

# SCIENTISTS IN HUMBLE LIFE: THE ARTISAN NATURALISTS OF SOUTH LANCASHIRE

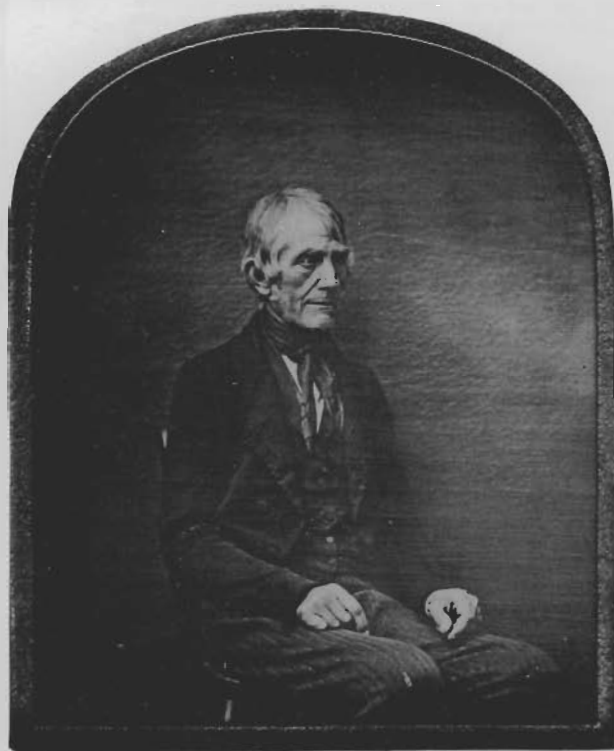
John Percy

James Crowther, an impoverished warehouse porter of Manchester, enjoys the distinction of having an incident from his life quoted in Elizabeth Gaskell's *Mary Barton*. Mrs Gaskell is introducing to us the character of Job Legh, the wise old working class student of natural history whose "whole room looked not unlike a wizard's dwelling. Instead of pictures, were hung rude wooden frames of impaled insects; the little table was covered with cabalistic books; and a case of mysterious instruments lay beside ..." <sup>1</sup> Conscious that her readers might not believe such folk existed she related the story of Sir James Edward Smith who arrived in Manchester in search of a rare plant; his porter turned out to be a skilled botanist who was able to direct Smith to someone who could locate it. That porter was Crowther who had died in January 1847. His obituary relates what is obviously the same incident although the identity of the expert Smith was seeking is in doubt. <sup>2</sup>

Crowther was one of the leading examples of a remarkable and imperfectly understood phenomenon in the social history of south Lancashire. The tradition of the working class naturalist can be dated back at least as far as the 1770s. It continued to flourish through most of the 19th century and is even now perhaps not totally dead. It was widely acknowledged that up to at least 1850 it was the naturalists in 'humble life' who were largely responsible for the discovery and recording of the natural environment around Manchester and the surrounding towns. The most dedicated of them ranged far and wide on foot in search of plants, insects, fossils and rocks. Crowther, for example, is credited with the discovery of Lady's slipper orchid (*Cypripedium calceolus*) at Malham and Mudwort (*Limosella aquatica*) at Mere in Cheshire. Most of our knowledge of the once rich floras of the surrounding mosses and moorlands comes from men like these.

The earliest generations of working class naturalists started to form societies, and built up libraries and collections of specimens. They fed information to experts in the field. John Hull, the Manchester physician who wrote the *British Flora* of 1799 owed a significant debt to Crowther and to William Evans of Tyldesley. Edward Hobson, whose childhood was marred by family instability as well as poverty and a meagre formal education, became a valued correspondent of Sir William Hooker, who much admired his capacities as a field naturalist.

Edward Hobson was the first of the naturalists to publish although his *Musci Britannici* is not a book in the normal sense but a number of bound sets of sheets of specimens of mosses arranged in systematic order. <sup>3</sup> The most remarkable achievement in terms of publication was that of the shoemaker, Richard Buxton, whose two editions of a botanical guide to the Manchester area appeared in 1849



Richard Buxton (1786-1865). J.B. Dancer's Daguerrotype of 1851.

and 1859. <sup>4</sup> Buxton was unable to read until he was sixteen. George Crozier, a saddler, Francis Looney, a printer, John Nowell, a weaver, and John Whitehead, a cotton operative, also got into print. <sup>5</sup> Even in our own century, Thomas Greenlees, a shoemaker, co-authored a flora of Bolton. <sup>6</sup>

Working class autodidacts of this kind were not, of course, unique to south Lancashire. Scotland, for example, could boast the naturalists Hugh Miller, Thomas Edward and Robert Dick. Important role models for the early naturalists were Alexander Wilson, a Paisley weaver, who emigrated to America and wrote and illustrated a famous work on American ornithology, and James Bolton, a former weaver from Halifax who wrote books on birds and fungi and *Filices Britannicae* (1785), the first ever work on the ferns of any area in the world.

In the Manchester area natural history was not the only science pursued. The Oldham area became the centre of a notable group of mathematicians; other individuals pursued chemistry, astronomy or the science of electricity. Naturalists, however, were by far the most numerous class of scientists and among these botany predominated with entomology and the geological sciences also represented.

What is remarkable about this activity in south Lancashire is its scale and degree of organization. Even small and isolated weaver settlements like those of Little Moss and

A

# BOTANICAL GUIDE

TO THE

## FLOWERING PLANTS,

FERNS, MOSSES, AND ALGÆ,

FOUND INDIGENOUS

WITHIN SIXTEEN MILES OF MANCHESTER;

WITH SOME INFORMATION AS TO THEIR

AGRICULTURAL, MEDICINAL, AND OTHER USES.

BY RICHARD BUXTON;

TOGETHER WITH

A SKETCH OF THE AUTHOR'S LIFE; AND REMARKS ON  
THE GEOLOGY OF THE DISTRICT.

LONDON:  
LONGMAN AND CO., PATERNOSTER ROW.

MANCHESTER:  
ABEL HEYWOOD, 58, OLDHAM STREET;  
AND ALL BOOKSELLERS.

1849.

*Price Six Shillings.*

Woodhouses might have a botanical or entomological society.<sup>7</sup> In 1875 William Axon listed fifty working class societies in Lancashire or the neighbouring parts of Yorkshire and Cheshire and admitted his list was incomplete.<sup>8</sup> For most of the century, though probably discontinuously, the botanical societies were federated into organizations which exchanged information and held annual conversaciones.

One other aspect of this phenomenon needs to be stressed. It formed part of a culture, associated in the early days particularly with the handloom weavers, in which gardening played a large part. The weavers of Spitalfields and Paisley as well as those of Manchester were known for their prize-winning skills with 'florists flowers' such as auriculas and pinks.<sup>9</sup> The Lancashire artisans concentrated on the cultivation of giant, if not always tasty, gooseberries.<sup>10</sup> Keith Thomas has suggested the possibility of a link between the popularity of gardening and the lack of a working class revolution in Britain.<sup>11</sup> Whether this is true or not we have to treat it as a phenomenon of uncommon interest.

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It is not possible precisely either to date or to explain the origins of this upsurge in activity in natural history. The first record of a botanical society appears to be that of the Eccles society which Crowther joined (at the age of nine) in the 1770s.<sup>12</sup> Less well known is the fact that the study of palaeontology by the working class goes back at least as

far. The evidence for this comes from Francis Looney who claims that it was the 'operative naturalists' who first brought Lancashire's fossils into notice. He says that "Sir Ashton Lever took advantage of these indefatigable men and by assisting them with the loan of books, and by his counsel and advice, as well as by allowing them free access to his stores, not only encouraged them to go on in acquiring knowledge, but also enriched his own museum."<sup>13</sup> Sir Ashton Lever, the founder of the Leverian Museum first sited at Alkington, began collecting in the 1760s.

It is only in recent years that working class autodidacts have begun to receive the attention they deserve from historians. Even now the activities of the naturalists remain largely unexplored and we have to go back to nineteenth century commentators for much of our information. For some contemporaries such people were canonised as examples of what could be achieved by the disadvantaged.

Among the nineteenth century writers, James Cash and William Axon have left us the most valuable records. Cash's *Where there's a Will there's a Way* is primarily devoted to the working class naturalists although he also includes a section on the Oldham mathematicians.<sup>14</sup> This monograph contains biographies of most of the leading figures up to the mid-nineteenth century. Cash was an amateur botanist and a journalist for the *Manchester Guardian*. His account is reasonably comprehensive but at times unashamedly derivative; his biography of Edward Hobson, for example, is a scarcely disguised paraphrase of the previous memoir by John Moore.<sup>15</sup>

As a man of humble origin himself Axon was in one sense closer in spirit to the naturalists than Cash although he is known less as a naturalist than as an indefatigable writer, historian and polemicist. He published a three part survey on the artisan naturalists in the *Manchester City News* during 1874-5 and used much of the same material in articles for the anti-Sabbatarian periodical, *Sunday Review*.<sup>16</sup> Even more valuable in some ways than these articles is the manuscript material which he collected and which is now available in the Archives Department of Manchester Central Reference Library.<sup>17</sup>

There are many other more sketchy sources. Joseph Fielding,<sup>18</sup> a working class journalist, and Leo Grindon, the botanist,<sup>19</sup> contributed useful information. It ought to be noted that Grindon stood in a curiously tense relationship with at least one of the working class naturalists, Richard Buxton, because of the publication clash between his *Manchester Flora of 1859*<sup>20</sup> and the second edition of Buxton's *Botanical Guide*.

The naturalists did not write much about themselves or their work. The most substantial account is the autobiography with which Buxton introduces his *Botanical Guide*.<sup>21</sup> John Horsefield, a weaver botanist from Whitefield, sent in an account of the work of the Prestwich and Bury Botanical Societies to the *Gardeners Magazine* in 1830.<sup>22</sup> Buxton emerges as a distinctly solitary and retiring figure, whose botanical friendships were formed rather late in his career. It is regrettable that more extrovert characters left no comparable accounts because autobiographical material would be such a valuable counterweight to the mythologising or propagandist tone of other contemporary sources.

In general it would be true to say that information about botanists, or at least the more eminent figures, is easier to trace than information about entomologists or geologists.

This is partly because, in addition to the sources we have already noted, there is also available a collection of biographies of Lancashire botanists published by the Liverpool Botanical Society.<sup>23</sup> Moreover the history of British botany is also favoured with a biographical dictionary by Ray Desmond more comprehensive than anything available for the other sciences.<sup>24</sup>

Primary materials relating to the naturalists are limited and elusive. It is to be hoped that more can be discovered. Many of their herbaria and other collections were mistreated or lost although some valuable material survives in museums, including the Manchester Museum. Axon's archive contains contemporary meetings programmes and library catalogues for the Todmorden Botanical Society and the Ashton-under-Lyne Linnaean Society. One society whose minute book has survived is the Banksian Society, named in honour of Sir Joseph Banks.<sup>25</sup> This was set up in Manchester in 1829 amid considerable publicity; it lasted only until 1836 but was reincarnated as a natural history society within the Manchester Mechanics Institution. In 1843 this also folded up. Also extant is the inaugural lecture to the Banksian Society by that most remarkable autodidact, Rowland Detrosier.<sup>26</sup> This was published; it is said to have undergone seven printings, and was an influential landmark in the movement for worker education.<sup>27</sup>

The Banksian Society was in some ways untypical of working class natural history societies in general. The minute book is a laconic document but does at least enable us to discover what lectures and discussions took place and who were the 'active members' who took executive or committee roles. Thackray has demonstrated the value of prosopography or collective biography in elucidating the activities of the Manchester Literary and Philosophical Society.<sup>28</sup> In work currently in progress I have so far succeeded in identifying 23 out of 39 'active members' of the Banksian Society with two further tentative identifications. The minute book also contains the rules of the Society and gives us insight into the problems of handling its collections of specimens and its library; the contents of the library are identifiable because an inventory was compiled in preparation for the transfer to the Mechanics Institution.

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It is perhaps not surprising that a reaction set in against the Samuel Smilesian approach to the study of self-educated men and that the study of such individuals underwent a long period of relative neglect although a residue of continuing interest is shown by, for example, a long series of articles on working man naturalists by J.S. Rowse in the *Heywood Advertiser* in and around 1910. A revival of serious historical study took place from about 1960. Historians such as E.P. Thompson, J.T. Ward and Norman Murray drew attention to the cultural achievements of the handloom weavers.<sup>29</sup> David Vincent and J.F.C. Harrison added much to our understanding of autodidacticism.<sup>30</sup> Many individuals with interests in science came to light through the collection of working class autobiographies by Burnett and his associates.<sup>31</sup> Parallel with this is the study of what Logie Barrow calls 'democratic epistemology', i.e. those 'alternative' theory sets which in nineteenth century Britain flourished primarily in plebeian circles.<sup>32</sup> Examples of this were spiritualism, phrenology and 'medical botany'. With this general growth of interest it is not surprising to find a recent unpublished thesis by Brian Worrall on working class autodidacts which devotes a whole chapter to the Lancashire botanists.<sup>33</sup>

1. A. TENELLA. L. Bog Pimpernel. E. B. 530. July—August. P.  
Upon Hale Moss, plentifully. Baguley Moor. Near Milnrow.

LYSIMACHIA. LINN. N. O. PRIMULACEÆ.

1. L. VULGARIS. L. Great Yellow Loosestrife. E. B. 761. July—August. P.

Wet, boggy situations; margins of ponds. Mere Mere, and Rostern Mere, Cheshire. In a swampy place near Morley's Bridge, Astley.

2. L. NEMORUM. L. Wood Loosestrife. Yellow Pimpernel. E. B. 527. May—July. P.

Woods, and damp, shady places. Very common.

3. L. NUMMULARIA. L. Money-wort, or Herb Twopence. E. B. 528. June—July. P.

Shady places. Rostern Mere. In marshy places, about three quarters of a mile south-west of Tyldesley Church; and in the adjoining townships, Atherton, Astley, and Bedford. In a lane beyond the stone bridge crossing the Irk, and leading to Smedley Hall. By the river Medlock, near Clayton Bridge.

PRIMULA. LINN. N. O. PRIMULACEÆ.

1. P. VULGARIS. HUDS. P. VERIS. var. ACAULIS. L. Common Primrose. E. B. 4. April—June. P.

Woods, hedge banks, and pastures. Very common.

Gerard reports that a drachm and a half of the dried root, taken up in autumn, operates as a strong but safe emetic. Sheep and goats eat it; cows are not fond of it; horses and swine refuse it.—*Lin.* Silk worms may be fed with the leaves. W. 319.

2. P. VERIS. L. Common Cowslip or Paigle. E. B. 5. May. P.

In the neighbourhood of Ringway, Cheshire. In a field near the residence of Mr. Milne, Prestwich. In a field near Ashton-upon-Mersey. In a meadow below Hope Hall, on the Eccles road, and other places near Eccles, plentiful.

"Now in my walk, with sweet surprise  
I see the first Spring Cowslip rise,  
The plant whose pensile flowers  
Bend to the earth their beauteous eyes  
In sunshine as in showers."

MONTGOMERY.

*A page from Buxton's Botanical Guide, 1849. Many changes have taken place since Buxton wrote. The Primrose is now very rare in the Manchester region.*

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The rest of this paper suggests a number of themes in the history of the working class naturalists which deserve to be more thoroughly explored. Firstly we need to analyse their social characteristics. The picture we obtain is of an almost entirely male preserve. The one exception of whom we have record, 'Moorland' Jane Clough, seems to have been regarded as sufficiently eccentric to qualify as an honorary male.<sup>34</sup> While the picture of male domination is undoubtedly largely correct it is possible the contribution of women has been under-recorded; certainly women played a role in the business of herbalism.

As we have seen, working class natural history was very much associated with the handloom weaving communities and that continued for several decades into the decline of that way of life. Writing in 1844 Samuel Bamford felt able to assert that the labouring classes in the South Lancashire towns "are the most intelligent of any in the island... They can show a greater number of botanists; a greater number of horticulturists; a greater number who are acquainted with the abstruse sciences..."<sup>35</sup> Two factors that appear to have contributed to this development were, firstly, the relative freedom which the handloom weavers had, especially while their trade was flourishing, over their use of time, and, secondly, the fact that enterprising weavers

were able to study while actually pursuing their craft. It is said of John Horsefield, for example, that he pinned details of the classes and orders of the Linnaean system to the post of his loom.<sup>36</sup>

Apart from the weavers, however, many other individuals pursued natural history. Within the textile trade, fustian cutters and other groups were involved. It is not surprising to find gardeners and nurserymen involved; one such was William Hobson, a cousin of Edward's, who emigrated to set up a nursery business in Philadelphia.<sup>37</sup> Such a career might have attracted many naturalists. Other naturalists were printers, cabinet makers, shoemakers, warehousemen, blacksmiths and bleachers; a few, through their pursuit of self-education were able to become teachers, journalists, librarians, factory managers, or businessmen. The general picture that emerges is that it was artisans or, using R.S. Neale's five class typology, the 'middling classes' which engaged in this kind of activity.<sup>38</sup> It is most unlikely that the lower strata of the proletariat could afford to be involved but we need to know much more about the locations and occupational associations of the naturalists' societies.

Class relationships also need to be examined. Some of the naturalists undoubtedly benefited in various ways from middle class or aristocratic sponsorship. Buxton, for example, was enabled to hunt plants in North Wales and John Mellor of Royton paid several visits to Scotland. In old age both Buxton and Crowther were among those to benefit from the charitable efforts of Edward Binney. Edward Hobson, Joseph Chappell and John Whitehead were among those who had unusually sympathetic employers. In some of their societies there was undoubtedly a degree of social mixing which cut across class barriers; where this took place societies could more

easily acquire books and microscopes. The circumstances in which class mixing took place need to be more fully investigated. It was certainly true of the Banksian Society which included doctors, a banker and a group of wealthy Quaker merchants.

In addition to the pursuit of a shared leisure interest other factors may have been involved in class mixing. One of these was the desire of philanthropists to assist in the raising of working class standards through education. Another, at least up to the passage of the 1832 Reform Act, was the willingness of some sections of the middle and working classes to make common political cause. The working class autodidacts may have often depended on their social superiors in various ways but it is a matter for debate whether this resulted in any serious distortion in the direction of their interests. On the whole the evidence seems against it.<sup>39</sup>

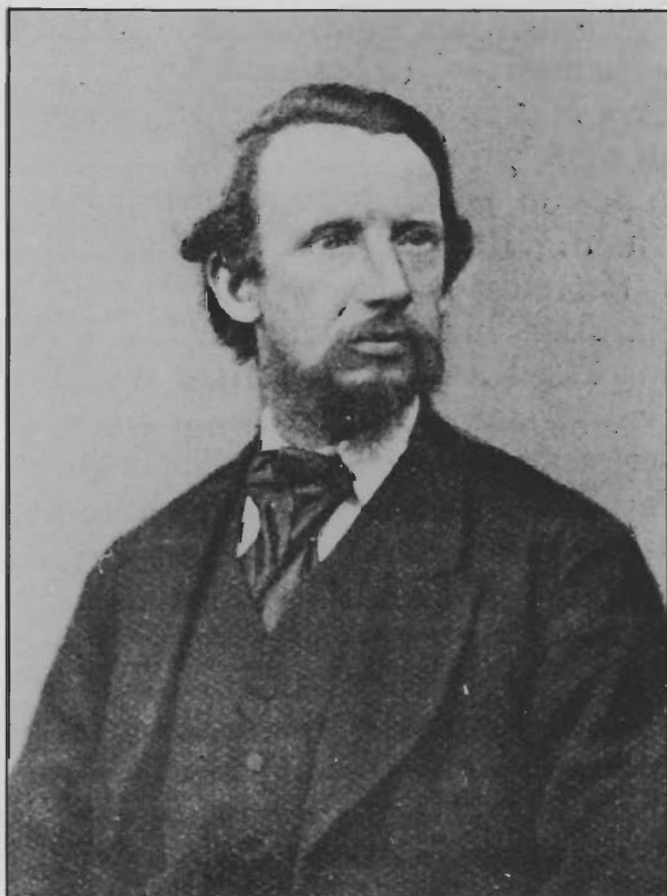
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It would be useful to know more about the religious beliefs and affiliations of the naturalists. The key role of Unitarians in the scientific elite of Manchester and other northwest towns has often been noted. Another denomination which had a significant impact on Manchester science was the Society of Friends, particularly the chapel at Mount Street where John Dalton worshipped. Both the Unitarians and the Quakers are primarily thought of as middle class sects although working class Unitarian congregations existed in some of the cotton towns.

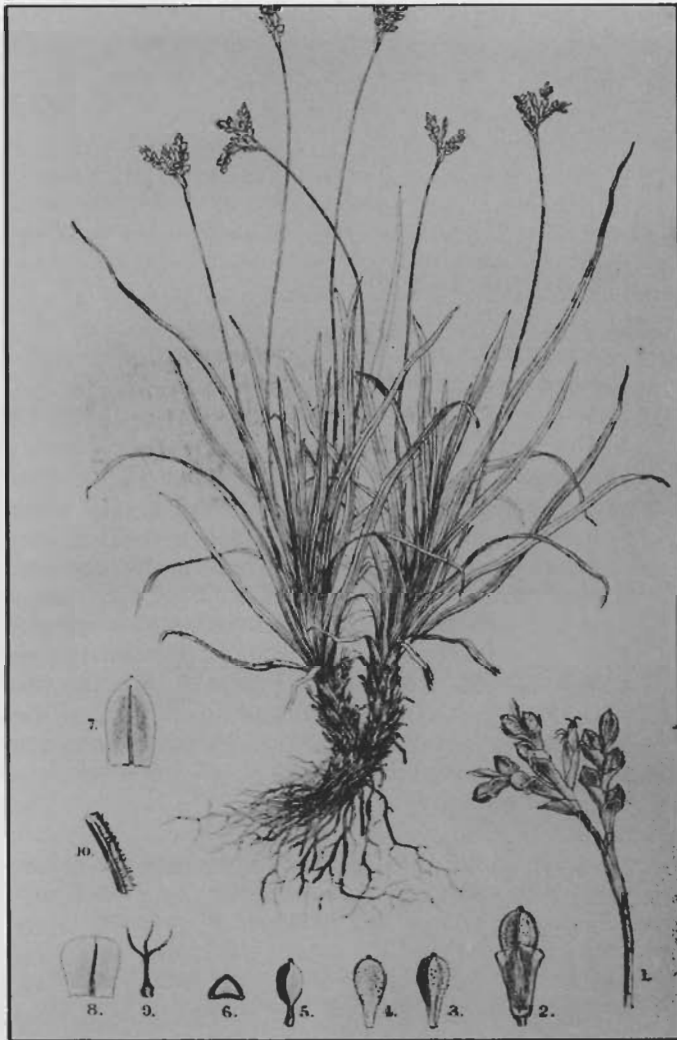
The growing industrial towns were fertile recruiting grounds for various forms of Dissent and at times also for infidelity. Although Methodism was the most popular form of Dissent it was inclined to fall short of satisfying the intellectual needs of the more thoughtful artisans. There is some evidence that in parts of South Lancashire Swedenborgianism played a role not unlike that of Unitarianism among the middle classes. Both sects respected science, were unafraid of it, and believed it would validate the essential truths of their creeds.

Among mainstream Swedenborgians, the herbalist Samuel Dawson, who was one of Samuel Crompton's most valued friends, may serve as an example of the type. In Manchester and Salford particular interest centres on the influence of the offshoot sect known as the Bible Christians which William Cowherd founded in 1800.<sup>40</sup> This group formed congregations in Salford, Hulme, Ancoats and (briefly) Stockport. Although the vegetarianism and teetotalism for which the sect was famed tended to narrow its appeal, other factors helped it to play a significant role in working class life. It was associated with radical politics particularly in the persons of Joseph Brotherton, Salford's first M.P., and James Scholefield, the Ancoats Minister who supported Henry Hunt. At least two of its Ministers, Cowherd and Scholefield, acted as herbalist apothecaries for their flocks. Above all, they provided Sunday Schools and adult education in the years just after Peterloo when some Anglicans and Wesleyans expelled known radicals from their schools.

Rowland Detrosier had received such an education and became a Bible Christian Minister, although he had moved on to Deism by 1829. James Gaskill, the Bible Christian Minister at Hulme, also served on the Banksian Society's Committee. There are other pieces of evidence to suggest that the value of the Bible Christians'



*John Whitehead (1833-96).*



*Birdsfoot sedge (Carex ornithopoda). First British record by John Whitehead and Henry Newton, Miller's Dale, 1874 (Jnl. of Botany, 13, 1875, facing p.196).*

educational institutions was well recognised; Francis Looney's obituary, for example, states that he would be buried alongside William Hadfield, a chemist and former spinner, who had belonged to the chapel in Hulme which "brought out many superior men".<sup>41</sup>

This was clearly a localised phenomenon. Other districts would show a different pattern of religious affiliation. What is certain is that some naturalists were at odds with the established Church. In the Axon Manuscripts there is a curious ironical poem celebrating an attempt by the local clergyman to 'fettle' John Horsefield's soul.<sup>42</sup> We are not told what he had done to deserve this.

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One exciting and under-explored area of study concerns the influence which the pursuit of science, and awareness of scientific controversy, may have had in the more intelligent working class circles upon religious and political beliefs. Laurent has drawn a connection in the later part of the century between the enthusiasm for geology and other natural history studies in Mechanics Institutes and the development of evolutionary-based socialist ideas.<sup>43</sup> Pre-Darwinian versions of evolutionary theory circulated in working class circles before this; Royle draws attention to William Chilton's account in 1841 of the 'theory of regular gradation' in Southwell's anti-Christian *Oracle of Reason*.<sup>44</sup>

Evidence of such ideas can be found even earlier than this in Manchester in Detrosier's Inaugural Lecture to the Banksian Society of 1829. In this he shows sympathy with a Uniformitarian theory of geology and some notion of the transmutation of species. The distribution of rock strata and their fossils suggest to him that although "some of the phenomena exhibited to our notice may have been the result of sudden devastation, it is equally evident that the major part is the result of constant but slowly operating causes." In various contexts he speaks of "the wondrous transition from inorganic to organic form", of "the metamorphose from vegetable to animal life", and of the value of studying the economy and habits of insects "as affording materials for a history of the first manifestation of mind. A gradation of mind seems to be manifested through the vast chain of animated existence".<sup>45</sup> In his days as a Bible Christian minister Detrosier had caused a stir, rippling outside the immediate area, by bringing rocks into the pulpit.<sup>46</sup> The seeds of Detrosier's interest probably came from William Cowherd, whose *Facts Authentic in Science and Religion* (1818-1820) quotes from James Hutton and Erasmus Darwin.

This serves to illustrate the point that we need to look below the surface of the naturalists' activities and ask what those activities meant to them. A primarily utilitarian purpose has been claimed for the botanists. Salveson has asserted that the working class botanists were essentially medical botanists.<sup>47</sup> It is true that some of them, like Joseph Evans of Boothstown and the two William Kents of Royton were successful herbalists and as such carried substantial standing in their communities. In general, however, Salveson's view is a serious distortion. It obviously cannot explain the pursuit of entomology or even the more arcane branches of botany such as the mosses and liverworts in which several specialised and made outstanding contributions. Nineteenth century writers such as Cash and Grindon tended to downplay the herbalist element; Grindon was at pains to point out how superior the naturalists were "to the mere herb-gatherers or 'yarb-doctors' with whom they have often been confounded, and who, though useful in their way, constitute an entirely different class."<sup>48</sup>

Throughout Buxton's *Botanical Guide* we find references to the uses made of certain plants. That does not make it a herbal rather than a flora. These uses, whether for herbalism or gardening or animal husbandry, gave 'added value' to the study; they were not its main purpose. Similarly it may have been the case that some artisans who assisted in the geological exploration of the Lancashire area hoped to show their usefulness to mining interests but there is little evidence to support that form of utilitarian explanation.

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The pursuit of natural history was not without its tensions. Brushes with land-owners and gamekeepers formed the stuff of anecdote. Some naturalists even learned to pose as surveyors for the railway companies.<sup>49</sup>

Another problem, particularly as the temperance movement gathered strength, was the fact that most of the societies met in public houses. The 'Railway and Naturalist' in Prestwich commemorates this tradition. Public houses were often the only venue and attempts to provide temperance locations — as was the case with the Banksian Society — do not seem to have been very successful. That the conviviality was appreciated is shown by Crowther's remark, quoted by Grindon, that "my

Strawberry and Botanical Bowers,  
**STRAWBERRY GARDENS,**  
GLODWICK, OLDHAM.

The Public are respectfully informed that the

# ANNUAL MEETING

Of LANCASHIRE, YORKSHIRE, CHESHIRE, and DERBYSHIRE LINNEAN

## BOTANISTS,

WILL TAKE PLACE

ON SUNDAY, JULY 9th, 1882,

In the above extensive Grounds, which are over 5 acres in extent, and include a large number of Animals and Birds, besides the large Greenhouse, and other objects of attraction.

The BOTANICAL MEETING will take place at Two o'clock p.m., in the large covered Tent, capable of holding 2,000 persons, and will be presided over by

**MR. JAMES NIELD, OF OLDHAM,**

(Geologist and Botanist), when the Specimens will be named by various and well-qualified Botanists.

The Gardens will be opened to the public at Eight o'clock a.m.,

**ADMISSION, THREEPENCE EACH,**

Out of which One-third goes to the BOTANICAL DISTRICT FUND,

Pass-Out Cheques will be given up to Five o'clock p.m.

All kinds of Temperance Drinks and Refreshments will be provided for Visitors

On MONDAY, July 10th, 1882, being the

## MECHANICS' YEARLY DAY,

The BAND will be in Attendance at Three o'clock p.m.

HOT WATER, TEA, &c., IN THE GARDENS.

Proprietors, **JAMES CHEETHAM,**

MANAGER, STRAWBERRYMAN AND FLORIST.

Hirst & Rennie, Printers, Chronicle Office, Yorkshire Street, Oldham.

weaver who was known for his expertise on sedges, was Secretary of a Friendly Society — an important role in the community.

The general tendency of the naturalists seems to have been to support radical or Liberal causes but we know very little about their political beliefs. Edward Hobson and John Dewhurst are known to have had radical sympathies.<sup>53</sup> The elder William Kent “had a vivid sympathy for what he considered human rights” and was imprisoned several times before 1817.<sup>54</sup>

Some specific causes are likely to have been close to their hearts. Tom Stephenson claims the naturalists as ‘early ramblers’, protagonists in the cause of access to the countryside.<sup>55</sup> The more sensitive naturalists like Buxton were well aware that sympathy of landowners to access was dependent on sensible behaviour on the land. The naturalists would certainly have been sympathetic to the movements for cottage gardens and allotments. They also had strong reasons to support movements for reduced working hours such as the ‘half-holiday’ movement. Francis Looney presents an interesting case of the public-spirited use of expertise. He voluntarily gave safety lectures to miners and helped Joseph Brotherton and Edward Binney to prepare evidence in support of the campaign to stop the employment of women and children down the pits.

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It is possible that in 1875 Axon was witnessing the indian summer of the working class naturalist. By 1906 Sharp was lamenting that “the school of working men entomologists especially seems to have left no descendants.”<sup>56</sup> By this time it was becoming commonplace to comment that the urban working class were totally apart from nature and ignorant of it.

It is not really clear when the decline set in and the reasons for it are obscure. Not even the arrival of the railways and the bicycle could compensate adequately for the gross degradation of the immediate environment of those living in the inner cities. Ready access to nearby countryside must surely have been important to sustain inspiration.

Furthermore the middle classes came to play a much more prominent role in field natural history after mid century. The Manchester Field Naturalists Society, founded in 1860, paid tribute to the pioneering efforts of the working class but was implicitly organized for the middle class.<sup>57</sup> Local circumstances dictated whether, in any particular area, the pursuit of natural history was carried on in this class-divided fashion. Inkster has found that class exclusiveness developed in the scientific world of Rochdale from the 1840s.<sup>58</sup>

The decline seems to have coincided, ironically enough, with a great upsurge of enthusiasm for access to the countryside and contact with nature under the romantic and socialist banners which we associate with William Morris, Edward Carpenter, Robert Blatchford and Allen Clarke. Rambling and cycling outings en masse were not likely to have provided optimal conditions for the close study of nature although such outings were sometimes enlivened by the guidance of those versed in the subject.

It also seems likely that the reputation of the naturalists became, in one sense, tarnished. Writing of the Droylsden area in 1859 Higson laments: “The flora of the vicinity once boasted a considerable variety of indigenous herbs and plants, some of which were comparatively uncommon, but few of them rare. Several causes have led

specimens always look best through a glass”. Grindon found it necessary to defend the naturalists saying that “working men can assemble at a tavern, and not abuse it, quite as well as gentlemen; in either case, all depends on the ideas they carry in with them.”<sup>50</sup> Related to this was the problem over the use of the Sabbath. Handloom weavers and other workers in cottage industries who became sucked into the factory system lost a large measure of freedom of choice over the use of their time. Walking thirty miles a day must largely have been a Sunday activity. Anyone firmly committed to Sunday Observance who strongly believed also in working class education and the creative use of leisure was faced with a dilemma of conscience. In terms of respectability the problem was compounded if the public house meetings were also Sunday meetings; the attitude is neatly summed up in the remark attributed to the Rev. the Earl of Mulgrave about “men who collected plants on Sunday morning to make it the occasion for a debauch in the evening at some public house.”<sup>51</sup>

Within their own communities the naturalists could be both opinion leaders and objects of suspicion. That suspicion might at times have been manipulated by outside forces particularly at times of exceptional political tension. Higson records the case of the Fairfield and Droylsden Naturalists Society which had to move from its meeting place in a rented house because it was suspected to have political or theological objectives.<sup>52</sup>

Nevertheless many of the naturalists were widely admired. Lavish memorials were erected by public subscription for Joseph Evans and the Stalybridge one-time weaver, Jethro Tinker. John Martin of Tyldesley, a



34. *ibid* p.179.
35. S. Bamford, *Walks in South Lancashire*, (1844), pp. 13-4.
36. J. Cash, *op. cit.*, p.70. Cash claims the mathematicians used a similar study technique.
37. *Axon MSS*, pp.21-6.
38. R.S. Neale, 'Class and Class-consciousness in Early Nineteenth Century England, *Vict. Stud.*, v.12 (1968), pp. 5-52.
39. For a discussion see B.G. Worrall *op. cit.*, pp.191-5.
40. Useful accounts of the Bible Christians are: W.E.A. Axon, *A History of the Bible Christian Church, Salford from 1809 to 1909* (1909); P.J. Lineham, *The English Swedenborgians 1770-1840*, Univ. of Sussex, Ph. D. thesis (1978), pp. 283-327.
41. *Axon MSS*, p.12 The obituary comes from *Manchester Guardian* (14 March 1855).
42. *Axon MSS*, p.19.
43. J. Laurent, 'Science Society and Politics in late Nineteenth-Century England, *Soc. Stud. of Science*, v.14 (1984), pp.585-619.
44. E. Royle, *Victorian Infidels* (1974), pp.123-5. See also A. Desmond, 'Artisan resistance and evolution in Britain, 1819-48', *Osiris*, 3 (1987), pp.77-110.
45. R. Detrosier, *op. cit.* pp.13-16.
46. G.J. Holyoake, *Sixty Years of an Agitator's Life* (1906), pp. 187-8.
47. P. Salvesson, *The People's Monuments* (1987), p.58.
48. L.H. Grindon (1882), *op. cit.*, p.195.
49. Newspaper cutting by 'A.A.R.' *Axon MSS*, p.45.
50. L.H. Grindon (1882), *op. cit.* pp.200,201.
51. *Eccles Advertiser* (12, 19 June 1875). (Cuttings in *Axon MSS* relating to the attempt to raise a memorial for Joseph Evans).
52. J. Higson, *op. cit.*, p.109.
53. L.H. Grindon (1882), *op. cit.*, p. 208 quotes a relevant anecdote.
54. *Axon MSS*, p.15.
55. T. Stephenson, *Forbidden Land* (1989), pp. 60-63. See also R. Buxton, *op. cit.*, p.xiii.
56. W.E. Sharp, 'Insects' in *Victoria County History of Lancashire*, v.1 (1906), p.101.
57. *Account of the Formation of the Manchester Field Naturalists Society* (1860).
58. I. Inkster, 'Cultural Enterprise: Science, Steam Intellect and Social Class in Rochdale circa 1833-1900', *Soc. Stud. of Science*, v.18 (1988), pp.291-330.
59. J. Higson, *op. cit.*, p.78 — but to show not all botanists shared the collecting mania, see Buxton, *op. cit.*, p.vi.
60. A. Stansfield, *Essays and Sketches* (1897), p.55.
61. *ibid.* This Abraham Stansfield was the son of the nurseryman who collaborated with John Nowell on the Flora of Todmorden.

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