and commercial itinerants were forced to bow to popular demand in shaping the science they purveyed. The result was a briefly flourishing culture in which emerging distinctions between pure and popular science were submerged, and in which science as social legitimiser and nation builder competed unsuccessfully with science as spectacle.