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Front cover: Portrait of Edward Blyth (1810–1873), reprinted from A. Grote 1875 [Memoir & portrait of the author.] In: Catalogue of mammals & birds of Burma. By the late E. Blyth. Journal of the Asiatic Society of Bengal (1875) 2. (N. S.) 44 Extra No. iii-xxiv. From the library of Indraneil Das.

Back cover: *Blythia reticulata*. This individual, an adult, was found during the day (22 May 1999) while digging near a 'jhum' field on a hillside close to Gandhigram (Shidi) village, ca. 1,040 m, Changlang District, Arunachal Pradesh, India. Photo and text Ashok Captain (Fujichrome Velvia ASA 50, pulled to 40); Nikon F5 with a 105 mm, 2.8 AFD Micro Nikkor and SB-21B flash unit. The monotypic genus *Blythia* Theobald, 1868, honours Edward Blyth, and is restricted to north-eastern India, southern China and Myanmar.

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Madras Crocodile Bank Trust

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Introduction

> *Did you see Mr. Blyth in Calcutta; he would be a capital man to tell you what is known about Indian zoology, at least in the Vertebrata: he is a clever, odd, wild fellow, who will never do, what he would do, from not sticking to any one subject. By the way, if you should see him at any time, try not to forget to remember me very kindly to him: I liked all I saw of him.*
>
> — Darwin to Hooker, 1848

Charles Darwin is, of course, the best known and studied naturalist of the 19th century. We also know a great deal – and indeed it would be surprising if we did not, given their capacity for self-advertisement – about the lives and work of men such as T. H. Huxley, Richard Owen, and John Edward Gray of the British Museum. The naturalists one can most easily study are necessarily those (rare few) who were highly successful – lauded by their peers and superiors, well-rewarded financially and well documented – though their contribution to science today sometimes bears little relation to the degree of success they enjoyed in their own lifetimes. The reverse is true of Edward Blyth who laboured in the Cinderella area of science – Asia – working for over twenty years as the curator of the Asiatic Society of Bengal's Museum, a museum which provided the core collection for what later became the Indian Museum. Despite that contribution, he was reasonably obscure in his own lifetime, though, thanks to the efforts of Eiseley (1959), he enjoyed an illusory and temporary fame as a Darwinian precursor in the 1960s. Blyth is deserving of attention not only because of his importance to South Asian zoology, but also because his long and uneven career is illustrative of the many ways, some not very respectable, in which a middle class zoologist without wealth or patronage had to try and make a living. Thus it is both the successes and failures of Edward Blyth which prove interesting to the historian.

Family and early life

Edward Blyth was born on 23 December 1810, at 9 Ironmongers Lane in the City of London,[1] the only son of his father's second marriage to Catharine Saunders (?1785–?) in 1808. His father, Clare Blyth (1749 – 1821) traded in men's clothing from this address, as part of the partnership, Storks, Blyth and Graves.[2] One of his partners was his son, also called Clare (born c. 1787), by his first marriage.[3] Edward was the result of the elder Clare Blyth's late second marriage at the age of 59 to a woman only two years older than his first son, a marriage which also produced three daughters. Of Edward's three sisters – Catharine (born 1812), Sarah Clara, (1815–1891) and Maria (born 1816)[4] – we know most about Sarah. She was the unmarried sister with whom Blyth resided at least part of the time upon his return to England from Calcutta, and at whose home he died in 1873. She was also the one from whom Grote (1875) drew the details of Blyth's early life reproduced in his obituary, until now the main biographical source on Blyth.

Blyth's father Clare came from Norfolk, the son of 'Clear' (probably a misspelling for Clare) and Hannah Blyth, and had at least one sister, Sarah, three years older than him. Blyth's mother, Catharine, was the daughter of James Saunders and Catharine Withers, possibly of Nether Wallop, near Southampton, Hampshire. Her brother, James Saunders, was a co-executor of her husband's will, and her sister, also Sarah, married Thomas Mallet of Jersey on 10 May 1810 at Southampton.[5] Sarah Clara Blyth, Edward's sister, left money in her will to both her maternal aunt, Sarah (Mrs Tom Mallet), and to her unmarried cousin, Matilda Mallet, one of four daughters born to Thomas and Sarah Mallet.[6] Both Edward and Sarah Blyth referred to the Loder Family of High Beeches, near Crawley, West Sussex, as kinsfolk, a fact substantiated by the generous annuity left to Sarah Blyth in the will of Sir Robert Loder, the owner of High Beeches and who was mentioned in Grote's obituary.[7] I have, however, been unable to trace the exact connection between the two families. Sarah Clara Blyth also referred to her mother's relatives in Wiltshire, with whom she visited for extended periods, and Blyth also spent extended periods in Wiltshire, staying at Brigmerston House at Amesbury, Wiltshire, just 15 miles or so from Nether Wallop.

The Blyth family appears to have been respectable, if not particularly well-off, and the death of the family breadwinner in 1821 at the age of nearly seventy-two, cannot have been any great surprise, but must have been a financial as well as an emotional blow, since Clare Blyth seems to have died possessed of no great wealth. Blyth's mother was then dependent on what her late husband's share of the stock in Storks, Blyth and Graves would bring, and whatever resources she herself brought to the marriage. The family seemed to have moved to Charlotte Row, Clapham, by the time Clare Blyth died,[8] but Blyth's mother decided to send her son several miles away to the magistrate Robert Fennel's gentleman's boarding school in Wimbledon (Grote, 1875).

From his father, so Grote (1875) states, Edward Blyth inherited a love of natural history and a keen memory. However, there was little in London itself at that time to excite the budding naturalist – Edward Cross' Royal Menagerie, which existed at the Exeter 'Change until 1829, provided exotic, if somewhat disreputable, entertainment, and the young Abraham Dee Bartlett, for one, derived his love of wild animals from this source (Bartlett, 1898: 1). The much more popular Zoological Gardens in Regents Park was opened in 1827. Raised in one of the poorest areas in London and at a time of depression and unemployment following Napoleon's defeat at Waterloo (peace ironically bringing rises in the price of bread and thousands of military men to swell the labour market – Gunther, 1975: 23), it is reasonably certain that Blyth's early life was similar in many respects to his near contemporary, John Edward Gray (born 1800). By coincidence Gray and Blyth not only shared a later interest in Indian zoology and museum work, they also grew up not a mile apart, Gray in Wap-

ping from 1812–1816 (Gunther, 1975: 20–21), Blyth above his father's shop in Ironmonger's Lane. However, even if like Gray, Blyth had escaped whenever he could to roam the countryside, being sent to school in the rural and wooded area of Wimbledon in 1821 possibly allowed him to indulge his love of natural history to the full for the first time. Grote (1875) reported that "the boy seems to have made unusual progress in his books, but the school reports describe him as of truant habits, and as being frequently found in the woods." Here was the beginning of the lifelong obsession which was to take Blyth across the oceans to India, and which brought him some small measure of the fame and recognition he sought.

All this, however, was in the future. Blyth's mother apparently planned a theological career for her son. Had this come to fruition, it would have been one of the few respectable ways he could have pursued the study of natural history and received an income while doing so. The Reverend White of Selborne, whose methods and approach young Edward seems to have imitated in his early writing, was only the best known of many clergymen with a strong and documented interest in the natural world. However, fate, in the form of Robert Fennel, intervened. Blyth's schoolmaster, seeing his pupil's scientific aptitude, suggested chemistry as a career, and so Blyth began studies under Mr. Thomas Keating (Grote, 1875) of the druggists firm, Keating and Co. (maker of Keating's Cough Drops), at 79 St Paul's Churchyard in the City of London.[9] (Again, coincidentally, following a similar course to J. E. Gray who was also apprenticed to a druggist, and who progressed via his family connections to the study of medicine before being recruited by William Leach to work on the arrangements of collections in Montagu House - Gunther, 1975: 28–29.)

Blyth's apprenticeship was not a success, Keating's methods being not to his liking (Grote, 1875). Despite this unhappy experience, upon attaining his majority in 1831, Blyth started a druggist's business at Tooting[10] "with his little means", another move which proved to be ill-fated. However well-intentioned Robert Fennell may have been, his career advice to Blyth ignored his temperamental unsuitability to the strictures of authority during an apprenticeship, and to the discipline required in self-employment.

The Tooting business survived in one form or another until 1837, but Blyth deserves little credit for this. Grote (1875) reported, "The management of the business was left to another, while Blyth devoted all his time to the study which engrossed his thoughts." There is little or no evidence that Blyth himself practised as a druggist, for he had abandoned his chemistry studies. The necessity to participate in the management of the business weighed very lightly on him. He felt able to absent himself for three months from August to October, 1833 to go wildfowl shooting in Jersey (Blyth, 1834a), possibly at his uncle's residence there. "Naturally the Tooting business did not thrive under such fitful management." (Grote, 1875) An article in *The Naturalist*, dated May 11, 1837, was signed from North Brixton, Surrey [South London] (Blyth, 1837d), indicating a change of residence. This seems to have been the start of his second and final career as a zoologist, one that was much more suited to his temperament and talents.

A Career in Zoology

A young boy growing up in the early nineteenth century was unlikely to cherish an ambition to become a professional naturalist, because the species, as such, barely existed. The young boy might, as many did, succeed in conducting his adult life in such a way which allowed him to pursue his hobby with quasi-religious fervour, and the paths to this Nirvana were many. If he were lucky and was born to high position and immense wealth, as was the Earl of Derby, he could devote all his resources to the acquisition of an incomparable menagerie, and virtually run the Zoological Society's gardens as a private stock house for exotics. Many men of good title, privilege or ample private resources, spent considerable time in the pursuit of scientific knowledge. At the other end of the financial and social scale, artisan autodidacts like Hugh Miller scraped together precious pennies and stolen minutes of leisure to build up cabinets of curiosities and stores of knowledge, with the encouragement (and often to the benefit) of middle and upper class naturalists. Both ends of the spectrum found their lives dictated by their birth, education, and incomes, and had either little inclination (if of the nobility) or little chance (if working class) to make their living from their passion. It is therefore unsurprising that moves towards a professional class of naturalists and scientists came not from the extremes of the social scale, but from the middle. There were, of course, many middle class people, notably gentlemen farmers or clergymen, who formed a class of "Sophisticated amateurs [who] brought to the subject an intensiveness and a standard of expertise which could well be mistaken for those of professionals" (Allen, 1985: 2). There were also those fortunate few, such as doctors, whose professional interests dovetailed neatly with their passion for natural history.

However, there were others, circumstances reduced by bad luck or bad judgement, who were forced to turn their main skill and interest to account. For these men there was a constant conflict between financial, social and scientific priorities. To an educated man of social ambitions, it was galling that taking a salary to perform curatorial duties in collections patronised by the upper classes, meant being barred from equality of intercourse with their patrons, even when those patrons ranked as their inferior in scientific knowledge. Similarly, trading in live or dead animals was considered degrading, even when actively encouraged by noble clients such as Lord Derby. As the career of Edward Blyth demonstrates, even without a degree and without natural advantages of position, personality or social connection, it was possible to make a living from natural history, but as his career also demonstrates, it was an excessively hard row to hoe.

A relatively genteel way of making both a reputation and an income was through writing. This Blyth attempted in 1832 as soon as he was independent of schoolmaster and employer, and in business. He began, at first quite tentatively and then with rapidly increasing assurance and knowledge, to build a solid reputation as an accurate observer of nature. Like his role model, Gilbert White of Selborne, he effectively exploited his local area. His Tooting base was ideal for field observation of British birds and mammals (Blyth, 1836e):

> We are situate nearly seven miles from the metropolis, upon the London clay, which is hereabouts everywhere covered with a thick layer of gravel. In many parts, the superjacent soil is deep, in others scanty. Where the former obtains, the ground is generally devoted to cultivation, but there is little corn raised; hay, and especially medical herbs, being the chief product. The inferior land is suffered to run waste; and in every direction there are some extensive commons interspersed, overspread with furze and heather. Our immediate neighbourhood is, in general, low, with much water; and would

> soon return to its former marshy and unhealthy state, were it to be left to the operations of nature for a few seasons. The small river Wandle winds its course hard by, and turns numerous mills in its progress to the Thames: more, I believe, within a few miles than any other stream in the country. On either side of its banks are low meadow lands, in many places wet and marshy. We have no woods very near; but, in several directions, they are extensive within a few miles. Coombe [near Kingston-upon-Thames, Surrey] and Dulwich Woods are the principal; and beyond Croydon are some wide-spreading fir plantations. To the south and east, we come, after a few miles, upon chalk, where, in general, there are extensive downs (fine arable and pasture lands), varied, in one or two localities, with abrupt escarpments, and evergreen-covered hills. At a short distance to the west, the beautiful park of Earl Spencer, and, farther on, the delightful scenery of Richmond and the contiguous parishes, offer a widely diversified country for the investigations of the student of natural history. In short, it will be seen that we have a wide field for general observation, and have every description of scenery but that of the mountain and the main.

It was still possible to see ospreys over the river Thames, and the diminished stock of birds Blyth bemoaned would make the modern reader green with envy, although hunting and bird collecting made many birds, especially raptors, rare. (The widespread and indiscriminate destruction of wild birds for sport, for science or for pure viciousness led Blyth and some other ornithologists to increasingly advocate non-fatal methods of studying animals – Allen, 1976: 119). His observations of free-living and captive birds made him a valued correspondent of John Gould, who is first recorded to have been in contact with Blyth in May 1834. Blyth, who shared with Gould an obsession for accurate description and taxidermy based on observations of living birds (Tree, 1991: 18–20), described to him the habits and eye colour of long-tailed ('bottle') tits Blyth was raising in captivity.

Field and captive studies were not his only strength. He was prepared to invest a great deal of effort to educate himself in his obsession, teaching himself German, in addition to the Greek, Latin and French that would enable him to follow the scientific writings of the age (Grote, 1875). The best repository of accessible scientific literature was held at the British Museum, but his residence at Tooting was inconvenient. He rented a room in Pall Mall "to have readier access to books" (Grote, 1875) in the British Museum. The Museum with its specimens and its library was not the only attraction for Blyth in London. There were also the Zoological Gardens in Regent's Park which had proved to be a huge success, and an irresistible attraction to Blyth, whose papers during his early and Indian career indicate the frequency of his visits to observe and even to measure animals there. Nothing zoological seemed to have been too trivial for Blyth's interest. Years later in India, for example, his earlier habit of attending the half-yearly exhibition of pelts by the Hudson Bay Company in London helped his identification of specimens received by the Asiatic Society (Blyth in Hodgson, 1842). As he was to remark to Alfred Newton in 1869 (Blyth to Newton, 1869a), the exhibition of furs, which he still attended, was "a sight which no zoologist who pays attention to the mammalia should ever miss, if he can help it".

Blyth began his career as a scientific author at a time when the opportunities to express his observations and ideas in print were expanding rapidly. The 1830's saw a mushrooming of these journals, as the cost of publishing fell and the technology improved, speeding production (Sheets-Pyenson, 1981). Many journals, such as that started by Blyth's friend, James Rennie (one-time professor of

natural history at King's College, London) failed ultimately because the growing appetite within the general public for natural history material was yet too small to support the variety of journals which sprung up to feed it. The *Field Naturalist* was more zoologically and anatomically oriented than the *Magazine of Natural History*, and had a more dignified air – the long and tedious epistolary quarrels between rival ornithologists which threatened to overtake the *Magazine of Natural History* were absent from its pages.

The *Field Naturalist* closed in April, 1834, but despite this and numerous other failures, there was still plenty of scope for Blyth's ready pen. His papers on British fauna appeared in a steady stream in English publications until 1841, the year he went to India. Almost immediately after starting his business, using a nom-de-plume, "Zoophilus"[11] (which he was to use in some of his Indian and post-Indian writings) and shortly thereafter in his own name, he began contributing to Loudon's popular *Magazine of Natural History*, which covered a broad range of scientific subjects. This embryonic scientific journal did not, for the most part, attract the highest scholarship, and its contributions were of a fairly popular nature. There were numerous papers by Charles Waterton and William Swainson, and the articles predictably concentrated on ornithological matters. A fellow contributor to the *Magazine of Natural History*, and friend of Blyth's, was William Yarrell, the ornithologist and a founder member of the Zoological Society of London. Several other contributors, such as Mudie, Abraham Dee Bartlett (a taxidermist who later became the Superintendent of London Zoo) and Neville Wood were also Blyth's friends and fellow ornithologists. Blyth, Rennie, Wood and Mudie all embarked on publishing ventures of their own.

The world of the publishing naturalists was not always an entirely genteel one of polite, respectful exchanges of knowledge and ideas. There was in fact, a great deal of invective, arguing, and dirty dealing. A case in point is the brief flourishing of the precocious ornithologist and campaigner for the reform of scientific nomenclature, ornithologist Neville Wood. He had made a name for himself by publishing "British Song Birds" (dedicated to Blyth, who is quoted, sometimes extensively, on virtually every species under discussion) in 1836. The following year, at the age of 19, Wood took on the editorship of two natural history journals, and had embarked on no lesser project than the complete reform of scientific nomenclature. *The Naturalist*, which Wood had taken over from Benjamin Maund and William Holl in 1837, was, according to Edward Charlesworth, intended to be in direct and destructive competition with Charlesworth's own *Magazine of Natural History* ([Charlesworth], 1840). *The Naturalist* (and the decidedly more scientific *Magazine of Zoology and Botany*, edited by Sir William Jardine, which began in 1837) clearly aimed to set a different tone to *The Magazine of Natural History*, which had become dominated by the private quarrels between such boisterous and verbose writers as Waterton and Swainson.

Charlesworth had good reason for his bitterness towards *The Naturalist*, as Wood, one of the *Magazine's* more regular contributors, took many of its long-standing writers with him to supply the pages of *The Naturalist*. Blyth, whom Wood had probably actively recruited, continued to write for both the *Magazine of Natural History* and *The Naturalist*, but many others dropped their allegiance to the former periodical. Wood also officially took over the co-editorship in 1837 of *The Analyst,* "a quarterly journal of Science, Literature, Natural History, and the Fine Arts" which, like *The Naturalist*, was published in Worcestershire. Blyth contributed only two papers to *The Analyst*, and none at all to Sir William Jardine's journal. However, in *The Naturalist,* Blyth found room for some of the longer ornithological articles which hitherto he may not have been able to have published in *The Magazine of Natural History*.

Blyth's connection with Wood seems to have become strained around 1838 – he may have lost sympathy with Wood's reforming crusades. Although Blyth flirted with radical reformist ideas such

as Wood's vernacular classification,[12] and was friendly with Radical sympathisers such as Neville Wood and Robert Mudie (noted by his biographer as an "ardent reformer" in political matters[13]), he showed himself in his writing to be ultimately in sympathy with conservative zoologists such as Hugh Strickland and Richard Owen.[14] He may have also disapproved of the direction Wood's journals were taking, since Wood was unable to maintain the standard of articles in *The Naturalist*, nor restrain the editorial voice which intruded into almost every article. The journal had an habit of "puffing" the other works of its editor (a practice denounced by his competitors), and was also, issue by issue, becoming dominated by the phrenological interests of Wood and his brother. It ceased publication at the end of 1839 because it was not covering its costs, and also because of the lack of support from, and competition with, the London publishers (Sheets-Pyenson, 1981b). It had, for at least a year before, shown signs that material was becoming difficult to obtain for the journal, a problem which Rennie had also faced. In the last issue in 1839, Wood was forced to resort to quoting from letters to him from Blyth, written in July 1836 (Blyth, 1839e). Blyth had actually ceased to write for *The Naturalist* by early 1838, and while this may have been necessitated by his commitment to his contribution for Griffith's edition of Cuvier's *Règne Animal* in 1840 (Blyth, 1840a), he continued writing for *The Analyst* (no longer edited by Wood), and for *The Magazine of Natural History*. Although Blyth only contributed to *The Analyst* after Wood ceased to be co-editor, Wood gave the impression Blyth was writing for *The Analyst* under his editorship, by indexing his name for comments made at the Zoological Society, and by quoting from the same letters of Blyth's he cited in *The Naturalist*.[15]

The quarrels and rivalry were but a small part of the historical importance of the journals. Like a pre-Victorian internet, the opportunities for discussion with one's scientific peers bound together men (and occasionally women) from all walks and stations of life into a surprisingly tight and, in the journal pages at least, democratic and egalitarian community of amateurs and professionals, dilettantes and serious researchers. Any who had the bare qualification of a novelty to communicate, or an observation to share, could, and did, appear in print, broadcasting to a nation-wide audience of brethren who seemingly never tired of the fascinating study of the natural world. The topics were breathtakingly broad as well, ranging from semi-mystical speculations about God's plan as revealed through his works of nature, through to the mundanities of the best way to preserve insect cabinet curios. The quality varied a great deal too, as papers were rarely refereed in this early period.

It has to be said that Blyth's own extensive input also varied considerably in quality, being highest when he stuck to what he did best, that is, observing and reporting natural events, and describing the minutiae of bird and animal anatomy and ecology. His explorations into the nature of species were far more useful as repositories of careful observations and examples, than as well-argued theory. Part of the difficulty for him, and other British naturalists, was in struggling to make sense of the conflicting ideas pouring out of France, and through British adherents of Cuvier and Lamarck. The London scientific establishment was in political turmoil as well. It is not surprising that a young man, stimulated, if somewhat uncomprehendingly, by these wellsprings of philosophy and dissent, and anxious to establish his scientific credentials, should have attempted to make some sense of it all in expressing his own views on the French science. However, Blyth had little talent for philosophy or theory, and made no impact at all in this regard, beyond gaining the admiration of a few conservative zoologists.

The amount of unremunerated time and energy Blyth devoted to writing for the journals seemed to make little sense from the financial point of view, but then, as today, a zoologist could try to make a reputation through unpaid writing, which then might promote the sales of books which did bring an income. He had planned a work on the smaller British birds (a natural subject for him) in conjunc-

tion with another ornithologist, but the book, planned for publication in October 1836 was at first delayed and then finally abandoned (Wood, 1836a: 97–98).[16] However, in 1836, he edited a learnedly annotated version of Gilbert White's "The Natural History of Selborne" which included a note by Robert Mudie on the then current state of Selborne (Blyth, 1836f). Mudie was a former drawing master and journalist, and amongst many other books, author of "The Feathered Tribes of the British Islands" (1834) which was much quoted and referred to by the ornithologists of the 1830's. Blyth constantly alluded to birds as "feathered tribes", and was heavily influenced by the book.

As a close friend of Blyth and a prolific publisher, Mudie probably encouraged Blyth to embark on "Selborne". It was a risky strategy. There was an undeniable appetite within the general public for natural history material, but there was equally a large number of amateur writers willing to feed it. Volume and variety were no guarantee of financial success for the impecunious naturalist trying to make a living this way in the early part of the nineteenth century. Mudie was the author of fifty or more significant articles or books, yet he died leaving his widow and children destitute. J. C. Loudon, one of the more successful of the natural history journal publishers, died in debt. James Rennie and William Swainson, respected and prolific writers, were both forced to emigrate when their writing failed to bring sufficient income. Swainson (quoted in Secord, 1985) complained of the difficulty that lay in trying "to turn to pecuniary account that knowledge, to gain which I had sacrificed so much." It is not known how much Blyth gained financially from the "Selborne" project, but his edition was well thought of by other naturalists (Sharpe, 1906: 213–313), and sufficiently popular for two further printings to be made, in 1850 and 1858 (Mabey, 1988: 244–247). It was not for lack of competition that his edition did well. Mabey lists 41 separate editions of "Selborne" between 1800 and 1900 (not including extra print runs), and several were by well known naturalists, such as William Jardine, and Frank Buckland (Mabey, 1988: 244–247).

The issue of "Selborne" coincided almost exactly with the failure of his business, and with his scientific writing bringing in little or no income, Blyth was reduced to searching for one of the very few paid posts available to the naturalist. The lack of a proper career structure for scientists especially in this field, unlike the situation in France with its state sponsored positions (Allen, 1985: 1) could cause such stress among those seeking some sort of security that it could lead to madness (as in the case of John W. Salter – Secord, 1985). As Allen (1985: 2–3) pointed out, the growth of a professional class of naturalists was not seen as desirable in Britain, least of all by the scientists themselves, who preferred the less caste-destroying path of authorship (Farber, 1985: 55). Blyth was not alone in seeking to become a professional scientist from sheer financial necessity. Allen (1985: 8–9) cites the examples of J. G. Baker, James Buckman, Edward Forbes and J. G. Children, who became employed respectively as First Assistant at Kew, Professor of Botany and Geology, Professor of Botany, and Keeper of the zoological collections at the British Museum, as a result of the total collapse of the family or personal fortunes. Secord (1985) noted that "Historians are only just beginning to realize how fierce the competition could be for the few existing paid positions in Victorian natural history: even familiar figures like Edward Forbes, Richard Owen, and Thomas H. Huxley had to struggle ignominiously for many years to make ends meet..." Blyth's financial difficulties were not only self-made, but were a direct result of his addiction to natural history.

Blyth was active in other ways. He became involved with the Zoological Society, spoke at least once to the Worcestershire Natural History Society[17] (a staunch supporter of educational and scientific reforms – McOuat, 1996) and in 1838 became the curator of the nascent museum of the Ornithological Society of London.[18] This society, also known as the St. James's Ornithological Society, was formed in 1837, and centred around the bird collection in St James's Park, London. Its plan of rules stated that

> The objects of the society are to be attained by the exhibition of living birds; the propagation and dispersion of the domesticated races; a museum; library; periodical meetings; ornithological lectures; the publication of ornithological works – scientific and practical; prize shews.... the Rasorial genera, and their types, will be particularly attended to, as being most beautiful and attractive, pre-eminently domestic and practically useful. The hardy birds will be gratuitously exhibited in the parks; those for which buildings are required will be seen by the public on payment of a small admission fee.[19]

Among the more notable members of this society were the Earl of Derby, the owner of the Knowsley Menageries, John Edward Gray of the British Museum, John Gould, the ornithologist and illustrator, Dr. Thomas Horsfield, curator of the India Museum in London, W. S. Macleay, Dr. J. F. Royle, William Swainson, the zoological writer and illustrator, Colonel William Henry Sykes, and other prominent ornithologists such as Nicholas Aylward Vigors, Robert Mudie and William Yarrell.[20] William Holl, former editor of the *Naturalist,* was at one time the Secretary of the Society.[21] Blyth's position as Assistant Secretary and curator may only have been honorary. The curatorial position was "rendered necessary by the munificent loan of the Hon. W. T. Fiennes."[22] Despite the luminaries who supported it, this society seems to have been short-lived, ceasing its activities in 1838, and therefore had little impact on the zoological community.

Strangely, there is no evidence of Blyth's official affiliation in his pre-India days to any other society. It is notable that, although people with whom Blyth had or would later have strong personal connections, such as Darwin, Yarrell, Lord Derby, and Horsfield, were members of the Zoological Society and Blyth was a fairly regular attendee of the scientific meetings, he himself did not join until 1858 (as a corresponding member).[23] His earliest known contact with the Zoological Society was in 1836, when he wrote to G. R. Waterhouse, the Curator concerning the history of an orang-utan skin he had forwarded to the Society's Museum on behalf of the sister of Dr. Montgomerie of Singapore (Blyth to Waterhouse, 1836a). It was possibly at the Society that Blyth first met Charles Darwin, Gould (who became the Society's taxidermist in 1827, and later its Curator of Birds), and the formidable Richard Owen. In 1837, his first contribution is recorded in the Proceedings of the Zoological Society (Blyth, 1837e). He contributed several papers and exhibited items until 1841, although understandably his flow of contributions all but ceased while he was in India.

Apart from the curatorship of the Ornithological Society, Blyth had little initial success in finding a position. According to Grote (1875), he "passed much of his time in the British Museum, in which, or in some kindred institution, he tried hard to find employment". Unhappily for this ambition, he seemed to have the knack of estranging, however unknowingly, powerful people who could long exert influence over his life. An exceedingly ill-judged and unsuccessful complaint against G. R. Gray of the British Museum brought him into direct conflict with senior establishment figures in the Museum and in his chosen field of research (C. Brandon-Jones, 1996). Blyth had underestimated the ability of the establishment classes to close ranks against an outsider – the "lords and gentlemen" of the Museum were hardly likely to look favourably on an attack on one of their staff by a humble amateur, a failed businessman, who was no match for the social skills and contacts of the well-connected John Gray. Cloaking himself in the *gravitas* of his minor position in the Ornithological Society, as he was later to do in India, he fondly imagined that he could compete in importance with the big guns in science (C. Brandon-Jones, 1996). In fact, very few of his fellow naturalists took him seriously as man of stature or influence, although few also omitted to use his copious, accurate

writings in support of their own work. He was to repeat the mistake of antagonising the establishment in Calcutta, with equally unsatisfactory results. Blyth's frequent error was in overestimating his importance to, and his relationship with, the elite. He failed to recognise that being patronised and exploited by wealthy or upper class men (as many naturalists were in order to manage their collections – Allen, 1985: 4) did not by association improve his social position – quite the contrary, as it reduced them in the minds of their employers to the status of servants (Davidoff and Hall, 1987: 269). It was perhaps for this reason that the preferred salaried positions in the early nineteenth century were those on the British Geological Survey, or in an academic position, rather than in any type of curatorship (Secord, 1985).

Blyth's social standing and interpersonal skills may have affected his employment prospects, but not his reputation as a naturalist. Charles Darwin's assessment of Blyth as a scientist seemed to be unaffected by Blyth's quarrel with George Gray. At this time, Darwin was paying Blyth's writing considerable attention (Sheets-Pyenson, 1981a). They had met, certainly at the Zoological Society in August, 1838 (Darwin Notebook D. p:29, 30, 33 in Barrett, et al, 1987: 340, 342) and possibly before. Darwin had been elected a fellow of the Society in 1831 (Vevers, 1976: 18), but had been absent on the *Beagle* voyage until October 1836 (Clark, 1984: 41). He most probably met Blyth for the first time through their mutual acquaintance, John Gould, who was engaged in curating and illustrating Darwin's collection of bird skins from the *Beagle* voyage. It is quite conceivable that Blyth would have taken the opportunity of discussing Darwin's collections with both Gould and Darwin, after Darwin met Gould in October 1836.[24] Unfortunately for researchers, the Proceedings of the Zoological Society's meetings as published by the Society itself, are a poor indication of Blyth's true level of attendance and participation, and were it not for the almost accidental preservation of records of some of the proceedings in other journals such as the *Analyst*, one would receive a quite false impression of his contribution.

It is difficult to establish whether Blyth attended meetings at which Darwin was also present, before the first surviving record of direct contact at a meeting of the Zoological Society on 14 August 1838, but it seems likely. In his notebooks, opened specially to deal with the "species question" Darwin particularly noted remarks made by Blyth at this meeting on a paper Richard Owen delivered to the society on *Apteryx*, as well as other comments on birds (Darwin Notebook D. p:30, 33 in Barrett et al, 1987: 342). Blyth offered his comments on a conversation between Darwin and Dr. John Bachman, the American naturalist, who was then on holiday in Europe, travelling in Britain with John James Audubon. Darwin also noted Blyth's comments at a meeting on September 11, 1838, concerning the plumage and progressive changes of the crossbill and linnet (Darwin Notebook D. p:95, 96 in Barrett et al, 1987: 361).

Darwin's notebooks recorded a steady increase of interest in Blyth's work, and one paper in particular, in 1837, (Blyth, 1837a) on the psychological distinction between man and animals, engendered comments from Darwin – he devoted two pages in notebook C to discussing it (Darwin Notebook C. p:198–199 in Barrett et al, 1987: 300–301). In Darwin's opinion, Blyth was firmly established as a reliable authority on zoological matters before he left for India in 1841. In his notebooks, Darwin prepared a list of prospective questions for Blyth, concerning the breeding of wild birds, the feeding habits of hawks, hybrid pheasants, differences in breeds of sheep and cattle, and the selection of breeds of the same (Darwin Notebook 'Questions and Experiments', p:19 in Barrett et al, 1987: 512). Blyth expressed gratitude in 1855 for the opportunity to write to Darwin concerning "a subject in which I have always felt the deepest interest" (Blyth to Darwin, 1855a) which might imply that this is his first exchange with Darwin on the topic. Though Beddall (1973) believed that "the correspondence probably began only in the fall of 1854, when Darwin finished his work on bar-

nacles and returned to the species problem", it seems likely that Darwin and Blyth were in contact, on subjects of mutual interest, from the time of their first known meeting in 1838.

Had Blyth remained in England, he seemed set fair to carve out a career as a zoological writer, which would have probably ensured a life of even greater penury than he later experienced, even if his reputation would have been enhanced. However, by early 1841, he was in "weak health", and was "professionally advised to seek a warmer climate" (Grote, 1875). The exact nature of his debility is not known, but removal to a warmer climate suggests he may have been prone to chest infections or colds.

It seems unlikely, however, that a doctor would have actually advised him to go to India, given the well-known hazards of survival there – least of all to Calcutta, which was notorious for its unhealthy climate. (So deadly was it that Brian Hodgson, when he became ill while stationed at Calcutta, was advised that he had three choices – "six feet underground, resign the service [and return to England], or get a hill-appointment." – Hunter, 1896: 31.) Still, for the eager and poor zoologist, it must have appeared a heaven-sent opportunity when, in March, 1841, Professor Horace Hayman Wilson, late Professor of Sanskrit at Oxford, then Librarian of the Museum at India House (R. Desmond, 1982: 33), and acting Honorary Agent for the Asiatic Society (Grote, 1875), approached Blyth about the newly created post of paid full-time Curator of the Museum of the Asiatic Society of Bengal. Blyth very likely met Wilson through Thomas Horsfield, the curator of the India Museum, Leadenhall Street. Blyth could not manage the fare for the passage to India, which Professor Wilson was obliged to advance to him without the express permission of the Society along with money for "outfitting".[25] This in turn brought a rebuke in a letter from the Society to Professor Wilson, wherein it was noted that the demand for repayment of the advance by the Society to the Local Government was to be "deferred until Mr. Blyth arrives".[26] Quite how else the question of the advance was to have been handled by Professor Wilson was not made clear, but the petty bureaucratic attitude displayed boded badly for the young man. However, as paid opportunities to study natural history were extremely scarce, it is probable that Blyth would not have much cared. Ahead was India, with its rich unexplored zoological wealth, and he would have the chance to study it all.

Researches, 1832 – 1840

Blyth's first known paper in 1832 (Blyth, 1832) demonstrated his approach from the start. "I will now endeavour to show, from my own observations, that the white dress of the stoat in England depends on the temperature of the atmosphere, either according to situation, or according to the severity of the winter; and not on the periodical change of the seasons...." Many of his papers, short and long, follow the pattern of noting a long-held belief concerning some aspect of an animal, and then reviewing the literary and observational evidence for and against it. This did not stem from arrogance, although he never lacked self-confidence, as he was all too conscious of the limits on the then current state of knowledge of the natural world. He made clear his motivation in a paper in 1835 (Blyth, 1835):

> I...fancy that I can do something towards subverting certain theories; propounded, too, by persons whose great experience in matters of natural history entitles their opinions to be regarded with much deference and respect. I wish, also, that by penning a few words on the subject, I could any how induce those who may have opportunities and sufficient leisure for the undertaking, to attempt further the elucidation of one or two particulars which I shall have occasion to point out as I proceed, and upon which at present our information is incomplete.

He constantly advocated actual field observation in preference to hearsay, and cautioned against imperfect observation (Blyth, 1834b):

> Were I to judge of the temper and disposition of the bramble finch from one which I kept in confinement last summer, I should call it one of the most untamable of birds; but, were I to form my judgement from the individual which I possess at present, I should, on the contrary, deem it to be very familiar and confiding. This I just cursorily mention as a caution to those who would infer the general character and disposition of a species from observation of an individual. Animals of the same kind often differ greatly in individual character; and this is remarkably apparent in a brood of ten young bottle-tits which I have this season reared: it was observable even before they had left the nest.

His papers for 1832 to 1834 are solid and factual, rather than theoretical and inspiring. Several deal with classification of the British birds. This apparently pointless Victorian obsession with list-making should not blind one to the importance of what was being attempted. As Farber (1982: 89) stated:

> The significance of the focus on classification in ornithology is two-fold. By the end of the eighteenth century and beginning of the nineteenth century the goal of classification was the construction of a natural system. This goal reflected an attempt on the part of naturalists to uncover an existing order in nature...to discover the laws of nature.

This process is nowhere more clearly demonstrated than in the career of Edward Blyth. The interest in the naming and classifying of birds led him into two important areas of discussion. The first, the practice and application of scientific names, dealt with an essential problem of taxonomy: how to impose universally comprehensible and acceptable names for organisms. It was a question exercising many ornithological minds in the early nineteenth century. Blyth involved himself peripherally in the question of classification and the rules governing its use. Neville Wood and his brother, Charles Thorold Wood, saw themselves as reformers and used *The Naturalist* to proclaim the virtues of an English language nomenclature, and of fitting names for species. Neville Wood (1836b: 220–221) was particularly annoyed, for instance, by such incongruities as the generic name *Caprimulgus*:

> I have actually witnessed a gentleman, at the British Museum, pointing out the innocent Nightjar to his son as "the bird which sucks the milk of cows and goats at night in summer!" and hence the evil of continuing the terms "Goatsucker" and Caprimulgus...it is to be hoped that the mass of intelligent and unprejudiced ornithologists will, ere long, discard appellations so replete with absurdity and so apt to deceive.

Blyth (1837b) agreed with much of what they were attempting:

> Now, I certainly am not one of those who are willing to accept any kind of name merely because it chance [sic] to be popularly applied. Undoubtedly there should be some rules for nomenclature, some system to regulate caprice. If any meaning is to attach to the word "sparrow", if it is to signify a particular form among the feathered race, surely those species ought alone to be called sparrow which exhibit the characters briefly denoted under that name. To apply it to birds of other forms occasions only unnecessary confusion. If a new species were to be denominated _____ sparrow, we should, of course, expect it to pertain to the genus Passer; and why, therefore, do some naturalists persist in using erroneous appellations, merely because, in some districts, they happen to be popular? I say some districts only, because there are really very few names which are in general use throughout the country; consequently a classical and systematic nomenclature is needed.... Not long ago, I heard a ludicrous dispute between a Yorkshireman and a native of Surrey respecting which bird was the "Tomtit", the former insisting that the southron's Tomtit meant the Bluecap !

However, the shortcomings of Neville Wood's insistence on properly applicable vernacular names was demonstrated even by his supporter Blyth, who took him to task for using the name" 'Hedge Warbler' for a bird that neither *warbles* nor habitually frequents *hedges*" (Blyth, 1837c). Finding a generally acceptable vernacular name was clearly more impracticable than imposing a single binomial Latin name, however incongruous, across language boundaries. This debate frequently descended into the acrimony which blighted so much of the writing in natural history journals of the early nineteenth century (Darwin Notebook C. p:222e in Barrett et al, 1987: 309–310). It did, however, serve the useful purpose of stimulating Hugh Strickland to push for a nomenclatural standard (Jardine, 1858: cxciii-cxcv), which partly formed the basis for the now generally accepted *International Code of Zoological Nomenclature* (Ride et al, 1999: xxi). Though Blyth later wholeheartedly

adopted his proposals, Sclater's (1874) obituary of him still referred to his brief flirtation with this vernacular movement.

Blyth's taxonomic work remains of value for the modern scientist, but what is more interesting for the scientific historian, is the other path into which Blyth's quest for an understanding of classification took him. Central to his theory of classification was his agreement with Charles Lyell's theories expounded in *Principles of Geology*. The two aspects of Lyell's work which most strongly influenced Blyth, were Lyell's rejection of the Lamarckian belief in the constant mutability of species (Young, 1992: 111), and his belief in the perfect adaptation of a species to its particular geographical locality (Young, 1992: 112–113). Blyth (1836b) restated Lyell's theory in 1836:

> [the adaptive system] is the system by which alone the existence of one species is necessary to that of another and which binds each race to its locality; where the presence of each is alike necessary to preserve the equilibrium... and when circumstances have changed and the necessity for its agency no longer remains, a whole race perishes, and the fragments of skeleton in the solid rock perhaps alone proclaim that such had ever existed.

Blyth, who was far less troubled than was Darwin by the imperfect logic of this theory, nonetheless admitted (ibid.) that this non-progressive interpretation was "not the system by which an extensive knowledge of *species* can be acquired...." Despite these reservations, his adherence to Lyell's theories led him over many years to search for the central types of animals for each geographic and environmental division. Blyth's (1836b) classification was based upon the belief that

> Every species of organism...is framed upon a greater or smaller series of successively subordinate typical plans, upon which is organised a variety of different species, perfectly unconnected and distinct from each other...and which exhibit each typical and subtypical structure more or less modified, and, in the extremes, generally more or less approximating [or converging] towards the extreme modifications of other plans of organisation, in direct relation to the endless diversifications of the surface of the earth, to variety of climate, or to peculiar modes of procuring sustenance. Thus far, I believe, all systematists agree.

On the strength of this belief, and on his close observations of nature, Blyth waded into one of the major debates of the 1830's. McOuat (1996) has described how the zoological establishment split itself over the validity of the "quinary" system of Macleay and Swainson, which sought to arrange group organisms in groups of five, which graded at points of affinity into the next. Blyth rejected the quinarian view that species "blend and inosculate" at points of "affinity" at the extreme edges from the centres of radiation, that is, grading into each other at the points where two species most closely resembled each other. He insisted that no matter how closely two species may resemble or "approximate" to each other, they must always be referred back to the central typical species, and not to another, unrelated (as he saw it) species with a different central type. As early as 1833 Blyth (1833a) explained his views on the correct division into genera and species. He saw

> no necessity for stiffening our arrangements into exact quinary, or trinary sections, with which it is now so much the fashion to cramp our ideas of

> nature: all such frivolities having an obvious and manifest tendency to contract our ideas, to shut from our perception whatever militates against favourite theory, to superinduce a partial view of things, and to close accordingly the grand avenue of knowledge.

This rejection of any idea that forms might grade or "inosculate" into one another, became the basis for a considered attack on quinarianism in 1836. In his discussions of the arrangement of species (1836b), Blyth rejected MacLeay's "natural system". He found it

> necessary to say something first of what meaning I attach to that most hackneyed of all phrases, "natural system,"...under this phrase, then, two very distinct kinds of relation are ordinarily blended together and confounded; viz. the adapted relation of every organised production to the conditions under which it was appointed to exist, and the physiological relation subsisting between different species of more or less similar organisation. These may be designated the adaptive system, and the physiological system; the system of relative adaptation between the earth, its productions, and its inhabitants, and the system of agreements and differences between the organisation of distinct races.

Despite this reference to adaptation, Blyth did not believe in evolution as is now understood, but in Lyell's separate centres of creation. He suggested instead (1836b) that generic distinctions should be based on

> true natural divisions arranging those only together in one genus, which naturally assimilate, not only in some vague, trivial, and often fancied resemblance in the form of the bill, but which possess also a general similarity of structure, habits, and mode of life.

The illogicality of the quinarians finally settled the matter for him (1836b):

> The more deeply, indeed, I consider the quinary theory (now advocated by so many talented naturalists) in all its bearings, the less consistent does it appear to me with reason and common sense; the more thoroughly am I convinced of its utter fancifulness and misleading tendency.... If the quinary system be universal, as some would have, pervading all creation, how is it that the stars and planets do not revolve in groups of five? Or why even do not animals mostly produce their young by fives, or multiples of five? The absurdity is, indeed, too great to be dwelt on.

Blyth's rebuttal of quinarianism was noted by Darwin (Darwin Notebook C. p:222e in Barrett et al, 1987: 309–310), and Darwin's own rejection of this "mystical insistence on fives" (Gruber, 1974: 112) was an important part of the process toward the development of the theory of natural selection. The quinary system fell out of fashion in the early 1840's. McOuat (1996) has explained how this once popular concept was defeated by a conservative alliance within the zoological community, with whom Blyth showed himself more and more in sympathy from 1836 onwards. By rejecting quinari-

anism, however, he was by no means simply aligning himself with the majority thinking – the theory was supported by some of the more powerful members of the zoological community, men such as William Swainson, N. A. Vigors, Macleay and their supporters (McOuat, 1996).

The question of the proper basis of taxonomic groupings led Blyth (1833a) to develop his own theory of nomenclature. His support for the vernacular system of nomenclature, described earlier, was preceded by a concern that not only should names describe the animal, they should also represent true groups:

> To a person conversant with natural history a generic name, to be appropriate, ought to convey at once to the mind a distinct and definite notion of the kind of animal to which it is affixed.... if, however, according to more modern arrangement, we style the bird a *Carduelis*,...a *Linaria*... or a *Coccothraustes*,...and call it also one of the *Fringillina*, not only do we convey the idea that it is a finch, but we express also that particular family of finches to which it belongs.

In the same year Blyth (1833b) proposed that "a regular and natural gradation of divisions, or groups, of greater and greater value, might very easily be established." Such a system, which is actually that used today, would employ the suffixes "-dae" for family level classification, and "-nae" for subfamilies. He is believed to be the first person to suggest the standardisation of the use of these endings and his interest in the concept and naming of families and subfamilies displays a greater involvement in higher level taxonomy than was usual at the time.

However, his struggles with nomenclature and his defence of Lyell's theories against the quinarians led him to consider the vexed question of how new varieties and breeds, even species, could and did occur. As Beddall (1973: 82–83) explained, Blyth was responding to Prichard's 1813 work, "Researches into the Physical History of Mankind". Prichard believed that man, despite his wide variation, was a single species. Blyth had to struggle to reconcile this belief with the fixity of forms insisted on by Lyell (Beddall, 1973: 82):

> But if one argued for the unity of mankind, how were the great differences among the races of mankind to be accounted for, when so little variation was to be observed in wild species? The analogy with the equally varied breeds of domestic animals showed that under certain circumstances a great deal of variation was possible, and thus that the variation in the races of mankind, within the bounds of a species, was also possible. It was such variation within the limits of species that Blyth was trying to classify.

It is apparent that he himself was not aware of just how deep were the waters he was entering. The ideas he offered were tantalizing but incompletely considered. Blyth began by stating (1835):

> The appellation 'variety' being very commonly misapplied to individuals of a species, which are merely undergoing a regular natural change, either progressing from youth to maturity, or gradually shifting, according to fixed laws, their colours with the seasons, I conceive that it will be useful to some, to point out a few of the less generally known changes which naturally take place in various British animals; some few of which appear

> to have been hitherto overlooked, and others to have been described incorrectly.... Varieties require some classification; and though I feel myself hardly adequate to the task, I shall here propose to arrange them under four principle heads; in the hope that this endeavour will induce some naturalists, more competent than myself, to follow out this intricate and complicated subject, into all its details.... I would distinguish...what are called varieties, into simple variations, acquired variations, breeds, and true varieties.

He discussed aberrations such as albinos, and the effect of climate on pelage. Moving onto the subject of breeds, he made by far the most interesting remarks in the paper, and it is these which mistakenly persuaded Eiseley of Blyth's pre-emption of Darwin's theory of evolution by natural selection.[26] The remarks do hold some echoes of Darwin's later work, but are written within the context of Blyth's acceptance of Charles Lyell's belief in the perfect adaptation of forms to their habitat. Like Darwin, and others of the time, he recognised (Blyth, 1835) that there may have been some analogy between artificial and natural breeds, and also identified the essential difference between the two mechanisms:

> Breeds are my third class of varieties; and though these may possibly be sometimes formed by accidental isolation in a state of nature, yet they are, for the most part, artificially brought about by the direct agency of man.... if man did not keep these breeds by regulating the sexual intercourse, they would all naturally soon revert to the original type.

He also identified the mechanism by which natural breeds are preserved, and *created*:

> When two animals are matched together, each remarkable for a certain given peculiarity, no matter how trivial, there is also a decided tendency in nature for that peculiarity to increase; and if the produce of these animals be set apart, and only those in which the same peculiarity is most apparent, be selected to breed from, the next generation will possess it in a still more remarkable degree; and so on, till at length the variety I designate a breed, is formed, which may be very unlike the original type.... the original and typical form of an animal is in great measure kept up by the same identical means by which a true breed is produced. The original form of a species is unquestionably better adapted to its natural habits than any modifications of that form; and, as the sexual passions excite to rivalry and conflict, and the stronger must always prevail over the weaker, the latter, in a state of nature, is allowed but few opportunities. In a large herd of cattle, the strongest bull drives from him all the younger and weaker individuals of his own sex, and remains sole master of the herd; so that all the young which are produced must have had their origin from one which possessed the maximum of power and physical strength; and which, consequently, in the struggle for existence, was the best able to maintain his ground, and defend himself from every enemy. In like manner, among animals which procure their food by means of their agility, strength, or delicacy of sense, the one best organised must always obtain the greatest quantity; and must, therefore, become physically

> the strongest, and be thus enabled, by routing its opponents, to transmit its superior qualities to a greater number of offspring.

Dimly aware of the implications of what he had described, he took refuge from the dangers in a restatement of his belief in the immutability of species. Again, however, he casually engaged himself in another of the great philosophical questions of the age, when, in an apparently unrelated footnote to his 1836 paper (Blyth, 1836b), and again following Lyell (Young, 1992: 102), he insisted on "man's special place in creation" (A. Desmond, 1989: 327):

> Man alone, of all the countless wonders of creation, though clad in a material frame, the functions of which are necessarily identical with those of other animals, is no part of the mere reciprocal system of nature; as they are.... He alone is bound to no particular locality, but inhabits alike the mountain and the plain, and *by contrivance* is enabled to endure the fervid heats of tropical climes, and the withering blasts of a polar winter; traverses in all directions the wide extent of distant lands, and accommodates the respective soils for their reception.... He alone studies the complicated laws of matter, that he may wield them at his will. He alone possesses a power of indefinite self-improvement, and can so communicate his attainments that each generation shall rise in knowledge above the last.

His remarks incited James Hamilton Fennell, the botanical writer, to write a furious letter to the *Magazine of Natural History* criticising the article (Fennell, 1836):

> Do not animals exhibit contrivance, when we see the elephant plastering himself over with mud, either for the purpose of keeping off the heat of the sun, of the annoyance of insects; and when we see the dormouse, and many other animals, gathering materials by which they may be protected from the rigours of winter? Perhaps he will tell us of instinct. Let that pass, then. But how does it appear that man "alone is bound to no particular locality," when it is known that ravens, and some other animals, are met with in all parts of the world.

Fennell was clearly a supporter of the Lamarckian view that man was part of a series of organisms, and had been transformed from the apes, a concept which revolted Lyell, who reacted by preaching the cultural and intellectual separateness of man (A. Desmond, 1989: 328). In 1837, Blyth enlarged on this theme of man's exception from the rule of nature in "On the psychological distinctions between man and all other animals; and the consequent diversity of human influence over the inferior ranks of creation, from any mutual and reciprocal influence exercised among the latter" (Blyth, 1837a). This article was stated by Sir William Jardine (1837) to be "an essay of very considerable merit", and expanded with numerous examples, the ideas which had so annoyed James Fennell:

> There is not, within the wide range of philosophical enquiry, a subject more intensely interesting to all who thirst for knowledge, than the precise nature to that important mental superiority which elevates the human being above the brute, and enables man alone to assume the sway wheresoever he plants his

> dwelling; and to induce changes in the constitution and adaptions of other species, which have no parallel where his interference is unknown.

Charles Darwin acknowledged that Blyth's distinction between reason and instinct was just (Darwin Notebook C p:198 in Barrett et al, 1987: 300), but was unable initially to reconcile this distinction with "his theory". Unable at this point in 1838 to explain the many items put forward by Blyth in support of his beliefs, Darwin had to state to himself "I will never allow that because there is a chasm between man...and animals that man has a different origin" (Darwin Notebook C p:223 in Barrett et al, 1987: 310). Despite the headaches the young Blyth unwittingly caused Darwin in his search for evidence for "his theory", he was one of the most wholehearted and earliest converts to Darwin's theory upon its publication in 1859, very likely because it so completely answered his unexpressed doubts about the failings of Lyell's theories.

Despite the conservative approach adopted by Blyth, his papers offered much food for thought for those perceptive enough to pick out the valid observations from the somewhat woolly logic. However, it would be wrong to describe Blyth as in any way leading the debate in this subject. Adrian Desmond (1989) has devoted an excellent book to the subject of the arguments and politicking ranging in the medical establishment in the early nineteenth century, provoked by the opposing evolutionary views of the British supporters of Cuvier and Lamarck. Blyth could not have failed to have been touched by the fevered atmosphere such as existed in the 1830's but these papers did not represent a general shift from descriptive to theoretical writing. Purely speculative papers were infrequent during Blyth's career, but he regularly included theoretical discussion in an otherwise descriptive paper (for instance, in Blyth, 1839a, where, in a paper ostensibly about hyenas, he ranges freely over his ideas on the development and organisation of man and other higher vertebrates). One might draw a connection between Blyth's interest in the psychological distinctions between man and all other animals and the pursuit of phrenology by his close friends, the Wood brothers, but it is more likely that Blyth was encouraged to spread his intellectual wings by his friend Robert Mudie, who not infrequently wrote "psychological" papers for *The Naturalist*. Although Sheets-Pyenson suggested (1981b) that Blyth wrote more speculative articles for the *Magazine of Natural History* once Edward Charlesworth took over the editing of the journal in 1837,[28] it seems unlikely that such a self-assured and well-read young scientist needed any encouraging to express his theoretical views.

Blyth became more ambitious in the scope of his subject matter. He proposed detailed systematic arrangements of several orders of birds, in several long papers published in the *Magazine of Natural History* and also delivered to the meetings of the Zoological Society of London. (His "Outline of a systematic arrangement of the class *Aves*" (1839b) is omitted from the index of the *Proceedings of the Zoological Society*, and the contents were not published by the Society). By 1838, he began to examine the mammals of the world, ranging beyond the British mammals which he had discussed in his earlier work. He had by then most likely begun work on Griffith's edition of Cuvier's *Animal Kingdom* (Blyth, 1840a). A paper on the dentition of lemurs (1839d) and two interesting lengthy commentaries on mangabeys (1839c) and plantigrade animals (1839d) delivered at different meetings to the Zoological Society, were omitted from the proceedings as published by the Society. These are in addition to papers on the genera *Equus* (1840b, 1840c) and *Ovis* (1840d, 1840e), delivered to the Society, and the long paper on hyenas (1839a), mentioned above.

Impressive as these various papers were, it was his editing of the lengthy Mammal, Birds, and Reptile sections of the 1840 edition of Cuvier's *Règne Animal* (Blyth, 1840a), supplying extensive additional material and notes, which was the pinnacle of his pre-India writing, allowing him to display his intellectual powers while restating his devotion both to Lyell's and Cuvier's systems, and

his opposition to quinarianism. This work saw him again associated with Mudie, George Johnston, the noted Berwickshire naturalist, and John Obidiah Westwood, president of the Entomological Society. This edition of the *Animal Kingdom*, and especially Blyth's contribution, was an extremely valuable compendium of the known facts about the animal world, Blyth's annotations frequently exceeding the length of the original text. Despite having hitherto only written about the small British mammals, and then not extensively, Blyth now showed the self-assurance to correct mistakes by the great Georges Cuvier, and to authoritatively arrange and describe the primates, ungulates and other exotica, with whom he would have had acquaintance only at the Regent's Park Zoo and Cross's menagerie. He also confidently expressed his theories of speciation and development which he had originally ventured in 1835 and 1837, and which were in accordance with Lyell. This edition, like his "Selborne", was well-enough regarded to undergo several re-publications.

The "Animal Kingdom" explains why a failed druggist and amateur Surrey ornithologist was recruited as one of the very few professional zoological curators, at a time of continuing prejudice against non-medical men obtaining such positions. After Blyth's death, this work was particularly cited by the President of the Asiatic Society as being his major contribution to science prior to going to India,[29] and which seemed to have impressed Horace Wilson when he came to recruit a curator. In India, the debates over quinarianism, classifications and evolution were very much a dead letter. Distanced from the intellectual atmosphere of London, Blyth continued the observational, comparative papers, perhaps at the expense of more theoretical offerings, which would not have been encouraged. It was only at the very end of Blyth's career in India, that he would once again become embroiled in the wider scientific questions provoked by Darwin's theories.

The Asiatic Society and the Museum, 1841 – 1848

> *Our scientific progress will however depend so much on the cultivation of a general intercourse with scientific individuals and Societies in other parts of the world, that we ought to take advantage of the occasion by meeting the views of those who are desirous of exchanging collections with us.... it is by cultivating an interchange with other Museums, and thus introducing the known species of other countries as the standard of comparison for the elucidation of the unknown species of this, that we are to advance our own collections, and contribute most effectually to the general diffusion of knowledge, and the progress of science.*
>
> — Dr. J. McClelland, Minute to the Asiatic Society, in Pr. ASB for February 1840 in JASB (1840) 9: 966

Warren Hastings, Governor General of Bengal from 1772 to 1785, had urged the East India Company to encourage the study of Indian culture so that the people of that vast country might be governed according to their own laws and traditions (R. Desmond, 1982: 3). That sentiment was taken up by the scholar and judge, Sir William Jones, who, together with other like-minded men, founded the Asiatic Society of Bengal in 1784 and "invited the co-operation of the leading men of the time in Calcutta for the formation of an institution where united action could be taken to promote the study of oriental literature and science, and where, by the co-operation of the many, the talents and abstract studies of the few would prove most effectual, and derive the stimulus which emulation, publicity, and a common interest never failed to excite." (Mitra, 1885: 2)

Jones' wide ranging interests – Persian language, literature, botany, music and astronomy (R. Desmond, 1982: 3–4) – were reflected by the diverse talents displayed in the pages of the journal of that society. Men associated with the society were justly lauded for their achievements – men like Brian Hodgson (zoologist and linguist), Dr. Nathaniel Wallich (botanist), Proby Thomas Cautley and Hugh Falconer (both acclaimed for the discovery of the Siwalik Hills fossil deposits), and the naturalist and surgeon, Dr. Theodore Cantor. The Court of the Directors of the East India Company saw benefits in patronising the society, and the aims of the two bodies overlapped. Desmond (1982: 3–4) noted "The company's surveyors for example, were expected to record any archaeological sites and ancient buildings they encountered during their work. Their surgeons were encouraged to study the local fauna and flora and were put in charge of botanical gardens where plants of potential economic use could be grown." The Court of Directors subsidised the library and collections in India, but the *quid pro quo* was the support of the Society for the India Museum in Leadenhall Street, London (Mitra, 1885: 40). The Court of Directors made it clear that the only real justification for the funding of the institution was the supply of items to the London museum, and were quick to tug the purse strings to remind the Society of its duty.[30]

In 1814, Dr. Wallich advocated forming a museum, offering not only duplicates from his collection as the nucleus, but also his valuable services as curator (Mitra, 1885: 32). Under such stimulus, the embryonic museum at the Society's building in Park Street, Calcutta, quickly grew into a respectable size, and the curator was paid a modest stipend. However, the efforts of maintaining

even a moderately-sized collection of specimens in the Indian climate eventually grew beyond the financial and temporal means of the Asiatic Society, which was subject to the ebb and flow of both talent and funds as the membership shifted with new postings, retirements back to England and deaths. The members, finally forced in 1836 to contemplate having to pay the curator's salary out of the society's vested fund, rebelled, (Mitra, 1885: 35) and so, in 1839, the Asiatic Society of Bengal petitioned the Government of India for a grant of 200 to 250 rupees (£20-£25) per month to obtain "the services of a professional naturalist to superintend and systematize"[31] the Society's collections, which in turn would enhance the Museum at India House in England. They were successful in their petition, but not in obtaining the person for the job that they had hoped for. Dr. John McClelland, who had for some time acted as the curator,[32] took offence at the strictures to be placed upon the subsidised position,

> complaining when the funds of the Society were inadequate to defray the expense of the usual salary, the Museum was just as valuable as it is now, and yet the duties were entirely left to me without restriction; but no sooner was the grant of an adequate allowance made by the liberality of the Government, than all became Curators; and I was supposed to be no longer competent to hold the office except under stipulations quite unheard of, in similar cases.[33]

The conditions seem now quite reasonable (minimum attendance of 2 hours at the museum per day, monthly reports on the collections, and no items to be removed from the museum) but his complaint foreshadowed the problems throughout the period of Blyth's curatorship. To have placed petty restrictions on a man of McClelland's calibre revealed all too clearly how little the Society understood or valued zoological skills. McClelland had a wider vision for Indian science than many of his fellow members of the society – he proposed a unified association for Indian scientists, with library and museum which would give support to the far-flung workers in India and provide them with co-ordination and guidance (Ellsworth, 1991: 82–83). In the end, for many years the only coordinating organisation, such as it was, continued to be the Asiatic Society.

One can only imagine the direction science as a whole in India may have taken if McClelland had been at the helm of the Society's collection, and thus exerted his considerable influence in an official post of some importance, but finally he appears to have suspected some plot against his assuming the curatorship of the museum, and refused to accept the position.[34] Henry Piddington, the naval officer and authority on storms and hurricanes, took over as acting Curator,[35] and Professor Wilson was charged with finding the right man for the job.[36] Sangwan (1990: 46) is critical of the policy at this time which "preferred to appoint naturalists from Europe on high salaries [rather] than to stimulate scientific research by Indians." There was some confusion within the Society as to whether the agreed salary (finally 250 rupees – approximately £25 – per month[37]) was enough to attract a person of sufficient calibre. W. B. O'Shaughnessy, Secretary, referred to it as a "good salary", and thought that they could "very easily procure such an individual from England."[38] However, Dr. J. Grant, the Society's Apothecary, preferred to offer the post to Dr. McClelland or to "any other qualified gentleman in India" than to hire

> one who after his arrival in India would very likely become discontented at finding himself tied down for five years upon a salary which may sound

> imposing in Europe, but would be only a pittance for a man of education in India, and scarcely upon a par with the pay of some mechanics.[39]

This statement was prophetic in light of the difficulties Blyth faced in 1847 and later. The lack of provision for a pension for the putative curator was a serious oversight, and would later greatly affect his morale, as well as his health, though at the time he commenced his duties, he must have thought himself well off, considering his poor financial circumstances, and the limited opportunities for employment in England. (Moreover there was the often overlooked benefit of being removed from the social upheavals and depression which blighted England at this time.) He later grew dissatisfied with his salary because of the high cost of living in Calcutta, and the long (unpaid) hours he was forced to put in to complete his duties. Blyth's pay of £300 a year was in fact more than that received by Richard Owen while at the College of Surgeons in 1832,[40] and by Albert Gunther from 1858 to 1862 while hired by the British Museum to rationalize their fish and reptile collections (Gunther, 1975: 309). Blyth also received a house rent allowance of 40 rupees (£4) per month, which was essential in Calcutta, where accommodation, especially after the 1857 mutiny, was always expensive.[41] However, the cost of living was considerably higher in India than in England, and this salary (except for a period of two and a half years when Blyth received a pay rise of 100 rupees per month in recognition of extra work, an increase withdrawn following the "Burnes" affair – see below) remained unchanged for the whole of Blyth's curatorship. At least Gunther could look forward to yearly pay increases to account for inflation and his increasing seniority. Owen, especially, enjoyed a social standing far above that of Blyth's, and it was Blyth's lack of status which was at the heart both of much of his later difficulties and disgruntlement.

The Asiatic Society formally set out the following statement of duties in a letter to Blyth and also published it in the proceedings in 1841:

> We think the office should be filled by a person who can give to the Museum his principal attention, and be in attendance from 11 to 4pm. The Salary is 250 Rs. a month. As to duties, we require monthly reports on the state of the museum. We do not allow specimens to be removed from the museum.... as to everything connected with Natural History in our Museum, we look to our Curator.[42]

Blyth's only reservation about these requirements was his inadequate knowledge of mineralogy, and he was excused from curating this section.[43] In a report by the Committee of Papers, prior to Blyth's appointment, it was stated also that

> It is of far more importance to the Society that their Curator should assiduously apply himself to the collection, naming, and arrangement of procurable specimens of the animal and mineral kingdoms, than that he should specially devote himself to the minute elucidation of any sub-divisions of these subjects. By the elaborate investigation of a group or family he may doubtless distinguish himself and gain high individual reputation; but his utility to the Society would be far greater by his applying himself to the humbler duties we have specified; these duties are moreover, in themselves more than sufficient to occupy the Curator's time, were it even to be entirely devoted to their discharge.[44]

In practice, his duties included cataloguing all donations and acquisitions, caring for the live donations, arranging the taxidermy of the dead ones, checking their classification and noting the synonymies, naming them if they had not already been described, and writing reports to the Society on these acquisitions. As resident natural history expert, he also checked papers contributed to the Society for scientific and taxonomic accuracy, and identified specimens in illustrations, such as the ill-fated "Burnes" drawings (see below). This required that he keep up with the extensive literature being produced at the time, as well as supervising staff, and increasingly, maintaining a correspondence with scientific authors in Europe, America, Australia, and elsewhere in India. The Society had also underestimated what response a man like Blyth would get to his requests for specimens, when the appetite for natural history was stimulated by having a knowledgeable person on hand to encourage and assist the collectors. However, despite the daunting task ahead of him, he commenced his duties with great enthusiasm. In the first year of his employment up to December 1842, he issued no fewer than eight full scientific papers, one paper which he had prepared prior to beginning his employment, sixteen lengthy reports and appendices to the Society on the collection and acquisitions, and comments on a paper by B. H. Hodgson. He also quickly tackled the poor state of the collection, which had been displayed with little respect for its scientific usefulness, describing, for example, how "A skin of the Yak, (*Bos grunniens*) which, for five years, has been hanging to the wall of one of the apartments, I have had moistened and stuffed, and the skull, which was wanting in the collection, taken out and cleaned. The mounted skin now forms a very good specimen of the stuffed animal." (Blyth, 1841b)

Despite the ambitions of the Society to create a collection "which would vie with the various noble institutions on the European continent, and at the same time [be] worthy of this so-called city of palaces",[45] there was a prevailing belief that certain types of specimens such as birds could not be preserved in the climate of Bengal.[46] This could be overcome by proper storage (for example, by the use of air-tight cases, with arsenic-impregnated chamois linings on the edges[47]) on which Blyth was also able to make a start (Blyth, 1841b):[48]

> The arrival of two large and double glazed cabinets in the Museum, for the reception of the stuffed specimens of Mammalia at the time of my taking charge of the Society's collections, has occasioned me to bestow more particular attention on this department, during the brief period that has elapsed since I assumed the duties of the Curatorship, and I have accordingly inspected and properly arranged what few specimens there as yet exist illustrative of the living Mammalia of India, and have labelled every species with its synonyms, so far as I have been successful in determining the latter.

He continued to complain about inadequate storage facilities to the very end of his curatorship. However there was always a tension between the professed aims and desires of the Society, and its patrons, the East India Company, and the essential stringency of its financial policy.

That Blyth's efforts were quickly appreciated at home, if not in India, can be seen by the testimony of Hugh Strickland, the nomenclatural reformer, geologist and zoologist, in his "Report on the recent progress and present state of Ornithology", in 1844 (Strickland, 1844b: 269–270):

> A great impulse has recently been given to Indian zoology by the appointment of Mr. Blyth to the care of the Asiatic Society's Museum at Calcutta. Most of

> the previous workers in that field were civil or military officers, who took up zoology as an afterthought, and as a relief from more important duties. But Mr. Blyth went to India a ready made zoologist, who long devoted himself to the study as a science, and was well acquainted with its literature and its principles. Of the zeal and success with which he is now bringing into order the heterogeneous material of Indian zoology, the pages of the 'Journal of the Asiatic Society of Bengal' bear ample testimony. Beside many detached memoirs the monthly reports which Mr. Blyth presents to the Asiatic Society contain a mass of interesting observations, and present an example which the curators of European museums would do well to imitate. By comparing complete lists of the species comprised in each successive accession to the museum, accompanied by critical remarks on the more novel or interesting specimens, previous to their being incorporated in the general collection, a number of important observations on structure, habits and geographical distribution are preserved from oblivion. In the midst of these active and useful labours. Mr. Blyth retains his interest in European science, and occasionally sends communications of great value to the 'Annals of Natural History.'

Blyth's work in encouraging natural history collecting, his retention and expansion of his European connections through an always voluminous correspondence, and his reputation as a reputable curator soon brought results, enabling him to cultivate a long and wide-flung list of contributors (C. Brandon-Jones, 1997). Sheets-Pyenson (1988) described how an extensive network of collections and institutions willing to donate specimens was essential to "grow" a colonial museum, because the cost of purchasing first class items was immense and their supply through middlemen could be quite uncertain. Blyth was exceptionally ingenious in obtaining material. The lists of donations and acquisitions from within and without the Society, not to mention the specimens Blyth himself acquired through purchase or on the odd expedition, are simply staggering. In 1848, defending his record (Blyth in Asiatic Society of Bengal, 1848: 10–11), he was able to point to a 600–700% increase in the size of the collection (for example, from approximately 600 bird specimens before his arrival to more than 4400 in 1847) which also included a vast reduction of the numerous duplicates. Defending the less impressive increase in the orders other than birds and mammals, he says that he attempted to encourage collections (Blyth in Asiatic Society of Bengal, 1848: 12):

> in all departments...but I soon found that my exertions were much more warmly seconded in some departments than in others, in birds and insects more particularly, while comparatively few persons could be induced to collect and send reptiles, fishes and shells.

Given the climate of the region, this was unsurprising. A lack of interest in anything that could not conceivably be called "game", or in unproductive science, was the prevailing attitude at the time Blyth arrived in India, though he himself was tireless in attempts to procure specimens (Blyth, 1841d):

> I continue to spare no pains to induce the shikarees and others to supply us with as many species as they can procure; the duplicates of many are

> valuable for purposes of exchange and transmission to other Museums, and while the examination of such enables me to gain a more thorough knowledge of their various kinds a rectification of many synonyms will doubtless accrue from the intercourse which it is thus sought to establish with museums in different countries, and which it is to be regretted is not more general and extensive than at present.

Nor was it always necessary to send collectors into the wild (Blyth, 1842e):

> We continue to receive such animals as are entrapped or shot at the Botanic Garden, which are always acceptable for exchange or transmission elsewhere; and I have especially to thank Mr Jos. De Cruz of that establishment for his kind attention to my wishes in this respect.

The donations ranged from the products of serious collecting expeditions, to casual scavenging on beaches, or even on the street (Blyth, 1848c). Sometimes they were also somewhat unusual, such as that recorded (Blyth, 1842f) from "Dr. Thompson, who has already favoured us with a highly interesting box of insects from Afghanistan, I have now to record the donation of a mounted human skeleton (that of an Englishman), excellently prepared and set up". Every specimen, if not needed to enhance the collection, was useful for exchange and bridge-building with institutions which would assist Blyth with his ever growing list of "desiderata".[49]

However, despite the constant stream of specimens, and large donations from museums from Europe, Blyth was always jealous of any potential specimens that he missed (Blyth, 1848c):

> The number of valuable carcasses of animals that, in the course of every year, are wasted by being thrown into the river,[50] from Calcutta and its environs, instead of being forwarded to the Society's Museum, to be prepared either as stuffed specimens, skeletons, or both not infrequently, as the case may require, or which may be wanted for anatomical examination, is surprising considerable, and such waste of them is not a little vexatious to all who feel interested in the progress of our Zoological collections. Even if not wanted for our own museum, such specimens are oftentimes extremely acceptable, to send in return for what the Society receives from other Institutions; and they would thus indirectly contribute to the enrichment of our own, by promoting the continuance of such intercourse. It matters not that an animal had died in bad order externally, so as to be unfit for being set up as a stuffed specimen; as its skeleton would still be available. The following are some instances of this inconsiderate waste that have chanced to come to my knowledge within the last twelvemonth or thereabouts; and many more have certainly occurred, more especially of animals belonging to native gentlemen, (some of whom are fond of visiting our collections, and might thus become efficient supporters of the Museum without cost to themselves). – a splendid male Ostrich, in perfect plumage. Two fine Cassowaries, ditto. A male Bara Singha Deer, also in fine order, shot by its proprietor for being vicious; as all Deer are during the period of the rutting excitement. A very fine male Nilghai. A large male Tiger. A Kustoora or Musk Deer (being the

> second that had been promised to me, whenever it died). A pair of English Swans. And Gazelles, monkeys, Parrots, &c. , &c. , in no small number. There really appear to be few persons in Calcutta who seem conscious that a Museum of Natural History exists; though certainly as well located as need be, and open everyday to the public.

This last complaint was no longer justified by 1859, when the average number of daily visitors exceeded 185, with more than 62,000 native visitors annually.[51] By 1862, not long before Blyth retired, there was an average of 250 visitors a day, and native visitors outnumbered Europeans nineteen to one.[52] These figures are quite extraordinary given the almost complete lack of encouragement the native population received from the Society (Subbarayappa, 1971: 496). One suspects however, that Blyth was not bemoaning the total volume of visitors so much as the comparatively small number of Europeans, and implicitly, the even smaller number of people who visited with any real interest in the Western version of natural history.

An apparently insensible public was not his only difficulty. His native collectors could not be prevailed upon to co-operate (Blyth, 1842c):

> The specimens of Vertebrata procured in the neighbourhood during the past months have not been generally of much interest, owing to the impossibility of myself devoting any time to collecting, and the incorrigible worthlessness of the native Shikarees, by whose agency I have hitherto endeavoured to procure specimens.

or to take sufficient care in preserving the specimens:

> ...it is most provoking to observe the numbers of fine specimens, which despite all that can be said and repeated to these people *ad nauseam*, the stolid savages persist in partially stripping of their feathers, or otherwise injuring so as to render them quite unfit for preservation; in illustration of which it will be enough to mention that out of the many hundreds of common Curlews (*Numenius arquata*) which have been brought to the bazaar in the course of the season, I have not yet been able to furnish the Museum with examples of this abundant species.

In any event, it was often scientifically advisable not to rely on native caught specimens (Blyth, 1842f):

> Dr M'Clelland, to whom I shewed both this and the next species, is disposed to doubt whether either of them occurs in Bengal; and whence the dealers are supplied with them I cannot satisfactory assert, as they pass from hand to hand among them, and the statements of such people, concerning what they do not in the least interest themselves about, are not trustworthy. It is even a common practice with them to pass whatever they can off as Chinese, thereby, it would seem thinking to enhance its market value...[Footnote] – Great numbers of small birds are continually brought to Calcutta from

> Singapore, which taken hence to Europe, are there regarded as natives of this country; whereas, in truth, many of them do not inhabit this region.

This last point was of special concern to a man like Blyth who, long before Darwin's work and that of Wallace had demonstrated the importance of zoogeography and distribution, expended much energy in determining accurate localities for specimens because of his belief on the bond between species and their geographical region. To assist European (and by implication, more reliable) amateur collectors, he also helped recruit suitable assistants, such as Monsieur Holquett, former assistant to Alfred Duvaucel, the noted French collector who died in 1824.[53]

Blyth also contributed to the collection, and recorded his collections in his papers, such as an "adult [Hobby falcon] *subbuteo* which I killed on the wing very late one evening in the immediate vicinity of Calcutta" (Blyth, 1842g). He hunted for sport as well as for science, being proud of his prowess with a gun, but found wanton destruction of wild animals offensive. On this subject he ventured a criticism (Blyth, 1860a) of a friend, Captain Crump, who with a companion who came across a group of cattle, which "continued for some time to trot alongside them...till my friend's *sporting* (or destructive) propensities could brook it no longer."[54]

He preferred that such collecting served the purposes of the museum but his objections seem somewhat ingenuous, given the close relationship between hunters and taxonomists (Mackenzie, 1988: 6–7). He rarely missing a chance to gain living or dead specimens. On hearing of a stranding of whales, east of Calcutta, he hurried to the spot (Blyth, 1859):

> I had much trouble in securing our two skeletons of this fine Cetal [*Globicephalus Indicus*]. The animals were floundering about in all directions in the shallow water, and groaning painfully.... From what I afterwards learned there must originally have been several dozens of them, which the natives towed off into the river as they died, having no notion of extracting oil from their carcasses. The weather was terrifically hot; but I succeeded the first day in securing two pairs of the largest, male and female, and had them safely tied up towards evening for operations on the day following. They were all cut adrift during the night, and the work had to be begun again: and I considered myself fortunate in succeeding so well as I did, in obtaining two perfect skeletons for the Society's museum.

However, the animals sometimes literally fell into his hands (Blyth, 1842b):

> Chancing, one evening, to observe a rather large Bat enter an outhouse, from which there was no other egress than by the doorway, I was fortunate in being able to procure a light, and thus to proceed to the capture of the animal. Upon finding itself pursued, it took three or four turns around the apartment, when down dropped what at the moment I supposed to be its young, and which I deposited in my handkerchief. After a somewhat tedious chase, I then secured the object of my pursuit, which proved to be a fine pregnant female of *Megaderma lyra*. I then looked to the other Bat which I had picked up, and to my considerable surprise, found it to be a small *Vespertilio*.... I kept both animals wrapped separately in my handkerchief till the next morning, when procuring a convenient cage, I first put in the

> Megaderma, and after observing it sometime, I placed the other bat with it....

whereupon the larger attacked and ate the smaller. This event was reported in the long paper it inspired on the habits of bats, which indeed, forced themselves on a naturalist's attention (Blyth, 1842d):

> The Bats that fly round the dinner-tables of an evening are oftentimes a little tantalizing to a zoologist though it is not often he would succeed in catching them if he made the attempt, since the rooms in this part of the world (as the European naturalist may be reminded) are lofty and spacious, with open doors and windows in all directions.

As well as furnishing specimens for the Calcutta Museum, and thus for the India House in London, he was also approached by J. E. Gray to collect for the British Museum.[55] Grote (1875) says that "Blyth availed himself of every opportunity which offered of escape from his closet studies to resume his early habits of field observation." These trips appear to have recharged Blyth's energies. As early as August, 1842, he writes of a trip, "having taken a fortnight's excursion up the river since our last Meeting, and gone much on shore to observe and collect whatever fell in my way.... I did not advance above fifty or sixty miles above Calcutta" (Blyth, 1842g). He notes it was "undertaken, however, chiefly for the purpose of observation, to which collecting was regarded as subservient." However, he did some collecting (Blyth, 1842g):

> As soon as my boat was moored, the trees around and almost hanging over were crowded with [Hanuman langurs], peering with curiosity, though not unmixed with distrust; nor without due cause, for desirous of getting a fine specimen for the Museum, I soon brought one down, and the villagers, to my considerable surprise, gave every encouragement to shoot others, although themselves would not think of doing so.

In early 1846, he was able to visit Krishnanagar and Murshidabad in Bengal, where he did some bird collecting, and looked over the new palace of the Nawab there, an experience he clearly enjoyed (Blyth to Strickland, 1846a). Between December 1846 and January 1847, he spent a month in the Midnapore jungles (Blyth to Strickland, 1847a). There is no evidence that Blyth actually had any great taste for the day to day work of the museum, and a great deal of evidence that his real interest was only satisfied by trips such as these. When Brian Hodgson (1846: 337) berated him for insufficient attention to the real world, instead of books, he was probably unaware of how desperate Blyth was to spend time with nature, and how maddening the trivia of paperwork and curatorship must have been at times.

Trivial and tiresome indeed the running of the Museum must have seemed to him, as it did to Hume and Strickland, and even more so to the modern reader of the Proceedings, where every detail of requests and approval or refusals were dutifully entered. The purchase of such essentials as spirits of wine (purified alcohol), for the preservation of specimens, had to be formally requested and approved. Blyth was to later complain that the constant shortage of alcohol hindered the storage of the reptile collection, the poor state of which caused him to be unfairly censured. In 1844, he reported that

> The expenses of last month [January 1844] have been unusually heavy, exceeding Co's Rs. 200; the cost of spirits required being one of the heaviest items. It is only from October last that I have commenced regularly collecting fishes, a branch of zoology that involves the purchase of bottles and of spirit.[56]

It is an indication of the volume of specimens being received that six gallons of spirits of wine was allocated monthly. Its unavailability frequently caused problems (Blyth in Asiatic Society of Bengal, 1848: 17):

> Another practical difficulty which has repeated checked my progress when working at reptiles and fishes preserved in spirit, has been the want of bottles and of spirit, which I have not always had the means in hand to purchase, nor when I had could I at all times procure what I wanted. This may seem a frivolous complaint, but the fact has again and again compelled me to stop when I had been working at the cold-blooded *Vertebrata*.

The museum's expenses ran to nearly half the cost of Blyth's salary in 1843,[57] which, although partly subsidized, was a very large sum for a subscription-funded organisation to bear. The huge increase in specimens brought extra cost, as pointed out by Blyth:

> You will also bear in mind that the more successful my exertions are in collecting desirable specimens, the cost of these will always be proportionate or, in the aggregate, about commensurate with that success; and I have certainly obtained many capital things lately. I may also further remind you, that the assistance liberally rendered by Government of 50 rupees monthly for taxidermist's expenses, was allowed previously to my taking charge of the Museum, since which time the expenses of our zoological department have of necessity, been so much increased.[58]

There was always difficulty in extracting money from the Society for the basic needs of the museum. A letter requesting new glass cases to protect "our rapidly increasing collection of stuffed Mammalia" for protection and better display, required special pleading:

> I may be permitted to add, that it is evidently felt as discouraging by our Taxidermists, that the specimens upon which they have bestowed so much pains in getting up, should be suffered to receive injury for want of the needful protection of glazed cases.... it devolves on me to remind you that the perishable specimens intended to fill them are in constant jeopardy, certain of them having already suffered injury as herein before mentioned.[59]

These cases had previously been ordered and then vetoed. Gallingly, despite his repeated requests, and warnings of the consequences of failing to receive such glass cases, he was severely reproached in 1848 for damage to specimens almost entirely caused by the pressure of insufficient and unsuitable accommodation for fragile items such as shells and insects (Asiatic Society of Bengal, 1848: 30).

This request also demonstrated the concern he had for his staff. Several times, he made pleas on their behalf:

> Sir, – so much extra work, (that is, in extra hours,) has been performed during the last two months by our Taxidermists, that I must again recommend that the Society acknowledge their assiduity by a suitable largess – 20 rupees or so divided between them. Let me also warmly recommend that a proposal of Nicholas, (who appears in straitened circumstances, having an often sick wife and child to provide for,) be considered to the effect that for a small increase in pay he would be glad to devote two or three hours more daily to his work as Taxidermist. It was promised to him on a former occasion that, if he continued to give satisfaction his salary should be further increased, and without at all wishing to disparage the services of our Senior Taxidermist M. Bouchez, the inequality of remuneration between him and Nicholas is certainly at present excessive, the one receiving 50, and the other but 20 rupees monthly.[60]

He occasionally succeeded in this cause, as recorded in 1842:

> Upon the recommendation of Mr. Blyth, the sum of ten Rs. each, was allowed to the principal and assistant Taxidermists, on account of the very heavy work of the month of November, in their department.[61]

Taxidermy was a major occupation and expense at a time when it was usual for all specimens to be placed on exhibition. The drawbacks of this practice were forcibly expressed by R. Bowdler Sharpe (1906: 85), who in reviewing the practices of the British Museum, stated "A mounted specimens may last six months or fifty years – according to the precautions which are taken by the officers in charge of the museum to exclude the light – but the result is inevitable, and the specimens sooner or later becomes bleached and deteriorated".[62] J. E. Gray had innovatively suggested separating research and exhibition collections (Sheets-Pyenson, 1988: 123) as is now done, but in the Society's Museum, this would have both been practically difficult because of the pressure of space, and because the Society would not have allowed their specimens to have remained off show. Only by cataloguing and displaying all their zoological possessions, could the cost of maintaining them in Calcutta be justified. Where Blyth differed from his curatorial peers, such as George Gray[63] (with whose methods Blyth was familiar), was in his appreciation of the didactic potential of the collection, boasting to William Jardine (Blyth to Jardine, 1845c) of how he made best use of the extremely limited space, and how by grouping specimens in different phases, and in series, the public could more easily appreciate individual groups and the relationships between them – which is of course, exactly what a good modern natural history museum attempts to show.

He was proud of the high standard of display and taxidermy he endeavoured to achieve (Blyth to Strickland, 1845b):

> Surely there is no occasion why [specimens] should be stuffed so abominably as one usually sees them in museums; and if you had seen those which had been got up here under my superintendence, I doubt not that the subject would have struck you as worthy of attention. My advantage is, 1. that

> I have a number of stuffers in the establishment, at work under my own supervision, 2d that having been accustomed to study living matter, with a critical eye to form..., I have an extreme aversion to the distorted effigies one [commonly] sees and know how to direct my people, and 3, I have trained them to something approximating perfection, when they have...good skins to operate on, by making them *copy life* in every practicable instance. Having at all times a pretty extensive menagerie of birds and beast, it is seldom that I cannot give them some model to guide them more or less and the habit thus impressed on them of copying from living nature has of course greatly improved their own task in such matters, so that I have now rarely occasion to look over them at all.

Morris (1993) described how difficult it was, using either the two basic methods of mounting birds skins (the "soft stuffed" method, and that using a rigid maquette), to produce realistic forms. The importance of accurately mounted specimens in a public museum can be appreciated in an age when good colour print books on natural history were often beyond all but the wealthiest pocket. Indeed, poorly mounted specimens were responsible for the inaccuracy of many illustrations based on them (Morris, 1993). Blyth's concern for the collections extended to training up young boys to act as field taxidermists:

> I wish to call the attention of the Society to the desire of certain Anglo-Indian youths, to be apprenticed to the Society for three or more years, in order to be taught the art of taxidermy. The difficulty which I have hitherto experienced in procuring such youths to assist in the Museum is considerable, and their usefulness is shewn by the large collection of skins now upon the table, most of those sent by Captain Phayre, having been prepared by a lad instructed at the Museum, with whom I furnished him, and who was employed by the Society in Arracan upon a salary of 5 Rupees a month, upon which terms two other lads are at present engaged, one on board the *Tenasserim* merchant-vessel, which at this time is on the coast of New Guinea, where I expect that many specimens will be collected, and the other is with Capt. Abbot at Ramree. The terms of apprenticeship required, on the part of the lads, who have now applied to me, are 3 Rupees a month for pocket-money, and a suit of clothes annually, which I understand is the usual mode of making such contracts in this country. Should the Society approve of such an arrangement being made with one or more of these youths, I should be glad of their assistance at the Museum immediately, where there is a variety of work upon which they might be at once employed.[64]

These young lads were primarily to be of use to collectors in the field. One of these boys was sent with Captain Fox, and Fox's subsequent letter to the Society illustrates very clearly the difficulties that faced collectors and curators in trying to build up colonial museum collections:

> In the month of January last year, Mr. Blyth of the Museum, put on board the vessel I commanded a box, together with a quantity of Arsenical Soap,[65] and other articles for the cure of such of the desiderata at New Holland and New

> Guinea, I might be enabled to procure. The boy and I succeeded in obtaining at New South Wales a tolerably good and large variety of specimens, which were packed up, but getting wet I was compelled to order their being thrown away in consequence of the offensive effluvia they emitted. A Satin and Regent Bird I cured myself, and being badly done, I took less care of them; they were suspended in my cabin, and remained good, and I believe a hawk he kept with his clothes. I did not visit Maulmein, having resigned command of the vessel. Among other things I lost a beautiful Eagle-Hawk, Black-swan and a Wallahby. I had fondly hoped to have been the first to have brought a large quantity of specimens from New Guinea for our Calcutta Museum; but that gratification I was compelled to forego in consequence of annoyance in Sydney. Subsequently I brought the boy with me in the "Minerva," by which vessel we returned passengers, and owing to the crowded state of so small a vessel, (146 tons with 100 souls on board) the Captain directed the large box to be put under the stern boat, and one Sunday morning we all saw the box for a few seconds astern, it having fallen overboard and sunk. The boy behaved very well and is an excellent lad, and no blame whatever can attach itself to him. I am very sorry for so great a loss; but I trust the explanation will meet your approbation.[66]

Such accidents were beyond human control. The climate, the animals and the huge distances created unique problems for Indian zoologists, while at times the mysterious ethos of the East contrived to frustrate European aims (Blyth to Strickland, 1846c):

> I have received the case per 'Wellesley' at last, after a tedious delay subsequent to its arrival, in consequence of the 'Doorga pooja' holidays, when all business here is suspended. During this 'pooja' or *worship* of the Hindoo (or rather Bengali) goddess *Doorga* – a sort of lascivious amalgamation of Venus and Cupid – no Hindoo can be got to work, and Europeans are glad enough to get a holiday of 12 days: whence it follows that all the offices are closed, and although I obtained a customs' pass the day before the commencement, I could not get the case for a period of 17 days, or should have written to you by last mail respecting its contents. However, I have it now, and many thanks to you for the Bats and British Reptilia...

The solutions to some problems did lie in the hands of Blyth's employer. Many were caused by the sheer weight of specimens. The following letter to the Society from 1844, described some of the difficulties that he felt he worked under:

> I wish to call your attention to the necessity that exists for some further assistance in my department of the museum. It is to no purpose that I devote more than double the number of hours to the business of my office, than were stipulated at the time I took charge of the Museum; and that I devote my *undivided attention* to those duties, without receiving any additional remuneration for thus labouring so many extra hours daily. In consequence

> chiefly of those exertions, the labour in my particular department has increased to that degree, that it is impossible for any one person, or even for two or three, to get properly through it. What with corresponding, the necessity of attending visitors who manifest an interest in the Museum, and a variety of current business of daily urgency, I find it impossible to make that progress, which I wish and desire, not only in the preparation of the letter press to accompany the publication of Burnes' drawing, but in various other matters which is desirable should meet with every attention. There is, indeed, abundant occupation for one naturalist in the entomological department, whether or not comprising the whole of the annulose animals; and there is equal occupation for another in the investigation of Indian Mollusca and other *Invertebrata* exclusive of the annulose animals. But, for the present, a good deal of assistance might be rendered to me by the appointment of a youth, whom I have for some time past employed in writing labels, and doing other work of the kind, and who might be engaged as a general assistant to me for a salary of 10 or 12 rupees a month to begin with, promising an advance in case of his affording satisfaction after a sufficient trial. It is quite necessary also that some addition should be made to the number of servants in my department. At present there is only one old man, who is quite superannuated, and I am constantly obliged to employ my own private servants in the Society's business. There is full employment for two additional servants, one as a messenger, and the other to assist in cleaning the specimens, glasses, &c. : the fact being, that the place of one who left some six months ago has never been filled up, his work having been since performed chiefly by lads who are now distributed over the country in the capacity of taxidermist, assisting different gentlemen who are active contributors to the Society's museum.[67]

As will be discussed in the next section, internal Society politics and increased financial strictures meant that such difficulties only worsened as the years passed.

Under Siege – relations with the Asiatic Society, 1841–1848

> *Unshaken in his devotion to science, he toiled on, unrewarded, unappreciated, by men whom circumstances, not merit, placed above him as superiors, on a pittance barely sufficient to procure here the necessities of life.... Ill paid and subjected as he was to ceaseless humiliations, he felt that the position he held gave him opportunities for that work which was his mission, such as no other then could, and he clung to it with a single hearted and unselfish constancy nothing short of heroic...What Blyth did and bore in those days, no man now will ever rightly know*
>
> — Hume, 1874 : 2

Despite all the difficulties of climate and distance, Blyth's first few years with the Asiatic Society were busy and productive, but his relations with his employer gradually soured, reaching crisis point in 1848. By that time, the Society had been polarised by the debate over the direction and funding of the museum, with the faction supporting Blyth being in the minority. What at first seems to be a tedious series of personality clashes and arguments over scientific integrity, had more to do with the uncertainty in the Society about the function of a public museum, and its relationship with a salaried professional who was its servant but also a major creator of prestige and influence for it.

There were early errors in his dealing with older members of the society, such as Brian Hodgson, who had been the assistant resident in Nepal until 1843, when he left abruptly as a result of a disagreement with his superiors. Hodgson had been interested in the natural history and the ethnography of the Himalayan region, and despite his retirement, returned to Darjeeling to further his researches in 1845. He was, by the time Blyth had begun his curatorship, a much loved and respected member of the Asiatic Society, but despite the undoubted energy and devotion he brought to his zoological collecting, he was an often careless worker and over-prolific describer of species, though he remained convinced of his superior skills in this area. Swords were initially crossed with Blyth in 1842 when Hodgson, exiled not entirely by choice to the isolation of Nepal, launched an attack. "The local Naturalist must be pardoned a smile when the Master of a Library and Museum, confounding the essentials with the accessories of a species, edits a new being as unskilfully as his unprovided ally of the field department" (Hodgson, 1842). Blyth (in Hodgson, 1842) could not resist appending a footnote to the effect that he hoped Hodgson might "consent to suppress his smile", explaining that he "was originally induced to distinguish *Ovis Buhrel* from *O. nahoor*, in consequence of the decided difference in the sectional form and general aspect of the horns of these two species". Ironically, Blyth (1841c) had chosen to compliment Hodgson, by his proposal that a new species of wild sheep be "dedicated to that assiduous investigator of Nepalese Zoology, and be accordingly termed *O. Hodgsonii*".

Hodgson's hackles had been raised by Blyth's handling of his paper describing two apparently new genera of flying squirrels. Hodgson had submitted this paper to the Asiatic Society in July 1842 (The Editors in Hodgson, 1844), and it was read to the monthly meeting of the Society in August, 1842, Blyth offering comments on it at this time.[68] The paper was then submitted for publication and the drawings which accompanied it were sent for lithographing, "a very slow process in India"

(and a very expensive one) (The Editors in Hodgson, 1844). The plates were finally returned to Blyth in August, 1843. In May, 1844, Blyth returned the plates to the editors with the correct observation (Corbett and Hill, 1992: 312–313) that "Both of them are species already described; viz. the *Pteromys nobilis* and the *P. caniceps* of Gray, and it would not be creditable to the Journal that they should be published under Mr. Hodgson's new names" (Blyth in Hodgson, 1844). J. E. Gray (1842) had published these names in England in the December, 1842 issue of the *Annals and Magazine of Natural History*, which Blyth could not have received before June, 1843.[69] Henry Piddington, Sub-Secretary to the Society and Henry Torrens, Secretary, attempted to detach themselves from the controversy by inserting the following in the published paper (The Editors in Hodgson, 1844):

> They do not feel competent to decide on a question of priority of discovery nor of identity of species should any arise, and are herein only anxious to prove their earnest wish to do justice, both by liberal care and by early publication, to the labours of the correspondents of the Asiatic Society, and supporters of the journal.

The anticipation of the identification due to the delay in lithographing of the pictures, was certainly unfortunate. Blyth's notorious procrastination over the completion of manuscripts (his own and other people's) only added to the delay in publication but, though it did not cause Gray's preemption, Hodgson laid the blame squarely at Blyth's door,[70] as did, it seems, Henry Piddington, the curator of the Museum of Economic Geology. Piddington felt the paper could still have added to Hodgson's reputation even though the names were pre-empted. He wrote to Hodgson in the strongest terms about the squirrel paper, insisting that he and Torrens were not to blame, and that they had frequently reminded Blyth about the plate. He expressed his outrage at Hodgson being deprived of the honour of naming the species, considering this far more important than the question whether the species had already been described.[71]

Blyth had also angered Henry Torrens, Secretary to the Society from 1840, over the "Burnes' drawings". Torrens ruled the Society with an autocratic but none too orderly a hand,[72] and tended to view Blyth as his underling. He had praised Blyth publicly on several occasions until 1844, which no doubt reflected well on him as Blyth's "superior", but things abruptly deteriorated in September, 1844. He had been the prime mover for the publication of the "Burnes' drawings", for which Blyth was preparing the manuscript with the assistance of notes made by Torrens' good friend, the late Dr. Lord. The Society had approximately one hundred and fifty very poor, ("wretched, miserable" as Blyth called them – Blyth, 1847c) drawings by native artists from the expedition to the Indus River led by Sir Alexander Burnes, wished on them by the Indian Government. The Society was charged with publishing them, for which an early estimate was given as 15, 000 Rs, a figure which was one and half times the annual income of the Society.[73] The Society, and more particularly Torrens, wanted to make its mark in the field of natural history publishing, by producing a volume which

> thus completed, would like Buchanan's and Russell's Fishes, or Russell's Serpents, be of standard reference to the naturalist on the Indus, from Scinde to Attock; a foundation for much more labour...by future observers; and the best proof which the Society can afford of its determination to encourage every branch of the Natural Sciences, and to second...the measures of Government when directed to these important objects.[74]

However, as Blyth had warned them to no avail, the drawings were of poor quality and scientifically valueless. A set of the partly coloured prints was purchased by Dr. Hugh Falconer. These are preserved in the British Library, Asia, Pacific and Africa Collections (formerly the Oriental and India Office Library, London.)[75] They are in no way comparable say, to Gould's "Birds of Asia" and are not even good examples of Indian art, which had a reached high level of sophistication by this time. The pictures range from the barely competent to the frankly crude, and even to the untrained eye seem distorted and inaccurate, something Blyth found completely objectionable. He had, nonetheless, been drawn into the project shortly after his arrival in Calcutta, and was asked to provide a manuscript to accompany the illustrations. The Society were already becoming impatient for Blyth to complete this manuscript in July, 1843,[76] but to complicate matters, the accompanying notes of Dr. Lord, which might have alleviated his task of identifying the wretched drawings, disappeared – a matter of bad luck rather than incompetence, it seems.[77] At a meeting of the Committee in charge of the drawing's publication on 18th September, 1844, it was resolved to enquire whether Blyth had located Dr. Lord's notes which he had previously indicated could not be found, but on 21 September, Blyth replied to the committee that, despite a search, the notes were indeed lost, tactlessly adding that "their value was, indeed not great."[78]

This cannot have failed to further infuriate Torrens. In July, 1844, he had written in inflammatory tones to an already outraged and hostile Hodgson concerning Blyth (citing the delay over the Burnes' drawing manuscript as an example of Blyth's arrogance), alleging Blyth was motivated by jealousy, and that suspending him had been seriously considered.[79] The enmity between Blyth, Piddington and Torrens resulted in some petty restrictions by the Society on Blyth's activities, revealed in the correspondence between Blyth and Hugh Strickland, the geologist and ornithologist. Strickland was engaged during the mid-1840's in writing a monumental work on "Ornithological Synonyms" (Jardine, 1858, p:ccxxxvi-ccxxxvii). Strickland was a great admirer of Blyth, "one of the most prolix, at the same time valuable" (ibid., p:ccxxxvi) of his correspondents, and of his ornithology and his zoological work in India, and had acted as Blyth's unofficial literary agent in London. Blyth "with the very frequent example here of the uncertainty of life" before him (Blyth to Strickland, 1847b) consciously used Strickland as a safeguard, "to secure the information I pick up from being lost, should any casualty put a finish to my career" (Blyth to Strickland, 1844a, 1847b). Blyth also sent several papers on ornithology to Strickland for him to edit, comment on and forward for publication in the *Annals and Magazine of Natural History*. Strickland was dismayed therefore when Blyth wrote to him in August 1844 (Blyth to Strickland, 1844c) that

> the Society here don't seem to like much my publishing papers in the Mag. Nat. Hist, and it would be as well therefore not to do so in future, though I still propose to keep up a private correspondence with you, which I trust will prove of mutual benefits. I recommend you even to suppress aught that it is still in your power to suppress, of information which I have already supplied you with, with intent to its publication in England.

Strickland (Strickland to Blyth, 1844c) replied

> I am sorry the Asiatic Society object to you publishing in the Annals, as you have abundant materials for their Journal besides. Moreover the *Annals* have a wider circulation in Europe and will therefore diffuse the new scientific information more widely. However I hope Taylor [Editor of the *Annals and*

> *Magazine of Natural History*] will *reprint* some of your more important papers in the J. A. S. B.

Not every one in the Society was hostile. The botanist, Dr. Nathaniel Wallich, suggested Blyth might be an "excellent" assistant to the geologist, Charles Lyell, should Lyell participate in a planned geological Survey.[80] However, Lyell's, and therefore Blyth's, proposed involvement came to nothing. Blyth was also building bridges outside the Society, with the new Governor General, Sir Henry Hardinge, president of the Society from 1844 to 1847, who, unlike a previous incumbent, Lord Ellenborough, was very interested in natural history, or at least in the game-keeping side of things (Blyth to Strickland, 1844b, 1844d). But however congenial it was to hobnob with the ruling class, staying at their luxurious Barrackpore country residence, and spend time talking about pheasants (Blyth to Strickland, 1844d, 1845a), these activities did nothing to mend the growing difficulties within the Asiatic Society.

Torrens' hostility became public in 1844. He openly criticised Blyth in a memorandum relating to the history of the Sir Alexander Burnes' drawings, which claimed that Blyth had wanted to correct the drawings before their publication.[81] Blyth felt obliged to complain that the Society had published a memorandum in their proceedings which tended to "implicate my character and reputation in the eyes of my scientific co-labourers, as deliberately advising a measure which is stigmatized in that memorandum with the name of 'scientific fraud'".[82] He also objected to the statement in the offending memorandum that

> the now anxious search of all European naturalists is exactly to find the original drawings from which local found Ornithæ had been published, in order to correct these flourishes, and interferences of authors and naturalists; who, to make better *pictures* and reduce the birds (principally) to their fancied types and systems, had in many instances created enormous confusion, deprived the original observers of their due credit for active research and accuracy, and had even made them pass, at least as careless persons, if not as impostors; when, on the contrary, the mischief and imposture was the work of the naturalist editors, publishers, and artists.[83]

Torrens clearly had a fresh controversy involving Hodgson in mind when he wrote this. According to Cocker and Inskipp (1988: 37) "In 1845, Hodgson complained to the Society that a paper he had submitted to their curator in May 1843 [Blyth, 1843], containing his descriptions of many new genera and species, had remained unpublished. Meanwhile, the contents of the papers were appearing as Blyth's own discoveries in the curator's report [Blyth, 1845e] to the society." Hodgson repeated this claim in the annotations on his personal copy of Gray's (1846) catalogue of Hodgson's donations and papers. Against the entry for his catalogue of Nepalese birds (Blyth, 1845e), Hodgson wrote "This Catalogue embraced nearly all my species. It was sent early in 1842.[84] It ought to have been published without delay and entire, especially as I followed it up with a long paper on the new genera and species. But a bit out of the former was published and the latter was appropriated by Mr. B." Blyth (Blyth to Strickland, 1845d) put a different, and perhaps more likely interpretation on things in a letter to Strickland on September 8, 1845:

> Of the new species which I am now describing, Hodgson had furnished a good many, which I have had all this time in hand: he was, and is, terribly

> eager to have them all published, no matter how crudely; being fond of the credit of making discoveries of this kind, and of leaving to others the labours of reducing and determining his species, which I have done in an immense number of instances, quashing his new species altogether. But there is a very considerable residuum of new species procured by him which still remain to be publicly made known, and these I am now describing out of hand.

In 1843, Blyth (1843) had stated in the journal that it was necessary to delay publication of the catalogue to suppress unpublished synonyms and to "find up the various scattered descriptions by Mr. Hodgson, and to collate the synonymy of many of the species, besides drawing up descriptions of several new species, – altogether no inconsiderable labour." Blyth being one of the principal zoologists acknowledging and listing Hodgson's synonyms, in whatever quantity Hodgson allowed them to pass through Blyth's hands, could hardly be blamed for taking as much care as possible in preventing publication of as many duplicated names as possible. However, Hodgson thought Blyth had behaved incorrectly, and complained personally to Torrens, which prompted the remarks quoted above. The Society, or more probably, Torrens, tried to block Blyth's reply to this inflammatory memorandum,[85] but eventually allowed it through. Blyth protested that he could "not call to mind *one single instance* to which the above remarks apply",[86] and countered that confusion had arisen because of too rigid adherence to inaccurate illustrations. Torrens on the other hand, was adamant, and believed that no change in policy, nor apology to Blyth, nor to naturalists in general was required.[87] The reply, in short, was not at all conciliatory, and compounded the original insult:

> Mr. Blyth...complains that the animadversions were harsh and published without reference to him. The Secretary has already stated that he wholly dissents from there being any animadversions at all conveyed or intended. The Committee for the Burnes drawings felt themselves bound to give on this occasion a full and distinct history of the matter...to exculpate themselves from an apparent neglect of 7, 000 Rupees worth of outlay under their charge, and he believes the feeling was, that the only possible motive which could be assigned for Mr. Blyth's open contempt of the Society's order and wishes for three years, might be perhaps pique at not being allowed to alter the drawings; and thus that the Committee deemed it proper to enter fully on that question.[88]

It was not the first nor the last derogatory statement the Society chose to make highly public in this way, and Blyth more than once expressed his dismayed astonishment that the Society should thus broadcast its criticism.[89] His request in 1845 on behalf of Lord Derby that an aviary be set up in the museum's grounds so that his lordship could keep pheasants[90] (and which Blyth realised would allow better restraint of the other birds that were sent live by collectors from time to time) was passed on to the Committee by Torrens with an acid comment:

> How far, under existing circumstances, we should be right in countenancing Mr. Blyth, who already complains of having too much to do, in becoming the collecting Agent of an English Ornithologist is a question to be considered.[91]

Around the same time, Torrens, Blyth and Piddington were involved in a bitter dispute over seniority in the museum. Blyth had complained to Torrens that Piddington was receiving a higher salary than him, and demanded that Torrens should decide who should be in charge of Palaeontology. Torrens believed this department should be brought under the control of the geology curator (Piddington).[92]

It is not remarkable that Torrens should show such bias in favour of his friend against Blyth, whom he held in low esteem. However, it certainly is surprising that no suggestion of Blyth's suspension ever reached the pages of the Proceedings of the Society, even during the dark days of 1847. If Torrens was hoping to force Blyth's resignation, he failed, though not for Blyth's want of an alternative. In 1846, Blyth apparently received an offer of employment from the Dutch authorities in Java (Grote, 1875). He certainly had been in personal contact with Monsieur Daniel Couperous Parvé, the under-secretary of state to the Batavian Government around this time, when it was possible the offer was made (Blyth to Owen, 1848b). The rumour circulated at home in early 1846, perhaps not coincidentally, that he was soon to return to England (Strickland to Blyth, 1846). Whatever his reason for refusing the job offer, he would shortly have good cause to regret it.

The quarrel between Hodgson and Blyth rumbled on. A classic "closet versus field" row broke out between them in 1846, spilling out into the pages of the Journal. They fell out over their pet subject, sheep and goats, the two men firing literary salvoes at each other. In a paper on the Tibetan antelope, Hodgson became quite strident about Blyth's attempts to organise his names. "I beg leave to suggest for this group the generic appellation *Pseudois*...lest, as has too frequently happened to me, some closet systemizer, who never was at the pains to examine nature for himself, should step in 'to name and classify' (the work of a moment, as ordinarily done,) my discoveries" (Hodgson, 1846). This and other jibes provoked a vehement reply from Blyth (1847a), the mildest of whose comments was

> Whoever undertakes to describe new species of organized beings, by so doing *professes* himself a naturalist; and credit will of course be given him for having duly studied the writings of his predecessors, or he is unqualified for the task, and should be content to borrow the assistance of those who do profess to have done so.

Blyth adopted this tone quite deliberately, as he explained to Strickland when drawing his attention to the article. Blyth (Blyth to Strickland, 1847c) objected to Hodgson's appearing to be

> much disposed to exalt himself at the expence [sic] of his fellow labourers. It is much to be regretted that he so gives way to the [vanity] of species-making, utterly regardless of whatever others have done or are doing, and keeping himself aloof from all other statements of zoologists in the country; instead of participating in that excellent good feeling and marked good understanding which prevails among all the rest.... he can bear no rival near his fancied throne, falling into all manner of mistakes and crude misconceptions in consequence and the result is, I had no alternative but to give him such a set down as I fancy I have done at the same time trusting that I have not overstepped the mark, or being guilty of aught that can be construed as discourtesy, which is more than can be alleged of him.

The editors of the Journal of the Asiatic Society disapproved, and chided Blyth (The Editors, in Blyth, 1847a):

> We regret that Mr. Blyth has deemed it necessary to couch his defence in terms of asperity. As his opinions were impugned in a recent paper by Mr. Hodgson, he has an undoubted right of rejoinder, for the tone of which he is of course responsible. But we protest against the repetition of such jousting in the Journal, the high character and dignified character of which are in no small measure attributable to the absence of every semblance of personality from its pages.

Hodgson apologised to Blyth for any offence he may have given, and Blyth (1847a), alluding to this at the end of his own paper, did the same. This may have spiked the guns of hostility between these two, but the problems with Torrens, Piddington and Hodgson were building up a store of ill-feeling in the Society towards Blyth. In 1846, the "Burnes' drawings" affair came to a head (C. Brandon-Jones, 1997), exposing quite publicly the poor state of the Society's finances (and its equally poor management), and while Blyth's claim for back pay which partly depended on credit for notes accompanying the ill-fated drawings was eventually, albeit, reluctantly granted, the squabbling over this matter generated a great dealing of bad feeling against Blyth.

The simmering animosity towards Blyth bore sour fruit in 1847 when he, feeling the pinch after his extra pay was withdrawn on account of the Society's poor financial state, applied for a pay rise and pension. Festering resentment, particularly, he believed, among the medical fraternity (C. Brandon-Jones, 1997), made his application the cause for an extremely critical report (Asiatic Society of Bengal, 1848). Unauthorised disposal of specimens, damage suffered by a shell collection allegedly through neglect, and a general poor attendance to his core duties, all meant that so far as the report makers were concerned, Blyth was a grave disappointment. The remark in this report, 'The Society committed a grave mistake in sending to Europe for a curator', (ibid.: 7) tends to justify its characterisation by a Society member (Mr. Newmarch) as being 'conceived in an illiberal spirit.'[93]

It was also an inconsistent and, in places, illogical document. The claim that Blyth neglected the "humbler duties" of "collection, naming, and arrangement of procurable specimens" seems odd to anyone reading Blyth's reports, where one may note that he did little else. The committee wished him to extend his "minute investigations" to more than the two areas of mammals and birds, but at the same time urged him to spend more time studying the "visceral anatomy" of specimens. When it was generally agreed that there was insufficient time for Blyth to do either what he wanted to achieve, or what they had previously stated to be his duties, this additional "duty" appears quite spurious. Blyth made no claims to be an anatomist, and had no training as such. Dr. Henry Walker, whom Blyth considered the chief competitor for his position, *was* a trained anatomist, and most likely the source of this particular barb. Significantly the committee only deigned to actually examine the museum itself after Blyth had made his initial response to their first report. They felt able to condemn him for the external proof of incompetence – the lack of a catalogue – rather than on the actual state of the collection.

It was certainly true that no catalogue of the collection had been produced, and in fact the bird catalogue was only published as late as 1852 while that of the mammals was not published until 1863, after Blyth left Calcutta. However, as Blyth explained to Strickland (Blyth to Strickland, 1848a) there were obstacles placed in his path by the Society itself, and it made "no allowances for the difficulties under which I labour, for want of books, and for mere assistance in the duties of the

museum." There were objections to Blyth even publishing a catalogue or curatorial reports by the members of the very committee which was calling for a catalogue. Blyth told Strickland:

> There is a clique in the Society, headed by Dr. H. Walker, who is supported by Cantor (!) and now even by L[or]d. A. Hay (!), who are trying to exclude the Curators of the Society from the Journal and say that no Reports are wanting further than that Mr So and So has presented so many shells, or so many birds, &c.... At the moment the clique are endeavouring to stop the publication of my Jan and Feb[ruar]y Reports...on the principle that the curators has no business either to describe or publish remarks on species, which they say is beyond the duties of this office!

His culpability over the damage to the collection is unclear, although in 1860, Theobald (1860: 2) apparently still held him responsible for the poor state of the shells.[94] Blyth stated that the specimens he inherited when he took over the museum had been damaged because he had been forced to move them continually as the result of lack of space. The committee found that more than 500 shells had become detached from the black wood tablets to which they had been attached, and that these tablets were scattered all over the verandah and other parts of the museum. This may have been caused by poorly trained staff – Blyth's subordinates were certainly capable of misbehaviour in relation to the collection. Blyth (1844f) reported to the editor of the Annals and Magazine of Natural History, Richard Taylor, how his head taxidermist, Bouchez, had hidden valuable specimens from him, with the intention of selling them for profit.[95] It is also possible that Blyth was cavalier in his treatment of a group of animals in which he was less interested, though extreme want of space in a museum in such a rapidly growing and diverse collection can of itself cause severe curatorial difficulties, beyond the control of any curator. However, given the ferocity of the committee's attack, and the probable motivation, the issue of the damage was more than likely blown out of proportion. Blyth vigorously refuted all complaints, but in vain. Ironically, he had anticipated this criticism in 1842 (Blyth, 1842a):

> As so very many species have lately demanded my attention in the two warm blooded classes of vertebrated animals, it will rightly be surmised that comparatively small progress has been made in investigating any other department, howsoever desirable I might feel to neglect none what ever, but to bestow the same attention upon all.

It is clear from the report, that what the Society had wanted, other than securing the best curator available, was a full-time version of their earlier part-time, amateur curator, Dr. McClelland. They envisaged an educated (and preferably a medical) man with sufficient leisure and independent means who would see the salary as compensation for the time spent on an activity he would be pursuing anyway, and who would not be dependent on the Society for a career structure. This was very clear in the report on Blyth's request for a salary increase (Asiatic Society of Bengal, 1848: 7):

> The Section considers the Society indebted to Mr. Blyth for his services in adding to the collection of Birds and Mammals; but the obligations of the Society in this respect are more than counterbalanced by the advantages enjoyed by the Curator of examining and describing the novelties in the

> Society's collections.... it is clear that Mr. Blyth has completely mistaken his position in seeking to obtain an increase to his salary and a retiring pension. The duties required of the Curator do not warrant the Society in recommending an addition to the present allowance, whilst the very constitution of the Society, its uncertain tenure, being supported by voluntary contributions, are equally opposed to the prospective grant of a retiring pension to any of its officers.

They were (Allen, 1985: 2) "like so much else in British life...in thrall to the ideal of the leisured gentleman amateur." In partial mitigation of the apparent unreasonableness of the Section's opinion, the evolving nature of salaried posts meant that employers' responsibilities to their employees were often unclear (Davidoff and Hall, 1987: 267–269). It is obvious from the report that the authors would have very much liked Blyth to have been dismissed. If all their claims had been proven, it is difficult to understand why he had not been.

It is hard to imagine which caused Blyth greater pain – the financial difficulty that the refusal of his salary rise created, or the potential damage to his professional reputation. The effect that this ungenerous report would have had on the learned reputation of the Society – let alone Blyth's – had it been published and read by the scientific world in general, can only be imagined. It was such behaviour towards Blyth which so incensed Allan Hume. In his obituary of Blyth (Grote, 1875), Arthur Grote, a former president of the Asiatic Society, was at some pains to absolve the Asiatic Society from "complaints" of the Society's treatment of Blyth, particularly against the charges made by Allan Hume, yet the events of 1846 to 1848 justified Hume's opinion. However, the ire felt by Hume on the part of his friend, is not expressed to the same degree, even in private letters, by Blyth. Though, he (Blyth to Owen, 1848b) complained to Owen more in sorrow than in anger, about the intrigues against him, his way of dealing with the problem, as ever, was to simply get on with his work.

The difficulties Blyth faced during the period 1844 to 1848 cannot be dismissed simply as the result of personality clashes, or even poor management by men like Torrens. They exemplify very sharply the problems of institutional colonial science in India. The Asiatic Society, the premier promoter of intellectual pursuits in Calcutta, and by default, through much of British India, was dominated by white, middle and upper class civil servants and military men. Their interests were therefore the interests of their employer, the East India Company, which was first and foremost interested in money. Prestige, and diplomatic and military advantage came secondary only to this. Science for the pure love of it was not encouraged, and zoology had only the most marginal economic value (except for proponents of wild animal acclimatisation in Britain.) Dasgupta (1990) describing the members of the Asiatic Society, said of them "Most of them were practical administrators and this occasionally gave a certain direction to their scholarly work in which they tried to avoid unnecessary speculation." Kumar (1989) noted that "An important feature of colonial science is the relative neglect of medical and zoological sciences and this comes in sharp contrast to larger investments in botanical, geological and geographical surveys from which the British hoped to get direct and substantial economic and military advantages, while medical or zoological sciences did not hold such promises."

The company, while appreciating the value of its officers and civil employees learning the languages and history of the peoples it ruled (Dasgupta, 1990), did not see the advantage of comprehending the lore of animals and birds of the country in which those people lived. Yet there was a deep interest in Indian fauna among the native population, who made their way in vast numbers to the Asiatic Society's museum, and whose upper classes were inordinately fond of keeping exotic

and native animals in their private menageries. The much-admired Sir William Jones' hostility to the study of zoology on account of its cruelty (Kumar, 1989) cast a long shadow over the Asiatic Society, who shared with the East India Company, an ambivalent attitude to the subject. The attitude of the successive Governor-Generals was by no means consistent.[96] The admirable Barrackpore menagerie, founded by Lord Wellesley, languished for want of proper support, despite the attempts by Blyth, Colonel Sykes and Brian Hodgson to encourage it (Kumar, 1989). True, the Company funded a curator for the Society's museum, but mainly so that the valuable geological specimens would be adequately cared for, and so that the Company's own museum collection in Leadenhall Street, London, might be enhanced,[97] and the company's puissance displayed in Europe. Those in the Asiatic Society who really cared about the natural sciences, such as Wallich, McClelland and Cantor, could best convince the Society and the Company to support the zoology of the Society's museum by emphasising the volume and monetary value of the specimens, and the kudos offered by being able to vie "with the various noble institutions on the European Continent."[98] The philologists and classical scholars in the Society, unfamiliar and largely uninterested in the burgeoning new science of natural history, approached the zoological specimens as G. R. Gray at the British Museum was said to have done, like "thoroughly conscientious clerks" (Sharpe, quoting Newton, 1906: 83). They counted visitors to the museum and the specimens, and preserved each item with little regard to their scientific use or value. There was a conflict of purpose for the museum, which was, like its cousin, the British Museum, an uneasy cross between a collection of instruction and a larger version of a gentleman's cabinet of curiosities. Like the British Museum, the Asiatic Society's museum was struggling for an identity, but at this early stage, no "images of Victorian science palaces" could dance in Blyth's head (Sheets-Pyenson, 1988) nor in that of any of his co-workers. No clear British model yet existed. There was also the undeniable fact that by class and by temperament, Blyth was divided personally from his superiors and educated civil servants like Brian Hodgson.

Thus the Asiatic Society's conflict with Blyth, culminating in the damning report of 1848 (Asiatic Society of Bengal, 1848) was the result of these various factors. The Burnes' drawings affair was the direct result of Henry Torrens' obsession with the prestige of the Society and of himself, and Blyth was punished, Cassandra-like, for his inability to protect the Society from its own overweening pride. It would be difficult to imagine any other respectable European being an outsider to the extent that Blyth was perceived to be in the Society. He was not employed directly by the East India Company or the Government as most of the members of the Asiatic Society were, nor was he engaged in the respectable and profitable activity of indigo-plant owning, as was his friend, Robert Frith. He was not a professional, like the medical men, nor was he independently wealthy. Davidoff and Hall (1987: 268–269), using the example of a town missionary, T. H. Finigan, pointed out the anomalous position of the new class of salaried men.

> [The salaried worker's] foothold in a middle-class occupation was precarious...[He] depended for livelihood on doing his work in what was judged to be an acceptable and appropriate way by his superiors...Salaried position put men into the hands of their employers and patrons. The price of their secure posts was that they were often regarded as servants of the partners, directors or committees of management, despite relatively high salaries...The combination of lack of property and lack of independence, characteristic of salaried posts, lowered their status often further than their incomes would warrant....

Henry Walker, perceiving this, was easily able to mobilise the museum's supporters against him in a way which held strong echoes of Blyth's earlier conflict with the British Museum. Walker played on the Committee of Papers' suspicion of impractical zoological research, on Lord Arthur Hay's and others' sense of class privilege, and on the zoologists' (Cantor and McClelland) fear that Blyth was not properly qualified (because of his lack of the right educational or professional background) to care for the collection. Blyth suffered because zoological research was treated as a Civil Service activity, best undertaken by and in the usual approach of civil servants. (Ironically, being not a civil servant himself, he could gain none of their privileges, but enjoyed all their circumscription – a case of him not having his cake and not eating it too).

In March 1849, Blyth told Strickland (Blyth to Strickland, 1848a)

> I have had a very severe struggle lately with the S[enio]r Secretary of the Society, Dr W. B. O'Shaughnessy, and so far as at present appear have come off triumphantly. Instead of meeting the charges which I have been compelled to bring against him before the President and Council of the Society, he has suddenly taken sick leave and vanished to Darjeeling, where I think it not unlikely that he will resign the Secretariat.[99] With Laidley, the Joint Secretary, I pull extremely well, and we shall now probably get on very comfortably, at any rate if I succeed in putting down Walker, as seems not improbable now.... Among other things, Walker has been trying hard to stop the printing of my Bird Catalogue, saying we don't require a printed Catalogue, &c, giving me all the trouble and wishing to deprive me of any credit.... but he is defeated!

As far as the public quarrel was concerned, this was the last hurrah of Blyth's opponents. Ultimately he may have lost the battle but he won the war. He bore the brunt of the ground-breaking, but zoology was firmly established as a valid and valuable activity by the time he left India. Moreover, his astonishing productivity and the vast increase in specimens in the museum forced the Society and then the Government to make the collection the basis of a new Indian Museum in 1865, and it was on account of Blyth's efforts, built upon by John Anderson, that this new museum had such a sound zoological base ([Annandale], 1914: 68). Reporting for 1850, the Annual Report (Blyth, 1851) stated that the "Curators have been very regular in their attendance to their studies. The arrangement of the skeletons in the Museum of Natural History reflects much credit on Mr. Blyth."

There were no further criticisms of Blyth in the Journal, although the "Section of Natural History" continued for a while, at least (Blyth to Strickland, 1849c) to "assume all sort of authority over me, and systematically endeavour to drive me to resignation." This section however, was now partly comprised of Blyth's friends who, aided by his natural stubbornness, frustrated his enemies, who were (ibid.) "annoyed not a little at their want of success hitherto, in inducing aught but Christian resignation, which is the wrong sort altogether." Peace now reigned, at whatever cost. The next nine years may have been the most pleasant of Blyth's time in India.

Marriage and Loss. Life in India, 1849 – 1857

> *Three days ago I indulged in my first holiday this cold weather, & had a glorious ramble over the botanic g[arde]n, myself & wife only; for it was the 2nd anniversary of our wedding day, & we kept it thus; both having pretty much the same tastes. Would not you too have enjoyed it? Bougainvillia in all its glory...& a week or two hence the Amherstia (quite a grove) of its glory, & superb beyond expression: lots of orchids, too, &c, &c; & the ever beautiful palms, Cycadeæ, &c, which I never tire of feasting my eyes on. I imagine that not many feel so intense a pleasure as I do in contemplating the grand and beautiful forms of vegetation; & the more so, as I so seldom give myself the chance.*
>
> Blyth to Darwin, 1856a.

The years between 1848 and 1857 were years of relative peace and some contentment for Blyth. The episode of the Burnes' drawings and the fallout from it marked the end of a difficult period for Blyth in his relations with the Society, and his position within it seems to have been strengthened by the perception that he had been treated unfairly. A continuing retrenchment in Society expenses in 1849 necessitated a proposal to reduce of both his small house rent allowance and his staff – but this time Mr. Newmarch successfully forced a motion preventing this.[100] Blyth's rent allowance was later doubled, and the income tax covered.[101] In 1849, Allan Octavian Hume, son of the great radical politician, Joseph Hume, and famous champion of unpopular causes, came to India, and, becoming interested in ornithology, began a friendship with Blyth which lasted until the latter's death. Arthur Grote, a civil servant in the revenue department, joined the Society in the same year. Grote was twice widowed and his four small children were entrusted to the care of his family in England (Clarke, 1962: 80). He met Blyth in 1848 on return from furlough and was probably glad to have a like-minded bachelor to spend leisure hours with, recalling in his obituary of Blyth (1875) that "Among the many pleasurable reminiscences of my own long residence in India, few are more agreeable than those which recall his frequent Sunday visits to me." Blyth gained a friend and a supporter who was interested in his work in a non-competitive way, Grote being a keen natural historian and contributor to the collection. As Grote later became President of the Society, this helped to keep the critics at bay. The deaths of Henry Torrens in 1852 and Henry Walker in 1857, undoubtedly helped as well.

We know very little of Blyth's private life, beyond the snippets about collecting expeditions and such in his papers, and brief references to certain zoological friends. During a dark period in 1845, it is clear from his comments to Hugh Strickland that life in India was often lonely. He wrote to Strickland (Blyth to Strickland, 1845d) to congratulate him on his marriage to the daughter of Sir William Jardine:

> a lady who can of course sympathise with your pursuits and feel just pride in the position you have already attained as an Ornithologist.... Not that I am overfond myself of bringing matters of Nat. History into private (or, I should rather say, *general*) society; on the contrary, I rather studiously avoid doing

> so.... Still, though I would turn the conversation to almost anything else, as a general rule, *during play hours*, you for one will never suppose that I am at all the less enthusiastic on that account. In truth, I am careful not to bore other people with it, and I really don't remember that I have once fairly opened on the subject, during a very close intimacy of the last four years with a family here.... I...have half a mind to inflict a discourse upon you of my opinions upon things in general here, the state of [?vacuity] and very decidedly inferior, or less intellectual tone of conversation prevalent in all circles, – which for the most part is sadly frivolous and a great deal too much confined to matters of mere local interest, as seems to be pretty much the fact in all colonies.

This same letter showed his frustration at his exile from the European zoological scene, and his hopes that Strickland, about to go on a tour of Europe, will be "tolerably sure so to change your course, as to visit as many museums as you can. We have indeed a right to expect this of you and although opportunities are too precious to be lost sight of". He could hardly depend on the scientific community visiting him. In 1845 he complained (Blyth to Strickland, 1845a) that "Dr Hoffmeister is the only naturalist from Europe who has yet visited this museum since I have taken the thing in hand". It is hardly surprising that European and American scientists eschewed the chance to examine Asiatic flora at first hand. The travel time from Britain to Calcutta could now be measured in weeks rather than months, but the heat and disease, as well as the possibility of death at native hands (which indeed was Dr. Hoffmeister's fate – Blyth to Strickland, 1846a) was a great disincentive to anyone thinking of coming to India, while the Eurocentric focus of research, which meant choice specimens from the Asiatic Society as well as collectors, were invariably sent back to Europe, was a positive incentive to study Asian fauna only in European collections.

Grote's friendship and interest in Blyth's work must have come as a welcome relief to Blyth, after the hostility and isolation he suffered during 1844 to 1848. He remained busy with his papers, and if he felt somewhat less enthusiasm for his employment than formerly, it is not evident from his published work. He was deeply interested in the new zoological finds of the age, both of living and fossil animals, from Africa and elsewhere and wrote long and detailed letters to Richard Owen, and Charles Darwin about his latest researches and theories. His hard work now meant that the museum had now a reputation rivalling that of the great collections of Europe, and increasingly attracted important donors. Richard Burton even risked the wrath of his co-explorer, John Hanning Speke, by sending Speke's painstakingly collected Somali specimens to Calcutta against his wishes.[102] In later years, two distinguished donors to the museum were Charles Darwin (Blyth, 1857) and Prince Albert, the Prince Consort (Blyth, 1861c).

But living in India, at least for a European, was always going to be hard, regardless of personal or intellectual achievement. Carey (1906: 107–108) painted a grim picture of the daily life of working men in India:

> In these times, the day's work is really a day's work; men do not go home to tiffins or early dinners; nor can they afford to indulge in the afternoon siestas, which, in former days, were so general.... the majority of European residents in India have too much to do, to think of sleeping before dinner. From 10 or 11 o'clock to 5 or 6, office men are hard at work. Let none suppose, that they lounge through their business, after an indolent undress fashion – that

> they loll upon couches, hookah in hand, and lazily give instructions to their underlings, whilst they sip their delicious sherbet and puff out the fumes of the odiferous *chillum*. The life of a man of business in India is anything but a luxurious one. In spite of heat, of languor, of oppression, of all the overpowering influences of the climate, he toils throughout the long day, in a comfortless counting-house, perhaps in a room, the heated atmosphere of which is rendered more intolerable by the presence of a score of only native clerks, and returns home at sunset, jaded and exhausted, to take his evening drive, and afterwards perhaps, to be dragged to a sultry dinner party.

One can see why such a regime lead to premature aging and early death for so many Europeans in India. Blyth had suffered a great deal from the climate and illness in the early stages of his time in India. He asked Strickland (Blyth to Strickland, 1845b) to excuse

> blottings [in] my communications just now; for you do not know what it is to sit under a punkah, with the thermometer averaging 90°, and to have to clutch the paper as you write, lest the fanning of the punkah whisk it off "in less than half no time" as our friends across the Atlantic say. Since I last wrote, I have suffered from a most severe attack of diarrhoea, approximating to cholera, which was very nigh carrying me off, but I have now perfectly recovered all but my strength, i. e. endurance of late.

In 1849 he told Strickland (Blyth to Strickland, 1849b), "We have had a terribly hot season, which affects my health very much, debilitating me so that almost every exertion becomes a labour". The humidity was as deleterious as the heat. Despite his best care, his efforts in the museum and in providing birds for exchange, already made difficult by the enervating heat, were in the rainy season frustrated by the all pervading damp. "It is only now, during the rainy season, that the birds have their fine ornamental plumes, and it is most difficult to keep the skins from rotting on account of the extreme humidity of the atmosphere. They *will not* dry, but remain soft and relaxed for weeks."[103]

Little could mitigate the unchanging climate, the isolation, or the general lack of acceptance an outsider like Blyth experienced. His financial situation remained poor, not through malice, but from the inability of the Society to increase any employee's wages.[104] However, two letters, one in 1852 to Strickland (the last preserved – Strickland was killed in a railway accident in 1853), and one to Richard Owen in 1853, showed a definite renewal of vigour and improvement in mood. The easing of tensions between him and the Society would have helped (he told Strickland in 1850 that "Our new Secretary, Capt Fletcher Hayes, seems everything that I could wish" – Blyth to Strickland, 1850b), but the main focus of his energies was now on his new house and extensive garden, of which he was extremely proud. For Victorians, an interest in gardening "which in turn supported the widespread taste for floral designs and patterns" was a consequence of the burgeoning interest in natural history (Merrill, 1989: 31). Blyth wrote to Strickland (Blyth to Strickland, 1852)

> I wish you could see my truly magnificent orchids, not to say other plants of much interest. Though I say it who perhaps should not say it, there are few gardens to compete with mine here, and I have a [plot] at present of about 3 acres, water included, not a square foot of which but is made the most of.

A year later, he wrote to Richard Owen (Blyth to Owen, 1853), mentioning that his house was about two and a half miles from the museum, with an acre-sized garden, and describing how he had always enjoyed gardening, which now kept him in good health.

These letters present a man of some contentment, and of mental and physical well-being. The reason is not difficult to discover. His letter to Strickland (Blyth to Strickland, 1852) continued, "Well, I trust that ere this reaches you, I shall be most happily and comfortably married to a fair country woman who is all I can wish for or desire in a wife". As ever with Blyth, things took a little longer than he planned, but his marriage to Mrs Elizabeth Mary Turner Hodges, daughter of James Sutton, took place on February 20th, 1854, at St John's Church, Old Cathedral, Calcutta.[105] The wedding was witnessed by S. H. Robinson, Adam Freer Smith, and D. C. Mackey. Blyth was still a bachelor at 43 – she, by the age of 29, had been widowed. He had apparently known her in her single days (Grote, 1875), but it was not remarkable that Blyth had not married earlier, given his low income and the fierce competition for female partners in Calcutta. (We do not know if he sought sexual solace in the same way Brian Hodgson had, by taking an Indian mistress.) Except for the fact of her widowhood, we know nothing of Elizabeth Blyth, apart from two passing references by Blyth in letters to Darwin. In August 1855, he tells Darwin (Blyth to Darwin, 1855c):

> Next week, too, I hope to devote two or three days to photography, (I mean the paper process); in which case I may be able to send you a few *positives* of certain specimens. Just now I am busy with the daguerretype, or rather my wife is, & she is quite an adept at it.

In February, 1856, three days after their second wedding anniversary, Blyth wrote to Darwin (Blyth to Charles Darwin, 1856a) indicating his and his wife's mutual pleasure in nature. The couple, both enthusiastic about the burgeoning hobby of photography (which had flourished in England as in India following the breaking of Fox Talbot's patent claim over the "Calotype' process" – R. Desmond, 1985: 52, 53) were very likely members of the Photographic Society of Bengal. The Society, formed in 1856 (ibid.: p:53), actually met every third Wednesday of the month in the rooms of the Asiatic Society.[106]

Grote, who was by then a close personal friend, says Blyth's married life was happy. However, his marriage exacerbated his perennial lack of funds. He made a heartfelt complaint to Darwin in a letter dated 4th August 1855 (Blyth to Darwin, 1855b):

> You probably are not aware that I labour under very great disadvantages here; 1stly. from insufficient pay to live in decent comfort in this most expensive country, – 2dly. , want of books, – 3d. want of assistance, having only one illiterate stuffer to help me in anything, -& 4thly. want of space, the museum being so excessively overcrowded now. The first ensures no end of pecuniary difficulties & botheration, which distract my attention very much and unavoidably from my official duties, & thus had prevented me from accomplishing much that I should have done, could I have given my undivided attention to my duties; to say nought of the chronic state of discontent, which it ensures. There is scarcely a man here, with whom I choose to hold companionship, but receives from at least twice to 12 times per *mensus* what I receive; & after 14 years service, I have neither bettered my condition, nor have prospect of a pension to retire upon, after

> any amount of service! So do not be surprised if I quit this abruptly for something more lucrative as the only chance of revisiting Europe.

He did in fact submit another claim for increased salary in 1856, this time forwarded to the Honourable Court of Directors with the most fulsome recommendation of the Society, unfortunately just as "John Company" was just about to lose its mandate to govern to the crown after the Sepoy mutiny. Grote attributed the failure of this application, probably rightly, to the turmoil in India in 1857.

By now, however, Blyth had other ways of augmenting his income. Hume (1874: i) stated in his obituary of Blyth that "repeated efforts were made to induce him to devote his energies to business, and paths to what, at that time, was certain wealth were freely opened to him.... neither neglect nor harshness could drive nor wealth, nor worldly advantages tempt him from what he deemed the nobler path." But, though Blyth himself wrote disgustedly to John Gould in 1850 that hardly anyone in Calcutta took any interest in ornithology, or in anything else but making money (Blyth to Gould, 1850d), he was actively involved in animal trading from 1848, described in much greater detail elsewhere (C. Brandon-Jones, 1997), acquiring and exporting animals to America and Europe, to individuals and well-known institutions such as the Zoological Society of London. Grote (1875) referred to the most flamboyant of these enterprises, the purchase of the royal menagerie of Lucknow, including eighteen tigers, which Blyth transported by river to Calcutta and exhibited with other novelties (C. Brandon-Jones, 1997). His animal trading continued long after Blyth left India.

His entrepreneurial schemes did not hinder his researches, nor his letter writing. There has been a great deal of correspondence preserved from Blyth to Darwin during 1855 to 1857. The first of his preserved letters to Charles Darwin, in response to a request for information on domestic animals, is dated 21 April 1855. In this he writes (Blyth to Darwin, 1855a):

> I have the pleasure to acknowledge receipt of yours of the 27th February, and am much gratified to learn that a subject in which I have always felt the deepest interest has been undertaken by one so competent to treat of it all its bearings. I should have much to say upon it, but can with difficulty find time to write, and have no leisure just now to reflect upon it as I could wish.

Nevertheless, Blyth did find time to write at least 12 letters and memoranda to Darwin, most of considerable length, between 1855 and 1857. Blyth's "dreadful handwriting" (Darwin to Lyell, 1859b) on the thin paper used for letters from India is extremely difficult to read, and no doubt a great trial for his correspondents. The legibility was hindered by his habit of overwriting the first page with his last paragraphs. Nonetheless, Blyth was a much valued correspondent (among many such) of Darwin's, and the several dozen letters which survive are possibly only a small fraction of the total correspondence between the two men. Blyth played an important role in the preparation for the publication of the *Origin of Species,* through the extensive zoological information he provided on wild and domestic animals. In recognition of this, Blyth was one of the recipients of a presentation copy of *Origin,*[107] which "quite revolutionised" his ideas on species (Darwin to Hooker, 1860c). According to Desmond and Moore (1991: 438), Blyth, like Charles Lyell, was more perceptive than Darwin concerning the significance of Wallace's 1855 paper on the creation of new species. But this paper which so excited both Blyth and Lyell was dismissed by Darwin, although he assured Wallace (Darwin to Wallace, 1957) that Blyth and Lyell, "two very good men", had drawn his attention to it.

In 1856, negotiations were begun to move the Asiatic Society's collection to the charge of the Indian Government. Blyth thought this was a good thing, but it brought with it other worries, as he confided to Darwin (Blyth to Darwin, 1856b):

> it is probable that the whole thing will be done on a liberal and efficient scale, & that a decent salary will be attached to the Curatorship. In that case, the office will undoubtedly be sought, and (if we don't look sharp) very possibly obtained by some member of the medical body here, who will assuredly look upon it as virtually appertaining to their service, and I am quite sure will try for it: & I, who have so long borne the burden & heat of the day, may find myself placed in a subordinate position! That I have not performed impossibilities with insufficient means will then doubtless be attributed to incapacity, & so forth. Now, it is really a fact that I have been able to do very little of late, for want of the most necessary aid in the museum; our only taxidermist and general assistant in my department having been laid up for more than a fortnight past, & prior to that having been much away from his post all this year; so that I can get nothing done that I want done. Judging from past experience, I know full well that no allowance will be made for all this by & bye, when a good salary is to be striven for; people will be *interested* in misrepresenting the matter, whom I too well know are not at all scrupulous; & so because I can't get on as I would wish without proper assistance, it will be made out that I am incompetent to take official charge of a proper establishment; & this you must kindly manage to represent properly to Col. Sykes [a Director of the Indian Company]. I enclose a portion of a letter just rec.d from our Secretary, which will shew you that my fears are not unfounded.

He may well have been right to suspect that he would have been usurped. Ellsworth (1991: 107) noted a "significant trend in the latter half of the [nineteenth] century – the appointment to key scientific posts in India men with specialised professional training and experience gained in Britain. Usually they were members of professional organizations there and had demonstrated their ability by papers, reports, and personal relationships." In the end, Blyth's fears were not put to the test, for his health did not hold up until the long-delayed negotiations were completed in 1865. His desperation to see that the position did not pass him by was understandable, for his situation was unusually harsh. Unlike government and military employees, he had no prospect of being allowed long leave to visit England. In the same letter to Darwin (Blyth to Darwin, 1855b), he also complained of chronic health problems caused by the climate, which had been worsened by the disappointment of being refused permission to accompany Captain Arthur Phayre to Burma, and of being "cooped up" in Calcutta without opportunities for "travel and observation" since:

> at the time of making the application, my health was much in need of restoration: for I regularly become much debilitated towards the close of the hot weather, & fit for very little; but the cooler temperature of the rains soon sets me to rights. Just now, for the last 2 or 3 days, the thermometer has been ranging from 79° to 80° only which we consider delightfully cool

> and pleasant; & much rain has fallen, considerably more than usual during the past July.

Sadly, things were about to get worse for him. 1857 was a year of great turmoil and tragedy in India. The siege at Lucknow and the horrors of the Sepoy mutiny, albeit taking place at some distance from Calcutta, meant that many Europeans had endured the death of loved ones and the misery of displacements and the disease which always followed war. To that number, was added another. On 7 December, 1857, Elizabeth Blyth died of hepatitis, aged just 32, and was buried the same day.[108] There is no mention of children. It was a crushing blow. Blyth was, it seems, quite literally heartbroken, for "paralysis of the heart" was threatened (Grote, 1875) and his health collapsed immediately, never completely recovering. Denied wealth and the comforts it might bring in the Indian climate, or the fame which may have brought him a comfortable sinecure in England, he was finally prevented from even enjoying a comfortable old age with a loving wife. He never remarried, and the rest of his Indian career, ironically now progressing so smoothly, was fraught by continuing bouts of ill-health.

Last years in India, 1858 – 1862

> *As I write, a royal salute is firing in honour of the arrival of the glorious garrison of Lucknow, i. e. the wounded officers, & the ladies and children. How amazingly the force of character of our country & countrywomen has been evinced in the course of this terrible struggle! The wonderful superiority of the European to the Asiatic, from the time of Xenophon and Alexander even unto now! Against such overwhelming odds, nobody here ever conceived the possibility of the insurrection proving successful, – this grand struggle of barbarism against a higher civilization ennobled by the application of all the sciences.*
>
> Blyth to Darwin, 1858

Kincaid (1973: 211) said "The effect of the Mutiny on Anglo-India can hardly be exaggerated." "The most peaceful and charitable gentlemen fell into convulsions of race-hatred. Smiles went out of fashion, even in portraiture." (ibid.: 202) Blyth was clearly not immune to the stress of 1857, with his bereavement overlaying the grief and anger generally felt in Calcutta and elsewhere in India. It is therefore surprising, given that Grote reports that Blyth was made severely ill by the death of his wife, how quickly reports and papers from him resume in the *Journal of the Asiatic Society of Bengal*. As ever, Blyth's devotion to his work carried him through a difficult time, and he kept his grief strictly private, although Grote (1875) says that his true feelings were poured out to his sister, Clara. Life had to continue. He continued to produce papers, and made several trips into the field, at least one of which – that to Moulmein – was paid for by the Society. However, it is evident that he had not the same appetite for "closet" work in his last couple of years in Calcutta, as reports were much delayed. He remained ever the scavenger, never scorning the less romantic means of obtaining specimens for the museum. One paper on "The cartilaginous fishes of Bengal" mainly concerned fishes collected by himself – fresh from the Calcutta fish bazaars (Blyth, 1860b).

The Asiatic Society, although it struggled to maintain its gentlemanly existence, was affected severely by the loss of many of its senior members during the Mutiny year, not least because the war disrupted its finances. The ordinary membership dropped by 22 to 109, and only 6 new members joined.[109] Those men who had died – Dr. Spilsbury, Dr. Walker, Sir Henry Lawrence, John Colvin and Captain Hayes, to name some of the more illustrious or active – were a grievous loss. The financial problem lent urgency to the continuing negotiations for the transfer of the museum to the Government, and Blyth probably still hoped to get the curatorship of the new institution. The report by the Committee of Natural History, preparatory to the negotiations, felt that the collection was in "a fair state of preservation, though they have certainly not received that amount of care of which they are deserving",[110] but acknowledged that the unsuitable, crowded accommodation and the insufficient establishment of the museum were to blame.[111] However, the negotiations dragged on, undoubtedly because of the transition from company rule to imperial control. In fact, the Indian Museum was not established until 1865, by which time Blyth had been back in England for three years. In 1859, a project was proposed which offered a chance for him to combine his need to escape the claustrophobia of Calcutta and the Museum, with an opportunity to satisfy the scientific world's

very real lack of information about the zoology of China. A second British expedition was to be sent in 1860 under James Bruce, and the Asiatic Society, probably at Blyth's suggestion, approached the Viceroy, Lord Canning, to sound out the idea of sending a zoologist with this mainly military force. The initial response was negative, but this did not deter Blyth or the Society from attempting to solicit public and governmental support for the idea. Blyth certainly expended considerable effort in soliciting testimonials to support his application, and both Charles Lyell (Darwin to Lyell, 1859b) and Darwin wrote testimonials supporting him. Darwin wrote to Colonel Sykes (Darwin to Sykes, 1959a), saying

> I think that it is of infinite importance that a skilled naturalist should go rather than a mere collector. Mr. Blyth seems to me well fitted for the post, from having attended to several branches of natural history; & he has lately been specially attending to Chinese productions.

Blyth had earlier implored Darwin (Blyth to Darwin, 1856b) to speak to Sykes on his behalf concerning the proposed new Indian Museum. This episode further demonstrated Darwin's respect for Blyth. He told Lyell (Darwin to Lyell, 1859b) that "Anything on earth that I can do in giving references [for Blyth]...will be a real pleasure & duty." The Asiatic Society gave its fullest backing to the campaign being waged in England[112] for a qualified naturalist to accompany the expedition, more specifically for "a man possessing special qualification for such a task, by his previous studies and by his extensive knowledge of the Zoology of Asia, [who] is present on the spot and ready to undertake the duties and the risk" – in other words, Edward Blyth.[113]

However, as Darwin reported to Lyell (Darwin to Lyell, 1860a), Blyth later forlornly wrote to say that "Canning would not put up the money". More specifically the Governor General had refused on the grounds that shipboard space was at a premium, and Blyth's presence would place an unreasonable burden on the commander of the force. Further

> The Governor-General has no knowledge of the intention of Her Majesty's Government to send any naturalist. If any person is so employed it will most probably be the Medical Officer of one of Her Majesty's ships, as has been done on some other occasions.[114]

This remark would have done little to allay Blyth's fears that the curatorship of the new Indian Museum would go to a medical man. The natural history records of the expedition were ultimately to be kept by Robert Swinhoe, a civil servant and amateur (but skilled) ornithologist who Blyth had assisted and given advice for his work "The Ornithology of Amoy" (Hall, 1987). Grote (1875) says that Blyth's failure hit him hard. Another disappointment was the unwillingness of his friend, John Gould, to join him in another animal-collecting venture, this one perhaps less risky than that engaged upon in 1856 to supply the ex-king of Oudh and the Nawab of Marshidabad to collect and purchase wild and exotic animals for their extravagant menageries (C. Brandon-Jones, 1997).

He applied to join a scientific expedition to Chinese Tartary in 1861, and was again turned down (Grote, 1875),[115] but his health had already begun to deteriorate. In that year he was obliged as a result of a "serious illness and consequent prostration of strength...on two occasions, to seek a change of climate. He obtained on this account five months leave of absence during the year".[116] He reported that he "collected pretty largely at Moulmein [Burma] and in Upper Martaban" (Blyth, 1863h). He was also at Tavoy (Blyth, 1862c), Martaban Station (ibid.), Mergui (ibid.) and Yonzalin district

(Blyth, 1862b). He wrote to Gould from Rangoon on 16 December, 1861, with something of the enthusiasm of earlier years (Blyth to Gould, 1861a), saying he had just returned to Moulmain from Yonzalin, Upper Martaban, having collected a lot of specimens (including birds and a rhinoceros skull) and was about to leave for Akyab to visit his friend Major Ripley. He had regained his health despite an attack of 'jungle fever' and expected to be back in Calcutta by January.

He devoted particular attention to confirming that "the three known Asiatic species of rhinoceros inhabited that region [Burma]" (Blyth, 1862b). Some of this five-month period was spent with his friend Colonel Fytche at Moulmein (Grote, 1875), and also with Father Jean-Pierre Barbe, just before the latter's death on 27 May 1861 (Blyth, 1867c). Even here, his magpie-like tendencies would not rest. Following his brief return to duties, he records in the list of donations for June 1862 (Blyth, 1862c), "[from Col. Fytche] The skeleton of an Andaman savage, a male of about 35 or perhaps 40 years of age, who died in the hospital of Moulmein at the time of my first visit to that station. Finding that there was no hope of his recovery, I requested Col. Fytche to direct that his bones should be prepared for the Society's museum".

The question of a pension was now unavoidable, since Blyth was clearly close to being unable to continue. The Society made an application on his behalf in 1861 which was refused. Sadly for Blyth, he was in the unfortunate position of being only a quasi-government employee, inasmuch that his salary was paid for by a government grant. His previous application for a pension had been vetoed "on the ground that the grant of pensions from the public revenues is strictly limited to those who are in the direct service of Government."[117] The Asiatic Society wrote to the government asking for a review of this position,[118] and the Viceroy, Lord Elgin, lent his support in the most fulsome terms:

> Mr. Blyth may truly be said to be have been, in a great measure, the creator of the natural history Museum, which has hitherto supplied the place of a Public Museum in the metropolis of India and which will probably, soon be made over to Government, as part of a National Museum. This collection is open to the public free of charge, and many thousands have derived benefit and instruction from it. In addition to the direct educational benefits of the Museum, the character and standing of the Asiatic Society undoubtedly exercise a most beneficial indirect effect in maintaining a high standard of Science and Literature among a numerous body of the Civil and Military Officers in the service of Government, and in one important department, that of Zoology and Natural History, Mr. Blyth's labours have done much to maintain and to extend that character.[119]

This application also failed, much to Lord Elgin's chagrin (Blyth to Darwin, 1862a), but Blyth, his health not recovering despite more leave, could not wait for another application to succeed, leaving Calcutta by steamer on 5 December 1862.[120] The long-delayed catalogue of the Mammals, for which he had been paid 250 rupees on account of the extra work,[121] was left to his friend Jerdon to complete. Jerdon was left temporarily in charge of the museum,[122] and Babu Poorno Chunder Bysack was appointed probationary Curator in January 1863.[123]

Even at this late stage, Blyth (1863f) reiterated in the preface to the Catalogue that many of the problems in the museum which plagued him from the first, were never resolved:

> The following Catalogue of the specimens of the class *Mammalia* contained up to date in the Museum of the Asiatic Society, Calcutta, has been long

> in preparation. Periods of sickness and of absence have intervened; the excessively crowded state of our cases has added to the difficulty; and I have not had the advantage of the aid of a well qualified Assistant (as when drawing up the Catalogue of Birds); besides that I have had a variety of other works needing prompt attention from time to time, and even that I have been quite unable to get through. My friend, Dr. Jerdon, will, indeed, kindly see to the correcting of the last few pages of the Catalogue for the press.

He left on full pay sick leave for a year (Grote, 1875), and though another application failed in 1863, the long sought pension of 150 pounds per annum was finally granted in 1864.[124]

These financial difficulties that Blyth faced led Allan Octavian Hume to write bitterly (Hume, 1869: 182):

> Talking of Mr. Blyth's great services in the cause of science, during his twenty years' *slavery* (for it was little else) in Calcutta, one cannot help feeling that there is a sort of retributive justice, even in this world. The pompous Jacks in office, who alternately neglected, and attempted to patronize Mr. Blyth, (whose invaluable services they pretended to remunerate by a pittance less than they would have presumed to offer to their French cooks) are now either dead, or dragging out their crotchety existence in some old-Indian-peopled watering-place; in either case, unknown and unhonoured; while the name of Blyth, the naturalist, is known, and respected by men of science throughout the civilised globe.

There was some truth in this last sentence – Blyth is recorded by Grote (1875) as being a corresponding member of the Royal Academy of Turin, of the Royal Norwegian and Batavian Societies of Science, of the Academy of Natural Science of Philadelphia and of the Natural History Society of the Moselle Department. But true scientific honours were never granted to him, and the rest of his days were lived out in comparative and largely pseudonymous obscurity.

Researches, 1841–1862

When Blyth stepped off the *Larkins* at Calcutta in September, 1841, he was entering, if not a zoological *terra incognita*, then a *terra mal cognita*. The country's fauna and flora had received, and were receiving, the attentions of some sterling workers in the field, several of whom were members of the Asiatic Society – Wallich, McClelland, Cantor and Buchanan-Hamilton. Much had been done by pioneering researchers, such as Hodgson in Kathmandu (and later in Darjeeling), exploring an area of rich and undescribed fauna. But Hodgson lacked training, and his work was often sloppy and difficult to comprehend, while other workers limited themselves to their chosen field of interest. For many in India, an interest in natural history was limited to an interest in the game animals of the subcontinent (the *raison d'être* of the Bombay Natural History Society was to study game animals, and only in the Twentieth Century, when the game was all but shot out, was there any serious interest in zoology and ecology). As India's first full-time professional zoologist, Blyth brought to India the taxonomic skills, attention to fine details and careful approach which Hodgson often failed to employ, and had a breadth of interest and reading unlimited by his special devotion to ornithology. He also had an appreciation, as shown by his museum displays, of the didactic value of his work, and the necessity to educate both the native and European populations before a true understanding of Indian zoology could be achieved. Most of his reports and papers drew disparate scraps of information together to form a coherent whole. This was done in a conscious effort to seek out and add to the zoological knowledge of the country, to encourage the amateur sportsman to look afresh on the animals he shot, to make the enthusiastic but untrained collector aware of the importance of systematic collection and preservation of species. It was a long process, and unappreciated by all but a few in his time in Calcutta, but Blyth's efforts bore fruit in the decades after his departure from India.

His papers can be arbitrarily divided into six main types, although there was much overlapping of purpose and content. There were the monographs on various groups, such as the first paper he submitted to the Society, on the species of wild sheep. These often took the forms of reviews, which pulled together the sources of the then current state of knowledge, offered full descriptions of the species under review, and included a thorough taxonomic revision, reducing duplicated names (or *synonyms*). They were often intended to expose the gaps in current knowledge, to encourage further study and collection. The second type of paper was his curatorial reports. The Society met once a month, and at these meetings, it was an explicitly stated duty of the curator to present a report on the new acquisitions to the museum, and to inform the meeting of the current state of the museum. Had Blyth been content to do his bare duty in this way, he might have avoided some of the confrontations with the Walker-led opposition and saved himself a great deal of effort – but deprived modern science of a wealth of valuable information concerning localities, collectors, and ecology, preserved in these often extremely lengthy reports. These reports list in great detail, the frequent and extensive donations to and collections for the Society. Blyth being something of an obsessive about distribution and localities of animals, this information is also recorded at length, while the reports frequently carry even more detail in their footnotes than in the copious annotations Blyth made to the lists of accessions. A donation featuring strongly a particular group usually prompted a mini-monograph on the subject. He appended long appendices of this nature to his reports, where such information was not imbedded in the body of the report, frequently impeding the readability of the paper.

The third type of papers were his long conspectuses of Indian animals, mainly birds. These were explicitly for the use of amateur collectors and natural historians, to enable identifications of animals seen in the field, and to establish their known localities (Blyth, 1845g):

> The object of publishing the present series of monographs of various groups of animals, is to elicit, as much as to impart, information that might be incorporated in a general work now in preparation; and it is, therefore, earnestly requested that observers, interested in the subject, will favour the author with any additional facts or correction that may occur to them, and that they will also endeavour to settle any questions that are still at issue, and in short, to render the future conspectus of Indian animals as complete as circumstances will permit of.

He abandoned these, as he explained to Hugh Strickland (Blyth to Strickland, 1850a), because they produced little result in return for the high cost of printing and distribution. Despite this, they were a significant repository of information, particularly ornithological, and several were reprinted in the *Annals and Magazine of Natural History*, and in the *Indian Sporting Review*.

The fourth type of contribution were in the notes on the information provided by field workers. Blyth took the attitude, rightly or wrongly, that publishing mal-identifications, duplicate names and wrong information, did such harm as to excuse any hurt to the author's pride in correcting them. Indeed, he edited, quoted and corrected the manuscripts and notes of Thomas Hutton (Blyth, 1845f) and other military men, with the full consent and approval of the authors, and Hugh Strickland (1844a) complemented Blyth on and encouraged his efforts in this respect. He would annotate, replace, and correct the writer's manuscript prior to publication, and the article would appear with his additions in square brackets, or in footnotes signed "E. B. ", or "Curator", or another clear identification. In doing this, he was reprising the role he played in editing Cuvier's *Régne Animal*, but while Georges Cuvier was dead and could hardly complain of such treatment, Brian Hodgson was exceedingly irritated by it. Hodgson was also more often the "beneficiary" of this sort of thing, and one might argue that he was entitled to have his material published, warts and all. But to allege, as Cocker and Inskipp (1988: 37) have done, that Blyth was acting fraudulently in doing so, is not supported either by the internal evidence, or by any other action of Blyth's. What is more likely is that Blyth had a low estimate of the ability of field workers, bolstered by some actual poor taxonomic work produced by them, and therefore failed to give them the benefit of the doubt – one detects here and there among his private letters an impatience with amateurs, while being at all times willing to assist them. S. R. Tickell also complained, although less vociferously, when he sent to Blyth a box of skins, including some new species:

> to each of these hitherto undescribed birds I appended the specific name which I as the discoverer and first describer of the birds, had of course a right to give. These names were entered in a list sent with the box, and I mentioned to Mr. Blyth that the description of them would shortly follow.
>
> Mr. Blyth however, at once reported upon the birds to the Society, and named them himself. He certainly wrote to me regarded the propriety of altering some of the trivial names, but not til the deed was done, and my assent or dissent equally unavailing...
>
> Without imputing to Mr. Blyth (from whom I have to acknowledge often receiving much assistance and valuable information) a desire to appropriate my discoveries as his own, it is evident that the somewhat hasty publication of his list deprives me of a right which etiquette in these matters has always

> recognized.... it would be hard indeed if the person who was both discoverer and describer should not have his name attached to his contributions![125]

Blyth had in fact only replaced three names of 19 new species described by Tickell. One suspects that Blyth, under pressure from lack of staff and in poor health at this time, was anxious not to have new species undescribed when the specimens on which they were based may become damaged or mislaid, or forgotten if he should again become seriously ill. More often than not, Blyth's collaboration with field workers, such as the gifted medical man and enthusiastic zoologist, Thomas Jerdon, led to a work that was much more than the sum of its parts.

The fifth type of paper was to assume greater importance in his late Indian and post-Indian career, namely the "popular" accounts of natural history. Blyth began to expand the audience for his writing, circumventing the rather pointless ban imposed by the Society on his writing for other journals, by the use of his usual pseudonym, "Zoophilus". He started writing a trickle of articles for the *Indian Sporting Review* in 1845. The trickle became a flood in 1856, presumably in response to his increased need for funds. He made few concession to the "sporting" instincts of his readers, although his subject matter – the game ungulates, birds and big cats – was of some interest to the hunter. Recycling much of the subject matter he used in his curatorial reports, these popular articles had the virtue of allowing his far-reaching and omnivorous researches to be read by more than the elite of the Asiatic Society. His subjects became more diverse with the introduction of a regular series of "Natural History Notes". What the contemporary audience thought of these is not known, but they contain much of great value to budding natural historians in India. This type of writing, which was from this time until his death a useful supplement to his meagre income, injected into the serious content of his writing (which he was not prepared to compromise no matter who paid for it) the humorous, sometimes racy style he often adopted in his private letters. For the editors prepared to stump up hard cash for his outpourings, he represented a solid respected authority who could be asked to write on literally any zoological topic – a characteristic which makes his overall literary legacy so valuable.

There is a sixth category of contribution which has not previously received much attention, since it has remained largely unpublished – Blyth's copious and detailed letters to other naturalists. He undertook this correspondence to ensure that he was not left out of the mainstream of European science, and to preserve his most recent work from being wasted should the heat, illness, the native population or accident bring his career to the same end as so many other unfortunate exiles in India. During the period from 1844 to 1848, his reports and articles were being delayed from various motives by the editors of the Asiatic Society, and this lent force to his reasoning that he should correspond at length with those best placed to appreciate his work. Much of what he wrote in his letters was repeated eventually in his papers, but his letters certainly warrant at least a modicum of the scholarly attention now being bestowed with such skill on the Charles Darwin correspondence. Such treatment, at least of the letters from his Indian period, would almost certainly yield useful information concerning collectors and localities.

Despite the copiousness of his output, and the undoubted value of the factual information it contained, Blyth's long absence from the European scientific scene changed the character of his writing. He clearly continued to be as well read as the Asiatic Society's library would allow, and was quick to pick up the significance of Wallace's 1855 paper, as has already been discussed. There was a slight hangover of issues he was interested in while in England, such as the "mal-appropriation of vernacular names...which is a great deal too much encouraged by writers on Zoology" (Blyth, 1841a). Much of his difficulty with Hodgson was based on Blyth's support for Hugh Strickland's

work on standardising nomenclature (as in, for example, Blyth, 1845e), work that was by no means universally accepted in its early years. While not overtly a supporter of the theory, Hodgson was at least not an opponent of quinarianism,[126] but it is not likely that this formed the basis for the hostility between the two men. As a rule, however, while Blyth may have keenly followed the latest research which was available to other zoologists in the society, the controversies in England, for instance over the publication of Chambers' *Vestiges of the Natural History of Creation* in 1844, completely passed the Asiatic Society by. He was keen to display to his British correspondents the modernity of his own ideas, being anxious not to be credited with the "utter rot...called 'Scripture Geology'" expressed by Thomas Hutton (Blyth to Strickland, 1846b, referring to Blyth, 1845f). European researchers working in India were on the whole far more conservative than Blyth. Only at the very end of his Indian career was he involved in discussion on recent mainstream scientific thought, when Blanford read a paper by Dr. Bronn on the laws of development of organised beings.[127] Blyth "as the friend of Mr Darwin of more than a quarter of a century standing"[128] was able to defend Darwin's theory:

> [Blyth] expatiated upon the vastness of geological periods, as amply sufficient for bringing about the present order of things in the organic kingdoms, by the operation of Mr. Darwin's principle of Natural Selection. The immensity of the lapses of past time he illustrated by comparing them with the profundities of space, and by the computed distances of sundry astronomical objects. He also argued a far higher antiquity than is generally supposed for the existence of the human being upon this planet, as testified by the discoveries of Dr. Lund in certain low caverns in Brazil, more than twenty years ago, and abundantly by recent discoveries in various regions: more especially he referred to certain tumuli in Scania, where flint arrow-heads or spear-heads were found together with the bones of extinct mammalia, and associated also with human remains, the skulls of which indicated them to belong to the hyperborean type of mankind, being similar to those of modern Esquimaux; an important fact, which tended, as he thought, to connect the epoch of those remains with the glacial era of Agassis, or at least with the time when the Rein Deer and the Musk Ox roamed over what is now Britain. But he maintained that however ancient may be the remains of this hyperborean race in modern Scania, perhaps one of the present American types of humanity in the New World, still, for various reasons adduced, we must look to the tropical region of the major continent for the aboriginal habitat of the human being; countries of which the palæontology is almost utterly unknown. Mr. Blyth then adverted to the incompleteness of the geological record as insisted upon by Mr. Darwin.... [129]

This episode exemplified the new enquiring spirit demonstrated by such new members of the society as Henry Blanford and his brother, William, and how Blyth was stimulated by the new developments in zoology elsewhere in the world, as well as by his extensive knowledge of recent writings. On the whole, however, Blyth could not help but be infected by the parochialism of Calcutta, and began early on to develop the theme upon which he was to write frequently until the end of his life – that of the ignorance of European zoologists of the true identity and locality of Asiatic specimens. J. E. Gray of the British Museum earned several reprimands from Blyth on this head, for example (Blyth, 1847f):

> I am glad to observe that Mr. Gray, now that he has specimens to form a legitimate opinion upon, recognising (as a matter of course) the distinctiveness of that Gaour and Gayal, *Bos gaurus* and *B. frontalis*, which, in his Catalogue of the specimen of Mammalia in the British Museum he united as one and the same animal: just as he still "lumps together" the various Indian Monkeys of the type of *Presbytis entellus*, in opposition to the opinion of myself and scientific co-labourers in this country, who assuredly possess much better data to judge from.

Blyth grew increasingly curmudgeonly on this subject during the rest of his life, but he was making a serious point. His interest in precise localities, which distinguished him so strongly from many of his contemporaries, was driven initially by Lyell's locality-based theory of speciation, but was essentially a product of his burning search for zoological truth. He could bear sloppiness in assigning specimens of Indian provenance no better than poor observation of physical attributes. He remained in a minority, however, and inattention to locality information, even when available, continue to mar the work of twentieth century taxonomists such as R. I. Pocock (D. Brandon-Jones, 2004). Knowledge of the distribution of Indian animals revealed (Blyth, 1871) that "India, therefore, instead of being the nucleus of a distinct zoological region, is a land of extraordinarily complex zoological affinities." W. T. Blanford, who came to India when Blyth was at the height of his powers, and who was undoubtedly influenced by both Blyth's method and views on this subject, attempted (Blanford, 1901) to explain these complex affinities in a well-regarded paper on the distribution of Indian vertebrates. Although recognising the fact of these affinities was a major step forward for understanding Asian zoogeography, there is still no universally accepted explanation of them.

Final Years – England, 1863 – 1873

Blyth reached London on 9th March, 1863, (Blyth to Darwin, 1863a) and stayed at first at Somerset Hotel, in the Strand (next door to King's College). The first we hear of Blyth in England is in a letter to Charles Darwin, occasioned by Blyth having travelled to Bromley to pay "a flying visit" to Down House, but having failed to realise the distance to Downe from Bromley, and being engaged to dine that evening in London, he could not manage to get to Darwin that day (ibid.) This day's effort was an indication of how Britain has changed in the twenty-one years Blyth had been in India. When he had left, there would have been no thought of dashing to and from Bromley from London in one day – the London to Bromley rail line was not opened until 1857 (Jackson, 1978: 246). London was growing fast, with an exploding population, spreading suburbs and inner city development (Bédarida, 1991: 21–23). The scientific world, too, was rapidly changing, with the controversy sparked by Darwin's *Origin of Species* continuing unabated. Although Blyth had been aware in India of the progress at home, he returned to a land of new inventions, new priorities, and without many of his old friends and relatives who would have died during the exile. The impact on him can only be surmised, because to judge from his letters, little had changed for him, and in him. He retained his old enthusiasms.

The ill-health which forced Blyth's return to England did not prevent his attempting to supplement his small pension, nor hindered his zoological studies. He visited his relatives in Sussex (Blyth to Darwin, 1863b) (accompanied on one day by Captain Hans Busk[130]) and Wiltshire (Blyth, 1863g) early in 1863, but still found time, while resting, to attend to Darwin's interests, asking Bartlett at the Zoological Society to perform experiments on Darwin's behalf.

In September of that year, he told Darwin that he was now settled in England on a pension, and his ambition was to live close to the Royal Botanic Gardens in Kew, away from central London, and eventually to move to a quiet place on the seaside (Blyth to Darwin, 1863c). As it happened, neither of these ambitions were to be realised. There is no record, other than visits to friends and family in Wiltshire and Sussex, that Blyth ever lived anywhere but London upon his return from India, nor in any other part of London (except very briefly in South Kensington) than in Regent's Park and Camden Town, on entirely the opposite side of London from Kew.

In November, 1863, he visited the Liverpool Free Museum to examine the Derby collection (Blyth to Eyton, 1863d). He wrote to Thomas Campbell Eyton, the Shropshire ornithologist, telling Eyton that while in Liverpool, he had purchased and shipped live animals back to India, a potentially lucrative venture,[131] and that he was also pursuing the photography that he had taken up in India, and hoped to have his photographs published in the Proceedings of the Zoological Society of London.[132] This visit, he told Alfred Newton (Blyth to Newton, 1863e), was "in further prosecution of a long-cherished idea of examining as many of the provincial museums as I can manage to do." His friendship with Newton, which probably began upon Blyth's return to England, was very important in Blyth's post-India life. Newton was the first professor of Zoology and comparative anatomy at Cambridge, and became the editor of *The Ibis*, the journal of the British Ornithologists' Union in November 1864. Eighty-nine letters survive from Blyth to Newton, written in the eleven years that Blyth lived in England until his death. They are particularly revealing, since it is clear from them that Newton was not only an editor of many of Blyth's contributions to ornithology, but a close friend. There is an informality in the Newton correspondence missing from Blyth's letters to Darwin, reflecting a closer connection with Newton.

In April 1864, he was in the middle of a lecture tour about India which also took him to Belfast and Edinburgh (Blyth to Eyton, 1864a, b, c). He had been in Dublin since at least January of that

year, as he delivered papers there to two meetings of the Royal Irish Academy.[133] In Dublin where the only surviving portrait of Blyth, a photograph, was made.[134] It was also where he suffered the serious blow of having his pocket picked (Blyth to Eyton, 1864a), losing a substantial sum (93 pounds), forcing him to ask for an emergency loan from Eyton. Although a setback, he told Eyton that he could easily earn the money back by lecturing (Blyth to Eyton, 1864b.)

Despite this misfortune, his trip to Dublin was gratifying, although perhaps not as profitable as hoped (Blyth to Eyton, 1864a) because the audiences, being used to free ones, would not pay for lectures. Nonetheless he was being wined and dined by peers and being overwhelmed with invitations (Blyth to Eyton, 1864b) (though he claimed what he would miss the most was the Botanic Gardens at Glasnevin where he was a daily visitor). This must have been heady stuff to the clothier's son who had just endured 21 years of social and economic inferiority in India. While in Ireland he visited the ornithologist, Lord Hill (Blyth to Eyton, 1864a) at Hawketon, and military friends at Curragh (Blyth to Eyton, 1864c).

The exuberant mood demonstrated by Blyth in these letters – scarcely dampened by the loss of a sum of cash equally nearly a third of his annual pension – may have had its roots in more than mere excitement at the social whirl. An assurance to Eyton of his sobriety, coupled with his desire to conceal the episode from his family (Blyth to Eyton, 1864a), might be construed as less than innocent, as he was already reputed to be an alcoholic in some quarters. To Darwin's enquiry as to whether Blyth was settled in Dublin (Darwin to Hooker, 1864), Hooker curtly replied (Hooker to Darwin, 1864) "I know nothing of Blyth nor where he intends to take up his quarters. Unfortunately he drinks." A reputation for drunkenness, deserved or otherwise, might well have led to a social exile as thorough as if he had settled in Ireland.[135]

How long he continued his lecturing is not known, but the next contact recorded is in December, 1864 (Blyth to Newton, 1864d), when he had imposed a country seclusion on himself at Belmont St Briavels, West Gloucestershire. Whether he was visiting friends or relations, or simply there for his health, is not known, but he felt the lack of access to a decent library (Blyth to Newton, 1864f). He sent a letter off to Grote in Calcutta (Blyth to Grote, 1864e), mainly commenting on matters concerning the Zoological Society, but also on Thomas Jerdon's *Birds of Asia*. This was a book of which Hume (in Hunter, 1896: 306) said "But how much of this is really Blyth's, with whom [Jerdon] worked morning, noon, and night whilst writing the work and passing it through the press, I doubt either he or Blyth had any idea." It was to loom unhealthily large in Blyth's mind over the next year or so.

He also maintained contact with Newton, mainly concerning editorial matters for *The Ibis*. He complained to Newton (Blyth to Newton, 1864d) "I have no opportunities of referring to authorities while remaining in this secluded place, which is within a short walk of the Tintern Abbey, on the opposite or Monmouth...side of the river Wye. A famous neighbourhood for splendid prospects, but rather a dull abode for a naturalist, as there is about as little to observe as there can be". In his next letter, he asked Newton to fill in the references in the paper now sent to Newton, as he had no books of reference there (Blyth to Newton, 1864f). He also mentioned he intended to write a commentary on Jerdon's book, a statement he repeated in his letter of January 19, 1865 (Blyth to Newton, 1865b), and 13 April 1865 (Blyth to Newton, 1865c).

Despite telling Newton on January 10, that "This is so dull a locale for a naturalist that I think of soon returning to London" (Blyth to Newton, 1865a), he lingered in the countryside for a few months more. In his letter of 13 April 1865 (Blyth to Newton, 1865c), written from Gloucester, he admitted he was "a little loth to leave the country just at this season, after ending so long and vicious a winter. After the Easter Holiday, I shall stay a week or two at Worcester, and perhaps Malvern, and then to

London for a sufficiently long stay to complete the papers I here mentioned". The Jerdon commentary was only one of several papers occupying his attention. Around 14th April, he began what was intended to be a two or three week stay at Malvern Link, at the foot of the Malvern hills (Blyth to Newton, 1865c), but on May 27, still at Malvern, he wrote to Newton (Blyth to Newton, 1865d) telling him that "I am only staying here until my apartments in S. [outh] Kensington are vacated; having a sister living with me, which prevents my getting about as I should otherwise do, anxious as I am to consult the London museums and libraries, which I have not visited since October last". His sister, Sarah Clara, known as Clara, told Newton in December, 1865, that she had been with Edward "more than two years now" (S. Blyth to Newton, 1865), so she had not just joined her brother at Malvern. It is most likely that he was beginning to feel financially hard-pressed. One wonders also whether his extended country visit forestalled, or was intended to forestall, his imminent mental collapse.

All the while he was in Malvern and after, he continued to work on the Jerdon commentary. At last, on September 16, 1865, he announced to Newton (Blyth to Newton, 1865e):

> My commentary on Jerdon's 'Birds of India' is ready for publication, but has grown so much that I have divided it into four parts, which should spread through *The Ibis* for 1866. The first three treat of Jerdon's three vols., respectively, and the fourth of the birds of Ceylon not admitted by Jerdon, and a final tabular exposition of the *Ornis* of the Indian special province (inclusive of Ceylon), as distinguished from the Indo-Chinese (or Ultra-India) and the Malayan (or Indonesian) provinces of the grand Indian region. In like meaning I [divide] the Australia region into the Australian, Papuan, and Polynesian provinces; the last including N. Zealand. I give 24 districts in the tabulated view, and mark the species by 1, 2, 3 or 4 asterisks according to their degree of commonness in each, and with a cross when only an accidental visitor or straggler. This notion of one or more asterisks I think a capital one, as telling much with a glance...there will be [an] abundance of time to have Jerdon's cooperation as affixing the number of asterisks in each case. I believe that I have succeeded in settling *every question* as regards Indian Ornithology, and have come to many novel results, of which I will here mention a few.

That this success was achieved at a great personal cost is only hinted at (ibid.):

> I have now been employed for six weeks steadily working out these and other matters; and I contemplate next taking up the *Ultra-Indian* or *Indo-Chinese* province, for which I have adequate materials; but it puts me to the expense of living in London, where I cannot exactly rough it, because I have a sister living with me; and if you could help me with some recommendation I should be very glad. I am not a mercenary man (far too little so for my own interest); but I require to earn some money, to enable me to go on with these researches.... If you could manage it, I should like to have a few spare printed copies of the commentary on Jerdon's work for distributing [to] any practical observers in India who are not likely to see *The Ibis*.

Shortly after, on 4th and 5th October (after his return to London the previous month), there are three letters in two days (Blyth to Newton, 1865f, p, q), each more hurried than the last. Despite being about to go to his relations again at High Beeches in Sussex (Blyth to Newton, 1865f), he "kept working to the last" looking over the collections of Alfred Wallace and John Gould, and the drawings of Brian Hodgson. "I settled a good many questions together with Wallace, - and I should further tell you that I think I have completely cleared up the mystery and confusion of the species of Scops-owl inhabiting *the Indian region*". He sent Newton many items of ornithological information in these letters, but his desperate haste in doing so seems inexplicable by the content alone. The commentary on Jerdon's book and the other papers he was writing were done out of interest in the subject, rather than to earn some necessary income. It seems that he simply could not bear for a major work with which he had been so long involved to be issued with any correctable errors, but he lost any sense of proportion as to the importance of the subject. The strain began to show. On November 3, 1865, he wrote to Newton (Blyth to Newton, 1865g):

> Absence from home prevented my seeing your letter of the 20th until last night. Today I must rest myself. Tomorrow I will do what I can for you. In the meanwhile would it be inconvenient to you to let me have a cheque for £2, to be repaid on the 2nd December next?

Such a bald request was extremely uncharacteristic of Blyth. Its arrival seems to have been delayed until the 25th,[136] so Newton was probably as yet unaware that anything was amiss. On 7th November, a much more typical letter arrived. He told Newton (Blyth to Newton, 1865h) that he was happy to finish off an article for *The Ibis*, but:

> The fact is that my brain has been overwrought of late, and some days of repose are absolutely requisite. My medical adviser – friend rather than attendant – insists on my doing no literary work this week...He is a Cambridge man, and you very probably know him – Dr John Hue, – of independent means and does not practice...On the whole a very superior man, and a kind good friend to me and mine...

His condition was worse than he indicated, and more obvious than he probably hoped. John Henry Gurney in Norfolk, the ornithologist and raptor expert to whom Newton had sent a paper of Blyth's for refereeing, was aware of his "excited state" (Gurney to Newton, 1865) as was Alfred Wallace, who was very concerned. Wallace and Blyth were now near neighbours, Wallace at No. 9 and Blyth at No. 27 St. Mark's Crescent, Regent's Park, (Blyth had recently moved there – Blyth to Newton, 1865i) so it was unsurprising that Wallace should have noticed Blyth's strange demeanour. He wrote to Newton (Wallace to Newton, 1865):

> Blyth is certainly very queer. He is half mad about some grand new scheme of explaining *everything* by the *Procession of the Equinoxes*, and of the nice job working that into his paper for the "Ibis". You will *never have* it. I should write to him again, telling him you *cannot* do without his paper, begging him to return it immediately as it was with a *note* saying that since writing it he has arrived at some new ideas on the subject which will be developed in another work.

> It would certainly do him good now to have some mechanical work to do to keep him from dwelling too much on his new theory.
>
> You might remind him of his former uncompleted contribution to the "Ibis". You will probably see him at the Zool[ogical Society] n[ext] Tuesday.

Kind man that Newton was, he immediately did what Wallace suggested, and wrote to Blyth, to which he replied (ibid.):

> I have received your letter and approve of your suggestion, at the same time that I think myself sufficiently recovered now, to undertake to send you the article with revised introduction by the end of the current week.

His confidence did not seem to be justified, for two weeks later, Blyth wrote to Newton (Blyth to Newton, 1865j) "I find that I am scarcely equal to writing [illeg.] today, so shall not begin till Monday next". Newton's reply to his request for money seems to have arrived at this time, attempting to have Blyth accept the cheque for £2 as a gift. Blyth refused (Blyth to Newton, 1865k):

> You mistake me utterly. Is it possible that you think I could accept what you so very kindly intended me to receive from you? No, I had intended to have returned that cheque [instantly], but a most unexpected circumstance necessitated me to change it.

This letter, and the forgoing, are in reasonable language, and the handwriting – as much as it ever was with Blyth – legible and consistent. Yet, just four days after this last letter, on 3 December, Blyth sends Newton a letter in which the handwriting reveals his distress. The contents are incoherent, with the worries concerning the unrepaid £2 and unfinished writings intertwined. Newton would have not been surprised by this, however, because by the time he received this from Blyth, his sister Clara had already written. The full extent of Blyth's breakdown, so long in the making, and unsuspected from his published works, is revealed in her letter (S. Blyth to Newton, 1865):

> My brother has been, and is, in a dreadfully excited state. You can hardly be aware to what extent, as you send papers to correct, and wish him to write an introduction. He ought at present to do nothing requiring mental exertion.
>
> .... [The doctor] says perfect rest is *necessary*, and this I, his sister, and only near relative living alone with him in this sad state, have no power to enforce. He was better for a few days when you were in town and saw him – but is much worse. He left home at 4 a. m. yesterday and did not return till about 8. p.m. Then a sort of humble friend was so good as to come here with him.... he said my brother had been there with himself and wife since 1, or 2 o'clock – and had a mutton chop, and two glasses only of ale, but had walked about incessantly, throwing himself on the sofa and jumping up – He is often so ill, particularly during the night, fainting and his face and breath cold, his pulse almost gone. I give him then, hot soup and sometimes, claret and water.

These fits often come on when he has been alone with me and has taken nothing but soda water and ginger essence in it. He whose appetite was small now eats ravenously, and seems to me, worse after food than drink. I mention these particularly, as it has come to my knowledge people have thought him *intemperate*, a most cruel addition to my anxiety – such an untrue inference from appearances – he wakes up from a short sound sleep as excited as another man would...who has taken half a bottle of wine, then comes great exhaustion. Having a horror of this constant fainting he takes soup, or whatever I can in a moment provide. While it is being warmed at times he cannot wait, but takes a glass of claret and water from me, and as this state of things recurs all day, probably takes stimulants, when away as he often is, whenever he feels exhausted. I have been up with him nearly every night for 5 weeks and he is up and off by 4 in the morning sometimes returning to breakfast, sometimes away till night. I have some control through his strong affection, but am younger than he, and so cannot prevent his going out in this restless state.

One like yourself would *know* a man of intemperate habits could never have had a head clear enough to possess the fund of knowledge my poor afflicted brother possesses. He never has headaches, nor is confused on scientific subjects. He was well and hearty before writing that horrible book. When he writes at a stretch for 20 hours, eating little, sleeping 2 or 3 or sometimes 4 hours only, he would not let me speak, fearing to distract his attention, nor see a friend for the same reason. He went to visit some relations in Sussex; he there took as little relaxation as was consistent with common politeness to the family. He returned and another 3 weeks of this work succeeded. And after all was done, and he wished for rest, this restless, nervous excitement was produced. As he likes me to open his letters in his absence I found he had wished to borrow money. He told me he should return your kind gift at once. I trust he has done so. I feel obliged by your kindness but hurt that it should be required, for [the doctor] said on no account was he to be vexed with pecuniary maters. I see however, feeling straitened, he's helped to bring things to this pass.

I take this liberty in writing that you may know my brother's state and how wrong it is to wish him to write anything just now. Also that you may not think that he is a man of unsober habits.... He was always home at 8, to bed at 1/2 past 9. Wine we never had in our *menage*. Beer he liked, and took moderately. There *could* not be a more abstemious man. Now he is, I feel, at times scarcely accountable. Yet sometimes after fainting half the night he is so well that no-one would see the difference.... And yesterday and today he is much worse...On Sunday he said I *must* be well, I *must* collect myself, but the effort made him worse, and it is more than 5 weeks and he is more restless in body than I have ever seen him: and Dr Hue is away and I am in anguish until his return, and then dread the night. He is so exhausted, yet talks of all sorts of good and happy things...No rest will he take. So I not only tend on him alone, but try to hide his state from the [other?] people feeling they may dislike his wild restlessness of body not mind. My friends

> are not exactly *his* friends from long absence, and I known none that he has, from whom to be advised to act rightly to him...Regular to the minute as he was 6 weeks only ago, now I never know when to appoint a friend or doctor to meet him or where.
>
> None of our family on the mother's or Father's side ever had any brein[sic] affection [sic], so this is more remarkable, for we know our ancestors for generations. His memory never fails either. He had a sun stroke in India once, could that account?

The nature of this devastating illness is difficult to determine. Dr. Peter Kennedy, Professor of Neurology at Glasgow University, has suggested a variety of possible causes.[137] It may have been a psychiatric problem possibly brought on by periods of excessive overwork, or he may have been drinking far more alcohol than he actually admitted (he certainly had some reputation as a drunkard, but this is not necessarily proof of true alcoholism). There was possibly a specific underlying illness. His symptoms are suggestive of hypoglycaemia (low blood sugar) which may come on spontaneously or be "reactive" following food ingestion – it is in turn relieved by ingestion of food which of course contains sugar. Hypoglycaemia may also be induced by alcohol ingestion. Against the case for hypoglycaemia is the long duration of the symptoms, sometimes lasting several weeks – this is more in keeping with a psychiatric cause. An overactive thyroid gland may also have caused such symptoms. Professor Kennedy thinks there may have been a combination of factors, and those he suggested are not entirely mutually exclusive.

A psychological cause is supported by the similarity of Blyth's case to that of John W. Salter, the palaeontologist whose decline into madness and suicide was most probably brought about by the stress and uncertainty of a scientific career (Secord, 1985). Like Salter, Blyth had had a turbulent period of employment involving conflict with his fellow workers (and with the added disadvantage of chronically poor pay), and on the cessation of this employment, had to scrabble about for sufficient funds to support his middle class lifestyle. Like Salter also, Blyth had turned to lecturing, but also tried unsuccessfully to find a sinecure somewhere, with his reputation for alcoholism possibly prejudicing his chances, just as Salter's chances were ruined by his past (Secord, 1985). The idea that stress over finances brought Blyth to crisis point at this time is strengthened by the fact that a similar collapse in 1869 was coincident with his breach with *Land & Water* for whom he had been working. It is also possible that Blyth began to suffer distressing symptoms in 1865–66, before his sister wrote to Newton, and worsened his condition by dosing himself with alcohol, stimulants, or both.

Blyth tried to blame his illness on external causes. He decided that the writing-rooms he had taken in the Langham Hotel were apparently somewhat less than respectable (Blyth to Newton, 1865m):

> Of all the gigantic abominations that ever existed, the immense Langham Hotel is about the very worst. Why, it is a huge brothel, of which the lower rooms alone are tenanted by some respectable (and other sham-respectable) people, whose presence serves as a *blind* for the scenes enacted above them: I mean to expose the whole thing in the Times newspaper, as soon as sufficient time has elapsed to disarm suspicion as to the writer of the article.

Visitors to the Langham Hotel, now owned by the Hilton Group, would find it difficult to square Blyth's accusations with this splendid and sumptuous building. Opened just a few months before in

June 1865 by the Prince of Wales, it was the biggest building in London, and claimed to be the first building in the world to have hydraulic lifts. It also boasted air-conditioning, and on its opening day, the *Standard* newspaper remarked upon (Steel, 1990: 18) "the taste of its internal decoration, the admirable subservience of every part of the magnificent whole." Its main appeal was the variety of room prices, with rooms on the upper floor costing as little as 18 pence a night (a hardly exorbitant £6 in today's money.) This explains how Blyth could afford to takes rooms there, and perhaps the combination of reasonable rates and the gorgeous decor may have enticed prostitutes and their clients there. It also had a secret cockpit in the basement for the amusement of the directors and their friends, and as this activity was illegal, it may have helped to attract a certain racy crowd to the hotel (Steel, 1990). However, it is also possible that Blyth was suffering from some level of delusion. In a second letter to Newton that day (11 December 1865), he told him that he had now taken a private writing room at 23 Osnaburgh Street, Regent's Park. He was still enraged about his previous accommodation (Blyth to Newton, 1865n):

> What is now important is, that I have repaid the treatment of me by the Langham brothel people, by bringing in my friend Mr. Prichard of Lincoln's Inn, who is Secretary to the Society for the Suppression of Vice. He will immediately institute the necessary enquiries by means of his agents...the career of that shameful den of iniquity is over! You may understand now how the splendour of that grand-looking place was kept up, not by hotel-profits (!), but by wholesale prostitution, gaming &c &c. Without personally witnessing it, you would scarcely credit what I have seen *above the third story* of the big building.

He was as good as his word about exposing the racket, telling Newton on 13 December, 1865 (Blyth to Newton, 1865o):

> I wrote yesterday a leader of about two columns for *The Times*, respecting the *Lingham* [sic] *Brothel* at the end of *Deportment Place*, which I think you may look out for – intentionally, perhaps, kept back for a few days, while enquiries are going on.

It does not appear that any letter about this subject was actually published by *The Times* – the newspaper possibly wished to avoid the English libel laws by not publishing such a damning allegation. Unfortunately, this incident allowed Blyth to delude himself, although not Newton, about the nature of his illness (ibid.):

> Now I am, at last, beginning to get on with my work, since at length I am able to write *undisturbed*. For the last three months, I have found it absolutely impossible, and so I was often out of temper, and *excited*, as people said, and quite enough to make me so; only they were so exceedingly kind as to mistake utterly the cause of the excitement.

The distress Blyth suffered at the Langham Hotel could only have exacerbated a pre-existing condition, but with this excuse before him, he tried to continue in his usual working habits. Astonishingly, even his confinement for a time in a private asylum did not impede the quality of his output.[138]

The illness lasted at least intermittently until March the following year, when Clara was able to report to Newton that Blyth was in a convalescent state (S. Blyth to Newton, 1866a), and writing much again, this time with the sanction of his doctor (S. Blyth to Newton, 1866b). The intervening months must have been extremely trying for her.

No further letter to Newton is preserved until the end of April, 1866, at which time Blyth's sister has indicated to Newton that he had recovered from his illness (Blyth to Newton, 1866a). He had again moved writing rooms, to No. 7 Princess Terrace, Regent's Park (although still living in St Mark's Crescent), and was writing copiously. At last he was able to repay Newton the borrowed £2 (Blyth to Newton, 1866a) which he "should have done so immediately after Dec[embe]r 20th had I been a free agent. Had I not been removed from that place [possibly the private asylum] in Clapham Rise, then I should have remained without the slightest chance of escape for the [remainder] of my life !!!"

Despite the shambles into which his life had fallen during his illness, for now, his only concern was toothache (Blyth to Newton, 1866b), for which the former druggist dosed himself by inhaling chloroform (Blyth to Newton, 1866c). He began writing for *Land & Water* in August 1866, and was kept busy trying to fill the column inches (Blyth to Newton, 1866d). *Land & Water*, a somewhat less intellectual version of *The Field,* believed that it was not simply a country gentleman's newspaper, it was *the* gentleman's newspaper.[139] Its main interest was in promoting the cause of the Society for the Acclimatization of Animals, of which Frank Buckland, *Land & Water*'s natural history editor, was a founder. This society was devoted to the domestication and breeding of wild exotic animals in Britain (Burgess, 1967: 90–93) and to the less fantastic scheme of promoting artificial hatcheries for salmon and other fish (Burgess, 1967: 98–99). Blyth was kept busy with contributions in almost every weekly issue, although interestingly Burgess's (Burgess, 1967: chapter 11) account of the early years of *Land & Water* does not mention Blyth, despite the volume of his writing. Blyth's "modesty" in writing pseudonymously and anonymously has meant that, unlike Buckland, he has not received recognition as "a popular educator and a firm believer in the desirability of teaching natural history to everyone" (Burgess, 1967: 139).

His letters to Newton for the next couple of years remained unremarkable for any signs of distress, reporting on his latest findings, acquisitions and sights at the Zoological Gardens, and querying identifications of birds by other ornithologists. He told Newton in October 1867 (Blyth to Newton, 1867a) about a letter he had recently received from Allan Hume "who has taken to be a particularly ardent ornithologist of late years". Hume, a government official in the NorthWest Provinces of India, informed Blyth of a position, which Blyth offered to the younger son of Abraham Bartlett. In October, Blyth met Professor Milne-Edwards, an eminent French scientist, despite his name (Blyth to Newton, 1867b). Blyth was able to offer comments and corrections for Milne-Edwards' son, Alphonse, who was writing a paper on the Sciuridae. In January 1868, he had again heard from Hume, and commented to Newton (Blyth to Newton, 1868a) "You will probably be amused at the energy and thoroughness of Allan Hume, but like all his family he 'goes the entire animal' in what ever he undertakes". Blyth also reported that

> I see by the morning's paper that Darwin's second son [George] has achieved the honour of second wrangler.[140] His father wrote me word lately that his long-expected work is ready but that some one who is employed in making the Index has been an unconscionable long while about it.

He was able to tell Newton on 30th January (Blyth to Newton, 1868b) that "I have just received from Darwin a copy of his new work [*Descent of Man*] in two vols., but have only dipped into it as yet".

He had been in constant contact with Darwin during 1867 and 1868 while Darwin was preparing *The Descent of Man and Selection in Relation to Sex*. There are known to have been preserved twenty letters and fragments of letter for this period, and they reveal much more clearly than do the letters to Newton, the still huge breadth of Blyth's knowledge and interests. Darwin shamelessly tapped this ever-willing font of knowledge and the information poured out of Blyth, both solicited and unsolicited. Sheets-Pyenson (1981a: 247) commented that "Blyth's articles from the 1850 and 1860s, which are preserved in Darwin's reprint collection, were not as heavily annotated and marked as those in the *Magazine of Natural History*". She suggests that perhaps the reason for this is possibly that Blyth's best work was produced before he went to Calcutta, a statement not supported by the quality of his Calcutta and post-Calcutta work. It is much more likely that the explanation is the voluminous and frequent correspondence that Blyth carried out with Darwin, at least from 1855 until 1869. When Blyth could personally expound his views to Darwin, Darwin did not need to annotate the published papers. Blyth's letters are heavily annotated, and most are preserved particularly for their scientific content. There are letters on syndactylism, domestic animals, the similarities of anthropoid apes to the native humans in the region they inhabited and, very extensively, on the sexual and seasonal differences in animals and birds. Blyth was also a visitor to Downe, at least twice (Darwin to Trimen, 1868a; Darwin to Hooker, 1868c; Desmond and Moore, 1991: 563) and more likely several more times, a mark of favour. On at least one occasion, Darwin also took the unusual step of arranging to come to London to meet Blyth at the Zoological Gardens (Darwin to Blyth, 1867a), though he cried off because of ill-health (Darwin to Blyth, 1867b).[141] Blyth in fact acted as one of Darwin's London agents, collecting information and performing or causing to be performed, experiments that Darwin was unwilling or unable to leave Down House to arrange. There is no evidence of a closer relationship – while Darwin clearly felt Blyth was worth cultivating, Blyth never entered the charmed circle of Darwin's closest friends, although one or two of Blyth's letters hint that he at least would liked a more intimate friendship.

Blyth was still interested in events in Calcutta, the more so as one by one his former colleagues there surrendered their posts and returned home to England. In August, 1868, he wrote to Newton (Blyth to Newton, 1868f):

> I was too unwell in the early part of last week to attend the meeting at Norwich.... I don't know whether my friend Grote was at Norwich, but hear that he is expected in London today; but I shall be away all next week.... I have also just learned that Stoliczka is appointed to my former berth, Anderson being away on the trans-Burma expedition to find a route to China. Anderson is scarcely a fit man for my late office, as he confines his attention chiefly to microscopical researches; but the other is the right man in the right place, and will do something for Indian ornithology.

Despite Blyth's lack of confidence in his successor, Anderson was generally considered to have done a decent job. His assessment may be explained by jealousy at Anderson's improved conditions of employment, and the opportunities to make the expeditions denied to Blyth. His opinion may have influenced his close friend, Allan Hume, who was also harsh about Anderson's curation (Hume, 1869: 181–182):

> From the day *he* [Blyth] left Calcutta, the Museum has been disgracefully neglected; numbers of specimens, as far as I could judge, in the confused state in which the whole collection was when I visited it in 1868, have had their labels changed, or have disappeared altogether...Let us hope, that under the new regime, this noble collection may be restored to something like its former condition.

Curiously, Blyth also remarked in a letter of February 27, 1869 (Blyth to Newton, 1869a) that "I have promised to pay L[or]d Walden a visit, to look at his collection generally, and more especially to determine (as far as I can) his numerous species of the *Phylloscopus* series." Viscount Walden, the Marquis of Tweedale, was the Lord Arthur Hay who had, with others, written the damning report in 1848 which had cost Blyth his sought-after salary increase from the Asiatic Society. Blyth's tolerance of Walden demonstrated that he was not one to hold grudges, but he undoubtedly also enjoyed mixing with the aristocracy, especially those like Lord Walden who had fine private collections of bird skins.

He rarely missed an opportunity to mention a visit to, or from a titled person, as in his letter to Darwin of August 3, 1868, (Blyth to Darwin, 1868c) when he speaks of spending a day at Kew Gardens with the botanist, Lord Thornton. His eagerness to draw the attention of Darwin and other eminent zoologists to his association with aristocracy was no doubt driven by the knowledge that he was not the social or scientific celebrity he longed to be. Just as a reputation for instability had followed him from India, enemies made in the past now capitalised on his weakness. In February, 1868, John Edward Gray, whose younger brother had been attacked for his rudeness by Blyth in 1838, wrote to Darwin, casting doubt on Blyth's competency, following an illness, to distinguish differences between skulls, both of cats and of rhinoceroses (Gray to Darwin, 1868). Gray based his statement on Blyth's apparent mis-identification of specimens of *Rhinoceros indicus* [now *Rhinoceros unicornis*] and *Rhinoceros sondaicus,* and of *Felis chaus,* while Blyth was visiting the Museum for quite another purpose.[142] There seemed little need, other than ill will, for Gray to alert Darwin to Blyth's slip, if slip it was. Darwin's faith in Blyth's ability remained unshaken by Blyth's mental problems, praising Blyth's systematic skills to J. Jenner Weir in May, 1868 (Darwin to Weir, 1868b). Nonetheless, such insinuations as Gray's could and probably did blight his chances of getting a secure post in his post-India days, when personal patronage and nepotism were such powerful ways to the top.

Blyth probably remained unaware of Gray's unkindness. In November, 1868 he visited Holland, and wrote to Newton (Blyth to Newton, 1868e):

> You have probably heard that I have been making a tour lately in the Netherlands, where I stayed a month, and saw pretty well everything that is to be seen in *our* way in Holland,...remaining some days at Antwerp. I was a week at Leyden, where Dr. Schlegel allowed me the keys of all his cases, to examine his specimens as I pleased, and make pencil-notes underneath their stands. And I worked there to some purpose putting the right [male] and [female] together in several instances, correcting a greater number of obviously inaccurate localities, discriminating good species that had been lumped together as the same, &c. , &c.

Of this visit, he told Charles Darwin that he had found the Leiden museum deficient in common Indian creatures (Blyth to Darwin, 1868d) and that not only was he able to correct Dr. Schlegel on various issues, he had been authorised to purchase specimens for the Leiden collection.

In February 1869, he advised Newton that he was going "to Tottenham in Essex to see a lot of fossil bones just exhumed" (Blyth to Newton, 1869a), and subsequently told Darwin that he had obtained some human skulls for the Royal College of Surgeons' museum (Blyth to Darwin, 1869b). In March, he changed residence again, to 21 Chalcot Crescent, Regent's Park, to have more space (Blyth to Newton, 1869c). However, his letters to both Newton and Darwin hide the fact that he was once again very ill. His sister was horrified at his state when she returned from a five-month visit with her mother's relatives in Wiltshire. She told Newton on June 18, 1869 (S. Blyth to Newton, 1869) that on returning three weeks ago she had

> found him in an awful way from excessive drinking, I feel, tho' he takes it as a base insult for anyone to say. He never passed much time with me, and was not the least companionable being entirely taken up with these everlasting scientific researches and always wishing me away altho' loving me so deeply....
>
> He wrote regularly and kindly and I had no idea anything was wrong. God knows the sufferings I have endured the few weeks I have been in town. I at once took rooms in the house where he has some and try to watch over him.... I found wrong sort of people living with him, a man, a boy and a labourer, who pretended to attend to his birds.
>
> If I expostulate with him on taking stimulants, he denies, and (I believe) deceives himself that he does not, and is in a more irritable excitable state. In fact I feel the horror to say I think he is out of his mind at present from this [cause?] but I dare not again exasperate him, poor dear fellow. I wish I could die for him this minute. I that have been so proud feel utterly disgraced. Only I know it was the sunstroke he had in India which made him so thirsty and feverish and this habit, so different from his early years, grew upon him, but I consider that science [i. e. his researches] has injured him as much as stimulants...I am so distressed as to be incoherent I feel, but thought it right to report the state of matters.

She reported Blyth had been badly treated at the asylum where he had been incarcerated in his 1865–66 illness, so could not return there. Nor could he go to "Bethlem", the mad-house commonly known as "Bedlam", on account of his income and pension – a lucky thing considering the conditions there. She was determined to prevent him returning to the private asylum "if his poor sister can help it" (ibid.). Yet, despite the severity of the condition which could have led Blyth to such dire straits, there is no hint of it in his letters, which are moderately, even coolly written. In his regular anonymous round-up of the new arrivals at the Zoological Gardens (Blyth, 1869f), he displayed an unclouded appreciation of life, very different from the picture of the sleazy drunken ménage his sister paints:

> We happen to have known the Zoological Gardens from their very beginning, and have much pleasure in testifying that they were never more worthy of a visit than at the present time. The grand new elephant house has just been

> opened to the public, and there is nothing of the kind at all comparable with it elsewhere. Residing not very far off, we occasionally take a quiet stroll through the grounds in the early morning, enjoying our constitutional; and we did so this morning...this morning we had the luck to hear the bray of the *Asinus hemippus*, which is as distinct as it can be from all of the kindred species; and we noticed a pretty brood of six newly-hatched Maorian sheldrakes (*Casara variegata*), singularly contrasting in colour with the parents....

How do we reconcile Clara Blyth's account of Blyth's mental state with such written evidence? As previously when his job and reputation were threatened, when his wife died, and when he was seriously ill in 1865, Blyth displayed an extraordinary ability to hive the part of himself that was a scientist off from the troubles he was immersed in, though it is also possible his sister, a slightly excitable lady, may have exaggerated the extent of the problem. His mental state certainly caused no hiatus in his writing. The short gap from mid-June until the end of August, 1869, is explained by his travels to Holland, and the change over from *Land & Water* to the *Field.* The only mention of difficulties related not to illness, but to his problems with the proprietors of *Land & Water,* of which he had also written to Darwin. On September 13, 1869, he wrote to Newton (Blyth to Newton, 1869d):

> Since I last wrote to you, I have had a deal of trouble to undergo, entirely through the misconduct of others, and I have been for some weeks on the continent, where I went to get out of the way of it, as you probably will have seen by my three articles on the Antwerp Zool[ogica]l gardens, published in the last three nos. of the Field. I have been [forced] to quit L&W, and take up with the Field, to my considerable pecuniary benefit, for I was so much affronted at the conduct of one Mr. Glass, who calls himself the "manager" of the paper, that I could brook it no longer, and I had the utmost difficulty to get paid up, and then only by a compromise. The fact is, that Glass' object was to get J. K. Lord in my place, as a mere literary tool to do his behests, which I could not quite condescend to. Upon my return from the continent, I found my papers, books, specimens, &c in the utmost confusion *not* as I had left them, & I almost despaired of finding your two little birds (*Phylloscopus*); but I have succeeded at last, and a fine condition they are in, to my extreme disgust and chagrin. For the future, nobody interferes with me or mine in any shape or way, to my serious injury, however kindly intended.

Burgess (1967: 133) has noted that there was a great deal of competition between *Land & Water* and *The Field* for readers, as they covered similar ground, so it must have been satisfying for the editor of *The Field* to have poached one of *Land & Water*'s main contributors. However, Blyth's contention that Glass wanted to 'replace' Blyth with J. K. Lord is a little strange, as Lord had written for *Land & Water* since its inception (ibid.: 141). Darwin, to whom Blyth had also confided his difficulties with *Land & Water*, was sympathetic, saying he had stopped his subscription to that journal some time ago, and that any hesitation he'd had about that decision had been solely because of Blyth's contributions. He had always considered Blyth their best contributor (Darwin to Blyth, 1869).

Three weeks after last writing to Newton, Blyth let him know (Blyth to Newton, 1869e):

> Tomorrow I start for Rotterdam, and intend passing about a fortnight in Holland. You will observe that I have changed my residence [to 12 Fitzroy Mews, Regent's Park], and if there is anything in particular that you wish me to see to in the museums of Amsterdam and Leyden, a letter for the first half of next week should be directed to me at the Bible Hotel, Amsterdam, an establishment which I recommend to your attention, should you think of visiting the international exhibition now open in that city. It takes its name from the house in which the first bible was printed in Holland. My especial object this time is to obtain materials for articles in the *Field* on the Zool[ogica]l G[arde]ns of Amsterdam, Rotterdam and the Hague, the Leyden museums, &c. , in the same style as the three which you probably saw at the Z. G. at Antwerp – I yesterday looked over Swinhoe's acquisitions from Hainan, which are definitely Indo-Chinese, with several Indian species which I scarcely expected would turn up there.

On March 5, 1870, he moved yet again, the second time in 5 months, to 25 St. George's Road, Regent's Park (Blyth to Newton, 1870a). He moved at least twice again in 1872, still within the tight radius around the Zoological Gardens that he had maintained almost all his retirement. This gypsy-like behaviour may indicate the difficulty Blyth had in settling back into the crowded London existence, or perhaps a deeper disturbance of spirit (he was arrested for assaulting a cab driver while drunk in December, 1870, so his problems with alcohol had not abated by then.[143]) It is not easily explained by the need to move to larger rooms, as he moved so often and within such a limited area.

In 1870, he was asked by Sir Arthur Phayre to contribute a section on natural history to Phayre's *History of Burma* (Grote, 1875). The work grew so long, it was unusable by Phayre, but later became two catalogues in their own right, published posthumously in the journal of the Asiatic Society of Bengal. Blyth also had a more ambitious project in mind. He told Grote in 1871 (Grote, 1875) that

> I have such an enormous mass of valuable facts to deal with, that I gave over making them public in driblets at the meetings of the Zoological Society; and I have now time and undisturbed leisure to treat of them in a work which I am preparing on 'The Origination of Species, ' a subject upon which I think I can throw some light.

Grote (1875) adds that a draft chapter for this paper was found among Blyth's papers, but (implying that he personally examined it) stated the "It contains nothing original, but brings together numerous points of resemblance and contrast observable in the several groups of the order Primates." Eiseley (1959) took this to mean that it was derivative of Darwin's work and sadly opined that "In truth it was the dry seed husk fallen from what had grown to be a great tree", an evaluation which, while charitable, is based on nothing but pure speculation about the paper, as it was never published.

Eiseley's assessment is overdue for challenge. Blyth had many years before enthusiastically adopted Darwin's ideas, fully comprehending them, but to suggest that more than ten years after the publication of Darwin's "Origin of Species", Blyth could do no more than to repeat another man's ideas is not supported by a knowledge of his career or character. One may speculate that he intended

to treat the subject as Darwin did, in "The Descent of Man" (which extensively cites Blyth's authority), published in the same year Blyth first proposed his own project. Alternatively, he may have intended to develop the themes he had touched on throughout his career. It should be remembered that Grote's assessment, if it was his own, is not authoritative.

At the end of 1870 and beginning of 1871, he was again off to Leiden. His writing activity continued unabated with scarcely a single issue of the *Field* lacking a contribution. On December 23, 1872, he told Newton (Blyth to Newton, 1872) "this day I complete my 62nd year, how time passes!" But there remained only a year of life left to him, although he continued his researches almost to the end. In the last letter preserved from Blyth, to Alfred Newton on July 28, 1873 (Blyth to Newton, 1873a), he told Newton he was ill, and despite what he said, very likely with heart trouble:

> I am sorry that I could not reply sooner to your note of the 14th ult. , but I have been very ill and unable to attend to anything, and even now I hold my pen with some difficulty, as my calligraphy indicates. It was something very like sun-stroke, one tremendously hot afternoon in the Z. [oological] G. [arden].

He was still capable of wince-making wit (ibid.):

> Do you believe that *Grus communis* was ever a winter visitant to the British Islands? I can hardly think so. In other words there seems to me to be some incongruity in the statement. What a *gruesome* pun!

His illness did not abate. His contributions to the *Field* slowed to a trickle after July, with his only major work being the monograph on the cranes. His last contribution was on October 1, 1873 (Blyth, 1873b). Grote (1875) states that in the autumn of 1873, he became very ill and went to Antwerp for a change. This failed to cure him, and despite the devoted care of his sister, in December, 1873, just four days after his birthday, Blyth died of "dilatation [sic] of the heart" (recorded on the death certificate) at their home at 11 Regent's Park Terrace. Cellulitis of the back was also noted. It does not seem likely that the heart disease that killed him was the original reason for his departure to India, but he was badly affected by stress and heat, which might suggest a pre-disposition to heart trouble.

Investigations in London have failed to reveal the existence of any probated will, which suggests that either Blyth did not make one, or that the estate was of so little value that probate was not necessary. Sarah Blyth purchased a burial plot in St James Cemetery at Highgate (now simply known as Highgate Cemetery) on 1st January 1874, and Edward Blyth was laid to rest the following day.[144] Eighteen years later, his fond and still unmarried sister died on September 9, 1891, at the age of 77, and was buried in the plot next to him, three days later.[145]

The obituaries in London were fulsome. Not surprisingly, the *Field,* who had for several years benefited from Blyth's contributions, was the most eloquent in its praise:

> This event demands more than a passing notice at our hands for there are many who hold that Mr Blyth was the foremost zoologist of the day in point of practical acquaintance with all branches of natural history. To an excellent acquaintance with geology and botany he added a sound experience of comparative anatomy; but it is chiefly as a writer on the higher classes of

> vertebrated animals that his name will be handed down to posterity. For forty years his facile pen has contributed articles on all kinds of subjects, and the only drawback to an intimate acquaintance with his writings lies in the fact that they are distributed over a multitude of periodicals, and are therefore often inaccessible to the student.... A host of well-known names as Layard, Swinhoe, Hume, Tickell, Tytler, Blanford, and Beavan, could testify their indebtedness to the deceased for the unselfishness and ready assistance which he was ever willing to impart. He was an unwearied correspondent; and nothing shows better the respect and esteem in which he was held by his fellow workers in zoology than the high terms in which on every occasion his name was mentioned by them.[146]

His death was met with "unmixed regret" by his former employers in the Asiatic Society. The then President said simply "Mr Blyth was an enthusiastic zoologist, he lived for his science and probably had the greatest knowledge of Indian Birds and Mammals of any naturalist of his time."[147] Allan Hume (1874: i) was typically enthusiastic in his eulogy:

> It is impossible to over-rate the extent and importance of Blyth's many-sided labours. Starting in life without one single advantage, by sheer strength of will, ability, and industry, he achieved, and deservedly so, a reputation rarely surpassed, and better still did an amount of sterling work such as no other single labourer in this field has ever compassed.

The most heartfelt obituary was that of Arthur Grote, who of all the obituarists had known Blyth the longest. He wrote (Grote, 1875):

> I confine myself here to putting on record the tribute of an old and intimate friend, to the excellent qualities of heart possessed by Blyth. The warmth and freshness of his feelings which first inspired him with the love of Nature clung to him through his chequered life, and kept him on good terms with the world, which punished him, as it is wont to do, for not learning more of its wisdom. Had he been a less imaginative and a more practical man, he must have been a prosperous one. Few men who have written so much have left so little in their writings that is bitter. No man that I have ever known was so free as he was from the spirit of intolerance; and the absence of this is a marked feature from all his controversial papers. All too that he knew was at the service of everybody. No one asking him for information asked in vain.

Researches. 1863 – 1873

Blyth's post-India days were in the main, a recapitulation of his Indian studies. His writing upon the new animals arriving at London Zoo gave him plenty of opportunity to expound his views, new and old, on a vast variety of animals, but he remained particularly exercised upon the subject of bovids. As in his writings for the *Indian Sporting Review*, his articles for *Land & Water* and the *Field* assume a capacity in his audience to cope with scientific methods and nomenclature, but they make far easier reading, while remaining scientifically sound, than his reports for the Asiatic Society. His role was to act as a populariser of serious zoology, yet also to rectify a multitude of myths, folk beliefs and just plain tall tales. A particularly amusing example of this, which drew responses from so many readers that a special correspondence column was printed on the subject, was a story, told in all seriousness, of an exploding chameleon. Blyth's response to this unlikely tale was entitled "Pop goes the chameleon!" (Blyth, 1867c), in which the veracity of the tale was examined, and rejected. He dealt equally efficiently with perennial reports about sea-monsters, silly beliefs about snakes, and the idea that sunflowers really do follow the sun. Such writing may be considered trivial (and it was only a small proportion of his post-Indian output), but zoological ignorance was widespread in Victorian England, including among the royal family itself (Barber, 1980: 16, 18) and a good many zoologists spent a great deal of effort in refuting persistent tales of frogs in stones and the like. In his own way, through his popular writing, Blyth fulfilled the role occupied in modern times by the likes of David Attenborough and David Bellamy in creating understanding through education. Through that understanding would come a respect for the natural world. He did not want people to just gawp at the new monkey, rhino or gaudy bird in the Zoo. He wanted them to know where they had come from, what they were like in the wild, what (or who) they usually ate, what other animals they resembled and so on. Blyth's motto was not so much that "ignorance is no excuse" as "there is no excuse for ignorance".

There was a great deal of more serious output. His long series on domesticated animals, on felines, long notes on rhinos, the animals of Burma and his last work, a monograph on the cranes, were of lasting value. Curiously, given his friendship with Darwin and his involvement in data collection for some of Darwin's more important works, Blyth was silent in print on the still raging controversy surrounding the theory of natural selection. The sole indication we have that he was roused to write on it was the likely possibility that his unpublished paper, on *The Origination of Species*, may have been in response to the debate between the Darwinians and those who, like Mivart and Wallace, denied the development of the human mind through the agency of natural selection (Desmond and Moore, 1991: 569–571). During Blyth's final years he became especially interested in the zoogeography of Asia, something which remains imperfectly understood. His work in this respect undoubtedly influenced Blanford's explanation the disjunct distributions of Indo-Chinese and Indian flora and fauna. Blyth's (1871) paper[148] divided the earth into seven zoogeographic regions which were complex, but soundly based on bird and mammal distributions. His paper appeared motivated by a desire to highlight the artificiality of the "Indian Region" recognised by Sclater and others. His Boreal Region was the equivalent of the Holarctic region, but extended through the West Indies and central America along the Andean cordillera as far as the Fuegian and Falkland archipelagos. This extension was prompted by the distribution of extinct mammals such as the mastodon, but was reinforced by that of the Camelidae. His Columbian Region covered what was left of the Neotropical region. His Ethiopian Region innovatively extended to include most of India and the "low northern half of" Sri Lanka. His Lemurian Region linked the Laccadives, the Maldives, the Mascarenes and the Seychelles with Madagascar. He speculated that it might even include "the Concan or low mari-

time country constituting the Malabar coast" of India. His Australasian Region comprised what was left of the Oriental region, emphasizing the faunal similarity between the Ceylonese and southern Indian highlands, and the eastern part of the Oriental region. His Melanesian region included Sulawesi, Lombok and most of the Australian region, but New Zealand and the Pacific archipelagos were separated as a Polynesian Region.

Wallace dismissed Blyth's divisions as being too unnatural and inconvenient (Wallace, 1876: 61). The boldness of some of the suggested affinities, such as the linking of Africa with India, combined with the relative lack of theoretical explanation has led to this paper being ignored, though it does demonstrate the amazing breadth of his knowledge and understanding of the current zoological debates. One must conclude that the relative obscurity in which he lived after India cannot be explained by any defect of mental powers, but rather the social defect of being ill and "odd".

He seemed to have felt it necessary to maximise the impact of everything that he wrote, perhaps feeling time would run out before all his knowledge, vast as it was, was imparted. He increasingly indulged his fondness for pursuing many themes in the one article, something which the reader would either find fascinating or infuriating. His tendency to deviate from his chosen topic onto other favourite subjects was quite marked in the privately printed and circulated commentary he wrote on the controversy between John Edward Gray of the British Museum and William Theobald in India (Blyth, 1870b). This quarrel, described at length in Gunther (1975: 162–164) involved a specimen which Blyth had described while in Calcutta. He set out to explain how the specimen, a tortoise, came to be damaged, with his consent, by the examination of Hugh Falconer. The article then quickly gravitated to his great bugbear, the inaccuracy of localities attached to Indian specimens, and how the observations of Indian workers were ignored in Britain. Unsurprisingly, this long, rambling piece, of great interest in itself but hardly relevant in its entirety to the quarrel between Gray and Theobald, was not published by the *Athenaeum*, in which Gray had launched his attack on Theobald. This piece exemplified Blyth's constant theme of how the views of the people on the ground needed to be considered by European scientists, and how little Europeans appreciated the difficulties endured by Indian zoologists. However, it also demonstrated how dependent he may have become on the skill of his editors in later years to impose a discipline on his free-ranging ideas.

After the immediate reaction to his death, very little attention was paid to his work. His "Mammals and Birds of Burma" was posthumously published, and Grote's obituary was appended to this. His monograph on the Cranes was republished in 1881, with additions by Tegetmeier. In 1873, Blyth and Alfred Wallace were the only two extra-ordinary members of the British Ornithologists Union[149] which demonstrated the high regard in which they were held by their fellow ornithologists. Yet, astonishingly, Blyth's posthumous fame had so much evaporated that it was possible for Bucknill (1900: 1) to name his chief claim to scientific eminence as "having identified the first known specimens of the Siberian Ground Thrush then in Mr Frederick Bond's collection." This may be in part due to Blyth's post-Indian habit of writing the bulk of his papers, and certainly all of those in the *Field* and *Land & Water*, under a pseudonym, although the zoological cognoscenti almost certainly knew who "Zoophilus" was. He left no children, as Darwin, Owen, Gray and Gunther did, to write his biography and draw together, as suggested by Sclater ([Sclater], 1874: 467), all his many works into a single list or volume, something which would have greatly enhanced people's understanding of his contribution. Further, his contemporary reputation was most likely damaged by his long absence from the mainstream of British intellectual life, by the enmity of people like John Gray, and by his growing reputation for instability and drunkenness, whether deserved or not.

There was a further hindrance to the restoration of Blyth's posthumous reputation. In 1884, H. D. Geldart first drew attention to the apparent pre-emption by Blyth of Darwin's theory of natural

selection, and paved the way for the misappropriation of Blyth as a precursor of Darwin in this century. Geldart found it strange (1884: 46) that the link, so very obvious to him, had not been made by others.

> For if the Darwinian Theory be correctly defined, as I think it is, as a theory of variation by Natural Selection supplemented by Sexual Selection, to which Wallace takes exception by doubting the influence of the latter, we find that Blyth lays down most clearly the doctrine of selection by advantage in the "struggle for existence," whilst he doubts it in the human species; and it must be remembered that this paper was published in 1835, years before Darwin read his manuscript to Dr Hooker and communicated his results to Sir Charles Lyell, and no less than twenty three years before the appearance of Darwin's and Wallace's papers in the 'Linnaean Transactions. ' and twenty four before the first publication of the 'Origin of Species'.

Eiseley (1959), taking up this proposition, also put forward by Vickers (1911), sought to prove by careful searching through Darwin's trial essays that "Edward Blyth...belongs in the royal line. He is not an isolated accident. Instead, he is one of the forgotten parents of a great classic" (Eiseley, 1959: 103). There were two facets to Eiseley's thesis. The first was that Blyth had written synopses in 1835 (Blyth, 1835) and 1837 (Blyth, 1837a), however unknowingly, which succinctly and clearly stated the theory of natural selection, and correctly indicated the process by which it would occur. The second was that Charles Darwin read these papers and that the trigger for Darwin's discovery of the theory of natural selection was not, as Darwin had claimed, reading the work of Thomas Malthus, but more likely the two papers mentioned above by Blyth on speciation.

Eiseley's paper attracted much hostile rebuttal, notably from Dobzhansky (1959), Beddall (1972, 1973) and Schwartz (1974). Schwartz, like Beddall, assessed Blyth as an acute, descriptive zoologist, but a limited thinker. Schwartz (1974: 310) concluded that "Darwin viewed Blyth as an important taxonomist and observer but nothing more" and that (ibid: 317) "It is not justifiable to accuse Darwin of conscious or unconscious plagiarism. This charge is contrary to the historical evidence and to the extensive information we have about his character".

Beddall pointed out, as Eiseley also acknowledged, that Blyth essentially saw the process of natural selection as a conservative process, both because of his limited experience at this time, and because of his observation of how, for example "the slightest deviation in the coat color of a cryptically adapted form will cause its discovery and destruction." In Beddall's (1973) view:

> Blyth...was not a revolutionary, but an observer within a system whose basic premises he accepted.... His talent lay in other directions, particularly in descriptive natural history, and here indeed he did make many valuable contributions.

She concluded (ibid.) "If Darwin or Wallace saw special meaning in what Blyth wrote, as some have claimed, it was more than Blyth himself saw, and the credit, if credit there is, should go to Darwin or Wallace."

It is this approach to Eiseley's thesis which has proved the most damaging to Blyth's reputation. Eiseley's premise has been conclusively refuted by the excellent and on-going scholarly publication of Darwin's private letters, notebooks and trial essays, which show both the relative unimportance

of Blyth's *theoretical* work to Darwin, but also the close relationship between the two men. Ironically, this is the strongest argument against the plagiarism charge. If Blyth, always prickly about his intellectual reputation, had imagined that Darwin had stolen his ideas, it is impossible that this would not have been a source of complaint and recorded somewhere in his copious writings. Blyth was certainly one of Darwin's many intellectual milch-cows – important to the edifice of Darwin's work, but not the cornerstone. However, Beddall and Schwartz, and to a lesser degree, Sheets-Pyenson (1981a), insisted on assessing Blyth only in the light of Darwin's achievements. Finding Blyth wanting, he was dismissed as unworthy of further attention. Even an advocate like Eiseley (1959) concluded:

> But let the world not forget that Edward Blyth, a man of poverty and bad fortune, shaped a key that dropped half-used from his hands when he set forth hastily on his own ill-fated voyage. That key, which was picked up and re-forged by a far greater and more cunning hand, was no less than natural selection.

Blyth was more than the crude forger of the key which Darwin then used. His real importance lay in his writings, his voluminous correspondence with the active workers in the zoological field, both professional and amateur, and the stimulus he gave to budding scientists in the field. Now that the spotlight has again fallen on Edward Blyth, he can be placed in proper perspective as one of Britain's pioneering zoologists, and as, if not the sole father of Indian zoology, then as one of the proud parents of that vast field.

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Endnotes

1. Baptismal Register of St. Martin's Pomeroy, Guildhall Library, London.
2. Clare Blyth's will, made 7 February 1820. Public Record Office Reference PROB/11/1645
3. Clare Blyth the younger was not mentioned in his father's will drawn up in 1820, though since he had a daughter born in 1822 (Mary Jane, following a son, Henry, by his marriage to Mary), we know he was still alive at this point. There is no mention of Blyth's half-brother in any of the correspondence located to date - Sarah Clare is the only sibling mentioned by name.
4. Names from Baptismal Register of St. Martins Pomeroy, Guildhall Library, London. The youngest daughter, Maria, may have been the Maria Blyth who married John Wotton Thomas Blackmore Bennet at St Mary's Newington (the same church where Blyth's father was buried in April 1821) on 22 November, 1832, but this remains unconfirmed.
5. Notice in *The Times*, May 12 1810.
6. Will of Sarah Clara Blyth. Calendar of the Grants of Probate and Letters of Administration made in the probate registers of the High Court of Justice in England, 1891, p:108, no. 917
7. Third Codicil, dated 25th July 1887, in Will and Codicils of Sir Robert Loder, preserved in the Loder family archives, Wakehurst Place, Ardingly, Sussex.
8. Clare Blyth's will.
9. Post Office Directory for 1846: 820.
10. Grote, 1875. Blyth is shown in the Composition of Rates Register for the Parish of Tooting from 1832-1837, paying rates of 14 shillings for a house. The author has been unable to locate any record of the druggist's business.
11. Blyth, 1832. This is the only record in this Journal of "Zoophilus" and the volumes for the following years show Blyth contributing under his own name.
12. See McOuat (1996) for a discussion of the extent of the involvement of Wood and his family in non-conformist reform.
13. Goodwin, 1894.
14. For a detailed exposition of the tensions surrounding the theory of classification and taxonomy in the 1830's and early 1840's, see McOuat (1996).
15. There were several letters from Blyth to Wood during 1836. Wood made extensive use of them in *British Song-Birds*, (Wood, 1836), *The Naturalist* and *The Analyst*.
16. There is no record of Blyth's book at the British Library, and one must assume that it did not appear.
17. [Proceedings of the Worcester Natural History Society for 24th May 1836] in *The Analyst*. 1836. 4: 318-319.
18. [Proceedings of the Ornithological Society of London for 2nd February, 1838]. *The Naturalist*. 1838. 3 p:169

sity Library, Alfred Newton papers.

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Wood, N. 1836a. The Ornithologist's Text-Book. [No publisher cited, assumed to be the author], London.

_____ **1836b.** British Song Birds. John W. Parker, London. 1836

Young, D. 1992. The discovery of evolution. Cambridge University Press, Cambridge.

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Endnotes

1. Baptismal Register of St. Martin's Pomeroy, Guildhall Library, London.
2. Clare Blyth's will, made 7 February 1820. Public Record Office Reference PROB/11/1645
3. Clare Blyth the younger was not mentioned in his father's will drawn up in 1820, though since he had a daughter born in 1822 (Mary Jane, following a son, Henry, by his marriage to Mary), we know he was still alive at this point. There is no mention of Blyth's half-brother in any of the correspondence located to date - Sarah Clare is the only sibling mentioned by name.
4. Names from Baptismal Register of St. Martins Pomeroy, Guildhall Library, London. The youngest daughter, Maria, may have been the Maria Blyth who married John Wotton Thomas Blackmore Bennett at St Mary's Newington (the same church where Blyth's father was buried in April 1821) on 22 November, 1832, but this remains unconfirmed.
5. Notice in *The Times*, May 12 1810.
6. Will of Sarah Clara Blyth. Calendar of the Grants of Probate and Letters of Administration made in the probate registers of the High Court of Justice in England, 1891, p:108, no. 917
7. Third Codicil, dated 25th July 1887, in Will and Codicils of Sir Robert Loder, preserved in the Loder family archives, Wakehurst Place, Ardingly, Sussex.
8. Clare Blyth's will.
9. Post Office Directory for 1846: 820.
10. Grote, 1875. Blyth is shown in the Composition of Rates Register for the Parish of Tooting from 1832–1837, paying rates of 14 shillings for a house. The author has been unable to locate any record of the druggist's business.
11. Blyth, 1832. This is the only record in this Journal of "Zoophilus" and the volumes for the following years show Blyth contributing under his own name.
12. See McOuat (1996) for a discussion of the extent of the involvement of Wood and his family in non-conformist reform.
13. Goodwin, 1894.
14. For a detailed exposition of the tensions surrounding the theory of classification and taxonomy in the 1830's and early 1840's, see McOuat (1996).
15. There were several letters from Blyth to Wood during 1836. Wood made extensive use of them in *British Song-Birds*, (Wood, 1836), *The Naturalist* and *The Analyst*.
16. There is no record of Blyth's book at the British Library, and one must assume that it did not appear.
17. [Proceedings of the Worcester Natural History Society for 24th May 1836] in *The Analyst*. 1836. 4: 318–319.
18. [Proceedings of the Ornithological Society of London for 2nd February, 1838]. *The Naturalist*. 1838. 3 p:169

19. Copy and Plan of Rules of the Ornithological Society of London. *The Naturalist*. Vol. 2. 1837. p:77–78.
20. [Report of the] Ornithological Society of London. *Magazine of Zoology and Botany* 1838. 2. 480–482. Also [Report of the] St James's Ornithological Society. *The Analyst*. 1837. 5 p:315
21. Proceedings of the Ornithological Society, May 5th 1838. *The Analyst*, 8. p:294–295
22. [Proceedings of the Ornithological Society of London, for February 2 1838] *The Naturalist*. Vol. 5. 1838. p:169–174
23. His date of joining was erroneously given as 1860 in the membership lists (*A list of the Fellows and Honorary, Foreign, and Corresponding Members, of the Zoological Society of London*, 1867). It is listed as 1858, in a hand-written page interpolated against p.52 in the copy of *A list of the Fellows, Annual Subscribers, and Honorary, Foreign, and Corresponding Members, of the Zoological Society of London 1842 – 1858* held in the library of the Zoological Society of London.
24. Manuscript proceedings of the Zoological Society of London for the meeting held on October 25, 1836. Darwin and Gould were both present at this meeting.
25. Proceedings of the Asiatic Society of Bengal for 2nd June 1841. *Journal of the Asiatic Society of Bengal* (1841) 10: 502.
26. ibid.
27. Eiseley (1959) and Gruber (1974) both cast doubt on Darwin's claim that reading Malthus suddenly illuminated the theory. "Finally, September 28, 1838, the great Malthusian moment of truth arrives. Does it strike Darwin with the sudden force of a thunderbolt? Is it an Archimedean 'Eureka' experience? Does it transform his thinking from that moment forward and for all time to come?... Not really... As it happens, the crucial passage does not even contain a single exclamation point, although in other transported moments he used quite a few, sometimes in triplets." (Gruber, 1974: 170) However, Eiseley was wrong to claim that the "Archimedean 'Eureka' experience" came when Darwin read Blyth's papers – Darwin's notebooks, not intended for publication, showed that Darwin paid little attention or no attention to Blyth's remarks about the possible origins of species.
28. Sheets-Pyenson, 1981b. "Perhaps Charlesworth's decision "to make the second series [of the Magazine of Natural History] embrace a larger share of the philosophy of science" encouraged Blyth to think about speciation and descent. "
29. Address by Col. H. Hyde in Proceedings of the Asiatic Society of Bengal for April, 1874. Proceedings of the Asiatic Society of Bengal (1874): 87.
30. G. Bushby to Asiatic Society of Bengal, Feb 17, 1847. In: Proceedings of the Asiatic Society of Bengal for May, 1847. *Journal of the Asiatic Society of Bengal* (1847)16: 598
31. Extract of letter from H. T. Prinsep (secretary to the Government of India) to W. B. O'Shaughnessy (Officiating Secretary to the Asiatic Society), 18th September, 1839. In: Proceedings of the Asiatic Society of Bengal for November 1839, Journal of the Asiatic Society of Bengal (1839) 8: 958–960.
32. Although some authors state that Blyth was the first curator of the Museum (as in, for example, Address by Col. H. Hyde, p:87. In: Proceedings of the Asiatic Society of Bengal for April, 1874. *Journal of the Asiatic Society of Bengal* (1874): 67–90), the museum had been looked after by a number of men ("Dr. Pearson, Mr. Evans, Dr. Jameson, Dr. Thompson, and Dr. McLelland" – Asiatic Society of Bengal, 1848: 33). Blyth was not even the first paid curator – he was only the first employed by the Society solely for the purpose of curating the Museum.
33. Minute, Dr. J. M'Clelland to Asiatic Society of Bengal. In: Proceedings of the Asiatic Society of Bengal for December 1839. *Journal of the Asiatic Society of Bengal* (1839) 8 : 1064–1067
34. ibid
35. Proceedings of the Asiatic Society, 7th October, 1840. *Journal of the Asiatic Society of Bengal* (1841) 10: 732

36. H. Torrens to Blyth. In: Proceeding of a Special Meeting of the Committee of Papers, 24th September 1841. *Journal of the Asiatic Society of Bengal* (1841) 10: 755
37. Kelly, 1835: 86–88. In 1835, the current rupee was "the imaginary money, to which real coins are generally reduced before they are entered in to books of accounts." The East India company kept their accounts in it. The current, or company, rupee was worth 2 shillings. The Sicca rupee, which was used in Bengal, was worth 2 shillings 3/8 pence, but commonly reckoned at 2 shilllings 6 pence. Blyth was officially paid in company Rupees.
38. W. B O'Shaughnessy to Asiatic Society of Bengal, 26th January, 1840. In: Proceedings of the Asiatic Society of Bengal for November 1839. *Journal of the Asiatic Society of Bengal* (1840) 9: 961
39. J. Grant to Asiatic Society of Bengal, 15th February 1840. In: Proceedings of the Asiatic Society of Bengal for December 1839. *Journal of the Asiatic Society of Bengal* (1840) 9: 1064
40. [Rev. Richard] Owen, 1894 vol 1: 61. However, in 1856, Owen was appointed "superintendent of the whole Department of Natural History, including geology, zoology, botany and mineralogy" at a salary of £800 per year (Owen, 1894 Vol. II. : 14, 15). Hardly surprising that Blyth grew increasingly bitter about his lack of prospects.
41. This allowance was raised to 80 rupees in 1860, as a reward for his long labours, and in recognition of the increase in the cost of living in Calcutta, after the mutiny. Proceedings of the Asiatic Society of Bengal for September 1860. *Journal of the Asiatic Society of Bengal* (1860) 29: 408
42. H. Torrens to Blyth, in Proceeding of a Special Meeting of the Committee of Papers, 24th September 1841. *Journal of the Asiatic Society of Bengal* (1841) 10: 755
43. Proceedings of a special meeting of the Committee of Papers of the Asiatic Society of Bengal, 24 Sept 1841. *Journal of the Asiatic Society of Bengal* (1841) 10: 757J
44. Report of the Committee of Papers, in Proceedings of the Asiatic Society of Bengal for December 1939. *Journal of the Asiatic Society of Bengal* (1840) 9: 1060
45. W. J. McClelland to Asiatic Society of Bengal. In: Proceedings of the Asiatic Society of Bengal for March 1839. *Journal of the Asiatic Society of Bengal* (1839) 8: 244
46. H. T. Prinsep to Asiatic Society of Bengal. In: Proceedings of the Asiatic Society of Bengal for February 1839. *Journal of the Asiatic Society of Bengal* (1839) 8: 154
47. W. J. McClelland to Asiatic Society of Bengal. In: Proceedings of the Asiatic Society of Bengal for March 1839. *Journal of the Asiatic Society of Bengal* (1839) 8: 244
48. Annandale (1914: 69) in his history of the museum comments that despite the difficulties of storing specimens in the Calcutta climate, the specimens from Blyth's curatorship were still, at the time of writing, in remarkable condition. He attributes this, somewhat strangely, to the climate of Calcutta. Perhaps a more likely explanation is the high degree of care taken by the early curators, including Blyth.
49. However, exchanging duplicates with private individuals, such as the noted conchologist Hugh Cuming, led to censure from the Society (Asiatic Society of Bengal, 1848: 6), who felt this type of trade was beneath its scientific dignity. Proceedings of the Asiatic Society of Bengal for July, 1844. *Journal of the Asiatic Society of Bengal* (1844)13: lxx
50. Blyth (letter to Darwin, 1855d) ascribed this sort of behaviour to "everlasting Hindu prejudices", and told Darwin that "They cannot be made to comprehend what interest I can feel in a dead bird, & the carcass is sure to be pitched away, as soon as ever any animal is dead."
51. Annual Report of Asiatic Society of Bengal for 1859. *Journal of the Asiatic Society of Bengal* (1860) 29: 50
52. Proceedings of the Asiatic Society of Bengal, for January, 1862. *Journal of the Asiatic Society of Bengal* (1862) 31: 57

53. Proceedings of the Asiatic Society of Bengal for 4th February, 1842. *Journal of the Asiatic Society of Bengal*, (1842) 11: 197
54. Ironically, the "wild" animals thus slaughtered were almost certainly domestic animals set to graze in the open countryside, as were the vast number of gaours killed by British hunters last century (C. P. Groves, pers. comm., 13. 9. 94). The modern reader, dismayed by the wholesale destruction of rare wild animals by nineteenth century hunters and collectors, may be surprised to note in Victorian scientific writing how often protests against the diminution of wild populations were made. However, all too common were reports of the type which Blyth made in 1850 (Blyth, 1850c): "According to Mr. Theobald, only 3 or 4 pairs of this Bat inhabited the large cave in which he captured the pair presented for the Museum."
55. Blyth to the Secretary, Asiatic Society of Bengal, 5th June 1844. In: Proceedings of the Asiatic Society of Bengal for June, 1844. *Journal of the Asiatic Society of Bengal* (1844) 13: liv-lv.
56. Blyth to the Society, February 6, 1844. In: Proceedings of the Asiatic Society of Bengal for February, 1844. *Journal of the Asiatic Society of Bengal* (1844) 13: xviii
57. Blyth to the Society, February 6, 1844. In: Proceedings of the Asiatic Society of Bengal for February, 1844. *Journal of the Asiatic Society of Bengal* (1844) 13: xix. The costs of purchase of specimens and their preparation in 1843 was 1, 495 rupees. Blyth's salary was 3, 000 rupees.
58. Ibid.
59. Blyth to Asiatic Society of Bengal, 13 December 1842. In: Proceedings of the Asiatic Society of Bengal for 13th January, 1843. *Journal of the Asiatic Society of Bengal* (1843) 12: 66–67
60. Blyth to H. Torrens. In: Proceedings of the Asiatic Society of Bengal for June, 1843. *Journal of the Asiatic Society of Bengal* (1843) 13: 518
61. Proceedings of the Asiatic Society of Bengal for 9th December, 1842. *Journal of the Asiatic Society of Bengal* (1842) 11: 1205
62. These comments were particularly aimed at the curation of George Gray in the British Museum, but "These remarks are not made in any spirit of unkindness, for Gray was no worse than any other curator of his time. At the same period Schlegel was mounting every specimen as it came into the great collection at Leyden, and the same system is pursued to this day in some Museums, so that every specimen, however rare or of historical value, is doomed to destruction: it is only a question of time."
63. Sharpe, 1906: 84. "When I [Sharpe] began to unmount the historical specimens in the Bird-gallery, I found in one case eleven specimens of an Eagle, all young birds in the same plumage, and from the same country, mounted in a row, and where one of the birds had lost a leg, the want was supplied by a wire substitute. Not one of the eleven specimens gave a proper idea of the bird in life. In those days there were no explanatory labels, and the public wandered about the galleries, fatigued with the sameness of the exhibitions provided, from which they could learn nothing, nor was any attempt to made to teach them. "
64. Blyth to Asiatic Society of Bengal. In: Proceedings of the Asiatic Society of Bengal for June, 1844. *Journal of the Asiatic Society of Bengal* (1844) 14: lv
65. Used for the preservation of specimens from insect attack. It was supposed to be safer than corrosive sublimate (also full of arsenic) but both were very toxic to humans.
66. W. Fox to H. Torrens, Secretary of the Asiatic Society, 16th April, 1845. In: Proceedings of the Asiatic Society of Bengal for May 1845. *Journal of the Asiatic Society of Bengal* (1845) 14: li
67. Blyth to Asiatic Society of Bengal, 17 December 1844. In: Proceedings of the Asiatic Society of Bengal for December 1844. *Journal of the Asiatic Society of Bengal* (1844) 13: cxxxix

68. Proceedings of the Asiatic Society of Bengal for 12 August 1842. *Journal of the Asiatic Society of Bengal* (1842) 11: 864
69. Proceedings of the Asiatic Society of Bengal for June 1843. *Journal of the Asiatic Society of Bengal* (1843) 12: 513
70. This paper in Hodgson's own copy of a catalogue of his papers, published by J. E. Gray (Gray, 1846) and preserved in the Natural History Museum, London, is annotated "This is the paper kept back for so many months by Mr Blythe [sic] despite the remonstrances of the Secretary".
71. Henry Piddington to Brian Houghton Hodgson, July 1, 1844. Unpublished. Stored at: Zoological Society of London Library.
72. As Mitra (1885) pointed out in his historical essay on the Society, many of the financial problems could be laid directly at the door of Torrens, who was Secretary of the Society from 1840 to 1846. "He was a distinguished scholar, an elegant writer, and a linguist. but he had neither the energy nor the aptitude to control financial details, and was withal unmindful of the restraint of rules, and under his management the grant [from the Honourable Court of Directors, for oriental publications] was frittered away on works which did not come under the terms of the Court's despatch. The annual account called for by the court was not rendered during the whole time of his management to the close of 1846." (Mitra, 1885, part 1: 60)
73. Annual report for 1846. In: Proceedings of the Asiatic Society of Bengal for January 1847 in *Journal of the Asiatic Society of Bengal* (1847) 16: 93
74. Memorandum relative to the publication of Sir. A. Burnes' Drawings. In: Proceedings of the Asiatic Society of Bengal for 5 July 1843. *Journal of the Asiatic Society of Bengal* (1843) 12: 615*-616*.
75. Prints and Drawings Section, print box 15, folios 1851–1912.
76. Torrens to Blyth, in Proceedings of the Asiatic Society of Bengal for 15th September 1843. *Journal of the Asiatic Society of Bengal* (1843) 12: 616. * [There is a error in the pagination of this part. The Proceedings run from p:622–624, then the page numbers restart at 615 and run again to 624, whereupon the duplication ceases. The duplicated page numbers are represented with an * in the printed version, and here also.]
77. The notes may have been lost in the confusion caused by a change of stewardship in the library. Blyth did not suspect anything more sinister.
78. Blyth to Torrens, 21 September 1844. In: Proceedings of the Asiatic Society of Bengal for October 1844. *Journal of the Asiatic Society of Bengal* (1844) 13: ci-cii.
79. Torrens to Hodgson, 1 July, 1844. Unpublished. Stored at: Zoology Society of London Library
80. Wallich to Lyell, 11 January 1845, Edinburgh University Library Archives, gen. 1429/6 no. 14. I am indebted to Andrew Grout for provision of this reference
81. Memoranda for committee on Sir. A. Burnes drawings. In: Proceedings of the Asiatic Society of Bengal for October 1844. *Journal of the Asiatic Society of Bengal* (1844) 13: c
82. Blyth to the Secretary, Asiatic Society of Bengal, 23 August , 1845. In: Proceedings of the Asiatic Society of Bengal for October 1845. *Journal of the Asiatic Society of Bengal* (1845) 14: cvi
83. Memoranda for committee on Sir. A. Burnes drawings. In: Proceedings of the Asiatic Society of Bengal for October 1844. *Journal of the Asiatic Society of Bengal* (1844) 13: c
84. Blyth, 1842e. "From B. H. Hodgson, Esq. , British resident at the Court of Nepâl, I have the gratification to announce the arrival, as a donation to the Society, of 270 species of birds, where of four specimens respectively are sent of the greater number (though it is to be regretted that many are in very imperfect condition); and there are seventy species which are new to the Museum, while above 100 are more or less common in this neighbourhood. "

85. Blyth to Strickland, 1846a. "...do you look to certain correspondence of mine, published in No. LXV of the Society's J[ournal], p:cvi of the Proceedings, and tell me what you think of it. You cannot conceive the trouble I have had to get it addressed. "
86. Blyth to the Secretary, Asiatic Society of Bengal, 23 August , 1845. In: Proceedings of the Asiatic Society of Bengal for October 1845. *Journal of the Asiatic Society of Bengal* (1845)14: cvi
87. Torrens, [Note accompanying letter, E. Blyth to the Secretary, Asiatic Society of Bengal, 23 August, 1845]. In: Proceedings of the Asiatic Society of Bengal for October 1845. *Journal of the Asiatic Society of Bengal* (1845) 14: cviii
88. Torrens to Blyth, 18 September, 1845. In: Proceedings of the Asiatic Society of Bengal for October 1845. *Journal of the Asiatic Society of Bengal* (1845) 14: cx
89. Blyth to the Secretary, Asiatic Society of Bengal, 23 August, 1845. In: Proceedings of the Asiatic Society of Bengal for October 1845. *Journal of the Asiatic Society of Bengal* (1845) 14: cvi-cviii. Also Blyth, 1847e.
90. Blyth to Torrens, September 12, 1845. In: Proceedings of the Asiatic Society of Bengal for October 1845. *Journal of the Asiatic Society of Bengal* (1845) 14: xciii.
91. Torrens, note to the Society, accompanying ibid. In: Proceedings of the Asiatic Society of Bengal for October 1845. *Journal of the Asiatic Society of Bengal* (1845) 14: xciii
92. Note by Torrens, 2 September 1845. In: Archives of the Asiatic Society of Bengal. Ref. AR 1357 SL5. Part transcription kindly provided by Andrew Grout.
93. Proceedings of the Asiatic Society of Bengal for April, 1848. *Journal of the Asiatic Society of Bengal* (1848) 17: 340.
94. It is not entirely clear that Theobald is criticising Blyth at this juncture, for despite the strong language employed, Theobald is curiously coy about naming names. This may simply have been because Blyth was still employed by the Society at this time, or perhaps because he felt the Society's management as a whole was to blame. It is quite explicitly stated by the Committee of Natural History deputed to report on the collections in 1857 that the defects in the condition, arrangement and storage of the natural history collection were attributable directly to the extreme lack of space, the insufficient establishment in the Museum and the impossibility of one man being able to superintend the whole museum (W.S. Atkinson, letter to C. Beadon, 8 October 1858 In: Proceedings of the Asiatic Society of Bengal for September, 1859. *Journal of the Asiatic Society of Bengal* (1859) 28:397). Blyth (1870b) was later to staunchly defend Theobald when he was under attack.
95. Prior to Blyth's appointment, it had been noted how the head taxidermist at the time could neither read nor write (Proceedings of the Asiatic Society of Bengal for May, 1839. *Journal of the Asiatic Society of Bengal* (1839) 8: 439) and how the assistants in the museum at least once "swept into chaos" the display cases (Proceedings of the Asiatic Society of Bengal for March, 1839. *Journal of the Asiatic Society of Bengal* (1839) 8: 244).
96. "L[or]d Ellenborough... not only took no sort of interest in Nat. History, or in any other science that I ever could perceive, but seemed to have a thorough contempt for everything of the kind, and discouraged military men from devoting their time to scientific pursuits. L[or]d Auckland on the contrary, gave the warmest encouragement to everything of the sort, and indeed carried quite to the opposite extreme, giving scientific soirées... which were very agreeable" (Blyth to Strickland, 1844b).
97. G. A Bushby to Asiatic Society of Bengal, 17th February 1847. In: Proceedings of the Asiatic Society of Bengal for May 1847, *Journal of the Asiatic Society of Bengal* (1847) 16: 599
98. W. J. McClelland to Asiatic Society of Bengal. In: Proceedings of the Asiatic Society of Bengal for March 1839. *Journal of the Asiatic Society of Bengal* (1839) 8: 244. In the Annual Report for 1846 (Proceedings of the Asiatic Society of Bengal for January 1847. *Journal of the Asiatic Society of Bengal*

(1839) 8: 98) the Society even sought to deflect criticism from the Government over its improper diversion of money from the Oriental Publication Fund by stating "In partial extenuation of the irregularity, the Committee refer with some satisfaction to the magnificent Zoological collections, to the procural of which no small portion of the fund has been directed, to the very large contributions made to the museum of the India House...."

99. Dr. William Brooke O'Shaughnessy was a far more significant person than Blyth's triumphant letter might indicate. He was Professor of Chemistry at the Calcutta Medical College, and was known as the father of the electric telegraph in India (Sagwan, 1991: 94). In 1849, he had just been asked by the Military Board to report on the possibility of introducing the telegraph to India, and perhaps this is the more likely explanation for his sudden departure from Calcutta.
100. Proceedings of the Asiatic Society of Bengal for [September], 1849. *Journal of the Asiatic Society of Bengal* (1849) 18: 980
101. Proceedings of the Asiatic Society of Bengal for September, 1860. *Journal of the Asiatic Society of Bengal* (1860) 20: 405–421
102. Lloyd, 1985: 80–81. This collection was reported by Blyth (1855e).
103. Blyth to Strickland, 1850b. Strickland had evidently complained about some egret skins sent to him by Blyth which had been spoiled by damp in transit.
104. Proceedings of the Asiatic Society of Bengal for September 1850. *Journal of the Asiatic Society of Bengal* (1850)19: 497. An application from H. Roberts, assistant to Blyth, for an increase in salary could not be recommended by the Council because of the "present state of the Society's Funds."
105. 1854. Quarterly Ecclesiastical Returns of Marriages for the Archdeaconry of Calcutta. Vol. 85. p:126.
106. The New Calcutta Directory for 1857. part 6, p:74.
107. Appendix III. 'Presentation copies of *Origin'. p:*554–570. in F. Burkhardt, D. M.Porter, J.Browne & M. Richmond (Eds). Correspondence of Charles Darwin. Vol. 8. Cambridge University Press, Cambridge, 1993.
108. Quarterly Ecclesiastical Returns for Burials for the Archdeaconry of Calcutta for 1857. Vol. 92 p:935. Also Lists of deaths for December, 1857, The New Calcutta Director for 1858. "7th – At Calcutta, of congestion of the liver Mary [sic] Turner, the wife of Edward Blyth, Esq. , aged 32 years and 6 months."
109. Proceedings of the Asiatic Society of Bengal for January, 1858. *Journal of the Asiatic Society of Bengal* (1858) 27: 85
110. Report of the Committee of Natural History. In: Proceedings of the Asiatic Society of Bengal for September, 1859. *Journal of the Asiatic Society of Bengal* (1859) 28: 398
111. ibid. p:399.
112. W. S. Atkinson, Secretary to Asiatic Society of Bengal to Govt. of India, 27 February 1860. In: Proceedings of the Asiatic Society of Bengal for March, 1860. *Journal of the Asiatic Society of Bengal* (1860) 29: 81–83.
113. ibid. p:81
114. C. Beadon to W. Gray [Secretaries to Government of India], 19 March 1860. In: Proceedings of the Asiatic Society of Bengal for May, 1860. *Journal of the Asiatic Society of Bengal* (1860) 29: 207–208
115. E. C. Bayley, officiating Secretary to Govt. of India, to Asiatic Society of Bengal. In: Proceedings of the Asiatic Society of Bengal for June 1861. *Journal of the Asiatic Society of Bengal* (1861) 30: 298. The planned expeditions was into Chinese Tartary beyond the Himalayan frontier, the country northeast of Ladak, and that between Ladak and Lhassa.
116. Annual Report for 1861. In: Proceedings of the Asiatic Society of Bengal for January, 1862. *Journal of the Asiatic Society of Bengal* (1862) 31: 57

117. Proceedings of the Asiatic Society of Bengal for July 1862. *Journal of the Asiatic Society of Bengal* (1862) 31: 430
118. ibid.
119. ibid.
120. Manuscript Zoological Society Council Minutes for 7 January 1863, referring to a request from Blyth for payment for the carriage of the animals he was bringing back for the Zological Society.
121. Proceedings of the Asiatic Society of Bengal for January, 1864. *Journal of the Asiatic Society of Bengal (1864) 33: 89*
122. ibid.: 71
123. Proceedings of the Asiatic Society of Bengal for January, 1863. *Journal of the Asiatic Society of Bengal* (1863) 32: 31.
124. Proceedings of the Asiatic Society of Bengal for January, 1864. *Journal of the Asiatic Society of Bengal* (1864) 33: 73
125. Tickell, S. R. Letter to Editor, 'Akyab, Arracan, August 13, 1862'. *The Ibis* (1863) 5: 111–113
126. Hodgson (in Blyth, 1844b) "Adopting Swainson's view, one might justify the above division of our Leiotrichane birds by shewing that they form a circle analogous to the various tribes of the *Insessores*..."
127. Proceedings of the Asiatic Society of Bengal for November, 1860. *Journal of the Asiatic Society of Bengal* (1860) 29: 427–438
128. ibid.: 436
129. Blyth in ibid, p:436–437. This explains the remarks made in the compendium paper, Blyth, 1860.
130. Hans Busk was the brother-in-law of Robert (later Sir Robert) Loder, the owner of High Beeches, Crawley in Sussex, where Blyth stayed several times. Loder was some relation to Blyth (Grote, 1875), of sufficent proximity to have left Blyth's sister, Sarah Clara, an annuity of £200 in his will. (Third Codicil, dated 25th July 1887, in Will and Codicils of Sir Robert Loder, preserved in the Loder family archives, Wakehurst Place, Ardingly, Sussex.) The precise relationship is not known, although it may have been through Loder's wife, Maria Busk. Sarah Blyth left money in her will to Rachel Busk, Hans Busk's younger sister. (Will of Sarah Clara Blyth in *Calendar of the Grants of Probate and Letters of Administration made in the Probate registers of the High Court of Justice in England.* 1891. Vol Bi-Bz, p:108, No. 917) Equally it may have been through Loder's father, Giles, who was from Wiltshire, where Blyth's mother had relatives.
131. Blyth to Eyton, 1864a.
132. ibid. These photos were not used and the Zoological Society of London has no record of any being received.
133. Blyth, 1864g, and Proceedings for Monday January 11, 1864 in *Proceedings of the Royal Irish Academy* (8): 458–471. On p:458 Blyth is recorded as having delivered a paper "On the existing species of Stag (*Elaphus*)".
134. A copy of this photograph which was made into a *carte de visite* is to be found in Richard Owen's correspondence at the Natural History Museum, London
135. Harrison, 1971: 21. "The Victorians often failed to distinguish between alcoholism, drinking and drunkenness. Temperance reformers argued that drinking inevitably led to drunkenness, and society at large failed to distinguish between drunkenness and alcoholism."
136. Blyth to Newton, 1865g. Newton habitually noted the date of writing, the date received and the date answered at the end of the letters he received. On the back of this, he noted the date from Blyth as "Nov. 3/25 /65. Answered Nov. 25/65 (+cheque for £2 sent)
137. P. G. E. Kennedy, in. litt. Feb. 4th 1994

138. W. B. Tegetmeier, letter to Charles Darwin, [after January 16, 1866]. Unpublished. Stored at: Cambridge University Library. Reference: DAR 178
139. Item, "'Land and Water' dinner". *Land & Water* 7 (20 Nov 1869): 177.
140. 'Second wrangler' - second highest-scoring student in the third year of the mathematical tripos with first-class honours at Cambridge University.
141. Clark (1984: 59) says of Darwin "he may occasionally have overstressed ill health as a reason for avoiding social duties he disliked."
142. Modern rhino taxonomy now rests on the work of Blyth and Richard Owen, rather that of Gray. C. P. Groves (in litt 23/9/94), a leading ungulate taxonomist, believes that Blyth's skill in identifying rhinos may have been deficient, although the proliferation of species proposed by Gray has now been reduced.
143. *The Times* December 14, 1870. See also C. Brandon-Jones, 1997.
144. Burial Register of St. James' Cemetery in Swans Lane, Highgate. Reg. No. 44105
145. Ibid. Reg. No. 72527
146. Anon. The late Mr Edward Blyth. *Field* (1874) 43 part (January 3, 1874): 3
147. Col. H. Hyde, [President's address to the Society] in Proceedings of the Asiatic Society of Bengal for April 1874. *Proceeding of the Asiatic Society of Bengal* (1874): 87.
148. I am indebted to D. Brandon-Jones (pers. comm) for assistance with the assessment of this paper.
149. List of members, *The Ibis* (1873) 3 (third series) p:vii.

Published natural history works, notes and papers by Edward Blyth

This lists all the published papers that the author could locate and identify as by Blyth (where the paper did not appear under his name, the pseudonym is given), but should not be considered comprehensive. The items are arranged in date order and then by the journal in which they appeared.

1832.a.1 Zoophilus. The stoat, the changes in the colour of its fur, and those changes rather referable to atmospheric temperature than to periodical change of season; and the stoat and its congeners trace their prey by the faculty of scent.
The Magazine of Natural History (1832) 5 (1): 718-722

1833.a.1 Description of the cuckoo, from the coloured drawing
The Field Naturalist (1833) **1:** 7-8

1833.a.2 On the colours of the feathers of birds
The Field Naturalist (1833) **1:** 21-25

1833.a.3 On the yellow colour of animals and plants
The Field Naturalist (1833) **1:** 47

1833.a.4 Attack upon a hare by a magpie
The Field Naturalist (1833) **1:** 48

1833.a.5 Habits of the bearded tit. (*Parus Biarmicus*, Linnaeus)
The Field Naturalist (1833) **1:** 66-70

1833.a.6 On the predacious habits of the shrike or flusher. (*Lanius Collurio*)
The Field Naturalist (1833) **1:** 77-79

1833.a.7 On the stomachs of birds
The Field Naturalist (1833) **1:** 90

1833.a.8 On the diversity of disposition in animals of the same species.
The Field Naturalist (1833) **1:** 112-113

1833.a.9 The cross-bill and the parrot cross-bill
The Field Naturalist (1833) **1:** 130

1833.a.10 Remarks on the classification of birds, particularly the British warblers, (*Sylviana*)
The Field Naturalist (1833) **1:** 134-138

1833.a.11 Anecdote of a cat
The Field Naturalist (1833) **1:** 187

1833.a.12 Singular laying of the barn owl
The Field Naturalist (1833) **1:** 187

1833.a.13 Curious instinct in a ewe
The Field Naturalist (1833) **1:** 188

1833.a.14 On the hawfinch and bramble finch
The Field Naturalist (1833) **1:** 187-188

1833.a.15 On the bearded tit
The Field Naturalist (1833) **1:** 190-192

1833.a.16 On the nightingale
The Field Naturalist (1833) **1:** 196-204

1833.a.17 Native birdlime
The Field Naturalist (1833) **1:** 231

1833.a.18 Tree creeper's song
The Field Naturalist (1833) **1:** 231

1833.a.19 On the colours of flowers
The Field Naturalist (1833) **1:** 235

1833.a.20 On the British tits
The Field Naturalist (1833) **1:** 262-269

1833.a.21 On the hooded crow
The Field Naturalist (1833) **1:** 279

1833.a.22 Furze branches for cage birds
The Field Naturalist (1833) **1:** 280

1833.a.23 On the genus *Phoenicura* and the blue-breast
The Field Naturalist (1833) **1:** 290-291

1833.a.24 On the British fruit-eating warblers
The Field Naturalist (1833) **1:** 306-318

1833.a.25 Retrospect
The Field Naturalist (1833) **1:** 350-356

1833.a.26 Squirrels
The Field Naturalist (1833) **1:** 370

1833.a.27 Tree and meadow pipits
The Field Naturalist (1833) **1:** 370-371

1833.a.28 The kingfisher and the sedge bird
The Field Naturalist (1833) **1:** 417

1833.a.29 A general arrangement of the British warblers, (*Sylvianae*) and birds of the robin kind, (*Rubeculinae*) with various remarks
The Field Naturalist (1833) **1:** 423-447

1833.a.30 New facts on the migration of various birds and insects
The Field Naturalist (1833) **1:** 466-472

1833.a.31 Singular resting place for a canary
The Field Naturalist (1833) **1:** 508

1833.a.32 Magpie moth refused by birds
The Field Naturalist (1833) **1:** 549-550

1833.a.33 Night shining eyes of the dark arches moth
The Field Naturalist (1833) **1:** 550

1833.b.1 Considerations pertaining to classification, in relation to the essay (p.385-390 [ibid]) of the Rev. L. Jenyns on this subject
The Magazine of Natural History (1833) **6** (1): 485 - 487

1833.b.2 Short communication. The water shrew (*Sorex fodiens* L.)
The Magazine of Natural History (1833) **6** (1): 512

1833.b.3 Short communication. The species of thrush, whose migration is described by W.L. of Selkirkshire, in p.218. [ibid] is the Redwing (*Turdus iliacus* L.)
The Magazine of Natural History (1833) **6** (1): 516

1833.b.4 Short communication. The chiffchaff pettychaps (*Sylvia loquax* Herbert), and the rufous pettychaps (*S. rufa* Latham). (p.447 [ibid])
The Magazine of Natural History (1833) **6** (1): 521-523

1833.b.5 Short communication. Of the natterjack toad (*Bufo Rubeta* Flem). (p.185, 457. [ibid])
The Magazine of Natural History (1833) **6** (1): 526

1833.b.6 Short communication. What are the colour and appearance of the young of the common viper (*Viperus vulgaris* Flem.)?
The Magazine of Natural History (1833) **6** (1): 526-527

1834.a.1 On procuring specimens of the smaller British land birds for a museum, with observations on the habits of various species
The Field Naturalist (1834) **2:** 44-54

1834.a.2 On procuring specimens of the smaller British land birds for a museum, with incidental observations on the habits of various species
The Field Naturalist (1834) **2:** 113-120

1834.a.3 Aurora borealis
The Field Naturalist (1834) **2:** 156

1834.a.4 The snipe (*Scolopax gallinago*, Linnaeus)
The Field Naturalist (1834) **2:** 156-158

1834.a.5 Retrospective remarks
The Field Naturalist (1834) **2:** 170-174

1834.a.6 Of what use are the aigrettes of certain owls
The Field Naturalist (1834) **2:** 213

1834.a.7 Habits of the tawny wood-owl, or screech owl
The Field Naturalist (1834) **2:** 213

1834.b.1 Short communication. Crossing and lengthening in the mandibles of birds; remarks on the causes and conditions observable in. (III.402.; VI.517)
The Magazine of Natural History (1834) **7**: 56-58

1834.b.2 Short communication. Excrescences on the head and other parts of the common hedge chanter (*Accentor modularis* Cuv.) (VI [of Mag.Nat.Hist.] 153)
The Magazine of Natural History (1834) **7:** 58

1834.b.3 Retrospective criticism. Dates of the redwing's appearance [referring to VI. 516]
The Magazine of Natural History (1834) **7**: 75

1834.b.4 Short communication. The small dark brown thrush notified by W.L. (p.144. [ibid], and previously); with some remarks on the British thrushes.
The Magazine of Natural History (1834) **7**: 241-244

1834.b.5 Notes on the arrival of the British summer birds of passage in 1834, with incidental remarks on some of the species.
The Magazine of Natural History (1834) **7**: 338-347 [Extra note - p.348]

1834.b.6 A cuckoo pursued by a meadow pipit
The Magazine of Natural History (1834) **7**: 348

1834.b.7 Short communication. [Concerning rooks and choughs]
The Magazine of Natural History (1834) **7**: 462

1834.b.8 Short communication. Remarks on the clouded-yellow butterfly (*Colias Edusa*); and on other lepidopterous insects noticed in the Isle of Jersey.
The Magazine of Natural History (1834) **7**: 473-475

1834.b.9 A notice of the songs of the bramble finch, the mountain linnet, and the tree sparrow; with remarks on each species
The Magazine of Natural History (1834) **7:** 487-489

1835.a.1 An attempt to classify the "varieties" of animals, with observations on the marked seasonal and other changes which naturally take place in various British species, and which do not constitute varieties.
The Magazine of Natural History (1835) **8:** 40-53

1835.a.2 A few remarks on hybrids, in reference to Mr. Berry's communications in VII. 599
The Magazine of Natural History (1835) **8:** 198 - 201

1835.a.3 Short communication. Have hybrid birds ever been produced from parent in a wild state? (p.198) [addition to footnote ibid. p.199]
The Magazine of Natural History (1835) **8:** 228-229

1835.a.4 Observations on the cuckoo
The Magazine of Natural History (1835) **8:** 325-340

1835.a.5 A notice of a very remarkable individual of the common shrike (*Lànius Collùrio* Lin.), with some observations on this species of shrike.
The Magazine of Natural History (1835) **8:** 364-371

1835.a.6 Short communication. The quail (*Cotúrnix vulgàris*)
The Magazine of Natural History (1835) **8:** 512

1836.a.1 (E. Blyth, ed.)
The Natural History of Selbourne, with its Antiquities; Naturalist's Calendar, &c. A new Edition, with Notes by Edward Blyth
Gilbert White
Published 1836. Orr & Co.: London

1836.b.1 On the natural history of the nightingale, (*Philomela luscinia*,-Swainson)
The Analyst (1836) **4:** 28-45,212-224

1836.c.1 Observations on the various seasonal and other external changes which regularly take place in Birds, more particularly in those which occur in Britain; with remarks on their great importance in indicating the true affinities of species; and upon the natural system of arrangement
The Magazine of Natural History (1836) **9:** 393 - 409, 505-514

1836.c.2 Short communication. [*Vanéssa Antìopa, Satúrnia Pàvania minor, Cerula vinula*, the common wasp, and the death's head hawk moth: information on]
The Magazine of Natural History (1836) **9:** 482

1836.c.3 [Answer to] "What is the best method of depriving birds of the power of flight, with the least appearance of mutilation?" - E. Ventris
The Magazine of Natural History (1836) **9:** 483

1836.c.4 [Answer to] "Do any, and what, British species of birds breed before they have attained mature plumage?" - E. Ventris
The Magazine of Natural History (1836) **9:** 483

1836.c.5 [Answer to] "What is the most effectual method of preventing the house martin (*Hirùndo úrbica* Lin.) from building in particular spots"
The Magazine of Natural History (1836) **9:** 484-485

1836.c.6 The mocking bird (*Orpheus polyglottus*)
The Magazine of Natural History (1836) **9:** 484-485

1836.c.7 Further remarks on the affinities of the feathered race; and upon the nature of specific distinctions
The Magazine of Natural History (1836) **9:** 505-514

1836.c.8 Short communication. Redstart, the nature of its food, &c
The Magazine of Natural History (1836) **9:** 545-546

1836.c.9 Short communication. *Polyómmatus Argiolus*
The Magazine of Natural History (1836) **9:** 546

1836.c.10 [Answer to] The mole, carrion crow, nightingale, serpent, toad: do they occur in Ireland? (p.482)]
The Magazine of Natural History (1836) **9:** 546-548

1836.c.11 Dark-legged pettychaps, or chiffchaff (*Sylvia loquax* Herbert, *Hillpolais* of Latham and Montagu, but not of Linnaeus and Temminck); the migration of this species partly doubted by Mr. Neville Wood. (p.485) [ibid]
The Magazine of Natural History (1836) **9:** 551-553

1836.c.12 On the species of birds observed during the last four years in the vicinity of Tooting, Surrey; with a few remarks on their comparative number and distribution
The Magazine of Natural History (1836) **9:** 622-638

1837.a.1 Miscellaneous communications. The mealy linnet
The Analyst (1837) **5:** 346

1837.a.2 Miscellaneous communications. The brake nightingale; the field fare thrush
The Analyst (1837) **6:** 346

1837.b.1 On the psychological distinctions between man and all other animals; and the consequent diversity of human influence over the inferior ranks of creation, from any mutual and reciprocal influence excercised among the latter
The Magazine of Natural History (1837) **1** (New Series): 1-9, 77-85, 131- 141

1837.b.2 On the habits and peculiarities of the common bottletit, or mufflin (*Mecistùra vàgans* Leach, *Pàrus caudàtus* of Linnæus!)
The Magazine of Natural History (1837) **1** (New Series): 199-208

1837.b.3 On the reconciliation of certain apparent discrepancies observable in the mode in which the seasonal and progressive changes of colour are affected in the fur of mammalians and feather of birds; with various observations or moulting.
The Magazine of Natural History (1837) **1** (New Series): 259-263, 300-311

1837.b.4 [In Short communications, Extracts, &c] On woodcocks, fieldfares, and redwings building with the British Islands
The Magazine of Natural History (1837) **1** (New Series): 439-441

1837.b.5 Habits of the viper
The Magazine of Natural History (1837) **1** (New Series): 441-442

1837.b.6 On certain alleged tokens of affinity which have been held to connect the pigeons with the poultry
The Magazine of Natural History (1837) **1** (New Series): 442-443

1837.b.7 Some remarks on the plumage of birds
The Magazine of Natural History (1837) **1** (New Series): 477-481

1837.b.8 Notes on the pern, or honey buzzard
The Magazine of Natural History (1837) **1** (New Series): 536-541

1837.b.9 Redwing's nest near Godalming, in Surrey
The Magazine of Natural History (1837) **1** (New Series): 555

1837.b.10 On the counterfeiting of death as a means to escape from danger, in the fox and other animals
The Magazine of Natural History (1837) **1** (New Series): 566-574

1837.b.11 The green sandpiper
The Magazine of Natural History (1837) **1** (New Series): 605-606

1837.c.1 On the fen reedling, (*Salicaria Arundinacea*, Selby), reed wren, or reed-warbler, of other ornithologists.
The Naturalist (1837) **1:** 33-37

1837.c.2 *Ficedula garrula*. Order.-Insessores. family.-Sylviadae.- White breasted fauvet.
The Naturalist (1837) **1:** 49-57

1837.c.3 Period of the arrival of birds of passage
The Naturalist (1837) **2.** part 2. April - December: 37-38

1837.c.4 The charms of a natural aviary
The Naturalist (1837) **2.** part 2. April - December: 77-78

1837.c.5 Plumage of the warblers (*Sylvia*)
The Naturalist (1837) **2.** part 2. April - December: 101

1837.c.6 An instance of the attachment of the skylark to its offspring
The Naturalist (1837) **2.** part 2. April - December: 102-103

1837.c.7 Period of arrival of the garden fauvet (*Ficedula hortensis*)
The Naturalist (1837) **2.** part 2. April - December: 105

1837.c.8 Nest of the sibilous locustell (*Locustella sibilatrix*, C.T. Wood)
The Naturalist (1837) **2.** (9): 164

1837.c.9 The occurence of the cirl bunting (*Emberiza cirlus*) in Yorkshire
The Naturalist (1837) **2.** part 2. April - December: 221

1837.c.10 A commentary on numbers VII and VII of the 'Naturalist'
The Naturalist (1837) **2.** part 2. April - December: 288-295

1837.c.11 Notes on the cirl bunting
The Naturalist (1837) **2.** part 2. April - December: 341-343

1837.c.12 The last swallow in Surrey in 1836
The Naturalist (1837) **2.** part 2. April - December: 382

1837.c.13 The wryneck's mode of feeding
The Naturalist (1837) **2.** part 2. April - December: 385

1837.c.14 Relative abundance of the warblers (*Sylvia*) in Surrey
The Naturalist (1837) **2.** part 2. April - December: 388

1837.c.15 On the mealy linnet (*Linaria canescens*, Gould), with remarks on the close affinity of particular species
The Naturalist (1837) **2.** part 2. April - December: 453-462

1837.d.1 [On the osteology of the great auk (*Alca impennis*)] In: Proceedings of the Zoological Society, November 14th, 1837.
Proceedings of the Zoological Society (1837) **:** 122-123

1838.a.1 [Exhibition of, and remarks on three wild British geese - the grey goose (*Anser cinereus*), the bean goose (*A.segetum*), and the white-fronted goose (*A. albifrons*)] in [Proceedings of the Ornithological Society for May 5th, 1837]
The Analyst (1838) **8:** 294-295

1838.a.2 [Remarks upon specimens of rare birds obtained in the London markets, and on the general structure of the class *Aves*] in [Proceedings of the Ornithological Society for May 15th, 1837]
The Analyst (1838) **8:** 296

1838.b.1 Outlines of a new arrangement of insessorial birds
The Magazine of Natural History (1838) **2** (New Series): 256-268, 314-319

1838.b.2 Analytic description of the groups of birds composing the orders, *Insessores Heterogenes*. No.1.- Rollers, bee-eaters, and kingfishers: todies, and jacamars
The Magazine of Natural History (1838) **2** (New Series): 351-361

1838.b.3 Short communication.
The Magazine of Natural History (1838) **2** (New Series): 395-396
[concerning Adult plumage of the female smew; Pomarine skua; native woodcocks]

1838.b.4 Analytic description of the groups of birds composing the orders, *Insessores Heterogenes*. No.2. - Systematic analysis of the series. Characters of the motmots
The Magazine of Natural History (1838) **2** (New Series): 420-426

1838.b.5 Short communication. Plumage of the smew merganser
The Magazine of Natural History (1838) **2** (New Series): 451

1838.b.6 Plumage of the crossbill
The Magazine of Natural History (1838) **2** (New Series): 451-452

1838.b.7 The doctrine of spontaneous organisation
The Magazine of Natural History (1838) **2** (New Series): 507-509

1838.b.8 Analytic descriptions of the groups of birds composing the order *Strepitores*. No. III. Buceroides, or the hornbills and hoopoe tribes
The Magazine of Natural History (1838) **2** (New Series): 589-601

1838.c.1 On the changes of colour in the plumage of birds without moulting
The Naturalist (1838) **3** part January-September, 1838: 48-49

1838.c.2 Haunts of the darklegged warbler (*Sylvia loquax*, Herbert)
The Naturalist (1838) **3** part January-September, 1838: 49

1838.c.3 Remarks on the bitterns
The Naturalist (1838) **3** part January-September, 1838: 72-80

1838.c.4 Letter to the Editor: Observations on the bitterns
The Naturalist (1838) **3** part January-September, 1838: 87-88

1838.c.5 Letter to the Editor: Critical remarks on Mr. Dale's Dorsetshire Fauna
The Naturalist (1838) **3** part January-September, 1838: 91

1838.c.6 Profilicacy of the blackbird
The Naturalist (1838) **3** part January-September, 1838: 152

1838.c.7 The geographical distribution of birds. In: Proceedings of the Ornithological Society of London, Feruary 2, 1838
The Naturalist (1838) **3** part January-September, 1838: 169-174

1838.c.8 A history of the nightingale
The Naturalist (1838) **3** part January-September, 1838: 343-352

1838.c.9 Notice of rare birds obtained during the winter of 1837-9
The Naturalist (1838) **3** part January-September, 1838: 412-420

1838.d.1 [Observations on the structure of the feet of the Trogonidae]. In: Proceedings of the Zoological Society, February 13th, 1838.
Proceedings of the Zoological Society (1838) **:** 17-22

1838.d.2 [Remarks on the plumage and progressive changes of the crossbill and linnet]. In: Proceedings of the Zoological Society, September 11th, 1838.
Proceedings of the Zoological Society (1838) **:** 111-115

1838.d.3 [Exhibition of the skull of a Cumberland ox, presenting a remarkable development of the horns]. p. 120. In: Proceedings of the Zoological Society, October 23rd, 1838.
Proceedings of the Zoological Society (1838): 119-147

1839.a.1 Desultory sketches in natural history. No.1. - The hyæna group.
The Analyst (1839) **9:** 43-74

1839.a.2 A natural history of the cuckoo, (*Cuculus canorius*)
The Analyst (1839) **9:** 50-68

1839.a.3 Outlines of a systematic arrangement of the class *Aves*. In:
Proceedings of the Zoological Society, June 2[6th]th [1838]
The Analyst (1839) **9:** 148-150
[Title and correct date from *Proceedings of the Zoological Society*, 1838 :77.]

1839.a.4 [Remarks on distinction observable in two Mangaluy [sic - lapsus for Mangabey] Monkeys]. In: Proceedings of the Zoological Society, October 9th [1838]
The Analyst (1839) **9:** 319

1839.a.5 [On the dental system of the Lemuridae; Observations on the Plantigrada of Cuvier; Exhibition of a gigantic head of an ox]. In:
Proceedings of the Zoological Society, October 23rd [1838]
The Analyst (1839) **9:** 320-322

1839.b.1 Analytic descriptions of the groups of birds composing the order Strepitores. no. IV - *Zygodactyli Levirostres*, or the toucan family (*Rhamphastidae*), and the touraco and coly (*Musophagidae*).
The Magazine of Natural History (1839) **3** (New Series): 76-84

1839.b.2 Short communication. On field fares breeding with the British Islands
The Magazine of Natural History (1839) **3** (New Series): 467-468

1839.b.3 Short communications. Observations on the wildfowls in St. James' Park
The Magazine of Natural History (1839) **3** (New Series): 469-471

1839.c.1 Actions of the dipper under water
The Naturalist (1839) **5** part July-September, 1839: 159-160

1840.a.1 The Mammalia, birds, and reptiles. pp.38-288. In:
The Animal Kingdom, arranged after its organization, forming a natural history of animals and an introduction to comparative anatomy.
Cuvier, Baron Georges
1840. Orr & Co: London

1840.b.1 Notice of some additional species of the genus *Equus* to those currently admitted by zoologists.
The Magazine of Natural History (1840) **4** (New Series): 81-87, 369-373

1840.b.2 Additional notices of species of the genus *Equus*
The Magazine of Natural History (1840) **4** (New Series): 369-373

1840.c.1 Monograph of the species of the genus *Ovis*. In: Proceedings of the Zoological Society, February 11th, 1840
Proceedings of the Zoological Society (1840) : 12-13

1840.c.2 [Exhibition of a pair of horns of the Rass of Pamir, and also of the Horns of a new species of Wild Sheep from Little Tibet]. In: Proceedings of the Zoological Society, July 14th, 1840. *Proceedings of the Zoological Society* (1840) **:** 61

1840.c.3 An amended list of the species of the genus *Ovis*. In: Proceedings of the Zoological Society, July 28th, 1840. *Proceedings of the Zoological Society* (1840) **:** 62-78

1840.c.4 [Exhibition of various coloured drawings and specimens collected chiefly in Little Thibet by Mr. Vigne. In: Proceedings of the Zoological Society, July 28th, 1840. *Proceedings of the Zoological Society* (1840)**:** 79-81

1841.a.1 An Amended List of the Species of the Genus *Ovis* *Annals and Magazine of Natural History* (1841) **7:** 195-200

1841.b.1 A general review of the species of true stag, or elaphoid form of *Cervus*, comprising those more immediately related to the red deer of Europe *Journal of the Asiatic Society of Bengal* (1841) **10**: 736-750

1841.b.2 Description of another new species of pika, (*Lagomys*) from the Himalaya *Journal of the Asiatic Society of Bengal* (1841) **10**: 816-817

1841.b.3 Report for the month of September, by the Curator. In: Proceedings of the Asiatic Society. (Wednesday Evening, 6th October, 1841). *Journal of the Asiatic Society of Bengal* (1841) **10**: 836-842

1841.b.4 A Monograph of the species of wild sheep. *Journal of the Asiatic Society of Bengal* (1841) **10**: 858-888

1841.b.5 The Curator's report. in: Proceedings of the Asiatic Society (Thursday Evening, 11th November, 1841) *Journal of the Asiatic Society of Bengal* (1841) **10**: 917-929

1841.b.6 [Report of the curator for the month of November last]. In: Proceedings of the Asiatic Society. (Friday Evening, 3rd December, 1841) *Journal of the Asiatic Society of Bengal* (1841) **10**: 936-938

1841.b.7 Descriptions of three Indian species of bat, of the genus *Taphozous* *Journal of the Asiatic Society of Bengal* (1841) **10**: 971-977

1841.c.1 [Letter to the Curator] In: Proceedings of the Zoological Society, August 10th, 1841. *Proceedings of the Zoological Society* (1841) **:** 63-65

1842.a.1 [Report of the Curator to the Society.] In: Proceedings of the Asiatic Society (Friday the 21st January, 1842). *Journal of the Asiatic Society of Bengal* (1842) **11**: 95-115

1842.a.2 Notes on various Indian and Malayan Birds, with descriptions of some presumed new species *Journal of the Asiatic Society of Bengal* (1842) **11**: 160-195

1842.a.3 [Report of the Curator] In: Proceedings of the Asiatic Society (Friday Evening, 4th February, 1842) *Journal of the Asiatic Society of Bengal* (1842) **11**: 199-204

1842.a.4 Notice of the predatory and sanguivorous habits of the bats of the genus *Megaderma*, with some remarks on the blood-sucking propensities of other Vespertilionidae
Journal of the Asiatic Society of Bengal (1842) **11**: 255-262

1842.a.5 [Report of the Curator] In: Proceedings of the Asiatic Society (Friday Evening, 6th May, 1842)
Journal of the Asiatic Society of Bengal (1842) **11**: 444-470

1842.a.6 [Report of the Curator] In: Proceedings of the Asiatic Society (Friday Evening, 10th June, 1842)
Journal of the Asiatic Society of Bengal (1842) **11**: 585-588

1842.a.7 Report for May meeting. In: Proceedings of the Asiatic Society (Friday Evening, 10th June, 1842)
Journal of the Asiatic Society of Bengal (1842) **11**: 588-604

1842.a.8 A monograph of the species of lynx
Journal of the Asiatic Society of Bengal (1842) **11**: 740-760

1842.a.9 Descriptive notice of the bat described as *Taphozous longimanus*, by Gen. Hardwicke
Journal of the Asiatic Society of Bengal (1842) **11**: 784-786

1842.a.10 [Report from the Curator] In: Proceedings of the Asiatic Society (Friday evening, 15th July, 1842).
Journal of the Asiatic Society of Bengal (1842) **11:** 788-799

1842.a.11 Appendix 1 [to Report From the Curator] - The Asiatic drongos (*Edolius*, Cuv.). In: Proceedings of the Asiatic Society (Friday evening, 15th July, 1842).
Journal of the Asiatic Society of Bengal (1842) **11**: 799-802

1842.a.12 Appendix 2 [to the Report from the Curator] - Genus *Turnix*, Bonn. (1790); *Tridactylus*, Lacepede; *Ortygis*, Illiger; *Hemipodus*, Temminck: The three-toed quails of sportsmen. In: Proceedings of the Asiatic Society (Friday evening, 15th July, 1842).
Journal of the Asiatic Society of Bengal (1842) **11**: 802-809

1842.a.13 [Report from the Curator] In: Proceedings of the Asiatic Society (Friday Evening, 12th August, 1842).
Journal of the Asiatic Society of Bengal (1842) **11**: 865-873

1842.a.14 [Report from the Curator] In: Proceedings of the Asiatic Society (Friday Evening, 2d September, 1842).
Journal of the Asiatic Society of Bengal (1842) **11**: 880-891

1842.a.15 Monograph of the Indian and Malayan species of Cuculidae, or birds of the cuckoo family
Journal of the Asiatic Society of Bengal (1842) **11**: 897-928, 1095-1112

1842.a.16 [Report from the Curator] In: Proceedings of the Asiatic Society (Friday Evening, 7th October, 1842)
Journal of the Asiatic Society of Bengal (1842) **11**: 969-970

1842.a.17 [Report from the Curator] In: Proceedings of the Asiatic Society (Friday Evening, 11th November, 1842)
Journal of the Asiatic Society of Bengal (1842) **11**: 1202-1203

1842.b.1 [Abstract of a Letter, relating to various species of birds which are found both in India and Europe]. p. 93-94. In: Proceedings of the Zoological Society, July 2, 1842.
Proceedings of the Zoological Society (1842) : 91-94

1843.a.1 On the affinities of *Glareola torquata*
Annals and Magazine of Natural History (1843) **12**: 74-76

1843.a.2 List of birds obtained in the vicinity of Calcutta, from September 1841 to March 1843 inclusive.
Annals and Magazine of Natural History (1843) **12:** 90-101, 165-172

1843.a.3 Addenda and emendations to Mr. E. Blyth's list of birds obtained in the vicinity of Calcutta.
Annals and Magazine of Natural History (1843) **12**: 229-231

1843.b.1 [Note]. In: B.H. Hodgson, A description of a new genus of Falconidae. With a note by E. Blyth.
Journal of the Asiatic Society of Bengal (1843) **12:** 127-128

1843.b.2 [A memorandum from the Curator, with a postscript revising his previous reports to the Society, commencing with Vol. 10, p.836] In: Proceedings of the Asiatic Society (Friday Evening, 10th February 1843)
Journal of the Asiatic Society of Bengal (1843) **12**: 166-182

1843.b.3 Supplement to the Monograph of Indian and Malayan species of Cuculidae, or birds of the cuckoo family, published in Vol. XI, pp. 898, 1095, et seq
Journal of the Asiatic Society of Bengal (1843) **12**: 240-247

1843.b.4 Catalogue of Nepâlese birds presented to the Asiatic Society, duly named, and classified by the donor, Mr. Hodgson {and revised by the Society's Curator}
Journal of the Asiatic Society of Bengal (1843) **12**: 301-313

1843.b.5 [Footnotes]. In: B.H. Hodgson, Additions to the catalogue of Nepâl birds.
Journal of the Asiatic Society of Bengal (1843) **12:** 447-450

1843.b.6 Mr. Blyth's monthly report for December Meeting, 1842, with addenda subsequently appended
Journal of the Asiatic Society of Bengal (1843) **12:** 925-1011

1844.a.1 Further observations on the ornithology of the neighbourhood of Calcutta. With notes by H.E. Strickland
Annals and Magazine of Natural History (1844) **14:** 34-48, 113-125

1844.a.2 Further notices of the species of birds occurring in the vicinity of Calcutta.
Annals and Magazine of Natural History (1844) **13:** 113-117

1844.a.3 Descriptions of some new species of birds found in the neighbourhood of Calcutta.
Annals and Magazine of Natural History (1844) **13:** 175-179

1844.a.4 Miscellaneous. [Letter to Richard Taylor, December 14, 1843]
Annals and Magazine of Natural History (1844) **13:** 312

1844.a.5 Miscellaneous. [Letter to Richard Taylor, December 22, 1843]
Annals and Magazine of Natural History (1844) **13:** 312-313

1844.b.1 [Comment] p.67. In: B.H. Hodgson. Summary description of two new species of flying squirrel.
Journal of the Asiatic Society of Bengal (1844) **13**: 67-68

1844.b.2 Appendix to Mr. Blyth's report for December meeting, 1842 {continued from vol. XII, p.1011}
Journal of the Asiatic Society of Bengal (1844) **13**: 361-395

1844.b.3 Notices of various mammals, with descriptions of many new species: Part I - the Primates, Lin.
Journal of the Asiatic Society of Bengal (1844) **13**: 463-494

1844.b.4 "On the Leiotrichane birds of the Subhemalayas," by B.H. Hodgson, Esq: with some additions and annotations, - a synopsis of the Indian Pari, - and of the Indian Fringillidae, by E. Blyth, Curator of the Asiatic Society's Museum
Journal of the Asiatic Society of Bengal (1844) **13:** 933-963

1845.a.1 Notes by a naturalist on the Columbidae of the Eastern Districts
Indian Sporting Review (1845) **2:** 28-30
Anonymous. Assumed to be Blyth because of style and content

1845.a.2 The Cheetah
Indian Sporting Review (1845) **2:** 43-49
Anonymous. Assumed to be Blyth because of style and content

1845.b.1 Notices and descriptions of various new or little known species of birds
Journal of the Asiatic Society of Bengal (1845) **14**: 173-212, [part.2] 546-602

1845.b.2 Description of *Caprolagus*, a new genus of Leporine Mammalia
Journal of the Asiatic Society of Bengal (1845) **14:** 247-249

1845.b.3 [Notes in] Rough notes on the zoology of Candahar and the neighbouring Districts. By Capt. Thos. Hutton, of the Invalids, Mussoorie. With notes by Ed. Blyth, curator of the Asiatic Society's Museum
Journal of the Asiatic Society of Bengal (1845) **14:** 340-354

1845.b.4 Drafts for a Fauna Indica. (Comprising the animals of the Himalaya mountains, those of the Valley of the Indus, of the provinces of Assam, Sylhet, Tipperah, Arracan, and of Ceylon, with occasional notices of species from the neighbouring countries.) No. 1. The Columbidae or pigeons and doves
Journal of the Asiatic Society of Bengal (1845) **14:** 845-878

1846.a.1 Notices and Descriptions of various new or little known species of birds. {Continued from [1845] Vol. XIV, p. 602}
Journal of the Asiatic Society of Bengal (1846) **15:** 1-54, 280-315

1846.a.2 Notes on the Fauna of the Nicobar Islands
Journal of the Asiatic Society of Bengal (1846) **15:** 367 - 379

1846.a.3 Report of the Society's Zoological Curator for the meeting held November 4th 1846. In: Proceedings of a Meeting of the Asiatic Society of Bengal, held on the 4th November 1846.
Journal of the Asiatic Society of Bengal (1846) **15:** xcix-ci

1847.a.1 Description of a new species of cassowary living in the menageries of the Babu Rajendra Mullick at Calcutta.
Annals and Magazine of Natural History (1847) **6** (Third Series): 113

1847.a.2 Critical remarks upon Mr. J.E. Gray's published catalogue of the specimens of mammalia and birds presented by B.H. Hodgson, Esq., to the British Museum
Annals and Magazine of Natural History (1847) **20:** 313-323

1847.a.3 A few critical remarks on M. Carl J. Sundevall's paper on the birds of Calcutta, as republished by H.E. Strickland, Esq.
Annals and Magazine of Natural History (1847) **20:** 382-394

1847.b.1 Report for the months of December, 1846, and January and February, 1847. In: Proceedings of the Asiatic Society of Bengal, February, 1857.
Journal of the Asiatic Society of Bengal (1847) **16:** 209 - 212

1847.b.2 Some further notice[sic] of the species of wild sheep
Journal of the Asiatic Society of Bengal (1847) **16:** 350 - 366

1847.b.3 Report of the Curator. In: Proceedings of the Asiatic Society of Bengal, March, 1847
Journal of the Asiatic Society of Bengal (1847) **16:** 385-387

1847.b.4 [Mr. Blyth's report] In: Proceedings of the Asiatic Society of Bengal, April, 1847.
Journal of the Asiatic Society of Bengal (1847) **16:** 502

1847.b.5 Report of the Curator, Zoological Department. In: Proceedings of the Asiatic Society of Bengal, May, 1847.
Journal of the Asiatic Society of Bengal (1847) **16:** 603-604

1847.b.6 Notices and descriptions of various new or little known species of birds. {Continued from p.313, ante }
Journal of the Asiatic Society of Bengal (1847) **16:** 117-157, 428-476
[Refers to **1846.a.1**, p.313]

1847.b.7 Zoological Department - Mr. Blyth's Report. In: Proceedings of the Asiatic Society of Bengal, June, 1847.
Journal of the Asiatic Society of Bengal (1847) **16:** 725-727

1847.b.8 Supplementary Report of the Curator of the Zoological Department. In: Proceedings of the Asiatic Society of Bengal, June, 1847.
Journal of the Asiatic Society of Bengal (1847) **16:** 728-737

1847.b.9 [Notes in] Rough Notes on the zoology of Candahar and the Neighbouring Districts. By Capt. Thos. Hutton, of the Invalids, Mussoorie. {With notes by Ed. Blyth, curator of the Asiatic Society's Museum, &c. &c.}
Journal of the Asiatic Society of Bengal (1847) **16**: 775-794, 880

1847.b.10 Report of Curator, Zoological Department. In: Proceedings of the Asiatic Society of Bengal for July, 1847.
Journal of the Asiatic Society of Bengal (1847) **16:** 863-864. [with addendum] p. 878-880

1847.b.11 Supplementary report by the Curator, Zoological Department. In: Proceedings of the Asiatic Society of Bengal for July, 1847.
Journal of the Asiatic Society of Bengal (1847) **16:** 864-878. [addendum] p. 1001

1847.b.12 Report of Curator, Zoological Department. In: Proceedings of the Asiatic Society of Bengal, for August, 1847.
Journal of the Asiatic Society of Bengal (1847) **16:** 992

1847.b.13 Supplementary Report. In: Proceedings of the Asiatic Society of Bengal, for August, 1847.
Journal of the Asiatic Society of Bengal (1847) **16:** 992-1001

1847.b.14 Report of Curator, Zoological Department, for September 1847.
Journal of the Asiatic Society of Bengal (1847) **16:** 1178-1181

1847.b.15 Report of Curator, Zoological Department. In: [Proceedings of the Asiatic Society of Bengal], for December, 1847.
Journal of the Asiatic Society of Bengal (1847) **16:** 1271-1276

1848.a.1 Report on the Collection of Australian Vertebrata, contained in the museum of the Asiatic Society, Calcutta.
Asiatic Society of Bengal, Calcutta: 1848.
[A hand-annotated copy of this catalogue is held in the Mammal Section Library, Department of Zoology, Natural History Museum, London]

1848.b.1 Corrections of "Critical Remarks on Mr. Gray's Catalogue of Mammalia and birds presented by B.H. Hodgson, Esq., to the British Museum," Ann. and Mag. N.H. vol.xx. p.313
Annals and Magazine of Natural History (1848) **1** (Second Series): 454-457

1848.c.1 Zoophilus. Sketches in Natural History. No.1 - The real Elk, or Moose
Indian Sporting Review (1848) **8** part July - December: 106-124

1848.d.1 [Notes in] Notes on the Nidification of Indian Birds. (Communicated by E. Blyth, Esq.) **Thomas Hutton**
Journal of the Asiatic Society of Bengal (1848) **17**: 3-13, 681-696

1848.d.2 Report of Curator, Zoological Department. [For December, 1847] p. 82-85. In: Proceedings of the Asiatic Society of Bengal, for January, 1848.
Journal of the Asiatic Society of Bengal (1848) **17:** 79-85

1848.d.3 Report of Curator Zoological Department. In: Proceedings of the Asiatic Society of Bengal, for March, 1848
Journal of the Asiatic Society of Bengal (1848) **17:** 247-255

1848.d.4 Report of Curator, Zoological Department. In: Proceedings of the Asiatic Society of Bengal, for April, 1848.
Journal of the Asiatic Society of Bengal (1848) **17:** 344-346

1848.d.5 Report of Curator, Zoological Department. For March meeting, 1848. In: Proceedings of the Asiatic Society of Bengal, for June, 1848.
Journal of the Asiatic Society of Bengal (1848) **17:** 559

1848.d.6 Report of Curator, Zoological Department, for April Meeting, 1848. In: Proceedings of the Asiatic Society of Bengal, for June, 1848.
Journal of the Asiatic Society of Bengal (1848) **17:** 559-560

1848.d.7 Report of Curator, Zoological Department, for May meeting, 1848.
In: Proceedings of the Asiatic Society of Bengal, for June, 1848.
Journal of the Asiatic Society of Bengal (1848) **17:** 560

1848.d.8 Report of Curator, Zoological Department, for June meeting, 1848.
In: Proceedings of the Asiatic Society of Bengal, for June, 1848.
Journal of the Asiatic Society of Bengal (1848) **17:** 560-561

1849.a.1 Sketches in Natural History. No.2. The Rein Deer, or Caribou
Indian Sporting Review (1849) **10** (July - December):74-116

1849.a.2 Sambur Horns
Indian Sporting Review (1849) **10** (July - December):256

1849.b.1 Report of Curator, Zoological Department. p.80 - 88.
Proceedings of the Asiatic Society of Bengal, for January, 1849.
Journal of the Asiatic Society of Bengal (1849) **18:**76-88

1849.b.2 Note on the Sciuri inhabiting Ceylon, and those of the Tenasserim provinces.
Journal of the Asiatic Society of Bengal (1849) **18**:600 - 603

1849.b.3 A Supplemental Note to the Catalogue of the Birds in the Asiatic Society's Museum.
Journal of the Asiatic Society of Bengal (1849) **18**:800-821

1850.a.1 Note by Mr Blyth
Annals and Magazine of Natural History (1850) **5** (Second Series):513-514

1850.b.1 Report of the Curator, Zoological Department. p. 88 In:
Proceedings of the Asiatic Society of Bengal For December, 1849
Journal of the Asiatic Society of Bengal (1850) **19**:83-88

1850.b.2 Description of a new species of mole (*Talpa leucura*, Blyth)
Journal of the Asiatic Society of Bengal (1850) **19**:215-217

1850.b.3 Remarks on the modes of variation of nearly affined
species or races of birds, chiefly inhabitants of India
Journal of the Asiatic Society of Bengal (1850) **19**:221-229

1850.b.4 Conspectus of the ornithology of India, Burma, and the Malayan
peninsula, inclusive of Sindh, Asám, Ceylon, and the Nicobar islands.
Journal of the Asiatic Society of Bengal (1850) **19**:229-239?
[Order I. Scansores]

1850.b.5 Conspectus of the ornithology of India, Burma, and the Malayan peninsula,
inclusive of Sindh, Asám, Ceylon, and the Nicobar islands. Order II. Raptores
Journal of the Asiatic Society of Bengal (1850) **19**:317-342

1850.b.6 [Report of the Curator]. p.348. In: Proceedings of
the Asiatic Society of Bengal for April, 1850
Journal of the Asiatic Society of Bengal (1850) **19**:342-348

1850.b.7 Report of Curator, Zoological Department, for June meeting, 1850.
p. 426. In: Proceedings of the Asiatic Society of Bengal For June, 1850
Journal of the Asiatic Society of Bengal (1850) **19**:421-427

1850.b.8 Report of Curator, Zoological Department, for July meeting, 1850. pp. 490-491. In: Proceedings of the Asiatic Society of Bengal for July, 1850
Journal of the Asiatic Society of Bengal (1850) **19**:481-492

1850.b.9 Report of Curator, Zoological Department, for August meeting, 1850. pp. 490-491. In: Proceedings of the Asiatic Society of Bengal, August 1850
Journal of the Asiatic Society of Bengal (1850) **19**:493-496

1850.b.10 Report of the Curator, Zoological Department, for August, 1850. pp. 497-498. In: Proceedings of the Asiatic Society of Bengal, September 1850
Journal of the Asiatic Society of Bengal (1850) **19**:497-498

1850.b.11 Conspectus of the ornithology of India, Burma, and the Malayan peninsula, inclusive of Sindh, Asám, Ceylon, and the Nicobar islands. Fam. Vulturidae
Journal of the Asiatic Society of Bengal (1850) **19**:501-517

1850.b.12 Report of Curator, Zoological Department. p. 561. In: Proceedings of the Asiatic Society of Bengal, for October, 1850.
Journal of the Asiatic Society of Bengal (1850) **19**:558-562

1851.a.1 Report of Curator, Zoological Department, for the months of October, November and December, 1849. p. 108-110. In: Proceedings of the Asiatic Society of Bengal, for January, 1851.
Journal of the Asiatic Society of Bengal (1851) **20**:78-111

1851.a.2 Reports on the Mammalia and more remarkable species of birds inhabiting Ceylon
Journal of the Asiatic Society of Bengal (1851) **20**:153-185

1851.a.3 Report of Curator, Zoological Department. pp. 213-214. In: Proceedings of the Asiatic Society of Bengal For February, 1851
Journal of the Asiatic Society of Bengal (1851) **20**:211-216

1851.a.4 Zoological Curator's Report for August meeting. pp. 443-444. In: Proceedings of the Asiatic Society of Bengal. For August, 1851
Journal of the Asiatic Society of Bengal (1851) **20**:441-447

1851.a.5 Notice of a collection of Mammalia, birds, and reptiles, procured at or near the station of Chérra Punjin in the Khásia hills, north of Sylhet.
Journal of the Asiatic Society of Bengal (1851) **20**:517-524

1852.a.1 Report of Curator, Zoological Department. p. 341-358. In: Proceedings of the Asiatic Society of Bengal. For April, 1852
Journal of the Asiatic Society of Bengal (1852) **21**:337-362

1852.a.2 Report of Curator, Zoological Department. p. 358-361. In: Proceedings of the Asiatic Society of Bengal. For April, 1852
Journal of the Asiatic Society of Bengal (1852) **21**:337-362

1852.a.3 Report of Curator, Zoological Department, for May, 1852. p. 433-440. In: Proceedings of the Asiatic Society of Bengal, For May, 1852
Journal of the Asiatic Society of Bengal (1852) **21**:431-442

1853.a.1 Remarks on the different species of orang-utan
Journal of the Asiatic Society of Bengal (1853) **22**:369-383

1853.a.2 Report of Curator, Zoological Department. p. 408-417. In: Proceedings of the Asiatic Society of Bengal, For May, 1853.
Journal of the Asiatic Society of Bengal (1853) **22**:407-418

1853.a.3 [Footnotes] In: T. Jerdon "Catalogue of Reptiles inhabiting the Peninsula of India."
Journal of the Asiatic Society of Bengal (1853) **22**:462-479

1853.a.4 Report of Curator, Zoological Department, for August Meeting. p. 580-584. In: Proceedings of the Asiatic Society of Bengal, For September, 1853.
Journal of the Asiatic Society of Bengal (1853) **22**:576-586

1853.a.5 Report of Zoological Curator for September Meeting. pp. 589-594 In: Proceedings of the Asiatic Society of Bengal, for October, 1853.
Journal of the Asiatic Society of Bengal (1853) **22**:586-595

1853.a.6 Notices and Descriptions of various Reptiles, new or little known.
Journal of the Asiatic Society of Bengal (1853) **22**:639-655

1854.a.1 Report of Curator, Zoological Department, October meeting, 1853. p. 210. In: Proceedings of the Asiatic Society of Bengal, For February, 1854.
Journal of the Asiatic Society of Bengal (1854) **23**:199-221

1854.a.2 [Report for] November meeting, 1853. p. 210-212. In: Proceedings of the Asiatic Society of Bengal, For February, 1854.
Journal of the Asiatic Society of Bengal (1854) **23**:199-221

1854.a.3 Notices and descriptions of various reptiles, new or little known. (Continued from Vol. XXII. p.655)
Journal of the Asiatic Society of Bengal (1854) **23**:287-302

1854.a.4 A monograph of the Indian species of *Phylloscopus* and its immediate affinities.
Journal of the Asiatic Society of Bengal (1854) **23**:479-494

1854.a.5 Report of Curator, Zoological Department, for September, 1854. p.729-740. In: Proceedings of the Asiatic Society of Bengal, for October, 1854.
Journal of the Asiatic Society of Bengal (1854) **23**:727-742

1854.a.6 [Report for] February meeting, 1854. p. 212-219. In: Proceedings of the Asiatic Society of Bengal, for February, 1854.
Journal of the Asiatic Society of Bengal (1854) **23**:199-221

1855.a.1 Memoir on the Indian species of shrews. With notes by Robert F. Tomes
Annals and Magazine of Natural History (1855) **15** (Second Series):11-28

1855.b.1 A Memoir on the Indian species of Shrews
Journal of the Asiatic Society of Bengal (1855) **24**:24-38

1855.b.2 Report of Curator, Zoological Department, for February Meeting, 1855. p.178-180. In: Proceedings of the Asiatic Society of Bengal, For February, 1855.
Journal of the Asiatic Society of Bengal (1855) **24**:169-182

1855.b.3 Report of Curator, Zoological Department, for March Meeting. p.187-188. In: Proceedings of the Asiatic Society of Bengal, For March, 1855.
Journal of the Asiatic Society of Bengal (1855) **24**:183-189

1855.b.4 Report of Curator, Zoological Department, for April Meeting, 1855. p.252-281. In: Proceedings of the Asiatic Society of Bengal, For April, 1855.
Journal of the Asiatic Society of Bengal (1855) **24**:244-282

1855.b.5 Report on a Zoological collection from the Somali country
Journal of the Asiatic Society of Bengal (1855) **24**:291-306

1855.b.6 Report for May meeting, 1855. pp.359-363. In: Proceedings of the Asiatic Society of Bengal, For May, 1855.
Journal of the Asiatic Society of Bengal (1855) **24**:354-364

1855.b.7 Report of Curator, Zoological Department, for July, 1855. p.252-281. In: Proceedings of the Asiatic Society of Bengal, For July, 1855.
Journal of the Asiatic Society of Bengal (1855) **24**:467-482

1855.b.8 Further remarks on the different species of orang-utan
Journal of the Asiatic Society of Bengal (1855) **24**:518-528

1855.b.9 Report for October meeting, 1855. p.711-723 In: Proceedings of the Asiatic Society of Bengal, For October, 1855.
Journal of the Asiatic Society of Bengal (1855) **24**:702-725

1856.a.1 Zoophilus. The Feline Animals of India. No.2. The Tiger
Indian Sporting Review (1856) **1** (N.S.):1-23

1856.a.2 Zoophilus. The Feline Animals of India. No.3. The Panther, Pard, or Leopard
Indian Sporting Review (1856) **1** (N.S.):143-159

1856.a.3 Zoophilus. The Gallinaceous Birds of India
Indian Sporting Review (1856) **1** (N.S.):187-196
Continued:(1856) **2** (N.S.):1-17

1856.a.4 Zoophilus. A Note for Scrap-Collator - Big donkeys in Kentucky
Indian Sporting Review (1856) **2** (N.S.):103-165

1856.a.5 Zoophilus. Natural history notices
Indian Sporting Review (1856) **2** (N.S.):131-137
[On a curious variety of mouse, Indian pelicans, descent of dog from wolves.]

1856.a.6 Zoophilus. Natural History Notices
Indian Sporting Review (1856) **2** (N.S.):239-261
[On horned female antelope, long-tailed marmot, 'musk cat' of Shanghai, gallinaceous birds of India, the Himalayan Chukor partridge,(*Cacabis chukor*), turkeys, guinea-Fowls, can a Frog swallow a turkey?, salmonidae in South America, Amaduvats]

1856.a.7 Zoophilus. Ineradicable delusions
Indian Sporting Review (1856) **2** (N.S.):331-333
[About snakes milking cows, sunflowers following the sun, moon influencing the weather]

1856.b.1 [Footnote] In: B.H. Hodgson. On a New Perdicine bird from Tibet
Journal of the Asiatic Society of Bengal (1856) **25**:165-166

1856.b.2 Curator's Report for the August Meeting, 1856. p.439-449 In: Proceedings of the Asiatic Society of Bengal, For August, 1856.
Journal of the Asiatic Society of Bengal (1856) **25**:419-450

1857.a.1 Zoophilus. The Feline animals of India. No.IV - The series of them
Indian Sporting Review (1857) **3** (N.S.):1 - 39, 119-139

1857.a.2 Zoophilus. Notes by Zoophilus [attached to 'Ornithology and Zoology of India by A.F.R.]
Indian Sporting Review (1857) **3** (N.S.):103-105

1857.a.3 Zoophilus. Natural history notices
Indian Sporting Review (1857) **3** (N.S.):265-287
[On origin of the world 'Monkey'; apes and baboons and reputed '*Homines caudati*'; the Indian lion, and lion-whelps born in captivity, pelicans, various origins of dogs, Whittington and his cat, the wild origin of the domestic turkey, wild guinea-fowl in S. Africa, singular mortality amongst the swallow tribe in England in 1855, Extraordinary effect of sudden cold on swifts, Amaduvats, the ostrich, "Ineradicable Delusions"]

1857.a.4 Zoophilus. The wild pigeons and doves of India
Indian Sporting Review (1857) **4** (N.S.):1-52, 192-214

1857.a.5 Zoophilus. Natural history notices
Indian Sporting Review (1857) **4** (N.S.):135-153
[On alleged new Indian quadrupeds, intelligence of porpoises, ferocity of Indian wolves, endurance of abstinences in a chita, remarkable anecdote of a Sárás, mice on board ship, Degustibus nil est disputandum]

1857.a.6 Zoophilus. Zoophilus to Old Fogy in Particular
Indian Sporting Review (1857) **4** (N.S.):160-168
[General notes about mammals of India, especially of Ceylon]

1857.a.7 Zoophilus Natural history notices
Indian Sporting Review (1857) **4** (N.S.):251-291
[On remarkable introduction of a Japanese species of pheasant into England, with notes on the intermixture of species, British raven and carrion crow interbreeding, rabbits, 'spirit-rapping' extraordinary by a 'ghost' in feather, snakes - venomous and non-venomous, chinese delicacies, the unicorn - the wild yak, migration of Indian birds, the tsetse or formidable African Brize-fly]

1857.a.8 Gleaning and musings
Indian Sporting Review (1857) **4** (N.S.):321-331
[On hybrid ducks, curious experiments suggested, tamed african elephants, African ivory, size of African elephants, food of the African elephant, African rhinoceroses, hippototami, maneless lions of Africa, roar of the ostrich, curious breed of fowls, egg-devouring snakes, the tsetse fly again]

1857.b.1 Description of a new Indian pigeon, akin to the 'stock dove' of Europe; with notices of other Columbinae.
Journal of the Asiatic Society of Bengal (1857) **26**:217-226

1857.b.2 Report of Curator, Zoological Department. p.238-241 In: Proceedings of the Asiatic Society of Bengal, For May, 1857.
Journal of the Asiatic Society of Bengal (1857) **26**:232-244

1857.b.3 Report of Curator, Zoological Department, July Meeting, 1857. p.284-285. In: Proceedings of the Asiatic Society of Bengal, For July, 1857
Journal of the Asiatic Society of Bengal (1857) **26**:280-286

1857.b.4 Report of Curator, Zoological Department. p.314-316. In: Proceedings of the Asiatic Society of Bengal, For October, 1857.
Journal of the Asiatic Society of Bengal (1857) **26**:296-316

1858.a.1 Report for December Meeting, 1857. p.81-84. In: Proceedings of the Asiatic Society of Bengal, For December, 1857.
Journal of the Asiatic Society of Bengal (1858) **27**:77-84

1858.a.2 Report. p.267-290. In: Proceedings of the Asiatic Society of Bengal, For May, 1858
Journal of the Asiatic Society of Bengal (1858) **27**:261-290

1859.a.1 [Extract from letter from Blyth to editor]
The Ibis (1859) **1**:114-115

1859.a.2 [Extract from letter from Blyth to editor]
The Ibis (1859) **1**:211

1859.a.3 Letter to the Editor
The Ibis (1859) **1**:464-467
[Letter dated August 1st. Calcutta. Birds notices and recent acquisitions]

1859.b.1 On the different animals known as wild asses
Journal of the Asiatic Society of Bengal (1859) **28**:229-253

1859.b.2 Report of Curator, Zoological Department, for February to May meetings, 1859. p. 271-298. In: Proceedings of the Asiatic Society of Bengal, For June, 1859.
Journal of the Asiatic Society of Bengal (1859) **28**:254-298

1859.b.3 Report of Curator, Zoological Department, for September, 1859. p. 411-419. In: Proceedings of the Asiatic Society of Bengal, For September, 1859.
Journal of the Asiatic Society of Bengal (1859) **28**:389-419

1859.b.4 On the Great Rorqual of the Indian Ocean, with Notices of other Cetals, and of the Syrenia or marine Pachyderms
Journal of the Asiatic Society of Bengal (1859) **28**:481-498

1860.a.1 Letter to the Editor
The Ibis (1860) **2**:99
[Letter dated October 8th. Calcutta. Birds notices and recent acquisitions]

1860.a.2 [Extract from letter to the editor]
The Ibis (1860) **2**:193
[Letter dated January 8th and 21st. New species of cassowary]

1860.a.3 [Extract from letter to the editor]
The Ibis (1860) **2**:306-307
[Letter dated April 31st[sic]. New species of cassowary]

1860.a.4 On edible birds' nest
The Ibis (1860) **2**:325-325

1860.b.1 The Cartilaginous Fishes of Lower Bengal
Journal of the Asiatic Society of Bengal (1860) **29**:35-45

1860.b.2 Report of Curator, Zoological Department. p. 87-115. In: Proceedings of the Asiatic Society of Bengal, For March, 1860.
Journal of the Asiatic Society of Bengal (1860) **29**:78-115

1860.b.3 Report on some fishes received chiefly from the Sitang River and its tributary streams, Tenasserim Provinces.
Journal of the Asiatic Society of Bengal (1860) **29**:138-174

1860.b.4 On the flat-horned taurine Cattle of S.E. Asia; with a note on the races of rein deer, and a note on domestic animals in general.
Journal of the Asiatic Society of Bengal (1860) **29**:282-306, 376-396

1860.b.5 Report of Curator, Zoological Department, for April and May Meetings. p. 447-453. In: Proceedings of the Asiatic Society of Bengal, for December, 1860.
Journal of the Asiatic Society of Bengal (1860) **29**:440-453

1861.a.1 [Extracts from letters to the editor]
The Ibis (1861) **3**:212-216
[Letters dated January 4th, 19th and 22nd]

1861.a.2 Note on the Calcutta 'adjutant'
The Ibis (1861) **3**:268-270

1861.a.3 [Extracts from letters to the editor]
The Ibis (1861) **3**:407-408
[Letters dated April 14th and May 10th]

1861.a.4 [Extract from letter to the editor]
The Ibis (1861) **3**:468
[Letter dated May 10th.]

1861.b.1 Report of Curator, Zoological Department, May and June [1860]. In: Proceedings of the Asiatic Society of Bengal, for February, 1861.
Journal of the Asiatic Society of Bengal (1861) **30**:90-98

1861.b.2 Report of Curator, Zoological Department, July [1860]. In: Proceedings of the Asiatic Society of Bengal, for May, 1861.
Journal of the Asiatic Society of Bengal (1861) **30**:185-194

1861.b.3 Notes on some birds collected by Dr. Jerdon in Sikkim. In: Proceedings for May 14, 1861
Proceedings of the Zoological Society (1861):199-202

1861.b.4 [Extract from his letter respecting *Rhinoceros crossii*, Gray]. In: Proceedings for Nov 12, 1861
Proceedings of the Zoological Society (1861):306-307

1862.a.1 [Extracts of letters to the editor]
The Ibis (1862) **4**:91-93
[Letters dated Aug - , and 29th September.]

1862.a.2 [Extracts of letter to the editor]
The Ibis (1862) **4**:193-194
[Letter dated November? from Moulmein]

1862.a.3 [Extracts of letters to the editor]
The Ibis (1862) **4**:303-304
[Letters dated January 20, February 2, and March 11.]

1862.a.4 [Extracts from Mr. Blyth's more recent letters]
The Ibis (1862) **4**:387-390

1862.b.1 A Memoir on the living Asiatic species of rhinoceros
Journal of the Asiatic Society of Bengal (1862) **31**:151-175

1862.b.2 A further Note on elephants and rhinoceros
Journal of the Asiatic Society of Bengal (1862) **31**:196-200

1862.b.3 Report of Curator, Zoological Department, February, 1862. p.331-345. In: Proceedings of the Asiatic Society of Bengal, For June, 1862.
Journal of the Asiatic Society of Bengal (1862) **31**:318-345

1862.b.4 A further note on wild asses, and alleged wild horses
Journal of the Asiatic Society of Bengal (1862) **31**:363-367

1862.c.1 [Exhibition of a tracing of the outline of a skull of the adult male *Rhinoceros sumatranus*, transmitted by P.L. Sclater]. In: Proceedings for Jan 14, 1862
Proceedings of the Zoological Society (1862):1-12

1863.a.1 Catalogue of the mammalia in the Museum of the Asiatic Society.
(1863) :Calcutta: Asiatic Society of Bengal.

1863.b.1 Catalogue of the Birds of India, with remarks on their geographical distribution. Part I., containing Scansores and Raptores.
The Ibis (1863) **5**:1-31
[p.1 Note under title "{This catalogue will include, besides the birds of India proper and Cashmere (to which Mr. Jerdon confines his attention in his work now in preparation), the species found in Ceylon, Assam, the British Burmese territories, and the Malayan peninsula, down to Singapore, the Andaman and Nicobar Islands, and what little is known of the Ornithology of the Maldives and Laccadives}"]

1863.b.2 [Extracts from Mr Blyth's recent letters]
The Ibis (1863) **5**:117-118

1863.b.3 Letter to the Editor of the "Ibis"
The Ibis (1863) **5**:367-369
[Comments on new specimens from Mr Bartlett]

1863.b.4 A few corrigenda for "The Ibis"
The Ibis (1863) **5**:369-370

1863.b.5 Note on the genus *Pyrrhula*
The Ibis (1863) **5**:440-442

1863.c.1 [Exhibition of Deer-Horns and other specimens, with remarks]. In: Proceedings for April 21, 1863
Proceedings of the Zoological Society (1863) :155-158

1863.c.2 [Exhibition of two Rollers]. In: Proceedings for April 21, 1863
Proceedings of the Zoological Society (1863) :159

1863.c.3 Synoptical list of the species of *Felis* inhabiting the Indian Region and the adjacent parts of the Middle Asia. In: Proceedings for May 26, 1863
Proceedings of the Zoological Society (1863) :181-186

1863.c.4 [Footnotes] in: Extracts from a Letter from Sir Robert H. Schomburgk, British Consul at Bangkok, to Mr. Blyth; latest Date, Bangkok, May 20th, 1862
Journal of the Asiatic Society of Bengal (1863) **31**:191-195

1863.c.5 Memoir on the rats and mice of India
Journal of the Asiatic Society of Bengal (1863) **32**:327-353

1864.a.1 Letter to the Editor
The Ibis (1864) **6**:411-412
[Ornithological notes on items in *Ibis]*

1864.b.1 On the animal inhabitants of ancient Ireland. In: Proceedings for Monday January 25, 1864
Proceedings of the Royal Irish Academy (1864) **8**:472-476

1864.c.1 Notes on sundry mammals. In: Proceedings for November 8, 1864
Proceedings of the Zoological Society (1864):482-486

1865.a.1 A few identifications and rectifications of synonymy
The Ibis (1865) **1** (N.S.):27-50

1865.b.1 [Communication to Journal of the Asiatic Society re "The *Inuus assamensis*" p. 192, and "Indian Rats and mice," p.192-194] In Notes and Queries.
Journal of the Asiatic Society of Bengal (1865) **35**:192-194

1865.c.1 [Exhibition of some remarkably large horns of the Wapiti deer (*Cervus canadensis*)]. In: Proceedings for Nov 14, 1865
Proceedings of the Zoological Society (1865):618

1866.a.1 The Ornithology of India - A commentary on Dr. Jerdon's 'Birds of India'
The Ibis (1866) **2** (N.S.):225-258, 336-376

1866.b.1 Zoophilus. The Tiger. [part I]
Land and Water (1866) **1** (March31, 1866):231
Continued: (1866) **1** (April 7, 1866):255-256
(1866) **1** (April 28, 1866):322

1866.b.2 Zoophilus. Rats
Land and Water (1866) **1** (June 2, 1866):447-448

1866.b.3 [Anon] Venomous reptiles in India
Land and Water (1866) **1** (June 16, 1866):494-495
[Author assumed to be Blyth, because of content and style.]

1866.b.4 Zoophilus. The wild type or source of domestic animals.
Land and Water (1866) **1** (June 23, 1866):518
Continued: (1866) **1** (July 7, 1866):561-562
(1866) **1** (July 14, 1866):859
(1866) **1** (July 21, 1866):612-613
(1866) **2** (August 4,1866):38
and also as part of same series, separate entries, below.

1866.b.5 Zoophilus. The ratel
Land and Water (1866) **1** (July 7, 1866):561

1866.b.6 Z. Correspondence. Climbing and burrowing fish
Land and Water (1866) **1** (July 21, 1866):614

1866.b.7 Z. Lions in India
Land and Water (1866) **2** (July 28, 1866):14

1866.b.8 Z. Correspondence. Favoured Birds
Land and Water (1866) **2** (July 28, 1866):15

1866.b.9 Zoophilus. The wild types or sources of domestic animals. Part VI - Waterfowl
Land and Water (1866) **2** (August 11,1866):62

1866.b.10 [Anon] Arrivals at the Zoological Gardens. Part I
Land and Water (1866) **2** (August 11,1866):61
[Anonymous, but see entry for August 18, 1866. Style and content indicate this column is regularly written by Blyth]

1866.b.11 Z. Arrivals at the Zoological Gardens. Part II
Land and Water (1866) **2** (August 18,1866):86

1866.b.12 [Anon] Our horn galley. Part II - Locked elk horns.
Land and Water (1866) **2** (August 25,1866):109
[Continuation of anonymous article, July 21, 1866, p.613 based on horns provided by Blyth. The article this week seems more clearly to be written by Blyth - for example comments on derivation of name "Eland" similar to comments in several other articles by Blyth]

1866.b.13 [Anon] Arrivals at the Zoological Gardens. Part III
Land and Water (1866) **2** (August 25,1866):109-110

1866.b.14 Zoophilus. The wild types or sources of domestic animals. Part VII - Man and The Dog
Land and Water (1866) **2** (August 25,1866):110

1866.b.15 [Anon] Arrivals at the Zoological Gardens
Land and Water (1866) **2** (September 1, 1866):132

1866.b.16 Zoophilus. The wild types or sources of domestic animals. Part VIII - The Dog (continued)
Land and Water (1866) **2** (September 1, 1866):133-134

1866.b.17 [Anon] Arrivals at the Zoological Gardens
Land and Water (1866) **2** (September 8, 1866):157

1866.b.18 Zoophilus. The wild types or sources of domestic animals. Part IX - The Cat
Land and Water (1866) **2** (September 8, 1866):157

1866.b.19 Zoophilus The wild types or sources of domestic animals. Part X - The Cat (continued) - The Ferret
Land and Water (1866) **2** (September 15, 1866):181-182

1866.b.20 [Anon] Arrivals at the Zoological Gardens
Land and Water (1866) **2** (September 15, 1866):180

1866.b.21 [Anon] Arrivals at the Zoological Gardens
Land and Water (1866) **2** (September 22, 1866):205

1866.b.22 [Anon] Vampires and other bats
Land and Water (1866) **2** (September 22, 1866):205-206
[Note on p.205 by Blyth, but whole article very likely by him, as not about catching 2 bats in out-house virtually word for word (slightly different species names) from article on bats in **1842.a.4**]

1866.b.23 Zoophilus. Correspondence. [Note appended to] Flying opposum from Australia
Land and Water (1866) **2** (September 22, 1866):206

1866.b.24 Z. Coursing in India.
Land and Water (1866) **2** (September 22, 1866):207

1866.b.25 [Anon] Arrivals at the Zoological Gardens
Land and Water (1866) **2** (September 29, 1866):228

1866.b.26 Zoophilus. The wild types or sources of domestic animals. Part XI - The Rabbit
Land and Water (1866) **2** (September 29, 1866):229

1866.b.27 Z. Correspondence. Rare British birds in confinement
Land and Water (1866) **2** (September 29, 1866):230

1866.b.28 [Anon] Arrivals at the Zoological Gardens
Land and Water (1866) **2** (October 6, 1866):253

1866.b.29 Zoophilus. The wild types or sources of domestic animals. Part XII - Cavy or Guinea Pig
Land and Water (1866) **2** (October 6, 1866):254
pages 248 - 256 missing - details from index

1866.b.30 Zoophilus. The wild types or sources of domestic animals. Part XIII - The Hog
Land and Water (1866) **2** (October 13, 1866):278

1866.b.31 [Anon] Arrivals at the Zoological Gardens
Land and Water (1866) **2** (October 20, 1866):302

1866.b.32 Zoophilus. The wild types or sources of domestic animals. Part XIV - The Hog
Land and Water (1866) **2** (October 20, 1866):303

1866.b.33 Z. Richard's pipit.
Land and Water (1866) **2** (October 20, 1866):303

1866.b.34 Z. Correspondence. Birds to New Zealand
Land and Water (1866) **2** (October 20, 1866):303

1866.b.35 Z. Correspondence. Asiatic Rhinoceroses
Land and Water (1866) **2** (October 20, 1866):304

1866.b.36 Z. Correspondence. Tibetan hare - Pangolin - Bustards
Land and Water (1866) **2** (October 20, 1866):304

1866.b.37 [Anon] Arrivals at the Zoological Gardens
Land and Water (1866) **2** (October 27, 1866):324-325

1866.b.38 Zoophilus. The wild types or sources of domestic animals. Part XV - The horse and ass
Land and Water (1866) **2** (October 27, 1866):325-326

1866.b.39 [Anon] Arrivals at the Zoological Gardens
Land and Water (1866) **2** (November 3, 1866):350

1866.b.40 Zoophilus. The wild types or sources of domestic animals. Part XVI - The horse
Land and Water (1866) **2** (November 3, 1866):350-351

1866.b.41 Z. Correspondence. Donkey-footed swine.
Land and Water (1866) **2** (November 3, 1866):352

1866.b.42 Z. Correspondence. Sparrows in New York
Land and Water (1866) **2** (November 3, 1866):352

1866.b.43 [Anon] Arrivals at the Zoological Gardens
Land and Water (1866) **2** (November 10, 1866):373

1866.b.44 Zoophilus. The wild types or sources of domestic animals. Part XVII - The Horse
Land and Water (1866) **2** (November 10, 1866):374-375

1866.b.45 [Anon] Arrivals at the Zoological Gardens
Land and Water (1866) **2** (November 17, 1866):398

1866.b.46 Zoophilus. The wild types or sources of domestic animals. Part XVIII - The Camel
Land and Water (1866) **2** (November 17, 1866):398

1866.b.47 [Anon] Arrivals at the Zoological Gardens
Land and Water (1866) **2** (November 24, 1866):419

1866.b.48 Zoophilus. The wild types or sources of domestic animals. Part XIX - Camels and llamas
Land and Water (1866) **2** (November 24, 1866):421

1866.b.49 Z. Correspondence. Shedding the velvet of deer-horns
Land and Water (1866) **2** (November 24, 1866):422

1866.b.50 Z. Correspondence. Colouring of animals
Land and Water (1866) **2** (November 24, 1866):422-423

1866.b.51 Z. Correspondence. Khaurism v. Khorasan
Land and Water (1866) **2** (November 24, 1866):423

1866.b.52 Z. Correspondence. [Note appended to] larks in North America
Land and Water (1866) **2** (November 24, 1866):423

1866.b.53 [Anon] Arrivals at the Zoological Gardens
Land and Water (1866) **2** (December 1, 1866):444

1866.b.54 Zoophilus. Pheasants fit for acclimatisation.
Land and Water (1866) **2** (December 1, 1866):444
Continued: (1866) **2** (December 8, 1866):469
(1866) **2** (December 22, 1866):518-519

1866.b.55 Zoophilus. [Note appended to] The black leopard
Land and Water (1866) **2** (December 1, 1866):445

1866.b.56 Z. Correspondence. [Note appended to] Bats out to sea
Land and Water (1866) **2** (December 1, 1866):447

1866.b.57 Z. Correspondence. Varieties of the tiger and leopard
Land and Water (1866) **2** (December 1, 1866):447

1866.b.58 Z. Correspondence. Lyre bird
Land and Water (1866) **2** (December 1, 1866):447

1866.b.59 Zoophilus. The wild types or sources of domestic animals. Part XX - Llamas and alpacas
Land and Water (1866) **2** (December 8, 1866):471

1866.b.60 Z. Correspondence. The tree sparrow
Land and Water (1866) **2** (December 8, 1866):472

1866.b.61 [Anon] Arrivals at the Zoological Gardens
Land and Water (1866) **2** (December 15, 1866):491

1866.b.62 Zoophilus. The wild types or sources of domestic animals. Part XXI - The reindeer
Land and Water (1866) **2** (December 15, 1866):492

1866.b.63 Zoophilus. [Note appended to] The White Leopard. by Frederic Wilson
Land and Water (1866) **2** (December 15, 1866):492-493

1866.b.64 Z. Correspondence. [Note appended to] Stags horns in Wichwood Forest
Land and Water (1866) **2** (December 15, 1866):495

1866.b.65 Z. Correspondence. [Note appended to] The saiga antelope
Land and Water (1866) **2** (December 15, 1866):495

1866.b.66 [Anon] Arrivals at the Zoological Gardens
Land and Water (1866) **2** (December 22, 1866):517

1866.b.67 Z. Correspondence. Deer in Assam
Land and Water (1866) **2** (December 22, 1866):520

1866.b.68 Z. Correspondence. Lynx used to catch birds
Land and Water (1866) **2** (December 22, 1866):520

1866.b.69 Zoophilus. The wild types or sources of domestic animals. Part XXII - The Reindeer
Land and Water (1866) **2** (December 29, 1866):541

1866.b.70 Z. Correspondence. Swallows in midwinter
Land and Water (1866) **2** (December 29, 1866):542

1866.b.71 Z. Correspondence. Wingless bird of the island of Hawaii
Land and Water (1866) **2** (December 29, 1866):543

1866.b.72 Z. Correspondence. [Note appended to] American deer for acclimatisation
Land and Water (1866) **2** (December 29, 1866):543

1866.b.73 Z. Correspondence. The orphean warbler
Land and Water (1866) **2** (December 29, 1866):543

1866.c.1 A note on African buffalos. In: Proceedings for June 26, 1866
Proceedings of the Zoological Society (1866):371-373

1867.a.1 The Ornithology of India - A commentary on Dr. Jerdon's 'Birds of India'.
The Ibis (1867) **3** (N.S.):1-48,147-185
[Continued from **1866.a.1**]

1867.a.2 The Ornithology of Ceylon - A supplement on Dr. Jerdon's 'Birds of India'.
The Ibis (1867) **3** (N.S.):294-314

1867.a.3 Further addenda to the commentary on Dr. Jerdon's 'Birds of India'.
The Ibis (1867) **3** (N.S.):312-314

1867.b.1 Z. Arrivals at the Zoological Gardens
Land and Water (1867) **2** (January 5, 1867):563

1867.b.2 Zoophilus. Pheasants fit for acclimatisation.
Land and Water (1867) **2** (January 5, 1867):564-565
Continued:(1867) **2** (January 12, 1867):592-593
(1867) **2** (January 19, 1867):612-613

1867.b.3 Z. Correspondence. [Note appended to] The gigantic clam-shell
Land and Water (1867) **2** (January 5, 1867):567

1867.b.4 Z. Correspondence. [Note appended to] Sabine's snipe and cat
Land and Water (1867) **2** (January 5, 1867):567

1867.b.5 Z. Correspondence. [Note appended to] The storks in the Zoological Gardens
Land and Water (1867) **2** (January 12, 1867):593

1867.b.6 Z. Correspondence. [Note appended to] Waxwings
Land and Water (1867) **2** (January 12, 1867):593

1867.b.7 [Anon] Arrivals at the Zoological Gardens
Land and Water (1867) **2** (January 19, 1867):612

1867.b.8 Z. Correspondence. South American falcons
Land and Water (1867) **2** (January 19, 1867):615

1867.b.9 Z. Correspondence. [Note appended to] Small birds
Land and Water (1867) **2** (January 19, 1867):615

1867.b.10 Z. Correspondence. [Note appended to] Woodcock and snipe
Land and Water (1867) **2** (January 19, 1867):615

1867.b.11 Z. Correspondence. European dormice
Land and Water (1867) **3** (January 26, 1867):14

1867.b.12 Z. Correspondence. [Note appended to] The skunk
Land and Water (1867) **3** (January 26, 1867):14

1867.b.13 Z. Correspondence. [Note appended to] Migration of birds
Land and Water (1867) **3** (January 26, 1867):15

1867.b.14 Z. Correspondence. [Note appended to] Sabine snipe (*Scolopax sabini*)
Land and Water (1867) **3** (January 26, 1867):15

1867.b.15 Z. Correspondence. [Note appended to] Sexual diversity of plumage
Land and Water (1867) **3** (January 26, 1867):15

1867.b.16 Zoophilus. The wild types or sources of domestic animals. Part XXIII - The goat
Land and Water (1867) **3** (February 2, 1867):37-38

1867.b.17 Z. Correspondence. [Note appended to] The common bittern
Land and Water (1867) **3** (February 2, 1867):39

1867.b.18 Z. Correspondence. Water fowl for the London parks
Land and Water (1867) **3** (February 9, 1867):60-61

1867.b.19 Z. Correspondence. [Note appended to] The gorilla
Land and Water (1867) **3** (February 9, 1867):63

1867.b.20 Z. Correspondence. The mealy red pole
Land and Water (1867) **3** (February 9, 1867):63

1867.b.21 Z. Correspondence. [Note appended to] Wild origin of the goat
Land and Water (1867) **3** (February 9, 1867):63

1867.b.22 Z. Correspondence. The Andaman Islands
Land and Water (1867) **3** (February 9, 1867):63

1867.b.23 Z. Correspondence. New Zealand birds for acclimatisation
Land and Water (1867) **3** (February 9, 1867):63

1867.b.24 Z. Correspondence. The two new pheasants
Land and Water (1867) **3** (February 9, 1867):63

1867.b.25 Z. Correspondence. [Note appended to] The bis-cobra
Land and Water (1867) **3** (February 9, 1867):63

1867.b.26 Z. Correspondence. [Note appended to] Java sparrow
Land and Water (1867) **3** (February 9, 1867):63

1867.b.27 [Anon] Arrivals at the Zoological Gardens
Land and Water (1867) **3** (February 16, 1867):84

1867.b.28 Z. Correspondence. [Note appended to] Swans
Land and Water (1867) **3** (February 16, 1867):86

1867.b.29 Z. Correspondence. [Note appended to] Edible birds nest
Land and Water (1867) **3** (February 16, 1867):86

1867.b.30 Zoophilus. The wild types or sources of domestic animals. Part XXIV - The sheep
Land and Water (1867) **3** (February 23, 1867):108

1867.b.31 Z. Correspondence. [Note appended to] Alleged brevipennate bird in the Samoan archipelago
Land and Water (1867) **3** (February 23, 1867):109

1867.b.32 Z. Correspondence. [Note appended to] Quails
Land and Water (1867) **3** (February 23, 1867):109

1867.b.33 Z. Correspondence. [Note appended to] Carrion Eaters
Land and Water (1867) **3** (February 23, 1867):109

1867.b.34 Z. Correspondence. [Note appended to] The double bullfinch
Land and Water (1867) **3** (February 23, 1867):109

1867.b.35 Z. Correspondence. [Note appended to] The rat
Land and Water (1867) **3** (February 23, 1867):110

1867.b.36 Z. Correspondence. [Note appended to] Crocodiles' nests
Land and Water (1867) **3** (February 23, 1867):110

1867.b.37 [Anon] Arrivals at the Zoological Gardens
Land and Water (1867) **3** (March 2, 1867):133

1867.b.38 Zoophilus. The wild types or sources of domestic animals. Part XXV - The Sheep
Land and Water (1867) **3** (March 2, 1867):134

1867.b.39 Z. Correspondence. [Note appended to] "Fishy" wild geese
Land and Water (1867) **3** (March 2, 1867):135

1867.b.40 Z. Correspondence. [Note appended to] Alleged curious animals in Texas
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1867.b.41 Z. Correspondence. [Note appended to] Edible birds'-nest
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1867.b.42 Z. Correspondence. [Note appended to] Water birds
for the London parks - the Sebastopol goose
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1867.b.43 Z. Correspondence. [Note appended to] Guinea fowl
Land and Water (1867) **3** (March 2, 1867):135

1867.b.44 Z. Correspondence. The alleged climbing fish
Land and Water (1867) **3** (March 2, 1867):135

1867.b.45 Z. Correspondence. Animals of Assam
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1867.b.46 Zoophilus. The wild types or sources of domestic animals. Part XXVI - The sheep
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1867.b.47 Zoophilus. Correspondence. [Note appended to] Abyssinian sheep
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1867.b.48 Zoophilus. Correspondence. Summer birds of passage
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1867.b.49 Zoophilus. Correspondence. Hybrid finches
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1867.b.50 Zoophilus. Correspondence. [Note appended to] Curious deer-horn
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1867.b.51 Zoophilus. Correspondence. [Note appended to] Wild pigs and poultry
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1867.b.52 [Anon] Arrivals at the Zoological Gardens
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1867.b.53 Zoophilus. The wild types or sources of domestic animals. Part XXVII - Bovine animals
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1867.b.54 Z. Correspondence. Early arrival of the wheatear
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1867.b.55 Z. Correspondence. Porcupine's quills
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1867.b.56 Z. Correspondence. [Note appended to] Eyes of different colours
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1867.b.57 Z. Correspondence. [Note appended to] The last British wolf
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1867.b.58 Z. Amadavats
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1867.b.59 Z. Correspondence. [Note appended to] Water Wagtail
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1867.b.60 Z. Correspondence. Rabbits
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1867.b.61 Z. Correspondence. [Note appended to] Fowls with winged feet
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1867.b.63 Zoophilus. The wild types or sources of domestic animals. Part XXVIII - The Yak
Land and Water (1867) **3** (March 30, 1867):237-238

1867.b.64 Z. Correspondence. [Note appended to] Bones of fossil ox in Berkshire
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1867.b.65 Z. Correspondence. [Note appended to] Fishy geese
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1867.b.66 Z. Correspondence. A crowing blackbird
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1867.b.67 [Anon] Arrivals at the Zoological Gardens
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1867.b.68 Z. Correspondence. [Note appended to] Hatching the eggs of the jungle-fowl
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1867.b.69 Z. Correspondence. Migratory birds
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1867.b.70 Z. Correspondence. Birds standing on one leg, misnomers
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1867.b.71 Z. Correspondence. [Note appended to] The parrot crossbill
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1867.b.72 Z. Correspondence. [Note appended to] The crowing blackbird
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1867.b.73 Z. Correspondence. [Note appended to] Cooked moles and hedgehogs
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1867.b.74 Z. Correspondence. [Note appended to] Bears in Tibet
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1867.b.75 [Anon] Arrivals at the Zoological Gardens
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1867.b.76 Zoophilus. The wild types or sources of domestic animals. Part XXIX - The Gaour
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1867.b.77 Z. Correspondence. [Note appended to] Parrot crossbills
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1867.b.78 Z. Correspondence. The usual ignorance about smakes
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1867.b.80 Z. [Note appended to] The *Ovis ammon,* or wild sheep of Tartary. by "Fusilier"
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1867.b.81 Z. Correspondence. Demand for nightingales
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1867.b.82 Z. Correspondence. [Note appended to] Remarkable specimen of duck
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1867.b.83 Z. Correspondence. [Note appended to] Red mice
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1867.b.84 Z. Correspondence. Migratory propensity of the red-legged partridge
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1867.b.85 Z. Correspondence. [Note appended to] The lyre-bird
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1867.b.86 Z. Correspondence. [Note appended to] Zoological gardens at Teheran
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1867.b.88 Z. Correspondence. Birds standing on one leg, misnomers
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1867.b.89 Z. Correspondence. Hydrophopia
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1867.b.90 Z. Correspondence. [Note appended to] More nuts to crack
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1867.b.92 Z. Correspondence. Migratory summer visitants
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1867.b.97 Z. Correspondence. [Note appended to] On hands and knees
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1867.b.108 Z. Correspondence. [Note appended to] A hyperbolical rhinoceros
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1867.b.109 [Anon] Arrivals at the Zoological Gardens
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1867.b.143 Z. Correspondence. The Chinese badger
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1867.b.150 Zoophilus. The wild types or sources of domestic animals. Part XXXVIII - The humpless taurine cattle
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1867.b.151 Z. [Note appended to] An arrival in New Zealand
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1867.b.152 Z. Correspondence. A zoological cargo
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1867.b.154 Z. Correspondence. Fitchet-coloured cats
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1867.b.155 Z. Correspondence. Pheasants, crows, and sparrows
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1867.b.165 Z. Correspondence. The Indian bell-bird
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1867.b.166 Z. Correspondence. The cuckoo - why parasitic?
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1867.b.180 Z. Correspondence. Vultures in China
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1867.b.181 Z. Correspondence. Seal's food
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1867.c.1 [Remarks on an Indian quail (*Rolulus superciliosus*)]. In: Proceedings for May 9, 1867
Proceedings of the Zoological Society (1867):474-475

1867.c.2 [Exhibition of drawings of the horns of various Indo-Chinese species of deer]. In: Proceedings for May 23, 1867
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1867.c.3 [Remarks on two specimens of crows from Australia]. In: Proceedings for May 23, 1867
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1867.c.4 Notes upon three Asiatic species of deer. In: Proceedings for Nov 14, 1867
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1868.a.1 Letter to the Editor
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1868.a.2 Letter to the Editor
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1868.b.11 Z. Correspondence. Baboons
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1868.b.13 Z. Correspondence. [Note appended to] Destruction of human life by tigers
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1868.b.14 Z. Correspondence. [Note appended to] Poison of vipers
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1868.b.41 Z. Correspondence. [Note appended to] Hybrid monkeys
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1868.b.42 Z. Correspondence. Snipe perching
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1868.b.43 Z. Correspondence. The susu or Indian river-porpoises
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1868.b.44 Z. Correspondence. Animals of China
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1868.b.45 Z. Correspondence. Fowls with extra toes
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1868.b.46 Z. Correspondence. Abyssian lizards
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1868.b.47 [Anon] Arrivals at the Zoological Gardens
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1868.b.48 Z. Correspondence. The touraco
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1868.b.49 [Anon] Arrivals at the Zoological Gardens
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1868.b.50 Z. Correspondence. Rare Indian wild goose
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1868.b.52 Z. Correspondence. [Note appended to] The marking-nut tree
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1868.b.53 Z. Correspondence. Wild cats in the United States
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1868.b.54 Z. Correspondence. The pika-hares
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1868.b.56 Z. Correspondence. The orang-utan in Hampshire
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1868.b.57 Z. Correspondence. Pheasants in Siam
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1868.b.58 Z. Correspondence. New Zealand birds
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1868.b.59 Z. Correspondence. [Note appended to] Indian ornamental fish for vases
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1868.b.62 Z. Correspondence. The Canadian "milk snake"
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1868.b.65 [Anon] Arrivals at the Zoological Gardens
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1868.b.66 Z. Correspondence. Hybrids
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1868.b.67 Z. Correspondence. [Note appended to] Wild fallow deer
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1868.b.69 Z. Correspondence. Amazing site for a pheasant's nest
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1868.b.74 Z. Correspondence. [Note appended to] American horned larks
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1868.b.75 Z. Correspondence. The American swamp hare
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1868.b.76 Z. Correspondence. [Note appended to] Parrakeets wild in London
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1868.b.78 Z. Correspondence. [Note appended to] Cochins and brahma, etc
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1868.b.79 Z. Correspondence. Wild cats in the United States
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1868.b.80 Z. Correspondence. Mainas
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1868.b.81 Z. Correspondence. [Note appended to] Wild Indian buffaloes
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1868.b.82 [Anon] Arrivals at the Zoological Gardens
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1868.b.83 Z. Correspondence. A luminous lizard and an electric snake
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1868.b.84 Z. Correspondence. Zebra parakeets at large
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1868.b.85 Z. Correspondence. [Note appended to] Singing-birds in July
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1868.b.86 Z. Correspondence. Books on birds of India
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1868.b.89 Z. Correspondence. [Note appended to] Soap-berries
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1868.b.92 Z. Correspondence. Birds of Egypt
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1868.b.93 [Anon] Arrivals at the Zoological Gardens
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1868.b.94 Z. Correspondence. Chameleons hatched in England?
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1868.b.95 Z. Correspondence. American "strange fishes"
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1868.b.96 Z. Correspondence. Horses subsisting on milk
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1868.b.99 Z. Correspondence. [Note appended to] Mosquitoes
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1868.b.100 Ed. Correspondence. [Note appended to] Staghorns
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1868.b.101 Z. Correspondence. [Note appended to] Indian sorrel (so-called)
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1868.b.103 Z. Correspondence. Egyptian donkeys
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1868.b.104 Z. Correspondence. Humming-bird in England
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1868.b.105 Z. Correspondence. Chameleons hatched or brought forth alive
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1868.b.106 Z. Correspondence. Newts, etc. in mines
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1868.b.107 Z. Correspondence. Eggs hatched by the heat of the atmosphere
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1868.b.109 Z. Correspondence. More utter nonsense about snakes
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1868.b.110 Ed. Correspondence. [Note appended to] Elk and samur
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1868.b.111 Z. Correspondence. [Note appended to] The Indian shama
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1868.b.112 Z. Correspondence. [Note appended to] The ass
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1868.b.149 Z. Correspondence. [Note appended to] Locust-birds
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1868.b.164 Z. Correspondence. Plantains and bananas
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1869.b.30 Z. Correspondence. [Note appended to] Angora rabbits
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1869.c.2 [Exhibition of a pair of horns of *Strepsiceros imberbis*]. In: Proceedings for Jan 28, 1869
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1873.c.1 [Exhibition of, and remarks upon, some Tiger-skins (*Felis tigris*) from India, Siam, and Siberia]. p. 153. In: Proceedings of the Zoological Society, February 4, 1873.
Proceedings of the Zoological Society (1873) :152-192

1875.a.1. Catalogue of the Mammals and Birds of Burma
with a memoir, and portrait of the Author.
Journal of the Asiatic Society of Bengal (1875) 44 (part II. extra number)

1881.a.1. The natural history of the cranes. Greatly enlarged, and reprinted, with numerous illustrations, by W.B. Tegetmeier, FZS. (Member of the British Ornithologist's Union; General Editor of the Willoughby Society)
(1881) : Horace Cox, London, i-viii, 1-92
[Reprint with addition of original unprinted material of monograph on cranes which appeared in The Field in 1873, with updated information which appeared since Blyth died. Indexed. Appendix: On the convolutions of the trachea in birds, by Tegetmeier]