

Editorial

This issue contains a profile of John Stevens Henslow, Darwin's Cambridge friend and mentor (page 4). Henslow was not only responsible for Darwin's appointment to HMS *Beagle* but also arranged to receive all the collected material shipped home to Cambridge. Moreover at the conclusion of the voyage he arranged for Darwin to be given a Treasury grant of £1,000 towards the publication of his zoological findings.

During the entire five years of the *Beagle's* voyage, Henslow corresponded with Darwin proffering advice and guidance and later publishing some of Darwin's geological observations in the *Cambridge Philosophical Society Proceedings*.¹

Darwin's great debt of gratitude to Henslow is quite apparent from the tone of his letters to his old tutor:

"I always like advice from you, and no one whom I have the luck to know is more capable of giving it than yourself. Recollect, when you write, that I am a sort of *protégé* of yours, and that it is your bounden duty to lecture me." (Devonport, Dec. 3 1831)

"I will say farewell, till the day arrives when I shall see my Master in Natural History and can tell him how grateful I feel for his kindness and friendship." (Sydney, Jan. 1836)

And then when telling Henslow about his geological specimens:

"My dear Henslow, I do long to see you, you have been the kindest friend to me that ever man possessed." (Shrewsbury, Oct. 6 1836)

The year after the *Beagle's* return Henslow was appointed rector of Hitcham, Suffolk (1837) and from that point onwards as Darwin noted:

"he cared somewhat less about science and more for his parishioners."

Finally, in the last year of his life, Henslow came to the assistance of his student one last time by acting as Chairman of the 1860 British Association meeting at which Huxley (and Hooker and Lubbock) took up the cudgel on Darwin's behalf.

Shortly after his mentor's death Darwin was asked to write a tribute to him in the *Memoir of the Rev. John Stevens Henslow*, edited by Leonard Jenyns [1862]. He concluded his eulogy with these sentences:

"In intellect, as far as I could judge, accurate powers of observation, sound sense, and cautious judgment seemed predominant. Nothing seemed to give him so much enjoyment, as drawing conclusions from minute observations. But his admirable memoir on the geology of Anglesea, shows his capacity for extended observations and broad views. Reflecting over his character with gratitude and reverence, his moral attributes rise, as they should do in the highest character, in pre-eminence over his intellect."

1 When Darwin was starting on the voyage: "the sagacious Henslow, who like all other geologists, believed at the time in successive cataclysms advised me to get and study the first volume of [Lyell's] *Principles* which had just been published but on no account to accept the views therein advocated". More important perhaps than Lyell's *Principles* was a copy of Humboldt's *Personal Narrative* which Henslow presented him with on his departure. Darwin later admitted: "This work and Sir J. Herschel's *Introduction to the Study of Natural Philosophy*, stirred up in me a burning zeal to add even the most humble contribution to the noble structure of Natural Science."

Society News

In the 1999 Birthday Honours **Professor Dianne Edwards FLS FRS**, Editor of the Society's *Botanical Journal*, was awarded a CBE and **Dr. Keith Ferguson**, lately of the Royal Botanic Gardens, Kew, an OBE.

The Society is most grateful for donations of £2500 from the Golden Bottle Trust and \$10,000 from Dr. Lucy Cranwell-Smith FRSNZ, who became a Fellow in 1937. Regarding the latter, a former President notes that, at a palaeobotanical congress in Arizona, Dr. Cranwell-Smith invited the participants to her house and, the weather being warm, to swim in her pool. A pile of bathing garments was provided enabling the hot and dusty participants to spring modestly into the cooling waters. Unfortunately for them, ants had found the swimming costumes first and expressed dissatisfaction at being thus immersed. The human swimmers were obliged to beat a rather less modest retreat.

The death of Mr. BE Smythies on 27th June 1999 deprives the Society of one of its principal benefactors. An obituary, taken in part from the proceedings of the 1985 Anniversary Meeting when Mr. Smythies received the HH Bloomer Award, appears elsewhere in this issue (page 39).

The Programme Card had scarce gone to the printers than a further meeting was proposed by one of our Fellows – **Rafinesque: Reason in Madness**. Mark Griffiths FLS writes:

“Constantine Samuel Rafinesque-Schmalz, ‘Rafinesque’ (1783–1840) ranks among the most controversial of natural historians. A pioneer of Mediterranean and North American flora and fauna, he contrived to name over 6700 taxa, more than any other biologist to date. Of these fewer than 5% are still recognised.

His interests encompassed botany and zoology, but ran also to palaeontology, ethnology, philology, the invention of submarines and fire-proof housing, newspaper publishing and failsafe banking systems. This ill-assorted mix of interests was enough to persuade such contemporaries as Gray, Nuttall and Toweit that Rafinesque was mad. What convinced them of his insanity, however, was his early promoting of natural systems of classification and his advancing, as early as 1830, a theory of evolution by random mutation and natural selection. Little remains of Rafinesque's prodigious output, but his lifelong correspondence with British biologist William Swainson is held at the Linnean Society of London and provides a unique insight into the troubled mind and life of the man immortalized by Audubon as ‘The Eccentric Naturalist’ ”.

The meeting is on **Thursday, 24th March 2000** at 6pm (tea at 5.30pm).

The **Systematics Association** is organising a **Young Systematists' Forum** on **1st December 1999** at the Natural History Museum. Workers new to the fields of systematics and phylogenetics are invited to present short (15 minute) talks on aspects of their work which highlight new methods or problems of general interest. The Systematics Association intends this one-day event to be an opportunity for PhD, MSc and post-doctoral students and researchers to discuss their work and research.

Further to our comment about the UK Systematics Forum in the July issue, **Dr. David Norman** has now been elected chairman to replace Professor Blackmore.

Further to our mycological comments in the last issue, it appears that the **Rev. Cornelius Whur** (1782–1853), a dissenting minister from East Anglia actually

composed a poem – *The Unfortunate Gentleman* – about a man, his sister and a little boy who were together poisoned by eating mushrooms gathered in the fields. Whur can hardly be described as a poet of note, more a figure of fun; it is also clear that his grasp of pathology was limited. The (in)appropriate stanzas are:

But in a dark and trying hour
 (Man hath his days of woe!),
 He found in vegetable power
 A dreadful, deadly foe!
 His heart corroded - sank to rest,
 No more to ope life's way;
 His hand no longer on Thee pressed
 Thyself no more his stay!

It has also come to notice that no lesser mortal than **William Wordsworth** recommended a friend to take up botany as a cure for unrequited love. Perhaps that is the secret of the success of our botanic gardens. He even put it into (rather marginal) verse – *The Course Prescribed* – which concluded that “I infer that he was healed/ By perseverance in the course prescribed”. **Sir W.S. Gilbert** recommended in *Patience* that “....passion of a vegetable fashion should excite your languid spleen,” – clearly his neurophysiology was lacking – “An attachment *à la Plato* to a bashful new potato/ Or a not too French French Bean....”. The song is noteworthy for its mention of this address – “If you walk down Piccadilly/ With a poppy or a lily/ In your medieval hand”, although its shafts were aimed at our less scientific neighbours.

Wordsworth also wrote a (even worse) poem about a very old man who gathered leeches “....far and wide he travelled; stirring thus about with his feet/ The waters of the pools where they abide....”. There is a well-known lampoon on this:

I shook him well from side to side
 Until his face was blue.
 ‘Come tell me how you live,’ I cried,
 ‘And what it is you do,’
 He said, ‘I hunt for haddocks’ eyes
 Among the heather bright.’

Like the haddocks’ eyes in the heather, it seemed that the leeches, too, were on the endangered list and had “dwindled long from slow decay” as with everything else these days. However, it is not surprising that such an old man with such an occupation should have survived so well, for had Wordsworth known a spot of biochemistry, he would have recognised that leeches secrete in their saliva a protein – hirudin – the better to make the blood flow. This protein, of around 120 amino acids, is also noteworthy in not generating any immune response in the leeches’ hosts, more than can be said for streptokinase, a bacterial alternative. Hirudin is now produced by a genetically modified organism for treatment of heart disease. Perhaps bleeding people with leeches did some good after all and they are being used medicinally again, particularly in the treatment of burns where they encourage blood flow; they are certainly cheaper than human tissue plasminogen activator (TPA), similarly produced, used and with similar activity in heart disease, which comes in at over £10,000 for a single course of treatment.

The Society's Collections

The Society's Council has been concerned for some time to make its unique collections available to a wider public via the Internet or by other electronic means. At a special meeting of an expanded Collections Curatorial Committee held on 22nd July 1999, it was agreed that the Society should seek to raise funds to ensure that all of its key collections should be available electronically on the www within five years. Where we have conventional photographs or slides, these should be used to generate electronic images, but otherwise we should seek to provide electronic images using either a digital camera for the larger three-dimensional objects, or a conventional flat-bed scanner for books, papers and herbarium material, at as high a resolution as practicable. Together with commentary/references/biographical and geographical material, this information would be made available in (a) format(s) compatible with others in the field. It was also agreed that the Society's customers for this exercise would be primarily taxonomists, but that provision would need to be made for those without specialist skills.

The Oleg Polunin Memorial Fund

Oleg Polunin (1914–1985), who was a master at Charterhouse for over thirty years, is remembered as a widely cultivated man, whose particular gift as a teacher was to inspire and lead young Carthusians in botanical fieldwork. He himself took part in important expeditions to Nepal and the Himalayas, and, as a result of his travels there and in the remoter parts of Europe, published his great series of botanical field guides. These won him world-wide reputation among botanists and biologists and those who love to study flowers in their natural habitat. Field work was the key to his achievement and it was his earnest desire that pupils of Charterhouse should be encouraged to continue their botanical studies in the field after completing their schooling.

The Fund has been established by his wife, his family and friends in his memory and in gratitude for the generous support given to him by the Governing Body of Charterhouse during his lifetime.

Applicants should apply in writing to the Headmaster, Charterhouse, Godalming, Surrey GU7 2DJ, giving a clear statement about their proposed field studies, where they will be undertaken and when, the extent to which they will be supervised and the amount of grant requested, normally to a maximum of £500. Applications are considered in February each year.

Looking at the list of successful recipients of awards from this Fund, it is clear that many Linnean Society Fellows are numbered among them.

Picture Quiz

The July Quiz (15(3):13) featured John Stevens Henslow (1796–1861) geologist, botanist and clergyman. He was born 6th February 1796 at Rochester where his father was in business as a solicitor. The eldest of eleven children, he apparently inherited a taste for natural history from both parents. He was educated first at Rochester free grammar school and afterwards under the Rev. W. Jephson at Camberwell where he had the good fortune to receive special instruction in zoology from Dr. Leach, the

crustacean expert at the British Museum. In 1814 he entered St. John's College, Cambridge where he studied chemistry, mineralogy and mathematics, graduating 16th Wrangler in 1818, in which year he also joined the Linnean Society. The following year he assisted Cummings with his chemistry demonstrations and began helping Adam Sedgwick organise the Woodwardian Museum. Later during the Easter vacation (1819) he accompanied Sedgwick on a geological tour of the Isle of Wight. As a consequence of this trip they not only became friends for life, but together founded the Cambridge Philosophical Society in November 1819, with Sedgwick its first Secretary and Henslow succeeding him in May 1821, continuing in office until he went to live permanently in Hitcham in 1839. In the long vacation of 1819 Henslow took a group of students to the Isle of Man in order to seek out and negotiate for a skeleton of the Irish Elk (known to have been found there the previous year) for the Woodwardian Museum. Henslow subsequently produced a geological map of the island which formed the subject of his first published paper in the *Transactions of the Geological Society* (which he had joined in 1819). Similarly, in 1821 he led a field trip to Anglesey and described the geology this time in a paper to the Cambridge Philosophical Society.

As a consequence of these endeavours Sedgwick got him appointed in 1822 to the Chair of Mineralogy. He was just 26 and soon produced a *Syllabus of a Course of Lectures in Mineralogy*, which provided a valuable systematic description of the mineral kingdom. Then in 1824 he was ordained deacon and priest, becoming curate at St. Mary the Less, Cambridge.

On the death of Professor Thomas Martyn in 1827, a manoeuvre (instigated by Sedgwick) enabled him to take up the Regius Chair of Botany without relinquishing his Mineralogy Chair. Martyn had held the chair for over 60 years and had apparently given no lectures at all over the past 30 years. Henslow soon changed all that with a course of lectures integrating chemistry and physiology into the botanical curriculum using his mathematical skills to help explain phyllotaxis. His classes were widely attended with audiences in excess of 60 and, by Jenyns' report, even a few women managed to slip in (terms of attendance one guinea!). Not only did the classes include practicals, when the students were encouraged to dissect plants, but there were integrated excursions during the summer term. These field trips took place two or three times a session to places such as Gamlingay and invariably ended with a meal for the participants in some inn or country house.

A more sophisticated development was Henslow's Friday evening scientific soirées held at his home; these started in February 1828 and continued during full term to the end of 1838. Undergraduates and dons alike were invited and to bring specimens of interest in all branches of science. Guests included Sedgwick, Jenyns, Babbington, Mackintosh and Dawes. According to his autobiography, Darwin soon organised himself an invitation and went there regularly.

When Henslow was made Regius Professor of Botany he was also made Walker's Lecturer by the Governors of the Botanic Garden. Although without a stipend it enabled him to make full and free use of the Gardens. Finding these inadequate for his purpose, Henslow persuaded the University in 1831 to purchase a 30 acre site on the outskirts of town and this was finally developed under his direction in 1846. Then, within his newly developed Botanic Garden, he built up both a botanical museum

(which included 30,000 plants from Mauritius and Gibraltar – donated by Lehmann) and a zoological one. It is worth noting that Henslow's extraordinary skills in museum work were made use of by W. Hooker who persuaded him to help him with the museum and herbarium when Kew Gardens were given to the nation.¹ Today a marble bust of Henslow by Woolnec at Kew bears testimony to his industry in developing that museum.

Some time before he became a priest he and Leonard Jenyns collected plants and fossils together round Cambridge when they would often finish up at Bottisham Hall – Jenyns' home. There he met Jenyns' sister Harriet whom he married in 1823. There were two daughters and a son; the younger daughter, Frances, later married Joseph Hooker.

In 1837 Henslow was presented to the crown living of Hitcham, Suffolk and in 1839 he left Cambridge for Suffolk. On his appointment he immediately turned his energies to the reform of a most neglected parish. Despite the opposition of the farmers he founded a parish school for the labouring classes mainly paid for by himself (opened in 1841) and introduced various self-help clubs and societies, including a Coal Club, Children's Clothing Club, Medical Club, Wives Society, Benefit Society, Ploughing Match Society, Cricket and Athletic Clubs, an Allotment scheme, Horticultural Shows and substituted the orgies known as tithe dinners (given by the Rector to the farmers in the local hostelry) with parish excursions!

In 1852 he introduced botany to the parish school as a voluntary subject on Monday afternoons for selected pupils – with signal success. It was taught by dissection so that his pupils might understand the Linnean system of classification. His children became so proficient at botany that Darwin got some of them during 1845–9 to collect seed for his experiments with sea water. Later in 1860, probably on the recommendation of Joseph Hooker, Prince Albert got Henslow to give four one hour lectures on botany to his children (Owen also gave four on zoology including medical topics).

Henslow's concern for countering the ignorance of the local farming community led to him giving a series of lectures to Hadleigh Farmer's Club (*Letters to the Farmers of Suffolk with a Glossary of Terms Used*, published 1843) dealing with such topics as the economic application of manures. That same year (1843), whilst on a family holiday in Felixstowe, his tutored eye led to him finding important beds of phosphatic nodules or coprolites near the coastal regions of the Red Crag. This he wrote up for the *Gardener's Chronicle*, 1844. Eventually these coprolites were raised from pits, washed and taken to a local mill to be crushed. The resulting phosphate was distributed to neighbouring farms in Suffolk and Cambridgeshire (including Rothamstead Experimental Station) to manure the soil. Today large areas of Norfolk and Suffolk are honeycombed with phosphatic pits.

In 1848 he took an active part in the foundation of the Ipswich Museum. His obituary notice concluded:

¹ Following John Lindley's 1838 report to the Government advocating the nationalisation of Kew Gardens.

“With the exception of Cambridge, no town owes so deep a debt of gratitude to Professor Henslow as Ipswich, whose unique museum was planned and arranged by him and made the model of what a local museum should be in a scientific, educational, and popular point of view.”

Although Henslow delivered the introductory lecture to the Ipswich Museum in 1848 it was not until his election as President two years later (on the death of Kirby) that his practical and scientific influence was fully exerted. Meanwhile Ipswich had been selected by the British Association for its 1851 meeting. The Astronomer Royal (George Airy) was to be the President, Ransome and May from Ipswich having engineered the supporting structures for the new large lens at the Greenwich Royal Observatory.

For the purposes of the meeting all the delegates were made Honorary Members of the Ipswich Museum, including Prince Albert, De La Beche, James Bowerbank, William Buckland, John Curtis, Charles Darwin, Michael Faraday, Edward Forbes, John Gould, Edwin Lankester, John Lindley, Sir Charles Lyell, Sir Roderick Murchison, Richard Owen, Nathaniel Wallich and William Yarrell. The list read more like the roll of the Royal Society than friends of a provincial museum.

During this period he redeveloped an interest in the antiquity of man. Earlier, when he first went to Hitcham, he had opened several tumuli and described the contents, which included pottery and Samian ware. The best of the antiquities he presented to Colchester Museum.

In his desire to trace man's antecedents Henslow twice visited Hoxne, Suffolk where he had excavations made. These showed, as Prestwich observed, that the river gravels containing palaeolithic flint implements overlay a thick boulder clay. In 1860, the last year of his life, he visited the Somme Valley and the pits at Amiens and Abbeville. Like Darwin (and Busk and Lubbock) he concluded that the flint implements were ‘man made’ and belonged to a period long antecedent to that usually attributed to man's existence on earth. Did he finally accept the *Origin of Species*? Could he really have believed that Man had evolved from the animals?

Henslow and Darwin

Darwin attended Henslow's lectures on botany and:

“liked them for their extreme clearness and admirable illustrations” (*Autobiography*: 48).

He also had tutorials with Henslow and remarked:

“He had a remarkable power of making the young feel completely at ease with him; though we were all awestruck with the amount of his knowledge” (F. Darwin: 187).

Henslow soon became Darwin's friend and mentor with Darwin first attending the Friday evening soirées and later becoming a frequent visitor to Henslow's home and walking with him around Cambridge. Referring to the soirées Darwin noted:

“When only a few were present I have listened to the great men of those days conversing on all sorts of subjects with the most varied and brilliant powers. This was no small advantage to some of the younger men as it stimulated their mental activity and ambition”.

In his *Journal* entry for 1831 Darwin wrote:

“During these months lived much with Prof. Henslow often dining with him and walking with, became slightly acquainted with several of the learned men in Cambridge, which much quickened the zeal which dinner parties and hunting has not destroyed” (de Beer, 1959).

He also went on several field trips by stage coach with Henslow (and Babbington) to such destinations as Gamlingay:

“He used to pause every now and then and lecture on some plant or other object and something he would tell us on every insect shell or fossil collected for he attended to every branch of natural history” (*Autobiography*: 188).

Sometime before 24 August 1831 the Rev. George Peacock of Trinity College Cambridge, Professor of Anatomy and friend of Captain Beaufort, Hydrographer to the Navy, wrote to Henslow to tell him that Captain Fitzroy was about to survey the southern coast of Terra del Fuego and that:

“An offer has been made to me to recommend a proper person to go out as a naturalist with this expedition..... is there any person whom you could strongly recommend: he must be such a person as would do credit to our recommendation”.

Henslow wrote straight away to Darwin to tell him:

“that I consider you to be the best qualified person I know of who is likely to undertake such a situation – I state this not on the supposition of yr. being a finished Naturalist, but as amply qualified for collecting, observing, & noting anything new to be noted in Natural History”.

And then to George Peacock to inform him of his preferred candidate. Peacock conferred with Captain Beaufort and then wrote to Darwin offering him the position of naturalist on the *Beagle* (Barlow, 1967).

However, Charles’ father was so strongly opposed to the idea that his son wrote by return to both Henslow and Peacock

“But my Father, although he does not decidedly refuse me, gives me such strong advice against going – that I should not be comfortable if I did not follow it”.

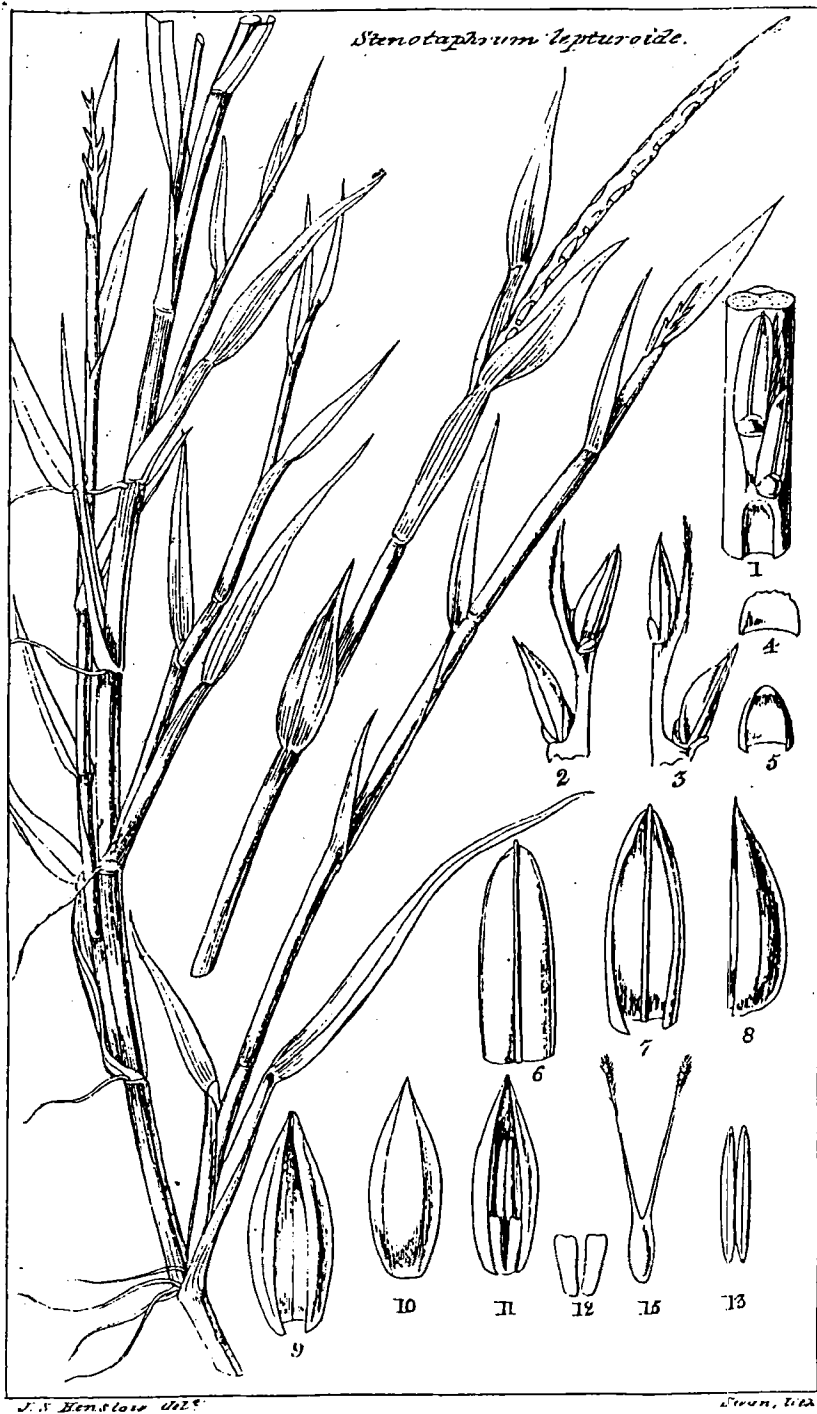
Fortunately at the time of this family crisis Charles was staying with his uncle Josiah Wedgwood to whom he gave a verbal account of his father’s objections. Both Charles and his uncle wrote to Dr. Robert Darwin countering his list of objections (on 31 August 1831) with Josiah Wedgwood stressing that far from being a useless undertaking:

“looking upon him as a man of enlarged curiosity, it affords him such an opportunity of seeing men and things as happen to few”.

Then, letters in hand, they drove from Maer in Staffordshire to The Mount at Shrewsbury (some 20 miles) where they could talk directly with Charles’ father. After a short discussion Robert Darwin reversed his judgement. Charles drove straight away to Cambridge and from the Red Lion on 2 September, wrote to Henslow:

“I am just arrived: you will guess the reason, my Father has changed his mind. – I trust the place is not given away”.

Until he left England on the *Beagle* Darwin had been guided by his father but now he

Figure 1. *Stenotaphrum lepturoides*

needed someone to whom he could divulge the scientific results of his explorations. According to Barlow (1967) this person was the Rev. Henslow:

"Darwin leant heavily on Henslow's wise perceptive humanity".

As Darwin later wrote in his *Autobiography* his friendship with Henslow was:

"A circumstance which influenced my whole career more than any other".

Henslow soon realised that as the *Beagle* voyage progressed these letters from Darwin to himself contained scientific observations, particularly on geology, that were of exceptional interest.

In the event Henslow read extracts from nine letters containing accounts of the geology of certain parts of the Andes and South America to the Cambridge Philosophical Society on 16 November 1835. These extracts were published as a pamphlet dated 1 December 1835 and were issued to Fellows at about the time the *Beagle* had completed its visit to the Galapagos Islands.

The Fellows were greatly impressed and one, Adam Sedgwick, called on Darwin's father telling him that his son would take his place among the leading scientific men (*Autobiography*).

Henslow's influence continued after the traveller had returned. He helped him to dispose of his collections and arranged a Government grant of £1,000 for the publication of the *Zoology of the Beagle*. He also proof read the *Journal of Researches*.

In July 1838 Henslow described the flora of the Keeling islands (*Florula Keelingensis*. An account of the Native Plants of the Keeling Islands. *Ann. Nat. Hist.* 1(5):337-347) (See Figure 1). Nevertheless, according to Barlow (1967):

"The only touch of impatience ever perceptible is when Henslow's dilatoriness in dealing with the botanical collections was holding up Darwin's main work!"

Following the publication of *Origin* in 1859, Henslow visited Down and Darwin subsequently wrote to Asa Grey (18 Feb. 1860) telling him:

"Henslow will go a very little way with me and is not shocked at me."

Henslow, however, had his work cut out mediating on Darwin's behalf. First in May 1860, when Sedgwick addressed the Cambridge Philosophical Society and cast a slur upon all those who substituted hypotheses for strict inductions and accused Darwin of departing from the spirit of inductive philosophy. Henslow stoutly defended Darwin arguing that he deduced his inferences from positive experimentation.

Finally in June 1860, when Henslow chaired several of the sessions of the British Association Meeting in Oxford, including the famous debate which followed Draper's paper on the "Intellectual Development of Europe, Considered with Reference to the Views of Mr. Darwin" he summed up in favour of Darwin.

B. G. GARDINER

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Clue: A foxy type?

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15.6.99

Dear Brian:

Your April picture quiz is a sketch of Sir John Lubbock (1834–1913), also known as Lord Avebury. Lubbock was awarded a peerage in 1899, and chose the name to honor his beloved prehistoric mounds at Avebury, in Wiltshire, that he rescued from being demolished by housing developers. He considered the site “the finest megalithic ruin in Europe...older and much grander than Stonehenge”.

The Lubbocks, a banking family, lived on a grand estate called High Elms near Downe village in the Kentish countryside, just up the road from Charles Darwin’s comparatively modest Georgian home, Down House. “Insofar as one could be born and bred to Darwinism before 1858,” wrote historian George Stocking in *Victorian Anthropology* (1987), “John Lubbock was.” He found in Darwin a teacher, mentor and “scientific father” who greatly influenced his life and career. From an early age, he became part of Darwin’s select inner circle, which included Thomas Huxley, Joseph Hooker, and Charles Lyell. At the celebrated Oxford Debate of 1860, at which Huxley famously confronted Bishop Samuel Wilberforce, Lubbock gave a long, effective defense of Darwinism using evidence from embryology. By some contemporary accounts, Hooker and Lubbock actually won the day more effectively than did Huxley.

As a young man, Lubbock told Darwin his three goals were to be Lord Mayor of London, Chancellor of the Exchequer, and President of the Royal Society. Darwin said he could be any one if he gave up the other two. Lubbock ignored the advice and did not reach any of those positions — but he came close, achieving eminence in all three areas of politics, finance, and science.

A founder of what was then known as the “prehistoric movement,” Lubbock toured the Somme River gravels in 1860, escorting the geologist Sir Joseph Prestwich and others to see the thousands of ancient stone tools being collected and studied by Boucher de Perthes. Lubbock published accounts of these sites — detailing evidence of extinct mammoths, woolly rhinos and other cold-weather animals coexisting with early humans — in the *Natural History Review*, of which he was an editor. In 1865, he published his classic work *Prehistoric Times*, and coined the terms Paleolithic, Mesolithic, and Neolithic (Old, Middle, and New Stone Ages), which archeologists still use. Lubbock decorated the walls of High Elms with hundreds of primitive tools and weapons from ancient digs and contemporary tribal peoples. In a later book *Origin of Civilisation* (1870), published within a year of Darwin’s *Descent of Man*, Lubbock revised his earlier, unflattering view of “degenerate savages” to allow for evolutionary progress.

In addition to establishing himself as a pioneering prehistorian, Lubbock conducted innovative research in comparative psychology and the behavior of social insects. One special room in his home contained glass cases enclosing more than 30 ants' nests of many species. His classic *Ants, Bees, and Wasps* (1882) detailed many experiments on their behavior, social organization and "mental activity".

Lubbock was the first to document color vision in bees, which confirmed Darwin's view that flower forms and colors were adaptations to attract pollinating insects. In the *Journal of the Linnean Society* for April 1, 1898 (Vol XXXIII, No. 231), Lubbock reiterated his theme that "it is to Insects we owe the beauty of our gardens, the sweetness of our fields. To them, flowers are indebted for their scent and colour; nay, for their very existence in its present form. [The] present shape and outlines, the brilliant colours, the sweet scent, and the honey ... been [been] gradually developed through the unconscious selection exercised by insects..." (Hard to believe today, but a mere century ago, scientists were still debating the role of insects and pollen in the sex life of flowers! Darwin was a key player in continuing the work of Christian Sprengel on plant fertilisation and extending it to the coevolution of insects and flowers.) Lubbock concluded that Linnean article ("On the Attraction of Flowers for Insects") by noting that the insects thus "confer upon the plants the great advantage of cross-fertilization" — another topic of great interest to Darwin, and the subject of thousands of experiments in his greenhouse and garden.

Some years ago, I took the opportunity to browse through some of Lubbock's papers which are archived at Maidstone. One thing that struck me was that his pattern of changing interests within the broad field of evolution closely tracked that of Darwin. When Darwin was interested in barnacles, Lubbock wrote a paper on barnacles (naming a species after his mentor). When Darwin became interested in fossil mammals, Lubbock was, too. When Darwin's interests turned to stone tools, to prehistory, to the origins of society, to the descent of man, to comparative animal behavior, to the fertilisation of flowers by insects, to the benefits of cross-pollination in plants, each time Lubbock tried to elucidate the latest problems posed by his revered teacher.

After several unsuccessful attempts, Lubbock was elected to Parliament in 1869; his public list of supporters in the local newspaper, the *Bromley Record* included John Stuart Mill and Charles Darwin. He is still remembered in England as "Saint Lubbock" for creating the first secular bank holiday in England — the first time the workers were given off a long weekend in summer without a religious justification (hence your clue, "a bank holiday sketch?") Unfortunately, Lubbock's magnificent homestead was destroyed by fire in the 1970s. I have been told that the blaze began at a weekend party held by the then-owners to celebrate "St. Lubbock's Day".

Yours sincerely,
RICHARD MILNER

9.7.99

10 Battishill Street,
Islington, London N1 1TE

Dear Brian

Newport's Scolopendra

The letter from Adam White to George Newport, dated 11 October 1842 and reproduced in *The Linnean* (April 1999, 15(2): 18) was sent a year after the latter had published his pioneering study of the reproductive organs and development of Myriapoda (*Phil. Trans. Roy. Soc.* 1841, 99–130). A taxonomic paper in *Proc. Zool. Soc. Lond.* had also appeared shortly before. It was not until 1844, however, that Newport published his list of Chilopoda in the cabinets of the British Museum (*Ann. Mag. Nat. Hist.* (1)13: 94–101) and monograph on the class Myriapoda order Chilopoda (*Trans. Linn. Soc. Lond.* 19: 265–302; 349–439). The *Scolopendra* to which White referred could from this have been either *S. hardwickei* from India described by Newport as being bright yellow with alternate segments, except the 7th, dark blue, or else the colourful *S. viridicornis* (= *S. variegata*) from South America.

The only specimens illustrated by C.L. Koch (1863 *Die Myriopoden*, Halle) which have conspicuous transverse bands are labelled *S. histrionica* and *S. pulchra*. The latter was, however, regarded by R. Latzel (1880, *Die Myriopoden der Oesterreichisch-Ungarischen Monarchie*, Wien) as being a synonym of the common European *S. cingulata*. This species was also cited in Newport's list, but does not have conspicuous transverse bands in any part of its range according to H.W. Brolemann (1930 *Faune des Myriapodes de France. Faune de France* 25, Chilopodes, Paris) while *S. histrionica* is a synonym of *S. hardwickei*. My friend Dr John Lewis, to whom I am much indebted for this taxonomic information, informed me that G. Attems (1930 *Scolopendromorpha. Das Tierreich* 54, Berlin) is the best source on the synonyms and colour of scolopendromorphs. The problem is that colour fades with time: most old specimens are pale brown. Of the species mentioned, Attems gives yellow red to brown, and pale green to dark green often with the hind wall of the tergites dark grey for *S. viridicornis*. *S. cingulata* is a very variable, uniform yellow brown, dark brown, olive green with deep dark green, or yellow brown with broad dark green posterior margins of the tergites mostly only between the paramedian sutures but sometimes the whole width of the hind wall. Lewis added: "*S. hardwickei* is certainly very striking, alternate tergites rather than the posterior edge of same being black. Another candidate is *S. morsitans*. This is often pale brown with a dark grey to black posterior margin to the tergites. It occurs in S. America, Africa, Asia and Australia. It would help if we knew where White's specimen(s) came from" (*in litt* 28 June 1999).

Taking these points into account, it seems most likely that Adam White's banded species might have been *S. hardwickei* or *S. viridicornis*, and less probably *S. morsitans*; or possibly even *S. cingulata* – if indeed it existed at all!

George Newport was one of the Fellows of the Linnean Society buried at Kensal Green Cemetery.

Yours sincerely,

JOHN CLOUDSLEY-THOMPSON

2.8.99

University of Copenhagen,
Gothersgade 140,
DK-1123 Copenhagen K,
Denmark

Dear Brian

Picture Quiz – The Linnean 15(3)

The picture is of Revd. **John Stevens Henslow** (1796–1861) who from 1825 to 1861 was Regius Professor of Botany at Cambridge University, and had been Professor of Mineralogy for three years prior to that. He and Revd. A. Sedgwick founded the Cambridge Philosophical Society.

Henslow more than anyone else affected Darwin's career as a naturalist. Darwin himself considered meeting the professor the one circumstance "which influenced my career more than any other." The contact with Henslow brought Darwin in contact with intellectual Cambridge and paved the way for his future and it was a letter from Henslow dated August 24, 1831 that was the impetus to his circumnavigation with *The Beagle*. Hence, it was only natural that Darwin's botanical specimens collected during the voyage were handed over to Henslow, though for instance the Galápagos plants were treated by J.D. Hooker.

Henslow and Darwin remained close friends for life. Darwin, much to his own disappointment, tried in vain to convince Henslow of his evolutionary theory.

Yours sincerely,

OLE SEBERG

Associate Professor, Ph.D.

President of the Willi Hennig Society

26, Rhonddda Grove,
London E3 5AP

20.7.99

Dear Professor Gardiner

Picture Quiz - The Linnean 15(3)

The portrait (on page 13 of Number 3, Volume 15 of *The Linnean*) is of **John Stevens Henslow** (1796–1861). While he may have only gone a very little way with Darwin and Wallace, the fact that he recommended Darwin as naturalist for *The Beagle* helped Darwin to go a very long way!

Yours sincerely,

JOHN EDWARDS

18.8.99

Dear Brian

Claydon High School,
Church Lane, Claydon,
Ipswich, Suffolk IP6 0EG

Picture quiz, Vol. 15(3), July 1999

The picture on page 13 of the latest issue of *The Linnean* is of Professor John Stevens Henslow, Professor of Mineralogy and Botany at the University of Cambridge last century, Anglican parson at Hitcham in Suffolk from 1835 and tutor to Charles Darwin and to the children of Queen Victoria.

Yours sincerely,
HUGH PEARSON

From the Archives

Letter to Alexander McLeay

My Dear Sir,

I was very glad to hear of your Appointment in New South Wales, – 1. Because it may do good to your family, – 2. Because it may do good to yourself, being so healthy a climate that you may live there ten or twenty years longer than you would do in Europe, more especially if you study “The Code of Healthy Longevity” and 3. Because it will do much good, both to that rising settlement & ultimately to the Mother Country. I am glad also that it puts an end to your political connexion with Caithness. In regard to the Colony you are going to, its great staple should be Wine, which bears a long carriage and indeed is the better for it and all kinds of vines should be tried there, not only from Europe, but from the Cape of Good Hope, to see which answers best.

It has often occurred to me, that the true Silver Rabbit, to be had in Lincolnshire would be an immense acquisition to that Country. Its multiplication would be so rapid as to prevent any risk of famine; – its fur is very valuable and goes into a small bulk. I would also strongly recommend the Carlisle Codlin which is among the most prolific and most useful of the apple tribe; – I inclose two papers respecting it.

The late Governor, (Sir Thomas Brisbane) wrote me that they had subscribed a large sum for sending over some valuable stock. Mr. Burton, the Member, had to Commission, and you should see him about it!

I shall probably be in London before you leave it, and we may then discuss together what additional improvements can be introduced into the Colony.

With best compliments to M^{rs} Macleay & your family, I remain in haste, faithfully yours,

John Sinclair

133 GEORGE ST. EDINBURGH. 30TH JANUARY 1825.

From Scotland to Australia: the Transference of a Botanical Tradition

The subject of this article is Abercrombie Anstruther Lawson, Foundation Professor of Botany in the University of Sydney, 1913–27. Such distinctive first names are clearly indicative of Scottish connections. But therein lies a question. With any biographical account of an individual his or her birthplace, date and family origins – if available – usually precede any career summary. If we are to believe two of Lawson's obituarists, he was a Scot born in Fife in 1874. Indeed, one of these two goes further, stating that Lawson was born in that year in Pittenweem. However, a recent search of the records at the Registry of Births and Deaths in Edinburgh failed to produce evidence of anyone named in this way having been born in Pittenweem in 1874, or for 30 years prior to and after that date. Two months after Lawson's death in March 1927 a Dr. M.A. Chrysler of the Department of Botany, Rutgers University, New Brunswick, New Jersey, wrote to a colleague of Lawson's at Sydney. Whilst mainly dealing with botanical matters of mutual interest, the letter included reference to Lawson's death, and the following:

"Since he and I are both Canadians by birth, I have naturally taken a special interest in his accomplishments."

The *Australian Dictionary Biography*, Vol. 10, 1986, states that Lawson's birthplace was Hamilton, Ontario in 1870. In his 1912 application for the Sydney Chair, Lawson gave his date of birth as being September, 1874, but did not mention his birthplace. Possibly the obituarist who gave the birthplace as Pittenweem may have been confused over this location in that it was the home-town of Lawson's parents or earlier ancestors prior to their migration to Canada.

According to the obituary written by F.O. Bower, Regius Professor of Botany at the University of Glasgow 1885–1925, Lawson entered the University in the early 1890s as a medical student. Again, this reference is puzzling, since there is no official record of an A.A. Lawson enrolling in the University of Glasgow in the 1890s. Again, according to Bower, Lawson early on suffered a breakdown in health and was advised to leave the damp, cold climate of the West of Scotland for a warmer, drier environment. Accordingly, he enrolled at the Berkeley University in California. At which point this biographical summary is on more solid ground.

1. The making of a Professor

As a student at Berkeley Lawson became committed to a career in Botany. He was especially influenced by W.A. Setchell, ecologist and phycologist. In 1896, Setchell with W.C. Jepson, a taxonomist, travelled by horseback and wagon on a botanical expedition from Berkeley to the Santa Cruz mountains, across the San Joaquin to Yosemite and back. Lawson similarly took part in an expedition to the western mountain ranges and back, travelling on horseback and living rough. He also accompanied Setchell on some algological collecting trips on the west coast of the U.S.A., on one occasion getting as far as the Aleutian Islands. These excursions led to a lifelong interest in the marine algae. Both his Bachelor and Master's degrees were

gained at Berkeley. He was employed for a while as an Instructor in Setchell's Department, and then as an Assistant Professor at Stanford University. He was awarded his Ph.D. at the University of Chicago in 1901, after a period of similar employment. His principal field of research now lay with the Gymnosperms especially the Coniferales. At some time in this period he carried out research at Bonn, Cambridge and Louvain. The opportunity to join Bower at Glasgow came in 1907 with the resignation from the staff there of D.T. Gwynne-Vaughan. Welsh-born Gwynne-Vaughan had joined the Glasgow Department as an Assistant in 1896, where he joined W.H. Lang, then the Senior Assistant. Lang had entered the University as a medical student and graduated in Medicine and Science but had immediately entered on a career in Botany. Lang, Gwynne-Vaughan and Bower made up what was known as the 'triumvirate' and Gwynne-Vaughan's move to London as Head of the Botany Department at Birkbeck College was the first break-up of the trio. The Glasgow Senate minutes for the meeting on 10 October 1907 record that Lawson was appointed "Assistant in Botany and Lecturer at Queen Margaret College in succession to Mr. D.T. Gwynne-Vaughan", and that his salary was £200. Queen Margaret College was the institution in the University for women students, and was housed separately from the main campus. Within months of his appointment Lawson set about organising his research programme. The Faculty of Science minutes for the meeting on 24 February 1908 include an application by Lawson to be enrolled as a research student, the research project to be entitled 'The Evolutionary History of Gymnosperms', with Bower as supervisor.

Renewal of the studentship was permitted on 15 October 1908, and on 13 October 1909 the application was renewed for another 9 months, with the title now defined as 'Life Histories of Representative Types of Coniferales, being a Series of Phylogenetic Studies'.

The minutes of the University Court for the meeting on 10 June 1909 record that A.A. Lawson was appointed Lecturer in Botany in succession to W.H. Lang who was leaving to take up the Barker Chair of Cryptogamic Botany at the University of Manchester. Lawson's salary was increased to £300 so that he continued in his dual role as lecturer and research student in a more comfortable financial environment. His successor as Assistant and Lecturer at Queen Margaret College was J.M.F. Drummond, a Cambridge graduate and plant physiologist. During the summer vacation of 1909 Lawson joined Bower in a botanical expedition to the West Indies where he studied the tropical flora of Trinidad. On the 27 January 1910 the Faculty of Science considered ten applications for the degree of Doctor of Science. The D.Sc. was then the only Doctorate in scientific subjects available at Glasgow University in common with other universities in Britain; the Ph.D. Ordinance at Glasgow was not instituted until 1919. Since this was the first degree registration that Lawson had made at Glasgow he had to matriculate. His entries on the matriculation form confirm in his own hand that he had been born in Hamilton, Ontario. Lawson's submission consisted of five papers under the general title of 'Special Morphology of the Coniferales'. The Faculty appointed Bower as Internal Examiner and F.W. Oliver, Professor of Botany at University College, London as the External Examiner. On 10 March 1910 the Faculty discussed the examiner's reports on the ten submissions and then recommended to the Senate that six of the candidates were worthy of the award of the D.Sc.. One of the six was A.A. Lawson.

2. Finding his academic 'billet'.

Changes were in the air. Whilst Bower worked closely with his junior colleagues, he was always conscious of their ambitions and did all he could to find, in his own words, '....their rightful academic billets'. In a letter he sent in response to an enquiry from W. Petersen, President of McGill University in Montreal, he clearly hinted at Lawson's potential for advancement. McGill was appointing a Professor of Botany, and Bower's opinion was asked of the research quality of Professor Chrysler of Harvard (probably the same Chrysler mentioned earlier in pointing to Lawson's Canadian origins). Bower's reply¹ indicates that he held Chrysler's work in high regard, it being '...sound and varied and in amount creditable and sufficient.' But Bower also included reference to the potential of his protégé, pointing out to Petersen that if McGill was seeking a candidate from Britain then he would put forward a strong case for Lawson, who was his '...right hand man; you would not find anyone in Britain better placed to take such a post – he has a large output of first-rate work and a wide experience.' However he did not propose putting forward Lawson in place of Chrysler although he considered the former the 'bigger man'; he had little doubt that Lawson would soon find his 'billet', hopefully in Britain.

Bower's involvement in the selection of a suitable candidate for the Sydney Chair is mentioned in a letter from J.H. Maiden, Director of the Sydney Botanic Garden, dated 17 February 1912². The other members of the Committee according to Maiden were A.C. Seward, Professor of Botany at Cambridge, and D. Prain, Director of the Botanic Garden at Kew. Bower also received a letter from A.J. Ewart of Melbourne University written on 27 February 1912. Melbourne was the first university in Australia to institute a Chair of Botany, but this was combined with the post of Government Botanist. Ewart had been appointed the first occupant of the Chair in 1905. He explained to Bower that he was a candidate for the Sydney Chair, for which he considered he had a reasonable claim. Any candidate from Britain would be expected to be 'young and bright' but would find that professorships in Australia were not the same as those 'at home'³. He also described some difficulties which had arisen from his duties as Government Botanist which might prove prejudicial to his candidature. He had reported, jointly with a Miss J. White, on the physiological condition known as 'bitter pit' in apples. The Minister of Agriculture of the time – '...a sheep farmer and early settler, now 85' had taken exception to the report, dismissing Ewart as '... a mere theorist with moonshine ideas' and threatening him with dismissal should the report be published, although this threat was later withdrawn. Ewart enclosed a copy of the report, asking that all the background circumstances be taken into consideration. He had come to Australia from Birmingham and already had an established reputation as a plant physiologist, having studied under Pfeffer at Leipzig. He was the first professional plant physiologist in Australia and despite the joint nature of his post had achieved a substantial number of publications on cohesion theory and photosynthesis by 1914⁴. The attractions of the Sydney Chair from his point of view are obvious, but from the nature of the Selection Committee it is evident in which direction the Sydney authorities were looking, probably influenced by J.H. Maiden's advice. Maiden had arrived in Sydney from England in 1880, and had been appointed first Curator of the Technological Museum there. In the following years he had established an outstanding reputation both as an

administrator and botanist and was appointed Director of the Botanic Garden in 1896. Whilst his botanical publications included major contributions on the Australian flora he had maintained close links with the leading botanists in Britain.

Whilst the deliberations of the Selection Committee are of course unknown, a letter to Bower from Prain in June 1912 shows that the appointee was still undecided⁵. Their final decision was that the post should be offered to A.G. Tansley of the Cambridge Botany department, whose research interests were in plant morphology, but who was also developing a significant interest in ecology. Just what happened subsequently is not known. At some time in the summer Tansley withdrew his application. Some speculation is perhaps permitted at this point on the likely course that plant ecology would have followed in Britain had Tansley spent his working life in Australia. The effects of Tansley's decision both in Sydney and with the Selection Committee can be well imagined. It is evident from the correspondence that Lawson was the second choice and the committee members quickly made a second recommendation.

A letter dated 6 October 1912 to Bower from H. Ruark in Sydney stated that at the relevant Senate meeting 'a hostile Minister' had tried to use the occasion to make trouble (perhaps the same Minister who had given Ewart a hard time?), but that the vote had come right for Lawson, and he should have received his cable before this letter reached Bower – '...Tell Lawson to keep his pecker up!'⁶. The time factor with such long distance correspondence can be seen in a letter from Seward to Bower dated 11 October 1912, in which he commented on Tansley's withdrawal, regretting its lateness, but 'one must accept a man's decision whatever one's opinion.' In conclusion he hoped that Lawson would be acceptable⁷. Bower's reply must have included some severe criticisms of Tansley's withdrawal and its lateness. Seward in reply pointed out that he had no control over the decisions of colleagues, and that Bower's strictures should really have been addressed to Tansley⁸. The Registrar of the University of Sydney wrote to Bower on 22 October 1912, thanking him for his service on the Selection Committee, stating that 'Dr. Lawson has been appointed after some delay,' and referring also to the difficulties ensuing from Tansley's late withdrawal. Bower's severe criticisms of Tansley are somewhat puzzling since the latter's withdrawal gave Lawson the opportunity. Bower never had too high an opinion of Tansley's work, on one occasion referring to him as 'a vague philosopher'. He may have needed some persuasion to recommend Tansley in the first place, and his chagrin may have been over Lawson's unnecessary disappointment initially. He clearly held Lawson in high regard. In 1910 he had been instrumental in the election of his protégé to Fellowship of the Royal Society of Edinburgh. D.H. Scott, the palaeobotanist and close friend of Bower over many years, wrote to him on 11 November 1912 expressing his satisfaction on hearing of Lawson's appointment⁹. Scott's letter also contains a not insignificant affirmation of a suggestion made to him by Bower, namely, that Lawson should 'come on' when the timing was right. The significance of this comment lies in the context of Scott's letter which was mainly regarding affairs concerning the Royal Society of London. The implication was that Lawson should be put forward for election to Fellowship of the Society in due course.

Lawson wasted no time in clearing up affairs in Glasgow. His farewell letter to Bower, prior to setting sail from Liverpool, is dated 30 November 1912.

3. Correspondence from 'Down Under'

Lawson's journey to Australia was via the U.S.A. Bower duly received a postcard from the Grand Canyon, and a letter dated 9 January 1913 from Berkeley University mainly in the form of a travelogue describing localities visited and remembered from his previous time in California. His first letter to Bower after arrival in Sydney was written on 5 February 1913¹⁰. In this he announced that he was already planning a new building. His second letter (30 April 1913) stated that the new building was to be situated in the Botanic Garden, presumably after some discussion with J.H. Maiden¹¹. He had made the acquaintance of R.D. Watt, Glasgow graduate in Agricultural Sciences who had been appointed to the Sydney Chair of Agriculture in 1910. Lawson was amused to find that in Australian academic circles Sydney was known as the 'Scotch University,' there being more exiled Scots occupying Chairs there than there were professors who were Scots at Glasgow. He would have immediately found himself in familiar surroundings in one respect. The imposing Victorian Gothic buildings of the university would have reminded him of the Glasgow University buildings of a similar vintage, including the two lawned quadrangles. The Glasgow buildings differed in the possession of some traditional Scottish architectural features – the stepped roofs and emergent roundels. The main burden of Lawson's second letter was a preliminary 'sounding' regarding potential lecturers to come from the Glasgow Department. He had two men in mind, namely, J. McLuckie and J. McLean Thompson, the former due to graduate in the summer of 1914. Would Bower be able to spare one of the two? He enclosed a copy of a letter he had sent to the Chancellor of the University on 20 April, proposing the appointment of an Assistant Lecturer at a salary in the range £250–300, also suggesting that Bower be approached regarding the availability and suitability of one of his Demonstrators, the appointment to commence on 1 March 1914¹². J.H. Maiden, writing to Bower on 13 January 1913, had expressed his pleasure at Lawson's appointment and how much he looked forward to meeting him – 'he will have sympathetic people to deal with in Sydney'. A second letter from Maiden (19 February 1913) reported that Lawson had already made a good impression, and had expressed the intention of working closely with the Botanic Garden, with a new Botany School to be located in its grounds¹³.

Lawson's early letters to Bower give the impression of a comfortable settling in process. His teaching and research experience at Glasgow had been in a purpose-built institute, with ample laboratory space for both elementary and advanced classes, and having a museum and spacious herbarium, and with rooms for the teaching staff and a large lecture theatre¹⁴. Laboratory practice as a complement to lectures was firmly entrenched. He was to find that at Sydney his 'Department' existed in name only. He had to borrow a lecture room from the Geology School. His laboratory classes would be held in modified rooms in the old Fisher Library area and any advanced classes would have to be carried out in a room in the Medical School¹⁵. Hence his early determination to establish his own botanical institute. Although a salary of £900 per annum would have been well appreciated, those early months were unsettling. He made no reference to his unsettled situation in letters to Bower. His first year class was large, 136 in all, drawn from Science, Arts, Medicine and Pharmacy. Seemingly his first months in Sydney were 'chiefly spent in visits to shipping offices arranging a passage back to

Scotland' (15 *ibid.*). With time life became more settled and satisfying. In a letter to Bower dated 1 August 1913 he stated that the students were 'not a bad lot and keen on their Botany.' By this time McLuckie was definitely in line for the lecturing post in Sydney, and Lawson was 'angling' for one more from Glasgow, J. McLean Thompson again, and another possibility, R.C. Davie. The new building still loomed large in his thoughts, to the extent of inviting Bower to perform the opening ceremony, or, if Bower was unable to come, perhaps Isaac Bayley Balfour from Edinburgh might be invited. In October he was approaching the end of his first academic session and it is evident from a letter dated 18 October that the confusion of the early months was now resolved – 'What a year it has been – full of interest, novel experiences, and much pleasure.' The class was now 150 students and they 'took to their Botany with considerable relish,' with the Saturday morning practical classes well attended. McLuckie was due to graduate in July 1914, and Lawson advised that he send in a formal application 'the moment he graduates.' Looking ahead he hoped that his new Assistant would be in Sydney by 1 October 1914. Lawson's letter of 17 November 1913 to Bower shows that the black clouds of the early months were now thoroughly blown away. He had just completed his last lecture at the end of his first session – 'The first of my line – and I have given them Real Botany!'¹⁶. Lawson's letter also referred to a major scientific event then in the advanced planning stage – the August 1914 meeting of the British Association for the Advancement of Science to be held for the first time in Australia under the Presidency of W. Bateson, the pioneer geneticist and Director of the John Innes Horticultural Research Institute at Merton in England. With other senior scientists J.H. Maiden had played a leading role in the planning and organisation. Bower had been appointed President of Section K (Botany), and he arrived at Fremantle with most of the British party on the S.S. *Orvieto* on 4 August 1914 – the day that war broke out between France and Germany. News of the involvement of Britain soon followed, an obvious cause for concern. The decision to continue with the meetings was taken immediately, with receptions and sessions at the five major cities. A reception at Perth allowed some time for botanising in King's Park, and Bower took the opportunity of the same activity at each of the centres visited. Bower kept a day-by-day diary from the day the *Orvieto* left Tilbury on 3 July until the return to Plymouth on S.S. *Morea* on 16 October¹⁷. The outward voyage ended at Adelaide on 8 August, with another reception at the University and time for botanising in the estuaries, and in the inland gulleys of the Mount Lofty range. Sessions moved to Melbourne on 12 August, and here the first meetings of Section K were held (including 'innumerable papers on Eucalyptus' according to the diary). Sydney became the centre on 20 August, with Lawson acting as Local Secretary. Lawson had earlier invited Bower to stay at his flat and to 'feed at the Australia Club'. Sydney was the venue for Bower's Presidential Address to Section K, and was mainly devoted to phylogenetical relationships of Australian ferns.

With the war news now becoming more ominous the BAAS cancelled a proposed later excursion to New Zealand, and as an added disappointment, Bower and Lawson had to cancel a projected collecting trip to Java. On 26 August those concerned left for the final sessions in Brisbane whilst Bower remained in Sydney. Shipping arrangements and movements were now becoming chaotic with liners being taken over as troopships.

Bower decided to cut short his stay and with others of the British party managed to obtain passage on the S.S. *Morea* sailing from Sydney on 8 September. *Morea* proved to be '...a creaky and noisy ship – not well planned for passengers.' In the Bay of Bengal it just escaped an encounter with the German commerce raider *Emden* and in port at Bombay the Lascar crew deserted ship. The distinguished scientists were enrolled as deck-hands and helped to keep the ship reasonably clean and tidy, especially after coaling. There was relief for all when the safe, protected waters of Plymouth Sound were reached on 16 October. As Bower stated at the end of his diary, the meeting in Australia had been 'memorable in so many ways.' He had been able to see for himself the progress made by his protégé, and to collect plant material for future research.

Lawson's success in Sydney was underlined in 1915 in a letter Bower received from H.L. Taylor-King who wrote 'Lawson is great and doing splendidly – he is going to be one of the big men in Sydney. His class is the most popular in Science with 200 students. Good for Lawson – Good for Glasgow – Good for his former Chief!'¹⁸. In the Glasgow Department the members of staff referred to Bower as 'the Chief.' In his early letters from Sydney Lawson invariably opened with 'My Dear Chief.' After 1915 the opening often changed to 'My Dear Bower', – presumably a feeling of equality was coming to the fore. After the events of 1914 there was a long gap in the correspondence. Lawson's letter of 10 May included an apology for the delay. McLuckie had arrived in Sydney the previous January, and with two Demonstrators was proving a great help with classes now of 230 students. Bower had left boxes of fern material to be sent on. Lawson explained that the delay in sending on the material was entirely due to shipping problems. He also stated that his plans for a new building had been postponed indefinitely. He had bought some land near Mount Wilson and proposed building a small cottage and laboratory there as a base for field studies. With McLuckie's assistance, field excursions were now a regular feature of the classwork. The letter also referred to the shock effects of the Dardanelles campaign which by now were being felt throughout the country¹⁹.

With no hope of a new building in the immediate future and with student numbers on the increase the problems of scattered accommodation were becoming increasingly burdensome, Lawson had raised the serious nature of the problem with the Senate. The suggestion had been made there that a small corner of rooms be made available and suitable for laboratories following the eviction of the Mathematics Department. The Senate Committee making this recommendation, however, was somewhat taken aback by Lawson's response, namely, '...the terse and vigorous language in which he promptly rejected the proposal.' Arrangements were then put in hand to modify part of the Macleay Museum (15 *ibid.*). Hence in November 1915 he was able to report to Bower on the nature of these modifications, and of the equipment to be supplied²⁰. Late in 1915 Australian troops occupied New Guinea where the Germans had established a Botanic Garden in Rabul. Lawson wrote in January 1916 asking Bower's advice. If New Guinea were to become a British Possession, there would be a need for a Director of the Garden. Did Bower think it advisable to make some move on this possibility and would he have any suggestion as to a suitable candidate²¹. Since no further mention was made of the subject it was presumably dropped.

In 1917 the correspondence was again about additional staff. On 29 April Lawson

cabled Bower 'Can you or Lang recommend a second Botany Lecturer – initial salary two-fifty'²². A letter followed in July, first asking whether Bower had received two previous letters and a cable. Another lecturer was now desperately needed – could Bower make any recommendations? The Botany class was now 300 students. A lecturer with interests in Bryophytes and Angiosperms would be especially welcome. There was also good potential for fossil work - 'If one of McLuckie's breed – send him at once'²³. The quest continued and the matter was again raised in December 1917. Lawson was fast coming to the unwelcome conclusion that it was proving almost impossible to get the required lecturer – his one hope was '...perhaps a chap who has left the services.' He informed Bower that he had cabled F.W. Oliver of University College London, pointing out that the appointment offered '...A wonderful chance for a fossil botanist.' The need was great – 'So please, dear Bower make a special effort to send me a man – a woman will not do!'²⁴. Was this one bachelor speaking to another, or perhaps a residual memory of his early years at Glasgow in Queen Margaret College.

May 1918 came, with still the lectureship problem unresolved. There had been one glimmer of hope. F.W. Oliver had been active and had got J. Small, a lecturer at Bedford College, interested. Small was a taxonomist with a particular interest in Angiosperms and who made full use of the facilities available at Kew Gardens and in the Jodrell Laboratory there. He was active and ambitious – senior botanists were known to describe him as 'the indefatigable Small.' Small was at first interested but with an extra lectureship at Bedford College, his research and the ties of a young family the Sydney salary did not prove attractive, and from a career point of view there were obvious advantages to staying in London. Small had been the one possibility after all of Oliver's canvassing. In a letter dated 10 May 1918 Lawson told Bower that he and McLuckie were heavily overworked, and that Oliver had informed him that Small had definitely declined the offer. However, there was some news regarding another Glasgow graduate, Patrick Brough. Lawson asked Bower to locate him, to send in an application and to contact the authorities about getting his release, which would suggest that Brough was on some form of war work – with the state of the conflict at that time he would not have obtained release from the services. 'This seems to be my last hope, so please Bower get him if you can'²⁵. Success at last; on 20 November he was able to inform Bower that whilst the current work load prevented either himself or McLuckie doing any worthwhile research, Brough would be joining them – 'so forming a merry trio'²⁶. Hence on 20 August 1919 Lawson could report that all three were heavily engaged with some 450 students, but that they were now occupying new quarters in the eastern end of the Macleay Museum, still somewhat temporary and makeshift, but on which £5000 had been spent on modifications and equipment. Brough had quickly settled in, and now a third lectureship was a possibility. The Botany school was by far the largest and most popular scientific department in the University. Now with the return of national conditions to peace the new building could now again be in the planning stage²⁷. The 'indefatigable Small' was to achieve his ambition with appointment to the Chair of Botany in Queen's University, Belfast in 1920.

Lawson was able at last to contemplate some sabbatical leave. In May 1920 he was in England working at the Jodrell Laboratory. His time abroad had to be arranged 'with great care and thoughtful consideration. This will not permit me finishing this work in

Scotland'²⁸. It seems that Bower had sent an invitation to come to Glasgow but Lawson's reply suggests a limited time scale for his leave.

4. Last years : Success and Disappointment

Lawson returned to Sydney with the firm intention of getting his new building established. Whilst the accommodation in the Macleay Museum was a marked improvement on the scattered rooms available in 1913, the Museum arrangements had always been regarded as a temporary emplacement. On 23 September 1923 he wrote directly to the Chancellor of the University²⁹. In his letter he drew attention to the erection in progress of a new Administrative Building. The north wall of this building was having a serious effect on the lighting of the first year laboratory, which at the best of times was defective for microscope work. The north wall was already completely shutting off direct light, and the roof was still to be put on. Currently the main laboratory was being used by some 250 students drawn from Sciences, Arts, Medicine, Pharmacy, Agriculture and Veterinary Science. He asked that urgent consideration be given for the provision of suitable accommodation, and that the Senate immediately refer this matter to the Buildings and Grounds Committee. He then referred to Government grants recently awarded for University buildings, which at Sydney were to be mainly used for Science departments. He quoted the sums already allocated –

| | |
|-------------------|---------|
| Administration | £51,000 |
| Medicine | £24,400 |
| Engineering | £ 7,500 |
| Geology | £ 6,100 |
| Physics | £82,000 |
| Chemistry | £80,000 |
| Organic Chemistry | £23,250 |
| Zoology | £13,300 |
| Botany | Nil |

Botany was the only scientific department not benefitting. No application had been made when the building grants became available (no explanation was given as to why no such application was made). He concluded by asking that some suitable allowance be made for Botany, as this would be '...only reasonable and fair to this important Scientific School.'

It would seem that the above letter had an almost immediate effect. The relevant Committee went into action quickly. A letter to Bower, dated 15 November 1923 enclosed a cutting from the Sydney Morning Herald of the same date. The article described the success of the Botany Department since 1913, with some 3000 students since its beginning, and with students drawn from a wide range of Departments. A brief résumé of Lawson's career was included. Of greater significance was an enclosure in the letter – a drawing of the proposed new Botany Building. In a following letter (29 November), Lawson announced that £16,000 had been allocated for his new Botany school, and that the building would hopefully be completed in ten months – 'After 10 years of plotting, planning and moulding our own little Botany School at Sydney is now firmly rooted and has grown, blossomed and born fruit far beyond my roseate expectation. It has become the largest and most important Botanical Institute south of the

Equator. The completion of the building will put a cap to the climax of a delightful and interesting series of experiences during the past ten years.' Bower, although within two years of retirement, was as active as ever in research. He had been asking Lawson for some fern material, not altogether with much success. In this same letter Lawson continued – 'You must forgive the manner in which I have ignored your frequent requests for certain things – the results you ask for will be forthcoming when the time is opportune. And again you should know that my special interest lies not in the Pteridophytes but in Gymnosperms, and I must work at these rare and very interesting Australian conifers. You must remember that I am writing a book on the Conifers and I hope to make it my *magnum opus*.'³⁰ Bower was seeking Australian fern material for his own *magnum opus*, which was to be published in three volumes, entitled *The Ferns*, in 1923, 1926 and 1928. for reasons which will be only too obvious, Lawson's book was never completed. The last letter kept by Bower is dated 28 April 1925. Lawson was able to report that his new building was under way – 'Research will be the main staff slogan. I feel quite satisfied to finish my working days here with an occasional trip home.'

With all the proposals and correspondence concerning the new building, no mention is made of the 1913 proposal to build it in the Botanic Garden. Back in November 1914 plans and specifications for such a building had been drawn up by the Buildings and Grounds Committees at an estimated cost of £19,504, but these plans remained in abeyance due to the national emergency³¹. The 1920s building was to be built on to the Macleay Museum. It is possible that logistical problems arising from a building being at some distance from the University would have played some part in the decision making. There is also some evidence of a cooling of the relationship between J.H. Maiden and Lawson. Reference has already been made to a letter from Lawson to Bower of 10 May 1915 in which he explained that there were shipping difficulties which prevented him sending on the fern specimens collected by Bower during his 1914 visit to Australia. A letter from Maiden to Bower dated 20 December also refers to this forwarding of fern material. Maiden had assumed that Lawson had already dealt with the matter and wondered why the specimens had not been sent on. He mentioned that he and Lawson did not meet often although both were in the same city – 'It is not for me to obtrude or enquire whether he has the time to send you the material'³².

The plans for the new building had been drawn up by Leslie Wilkinson, Professor of Architecture in the University, with Lawson playing a leading role in the planning and equipping of the internal arrangements. When completed it contained a first year laboratory which could accommodate 175 students, laboratories for 2nd, 3rd and 4th year students, staff rooms, a library and a herbarium described as 'the best of its kind in the Southern Hemisphere, containing over ten thousand specimens.' The new lecture room lacked a ceiling (until 1935) so that when the occasional heavy downpours of rain for which Sydney is well known took place the lecturer was rendered inaudible (15 *ibid.*). The completed building was opened on 6 November 1926 by E.C. Jeffrey, Professor of Plant Morphology at Harvard University.

Whilst the early 1920s had brought success in one direction, there was also a lingering disappointment. As stated earlier, in November 1912 D.H. Scott had concurred with Bower's suggestion that Lawson should 'come on' in due course, namely, to be recommended for election to the Royal Society at a later stage. In April

1918 Bower informed Lawson that, with the additional support of Scott and others his name had been proposed for election to Fellowship. Lawson acknowledged this welcome news in a letter to which reference has already been made, dated 10 May 1918. He expressed his deep appreciation at being put forward, and that Bower and Scott were to be his principal supporters – ‘When the honour comes I can assure you that it will be highly prized. Working in this isolated part of the earth requires some encouragement and an acknowledgement of one’s efforts in this way will be v. helpful.’ The election process for Fellowship of the two Royal Societies, London and Edinburgh, allow for a candidate’s certificate of recommendation to stand (or be ‘suspended’) for five years, after which it lapses. A new application must then be made by the supporters. It would seem from Lawson’s response that he assumed that there would be no doubt about his election, and that he would be elected after the first suspension of his certificate in 1918. In this he was to be disappointed. Scott wrote to Bower on 10 January 1920, stating that he had received a letter from Lawson asking that his name be withdrawn from the list of candidates. As Scott told Bower, he had written to Lawson a reassuring letter, explaining that there was ‘...a rush of candidates at present.’ The letter to Bower included an interesting aside, namely, ‘Things were different in our time!’, (Bower was elected FRS in 1891, Scott in 1894). Lawson’s candidature may well have suffered from the inevitable ‘distance factor.’ J.H. Maiden had been proposed for election to Fellowship in 1910 with Sir Joseph Hooker as his principal supporter. Maiden had not been elected after five years. Bower, Scott and D.H. Prain were responsible for the second proposal, pointing out to colleagues the major contributions to Botany made by Maiden in Australia, of which work many were unaware. Maiden was elected FRS in 1915.

As with Maiden, Lawson’s certificate of recommendation was ‘suspended’ for five years without success and then lapsed in 1922. The long wait had been traumatic and the great disappointment had no doubt been intensified by news of A.J. Ewart’s election FRS – in 1922. Early in 1924 Lawson wrote to Scott (asking the letter be burned) expressing his ‘deep hurt’ at not being elected, and asking that no further moves be made on his behalf. As Scott told Bower (14 July 1924) he had again in reply sought to give Lawson encouragement, telling him ‘...a long wait is quite a common experience – and that the best man does not always get in, but that a new certificate was in preparation’³³. The letter concluded ‘I wish we could manage it next time.’ Bower had pencilled in a note on the letter – ‘replied saying we must make a definite move next time. I share Lawson’s chagrin.’ He also wrote to Lawson in similar vein to Scott, having already set in train the procedures regarding Lawson’s new certificate. A letter from Bower dated 4 July 1924 to the Royal Society enclosed the schedule in support of Lawson, and asked that it be forwarded to the following for their signature – D. H. Scott, Sir David Prain, F.W. Oliver, J.B. Farmer, A.B. Rendle, A.W. Hill and W.H. Lang³⁴.

All the necessary arrangements were completed by the summer of 1925. Scott wrote to Bower on 17 July 1925 stating that he was glad Bower had informed Lawson of the second certificate having been handed in. Scott also expressed regret that Bower was due to retire from the Botany Committee of the Royal Society at the end of the year, as he had looked forward to their joint support on Lawson’s behalf. However, he was satisfied that he would have all the sufficient information by the time of the relevant

meetings³⁵. Lawson's second certificate was supported by Bower, Scott, F.W. Oliver, J.B. Farmer, A.B. Rendle, A.W. Hill, W.H. Lang, H. Wager and T.W. Edgeworth David. Hence the supporters included most of those suggested by Bower in July 1924, with the exception of Prain and the addition of Wager and Edgeworth David. The certificate listed Lawson's major research contributions (studies on the embryology of the Gymnosperms and on the gametophytes of the Psilotaceae). It also stated that he was an authority on the algal floras of the West Coast of America, Jamaica and Britain. It concluded – 'The value and extent of his work in distinct fields forms the ground of his candidature. He now administers the largest Botanical School south of the Equator. New buildings are nearing completion for Botany, and a good flow of original memoirs is being produced by staff and pupils'³⁶. Lawson's supporters were a powerful array of the leading senior botanists in Britain. The additional support of T.W. Edgeworth David is not without significance. David, Emeritus Professor of Geology in the University of Sydney, was born in Wales. After graduating at Oxford in 1880 he was appointed Assistant Geological Surveyor to the Government of New South Wales in 1882. He was appointed Professor of Geology and Physical Geography at the University of Sydney in 1891, He was elected F.R.S. in 1900. He took leave of absence in 1907–09 to take part in Shackleton's Antarctic Expedition during which, with two companions, he was first to reach the Magnetic South Pole on 16 January 1909. He was knighted for his services to Australian Geological studies in 1920. David was a powerful figure, not only in academic circles but also in Australian political life. His support (which had been crucial in getting J.H. Maiden's second certificate for election to the Royal Society organised in 1915) may be taken as an expression of Lawson's standing in the University of Sydney.

The first suspension of this second certificate on Lawson's behalf was in 1926 and after the second suspension in 1927 he was recommended for election to Fellowship. The outcome had a dramatic poignancy. On 25 March he was suddenly taken seriously ill, a condition calling for an immediate operation. He failed to rally from this and died the next day. His death took place before the formal procedures of the Royal Society could confirm the earlier recommendation. As stated by Bower in the obituary, also underlining the formal procedures involved, 'Seldom has fate intervened in the peaceful walks of Science in such a dramatic fashion. The list of selected candidates for F.R.S. had been published in time for him to have been aware of it and to have received the congratulations of the many friends made in Australia'³⁷. Indeed a cruel twist of fate. To be on the threshold of receiving the most longed for of all honours and then to unwittingly demonstrate the truth of the proverb 'Death alone can kill hope.'

5. Reflections on a Botanist

Bower probably knew the man as well as anyone. He certainly felt confident enough to pass judgement on Lawson's research contributions, placing them in an entirely different category from that which he claimed for his own. As he stated in the aforementioned obituary, he regarded Lawson's research output as being:

'...Detailed and analytical rather than constructive. It is not given to every man to originate new patterns in the theory of his science. To some it falls rather to fill in the blanks, which Professor Lawson has done with singularly artistic effort combined with

honest and trustworthy recording under the best laboratory technique. Placed at an age when his power and scientific equipment were at the full, in surroundings not yet fully exploited, he was at his death busily engaged in investigating the peculiar features of the Australasian flora.'

There can be little doubt in which category Bower placed his own life's work. Again, according to Bower, Lawson was 'something of an enigmatic character by reason of an innate reserve, but that his flashes of humour and his delicate and discriminating artistic sense had won for him a place in the affections of his colleagues and fellow citizens that appears to have been peculiarly his own.' Lawson had been prominent in the social life of the city – 'activities which had found a natural centre in the club house. In cities where University life is a relatively young and nascent thing this may be of untold value academically in that it tends to weld the College into the position which it should hold in any large and developing community. This sociability itself of the type Lawson possessed may be accounted a positive academic asset of special value in the larger life of a great trade centre like Sydney.... His premature death has removed from the University something more than an effective investigator and Head of a Scientific Department'. Memories of Lawson's time at Sydney were long lasting. He was remembered by colleagues as being somewhat temperamental and of an impulsive nature – 'To hear him call his Assistant Wren was like hearing Edith Sitwell's Old Sir Beelzebub calling for his syllabub 'Rum' down in the bar in Hell' (15 *ibid.*). Others found him somewhat uncooperative. The cooling of relations with J.H. Maiden has been mentioned earlier. A.C. Seward, writing to Bower in November 1926, complained that Lawson was 'a very difficult person to deal with', an opinion based on the latter's inattention to an 'exceedingly interesting' *Lepidodendron* specimen given to him by Seward 12 years beforehand³⁸.

Lawson devoted his life's work to the Sydney Botany Department and to the University, rejecting opportunities for Chairs elsewhere. His successes as lecturer and administrator were early recognised. When he joined the Glasgow Botany Department in 1907 it was in the full flood of its ongoing morphological tradition. In 1908 Bower published his *Origin of a Land Flora*, regarded as one of the outstanding botanical contributions of the time. Isaac Bayley Balfour, a kindred spirit botanically and close friend of Bower, summed up their common approach in a letter from Edinburgh in April 1918, namely, 'I teach organography and do so you. This interprets form and function as interdependent. It gives the living plant'. Such was the guiding light of staff and students at Glasgow. Lawson came to Sydney similarly imbued with this organographical theme. Despite the scattered nature of his accommodation, he had learned at Glasgow the importance of properly organised laboratory classes. For these Bower demanded high standards. C.W. Wardlaw, a junior colleague of Bower at the time of his retirement in 1925, described this level of organisation in a letter to W.H. Lang in 1948– 'I do not recall an occasion in the big laboratory for 116 students when anything went wrong. It just did not occur to us that we could begin a day's work with the medical or any other class unless all the arrangements were at the peak of perfection, e.g., 5 stages of fern prothallus showing everything'. Each laboratory class was prefaced with an enthusiastic explanation by Bower of the principal objectives – 'The Chief's Inspired Jawbations' according to his colleagues. One can visualize Lawson

adopting a similar introduction. When in November 1913, at the end of his first teaching session, Lawson told Bower he had given his students 'Real Botany', the latter could well envisage the course content, undoubtedly with full approval,

The Sydney University Botanical Society was established in 1922 with Lawson as its first President. He was a long standing Fellow of the Linnean Society, and Fellow of the Linnean Society of New South Wales. He was elected to Fellowship of the Royal Society of New South Wales but resigned in 1923 in protest over the inadequate botanical representation on the Council of the Society. In the 1920s he became involved in a movement to encourage the Australian Government to set in train moves to protect indigenous species. His popular extension lectures on the Australian flora were illustrated with hand-coloured slides of his own making.

Lawson's botanical legacy is difficult to assess. As stated by Bower, he made no fundamental contributions which changed the patterns of his Science but established a sound reputation in those fields of research in which he was interested. His *magnum opus* on the Gymnosperms was never completed. During the early years at Sydney the large first year courses included students from Science, Arts, Medicine, Pharmacy, Agriculture and Veterinary Science. With the development of advanced classes the three members of staff would have had heavy teaching loads. Development of a research school at the time would have been further limited in that young postgraduate students could not proceed beyond the M.Sc. level in Australian universities. In 1926 the Council for Scientific and Industrial Research (CSIR, later CSIRO) was formed, an important development but too late for Lawson.

His successor in the Sydney Chair was T.G.B. Osborn, a Manchester graduate who had joined the University of Adelaide in 1912. He was a pioneer plant ecologist in Australia with particular expertise in the study of arid and semi-arid areas. His attempts to broaden the botanical base in the Department met with some opposition from McLuckie and Brough, but in time the changes he required were introduced. Whilst the Glasgow botanical tradition steadily waned at Sydney after 1927, it is to Lawson's lasting credit that his subject became and remained a strong component of the Faculty of Science. More tangible memorials to his time at Sydney include his name on a scroll on the wall of a small Memorial Hall, and on a larger scale his Botany Building, opened in 1926 after a protracted and determined campaign.

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A.D. BONEY

Library

Summer has seen the usual upheaval in the Reading Room. This year our aim has been to bring together all the basic botanical texts as these were already, to some extent, on the next set of shelves. As this is being written the Reading Room is full of “displaced books” occupying most of the Library tables and only a part of these will be going back into new “subject” locations. The additional benefit is that everything that gets moved also gets cleaned and the weekly dirty duster wash shows just how much grime accumulates. This year’s team includes students from France and Spain as well as the UK. They had a unexpected diversion into emergency flood-prevention as we have once more suffered from drain failures in bathroom pipes above the Library Annexe. Luckily, as before, damage has been superficial and no book-stock lost. As a result, some of the large expedition reports have also been cleaned as we had to check

on their condition. Long-term plans are now to try and reroute the problem plumbing away from the danger area, meanwhile we keep the plastic sheeting handy for instant containment of any water.

Some furniture has been moved around to allow relocation of bookcases away from the kitchen area and to provide a (hopefully) drip-free zone for one of the computers. The lower galleries have also been re-surfaced with new linoleum, colour-coded red for the North side which houses the faunas and for the biographies and green for the South side with the floras. Everything had to be removed from the gallery floor first to allow workmen proper access and as this is where we store the "Library Book Sale" material we had a lot of boxes to shift. Inevitably the new flooring also meant a certain amount of carpentry and books therefore gained a fine layer of sawdust. We hope to have cleaned most of it off by now. Meanwhile the uncatalogued accessions wait for the occasional day with no more urgent tasks. As we re-arrange the Reading Room, more and more books will be going into their proper place on the shelves from the start.

Donations

As this goes to press I have been sorting a large number of natural history books bequeathed to the Society by the late B.E. Smythies (see obituary notice page 39) which will be brought up to the Society shortly. Initially these will just be stored in the basement until we have time to go through them and decide what to do with duplicates but it will certainly add greatly to our holdings of both plant and bird books. We are grateful to all the following for their donations to the Library:

Dr J. Akeroyd

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- R. Wise Timberlake, Jonathan, Fogg, Christopher and Barnes Richard, *Field guide to the Acacias of Zimbabwe*, illustrated by Rosemary Wise. 160 pp., illustr., Harare, CBC Publishers, 1999.
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Reviews

A Natural History of Australia by Tim. M. Berra, publ. Academic Press, San Diego, Calif, USA. (1998). ix + 304pp., many colour plates, monotones and line drawings, P/B ISBN 0-12-093155-9, \$US 44.95 £29.95.

The 'mission statement' (in current jargon) of this well produced, beautifully illustrated and imaginatively designed book 'is to explain Australia and the beautifully strange Australian biota to — the general natural history reader'. To achieve this, there are chapters on plants, marine and freshwater fish, invertebrates, reptiles and amphibians, birds and mammals, which give basic information on selected species.

Introduced animals, which are an important constituent of the Australian biota, are poorly dealt with. Australia has an impoverished ichthyofauna, yet there is barely a page on introduced fish, and the source quoted is fourteen years old. Only four lines are devoted to introduced birds, plus an abbreviated list that wrongly includes Cattle Egrets which are natural immigrants. Introduced mammals fare a little better, but the reference cited is not a specialist one but a general work on Australian mammals. The bibliography lists three books on introduced species, all of which are of a 'popular' nature, and the most recent of which was published in 1976; none of the principal works on exotics (one written by an Australian and published in Australia) are given.

Although there is a list of references for each chapter, very few occur in the text, so sources for any particular fact are well-nigh impossible to trace.

For a work with this title there is a lot of extraneous and irrelevant material, e.g. a full page on the Sydney Opera House (which not everyone would agree with the author is a 'beautiful building'); accounts of major conurbations and industries in every state and territory; a lengthy appendix on 'Political and Social Essentials'; another on 'Some Facts for Travellers'; and a third on 'Australian Idiomatic Language', in which we are informed, *inter alia*, that Z is 'the last letter of the alphabet; pronounced zed' [!]. There is, alas, no glossary of scientific terms, which would have been invaluable.

Nevertheless, these criticisms apart, this book, which like the curate's egg, is good in parts, is a useful general introduction to the history of the island continent.

CHRISTOPHER LEVER

Nature in Ireland. A scientific and cultural history, edited by John Wilson Foster, publ. The Liliput Press, Dublin, Ireland. xiii + 658 pp., maps, monotone prints, P/B ISBN 1-874675-89-9, Price £20. H/B ISBN 1-874675-29-5, Price £40.

This multi-author volume was prepared with the aim of telling, in a coherent and compact form, the 'story of the systematic study of Irish nature'. Since it comprises essays on the histories of the disciplines collectively known as natural history one might argue that it might more aptly have been entitled *Natural History in Ireland*. Happily the reader who purchases the book on the basis of the title alone is unlikely to be disappointed: as the senior editor points out, in exploring the history of botany, cartography, entomology, geology, mammalogy, meteorology and ornithology one can hardly fail to accumulate some knowledge on the subject matter of these specialisms.

With more than thirty contributors the individual contributions are, of necessity, fairly short, representing for the most part introductions to and outlines of their subject rather than in-depth treatments. Thus while naturalists interested in a particular group are unlikely to find much that is new concerning their specialist area, the whole of the text is accessible to the general reader. This is not to suggest, however, that the book has little to interest the experienced naturalist: a number of the essays, particularly those contributed by the senior editor, offer a synthesis and a cultural perspective which is not, to my knowledge, available elsewhere. These contributions certainly live up to the expectations raised by the preface which declares 'Dynamic interdisciplinarity.... is central to Nature in Ireland'.

As is almost inevitable in a volume of this kind the contributions vary considerably in style. Happily all are readable, though some are rather dense, with the result that one is unlikely to read the book cover to cover in few sittings. Rather, this is a volume to be dipped into at intervals – with a particular query leading one to read in depth an essay which one has hitherto only skimmed. Thus this is a reference book, and given its broad scope, unique content and reasonable price, one which is likely to find a place in the libraries of many naturalists, historians and others with an interest in the history and culture of Ireland. Given its role as a reference work, and bearing in mind the likelihood of strong sales and further printings, I would encourage the editors to increase the cross-referencing of subject matter and illustrations between essays and to overhaul the index which I found frustratingly patchy. These improvements would render this excellent volume more or less indispensable.

EIMEAR NIC LUGHADHA

A Botanical Pioneer in South West China, by H. Handel-Mazzetti. Translated by Winstanley, D., publ. ETS, 20, St. Thomas Road, Brentwood, Essex CM14 4DB, UK, 1996. 192pp, 7 maps, 48 b/w photographs. ISBN 0 9529230 0 9, Price £14.

The high mountain ranges and deep trenches of the Sino-Tibetan borderlands, the home of the richest diversity of hardy plants anywhere in the world, have attracted some of the most renowned plant hunters, men such as Père Armand David, George Forrest, E.H. Wilson, Frank Kingdon Ward and Joseph Rock who all made their names there. Heinrich Handel-Mazzetti (1882–1940) is not a well-known name amongst those raised on the stirring plant hunting exploits in western China and yet his travels in the region were as extensive and his collections immense. His lack of recognition probably stems from two factors: firstly that he collected herbarium specimens of plants rather than living plants or seed, and secondly, that he wrote about his exploits in German. David Winstanley has set about redeeming his reputation with this translation of Handel-Mazzetti's account of his travels and plant hunting which was first published as *Naturbilder aus Südwest China – Erlebnisse und Eindrücke eines Oesterrichers Während des Weltkrieges* by the Natural History Museum in Vienna in 1927. It is essential reading for those interested in the Flora of this rugged and spectacular land because he described so many plants from the region.

Handel-Mazzetti was ideally equipped for the rigours of exploration and plant hunting in western China at a time when few of the modern necessities of travel existed in the region. He was born in Vienna to a family with a military past. His mother was

Prussian and his father an officer on the General Staff in Vienna. The formative years of his life were spent in the Austrian Tyrol and he gained a love of mountains and of botany from Karl Wilhelm von Dalla Torre, the author of a Flora of the Tyrol and his teacher in Innsbruck. As a young man he made a number of botanical tours in Europe with his younger brother Herman, an ideal training ground for his later work in China. After graduating from the University of Vienna he took up a post in 1903 as demonstrator in the university's Botanical Institute. Over the next few years he took every opportunity to botanise in Europe, Turkey and Iraq, often using a horse as transport, an ideal way to cover the ground and botanise along the way, a method he successfully used later in China. Following the completion of his post at the Botanical Institute, Handel-Mazzetti tried to obtain a post at the prestigious Natural History Museum in Vienna using his family's strong links with the Habsbergs but in this, then and later, he was unsuccessful.

His fortunes changed, however, in 1913 when the Austro-Hungarian Dendrological Society, inspired by George Forrest's successes in western China, decided to send a mission there led by Camille Schneider. Handel-Mazzetti was chosen to accompany him to broaden the scope of the botanical exploration work. They journeyed overland from the port of Haiphong to Kunming, their base for the next five years. Their first expedition in 1914 took them from there north across the Yangtze through northern Yunnan to south-west Sichuan. During this journey they met George Forrest at Lijian, staying with him there for a few days at the foot of the Jade Dragon Mountain. In 1915 they visited the Tibetan border region (now North-west Yunnan), basing themselves in forest country around Lijian, Muli and Zhongdian. Schneider left during the winter of 1915 and Handel-Mazzetti botanised in the tropical parts of southern Yunnan around Mengzi that winter. The third expedition in 1916 took Handel-Mazzetti via Lijian to the frontier with upper Burma. In 1917 he crossed eastern Yunnan and entered Guizhou before wintering in Hunan province where he spent the whole of 1918 before leaving for Austria early in 1919.

Early on in the first expedition, just after reaching Lijiang, Handel-Mazzetti heard of the murder of Archduke Ferdinand at Sarajevo, an event which led directly to the outbreak of the First World War. Shortly afterwards, while botanising near the Jinsha Jiang (upper reaches of the Yangtze) near Zhongdian, he heard by telegram that war had broken out. Although it blighted relations with many of his fellow Europeans in China, fortunately it did not severely impede his travels, because the Chinese backed both sides and suspected that the Germans might win the war.

Handel-Mazzetti covered more ground in China than many of his more famous contemporaries. He also collected large numbers of specimens which he was forced to leave behind in China when eventually repatriated in 1919. The specimens eventually arrived safely in Vienna in 1922, the top set in the herbarium at the university and a duplicate set now in the Natural History Museum where he had striven to find a post unsuccessfully for so many years on his return. On their safe arrival Handel-Mazzetti began the long process of identifying, naming and describing them. The results were published in papers such as *Plantae novae sinensis*, in the journal of the Academy of Sciences in Vienna, but mostly in his *Symbolae Sinicae*, published in seven parts, of which he contributed the last two volumes covering ferns and flowering plants. Of the

8015 species dealt with in the *Symbolae Sinicae*, 1307 were new to science and 35 new genera were described. Critical revisions of several genera, including oaks, *Androsace*, *Ligularia*, *Lysimachia* and *Leontopodium*, were included.

An informative biography of Handel-Mazzetti, based on that by his friend Erwin Janchen and published in 1940, introduces this work. It sets his travels in context and is an invaluable introduction to the succeeding accounts of his journeys which are arranged chronologically starting in 1914. Having travelled throughout much of the area covered on horse-back by Handel-Mazzetti, I found much of interest in the diaries. The glossary of Chinese place names at the end of the book is particularly useful in allowing readers to follow his itineraries on a modern map. The plant names are, by and large, those used by Handel-Mazzetti and many have been changed, now being considered synonyms or misidentifications. Nevertheless, botanists with a passing acquaintance with Chinese plants and gardeners well versed in the stunning introductions of Forrest, Wilson, Delavay and Kingdon-Ward will follow the plant hunting without too much trouble and find much of interest. The daily trials and tribulations of setting up and running an expedition, dealing with officials, finding interpreters, worrying about the likelihood of bandits (who incidentally murdered several botanists in the region) and about the effect of war in his homeland all figure in his accounts.

The maps are Handel-Mazzetti's own and are particularly useful in interpreting his herbarium label locality information. These should be of particular use to botanists still working on the English edition of the *Flora of China* which has recently begun to appear. The photographs are adequate, not outstanding when compared with those of Wilson, but they add to the book.

The paperback production is cheap and cheerful, although I personally do not like the double column format which can be tiring to read. The price is very reasonable and a pleasant change in an age when plant hunting books, both old and new, are often overly expensive. It is readable, contains much that is fascinating, particularly for the specialist botanist and gardener, and David Winstanley is to be congratulated on bringing the work of Handel-Mazzetti to a wider audience.

PHILLIP CRIBB

Obituary

Mr. B.E. Smythies Hon FLS (1912–1999)

The death of Mr. Bertram Evelyn (Bill) Smythies on 27th June 1999 brings to an end a remarkably rich life. After Balliol (Forestry), he joined the Colonial Forest Service in Burma in the 1930s. Here he wrote *The Birds of Burma*, which was eventually published in the UK, after many vicissitudes, by Oliver & Boyd in 1953. An earlier edition, printed in 1940, suffered from the war, during which he saw service with Orde Windgate's Chindits. Fairly soon afterwards Burma left the Commonwealth and Mr. Smythies moved on to Sarawak and Brunei, where he wrote *The Birds of Borneo* (1960) and *Common Trees of Sarawak* (1964). In 1964 he married Florence Mary (Jill) Rogers and retired to Spain, where he produced *Flowers of South-West Europe: A Field Guide*

(OUP, 1973), which was illustrated by Jill Smythies and co-authored by Oleg Polunin, who nominated him for Fellowship in 1969. He also contributed to the *Flora Europaea*.

Mr Smythies returned to England in 1979. He received the HH Bloomer Award in 1985, shortly after the appearance in 1984 of the first half of *Flora of Spain and the Balearic Islands. Checklist of Vascular Plants*; the second half appeared later in 1985. In the same year he entered into an agreement with the Society to sponsor an award for botanical illustration, in honour of his wife whose career as a botanical artist was cut short by an accident to her right hand. The first Award was made to Ann Farrer in 1988. The rubric now states that "the Award, consisting of a silver medal and a purse of £1000, is for published illustrations, such as drawings or paintings, in aid of plant identification, with the emphasis on botanical accuracy and the accurate portrayal of diagnostic characteristics. Illustrations of cultivars of garden origin are not eligible".

The Award is now made annually and has been won by some of the finest botanical artists of the age, including Rodella Purves, Pandora Sellars and Rosemary Wise. It is also of international significance, with winners from South Africa (Gillian Condy), Denmark (Bent Johnsen) and Australia (Celia Rosser). Mr. Smythies took a close personal interest in the Award and its winners, whom he always tried to meet at the Anniversary Meeting. He corresponded with all whom he felt should make a nomination; he would then ask the Society whether they had done so and further correspondence would follow! His last foray (16th May 1999) was to say that the Society did not take enough account of drawings as opposed to paintings in making the Award.

There was something Kiplingesque about him. His advice to a young man going to work in Sarawak in 1956 was brief – "Take an umbrella"! He may have been orally terse, but he was certainly an assiduous correspondent on a typewriter which must have been old when Noah was building the Ark. Its owner, and the Society, had the good fortune to witness both the recrudescence of interest in botanical art and the growth in prestige of the Award to which he was so strongly committed. Mr Smythies was made a Fellow *Honoris causa* in 1995, the year after Jill's death following a long illness.

On a more personal note, I received the following letter from Sir John Chapple, referring to Mr Smythies book *The Birds of Borneo*:

"It was first published in 1960 with special chapters by Tom Harrison, Lord Medway (as Lord Cranbrook then was) and J.D. Freeman. I bought my copy the month it appeared in Singapore (cost 42 dollars). The introductory essays added 100 pages to an already bulky book – over 550 pages in all.

My copy of that edition is still just serviceable. I carried it everywhere with me during the Confrontation campaign in the mid 1960s. We had a lot to carry in our packs and nothing would have persuaded me to take on an extra ounce had I not thought it essential. Bill's book on Borneo Birds was essential. It helped to make my time in Borneo, playing a very small part for a short period in a successful campaign, into something to be remembered and savoured."

Obituaries also appeared in *The Times*, *Independent* and *Telegraph* during the week of 26th July 1999.

JOHN MARSDEN