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Naming and Necessity: Sherborn's Context in the 19th Century

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Abstract

By the late 19th Century, storms plaguing early Victorian systematics and nomenclature seemed to have abated. Vociferous disputes over radical renaming, the world-shaking clash of all-encompassing procrustean systems, struggles over centres of authority, and the issues of language and meaning had now been settled by the institution of a stable imperial museum and its catalogues, a set of rules for the naming of zoological objects, and a new professional class of zoologists. Yet, for all that tranquillity, the disputes simmered below the surface, re-emerging as bitter struggles over synonyms, trinomials, the subspecies category, the looming issues of the philosophy of scientific language, and the aggressive new American style of field biology – all pressed in upon the received practice of naming and classifying organisms and the threat of anarchy. In the midst rose an index. This paper will explore the context of CD Sherborn's *Index Animalium* and those looming problems and issues which a laborious and comprehensive "index of nature" was meant to solve.

Editor's note

This paper is a transcription of the talk presented by Professor McOuat in the symposium *Anchoring Biodiversity Information: from Sherborn to the 21st century and beyond*, 28 October 2011, Natural History Museum, London. It is an exciting read about an important topic for this volume – it sets the historical and philosophical context for Sherborn's contribution to nomenclature and taxonomy clearly and vibrantly. It has a number of key messages on the relationships between names (dubbing) and meanings (taxonomy), on the struggle between establishing nomenclature tied to rules (codes) or to specimens (the type concept and museum catalogues). These issues were intensely addressed in the early and mid 19th century and Sherborn's magnum opus played a foundational role in establishing the systems we now use for all biology, not just zoology. Nonetheless many taxonomists today continue to befuddle these relationships, often through lack of knowledge of the long history of the discussions. I felt it was critical that this history is included in this volume, because it adds a different and necessary perspective on Sherborn's context and influence. Although we were not successful in getting Gordon McOuat to send his written text for the volume, I have decided to publish this as a transcript, with minor edits for flow and a few images for expanded context, as the talk is in the public domain and its presentation was fully funded by the symposium organisers. The paper should thus be read as a transcript only.

Talk and slides

http://backdoorbroadcasting.net/2011/10/gordon-mcouat-sherborn%E2%80%99s-context-cataloguing-nature/

Early Victorian recognition of the value of names

Although he worked in the late 19th Century, Sherborn's context starts with the very earliest groundwork for modern taxonomy, systematics and nomenclatural practice in the early 19th Century. This time included the origins of well-known disputes, of ruckuses in early Victorian biology, some of which are still with us today. Understanding these origins helps understand the issues in Victorian times and today.

Early Victorians knew the value of names, often couching the discussion in monetised terms. Sir William Kirby, in his Foundational Address of the Zoological Club of the Linnean Society, 1823, expressed the value that a name brings:

Nomina si pereunt, perit et cognitio rerum

"Names are the foundation of knowledge: and unless they have a 'a name' as well as a 'local habitation' with us, the zoological treasures that we so highly prize might almost as well have been left to perish in their native deserts or forests, as have grown mouldy in our drawers or repositories. But when once an animal subject is named and described, it becomes a possession for ever, and the value of every individual specimen of it, even in a mercantile view, is enhanced."

This is matched by the words of the radical anatomist, Robert Grant in his presentation to the Parliamentary Commission on the Affairs of the British Museum in 1835–1836:

'An object may not be the value of a farthing until it is identified and properly named. Its value may be raised to 30, 40 or 50 guineas once it is named, even though it has not gained an ounce.'

Both Kirby and Grant expressed the value of names at a time when there was turmoil in the process of giving names, and there was a process being born to establish stability and an anchor. There was a radical new club in the Linnean Society of London that harboured those who aimed to break the hold of Linnaeus over systematics and meaning. They aimed to introduce new ideas, imported, for example from France, to break the hold of the Linnaean world system. This is where Kirby made his presentation. Robert Grant, as a radical who called for the overthrow of all received systems, was himself a Lamarckian, an evolutionist and political radical before Darwin. These are presented in 'reform-bill Britain' where democratic forces threatened Tory privileges, much as the Occupy movement attempted at St Paul's, or as we see in the current challenges to the existing political and economic systems.

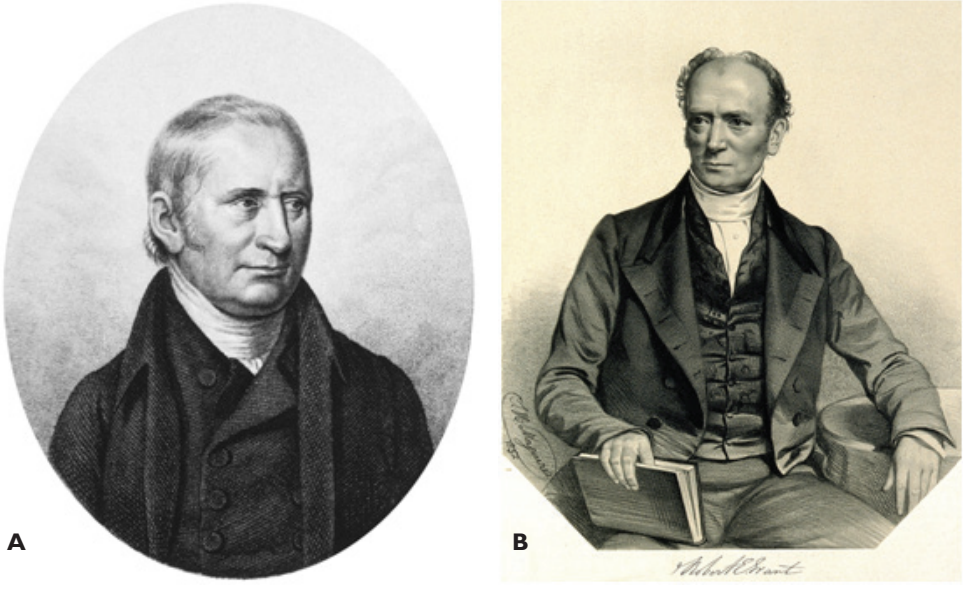


Figure 1. A Sir William Kirby, date and age uncertain **B** Robert Grant in 1852, aged 59.

The Stricklandian Code – the first attempt at an international code governing language in any science.

Any conference on nomenclature – its problems and its history – must harken back to the pioneering document, the founding creed of nomenclatural rules, the Code of Zoological Nomenclature drafted in 1842 by Hugh Edwin Strickland (1811–1853) under the patronage of the British Association for the Advancement of Science.

Strickland's committee was a veritable who's who of British natural history: John Stevens Henslow, Jennings, William Ogleby, JO Westwood, Richard Owen, Charles Darwin, William Yarl, WE Shuckard and GR Waterhouse. The committee convened its meetings in Darwin's house, as he still lived in London at the time. Here is an early draft of Strickland's rules with Darwin and Ogilby's comments on what should be changed and what should be kept (courtesy of Cambridge University Library): I cannot over emphasise the importance of these rules as a founding document. They are the first attempt at an international code governing language in any science. Any modern code, whether botanical or zoological, can trace its direct ancestry to this code. Many of the structures of modern codes, and many might say some of the problems, and zoological nomenclature in particular, can be traced directly to this code and its rules.

There are some important peculiarities of this document and its inheritance. We should unpack it a bit and give some grounding for Sherborn and his monumental project. The Stricklandian Code starts with a series of paragraphs with a very detailed account of the philosophy of language.

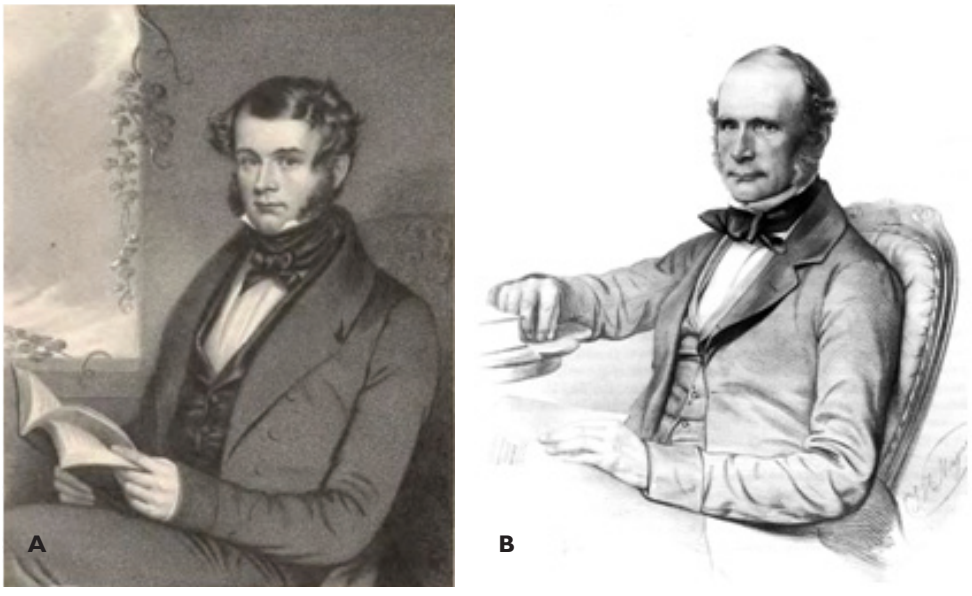
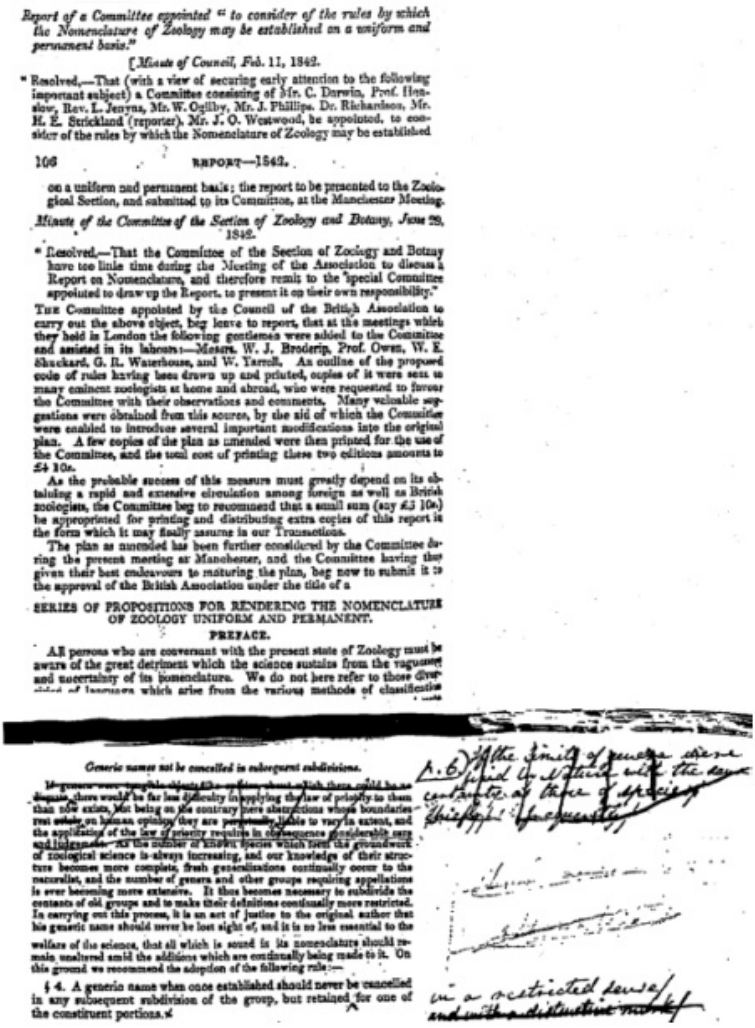


Figure 2. Hugh Edwin Strickland **A** age 26 **B** aged 42, when he died.



Report of a Committee appointed "to consider of the rules by which the Nomenclature of Zoology may be established on a uniform and permanent basis."

[*Minute of Council, Feb.* 11, 1842.

"Resolved,—That (with a view of securing early attention to the following important subject) a Committee consisting of Mr. C. Darwin, Prof. Henslow, Rev. L. Jenyns, Mr. W. Ogilby, Mr. J. Phillips, Dr. Richardson, Mr. H. E. Strickland (reporter), Mr. J. O. Westwood, be appointed, to consider of the rules by which the Nomenclature of Zoology may be established

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on a uniform and permanent basis; the report to be presented to the Zoological Section, and submitted to its Committee, at the Manchester Meeting.

Minute of the Committee of the Section of Zoology and Botany, June 29, 1842.

"Resolved,—That the Committee of the Section of Zoology and Botany have too little time during the Meeting of the Association to discuss a Report on Nomenclature, and therefore remit to the 'special Committee appointed to draw up the Report, to present it on their own responsibility."

THE Committee appointed by the Council of the British Association to carry out the above object, beg leave to report, that at the meetings which they held in London the following gentlemen were added to the Committee and assisted in its labours:—Messrs. W. J. Broderip, Prof. Owen, W. E. Shuckard, G. R. Waterhouse, and W. Yarrell. An outline of the proposed code of rules having been drawn up and printed, copies of it were sent to many eminent zoologists at home and abroad, who were requested to favour the Committee with their observations and comments. Many valuable suggestions were obtained from this source, by the aid of which the Committee were enabled to introduce several important modifications into the original plan. A few copies of the plan as amended were then printed for the use of the Committee, and the total cost of printing these two editions amounts to £4 10s.

As the probable success of this measure must greatly depend on its obtaining a rapid and extensive circulation among foreign as well as British zoologists, the Committee beg to recommend that a small sum (say £5 10s.) be appropriated for printing and distributing extra copies of this report in the form which it may finally assume in our Transactions.

The plan as amended has been further considered by the Committee during the present meeting at Manchester, and the Committee having thus given their best endeavours to maturing the plan, beg now to submit it to the approval of the British Association under the title of a

SERIES OF PROPOSITIONS FOR RENDERING THE NOMENCLATURE OF ZOOLOGY UNIFORM AND PERMANENT.

PREFACE.

All persons who are conversant with the present state of Zoology must be aware of the great detriment which the science sustains from the vagueness and uncertainty of its nomenclature. We do not here refer to those diversities of language which arise from the various methods of classifica-

Generic names not to be cancelled in subsequent subdivisions.

dispute, there would be far less difficulty in applying the law of priority to them than now exist, but being on the contrary mere abstractions whose boundaries rest solely on human opinion they are perpetually liable to vary in extent, and the application of the law of priority requires in consequence considerable care and discrimination. As the number of known species which form the groundwork of zoological science is always increasing, and our knowledge of their structure becomes more complete, fresh generalizations continually occur to the naturalist, and the number of genera and other groups requiring appellations is ever becoming more extensive. It thus becomes necessary to subdivide the contents of old groups and to make their definitions continually more restricted. In carrying out this process, it is an act of justice to the original author that his generic name should never be lost sight of, and it is no less essential to the welfare of the science, that all which is sound in its nomenclature should remain unaltered amid the additions which are continually being made to it. On this ground we recommend the adoption of the following rule:—

§ 4. A generic name when once established should never be cancelled in any subsequent subdivision of the group, but retained for one of the constituent portions.

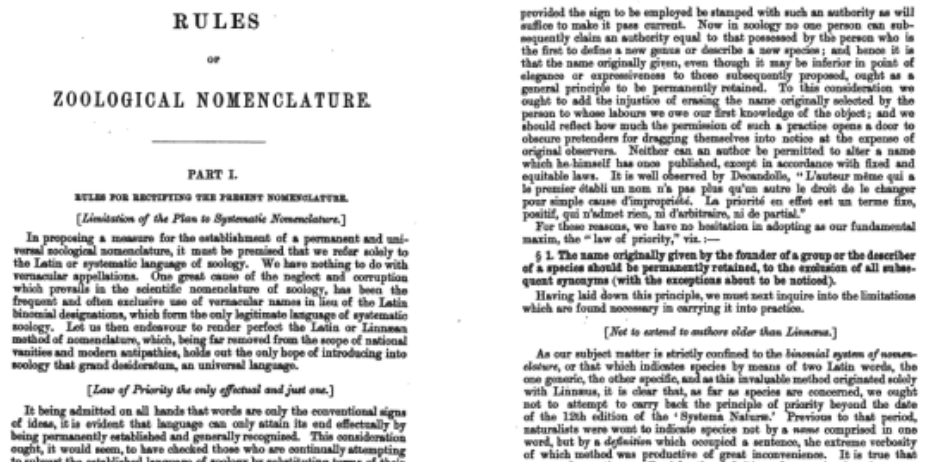
Figure 3. Early draft of the Stricklandian Code with handwritten comments by Darwin and Ogilby.

Language and meaning – dubbing not definitions

The system of naming and reference were in contention in Britain at this very time; followers of William Whewell had entirely different understanding of how things were named from the followers of John Locke. The Stricklandian Committee held a Lockian view of the meaning of meaning, as so remarkably espoused in these paragraphs.

Strickland himself had written numerously and voluminously on the notion of language, on the meaning and use of names. Strickland wrote:

'Words are only conventional signs. This should be enough to check those who are constantly trying to subvert the language of zoology. Names do not capture essences; they are not definitions. So how do they get authority and reference? By first dubbing.



RULES

OF

ZOOLOGICAL NOMENCLATURE.

PART I.

RULES FOR RECTIFYING THE PRESENT NOMENCLATURE.

[*Limitation of the Plan to Systematic Nomenclature.*]

In proposing a measure for the establishment of a permanent and universal zoological nomenclature, it must be premised that we refer solely to the Latin or systematic language of zoology. We have nothing to do with vernacular appellations. One great cause of the neglect and corruption which prevails in the scientific nomenclature of zoology, has been the frequent and often exclusive use of vernacular names in lieu of the Latin binomial designations, which form the only legitimate language of systematic zoology. Let us then endeavour to render perfect the Latin or Linnæan method of nomenclature, which, being far removed from the scope of national vanities and modern antipathies, holds out the only hope of introducing into zoology that grand desideratum, an universal language.

[*Law of Priority the only effectual and just one.*]

It being admitted on all hands that words are only the conventional signs of ideas, it is evident that language can only attain its end effectually by being permanently established and generally recognized. This consideration ought, it would seem, to have checked those who are continually attempting to subvert the established language of zoology by substituting terms of their own coinage. But, forgetting the true nature of language, they persist in confounding the *name* of a species or group with its *definition*; and because the former often falls short of the fulness of expression found in the latter, they cancel it without hesitation, and introduce some new term which appears to them more characteristic, but which is utterly unknown to the science, and is therefore devoid of all authority*. If these persons were to object to such names of men as *Long*, *Little*, *Armstrong*, *Goldsmith*, &c., in cases where they fail to apply to the individuals who bear them, or should complain of the names *Gough*, *Lawrence*, or *Harvey*, that they were devoid of meaning, and should hence propose to change them for more characteristic appellations, they would not act more unphilosophically or inconsiderately than they do in the case before us; for, in truth, it matters not in the least by what conventional sound we agree to designate an individual object,

* Linnæus says on this subject, "Abstinendum ab hac innovatione quæ nonquam censuit, quin indies aptiora desiderentur ad infinitum."

provided the sign to be employed be stamped with such an authority as will suffice to make it pass current. Now in zoology no one person can subsequently claim an authority equal to that possessed by the person who is the first to define a new genus or describe a new species; and hence it is that the name originally given, even though it may be inferior in point of elegance or expressiveness to those subsequently proposed, ought as a general principle to be permanently retained. To this consideration we ought to add the injustice of erasing the name originally selected by the person to whose labours we owe our first knowledge of the object; and we should reflect how much the permission of such a practice opens a door to obscure pretenders for dragging themselves into notice at the expense of original observers. Neither can an author be permitted to alter a name which he himself has once published, except in accordance with fixed and equitable laws. It is well observed by Decandolle, "L'auteur même qui a le premier établi un nom n'a pas plus qu'un autre le droit de le changer pour simple cause d'impropriété. La priorité en effet est un terme fixe, positif, qui n'admet rien, ni d'arbitraire, ni de partial."

For these reasons, we have no hesitation in adopting as our fundamental maxim, the "law of priority," viz.:—

§ 1. The name originally given by the founder of a group or the describer of a species should be permanently retained, to the exclusion of all subsequent synonyms (with the exceptions about to be noticed).

Having laid down this principle, we must next inquire into the limitations which are found necessary in carrying it into practice.

[*Not to extend to authors older than Linnæus.*]

As our subject matter is strictly confined to the *binomial system of nomenclature*, or that which indicates species by means of two Latin words, the one generic, the other specific, and as this invaluable method originated solely with Linnæus, it is clear that, as far as species are concerned, we ought not to attempt to carry back the principle of priority beyond the date of the 12th edition of the 'Systema Naturæ.' Previous to that period, naturalists were wont to indicate species not by a name comprised in one word, but by a *definition* which occupied a sentence, the extreme verbosity of which method was productive of great inconvenience. It is true that one word sometimes sufficed for the definition of a species, but these rare cases were only binomial by accident and not by principle, and ought not therefore in any instance to supersede the binomial designations imposed by Linnæus.

The same reasons apply also to generic names. Linnæus was the first to attach a definite value to genera, and to give them a systematic character by means of exact definitions; and therefore, although the names used by previous authors may often be applied with propriety to modern genera, yet in such cases they acquire a new meaning, and should be quoted on the authority of the first person who used them in this secondary sense. It is true, that several of the old authors made occasional approaches to the Linnæan exactness of generic definition, but still these were but partial attempts; and it is certain that if in our rectification of the binomial nomenclature we once trace back our authorities into the obscurity which preceded the epoch of its foundation, we shall find no resting-place or fixed boundary for our researches. The nomenclature of Ray is chiefly derived from that of Gesner and Aldrovandus, and from these authors we might proceed backward to

Figure 4. Stricklandian Code – discussion of the philosophy of language.

Not by accurately capturing any meaning or sense, but rather that very first dubbing. These rules are about dubbing, and about disciplining that dubbing.'

This is a remarkable start for a set of rules on zoological nomenclature. It is only understandable in the face of the radical attempts, all through the early 19th century, and also today, to radically alter the words or names of things to match their place in scientific place and practice; to have names capture the reform and meaning of science.

Strickland had cut his teeth on fighting such radical attempts, and they were legion in the early 19th century, to entirely reform the whole system zoology and to adjust the names of things to match that reform.

Strickland's biggest enemy was Neville Wood, who was a popular writer, ornithologist, and eventually one of the leaders of alternative medicine in the late 19th century. Neville Wood would write 'It is essential for the improvement of ornithological science that names be frequently altered, for when a new system is proposed – and there are few who would advocate the Linnaean system now – new names must necessarily be introduced.'

New systems abounded. Anyone who is an historian of early 19th century natural history knows there were bifurcating systems and quinarian systems and Cuvierians… all of them associating the new names that they were establishing to match their system. But for Strickland, names are arbitrary – they are dubbings that hold on to that reference irrespective of the meanings in the systems to which they belong. But, asked Strickland, if there is a first dubbing, where is it to occur? Somewhat contravening

his own philosophy, Strickland gives an arbitrary date of the 12th edition of Linnaeus' *Systema Naturae* where he thinks we find the solidification of binomial (binominal) nomenclature. It is from that moment that the dubbing of names should begin. This is where Strickland introduces the law (now principle) of priority. The very first rule states "the name originally given by the founder of a group or the describer of a species should be permanently retained."

Here the rules are giving rules for procedure and not for construction (or meanings) of the names themselves. The rest of the Code outlines where such descriptions can be found: published in certain received authoritative journals and books, and not in the popular press. All this was aimed at preventing amateurs from forming new names willy-nilly, removing the anchor and changing the very nature of zoological discourse. Thus, Strickland kept the issue of the meaning of names at bay. But notice how this brings up the issue of priority and genealogy.

The overarching priority of priority

The emergence of the Stricklandian Code was not without its own controversy. The 'British Association for the Advancement of Science Rules' were not actually passed by that organisation. They were cleverly inserted by Strickland into the report of 1842, but they were not actually adopted by the BAAS because of enormous opposition to the first rules.

The strongest opposition came from John Edward Gray (1800–1875), the chief Keeper of Zoology at the British Museum (which was still in Bloomsbury), who kept the rules from being approved by the BAAS. He was adamant that the Stricklandian rules should not be established to control the nature of discourse in natural history. Why? Because he was, at the same time, establishing a different source for authority on naming and discourse for natural history. He was working on his own solution to systematic and nomenclatural anarchy, his own material anchor to the biodiversity problem. For Gray, the British Museum catalogues of types would establish names and reference and be the site of authority. Not some regulatory rules, but real concrete catalogues and type specimens that would solidify the names.

Interestingly this huge fight between rules and museums continued in to the middle of the 19th century. Gray used the anarchy that seemed to exist in zoology as a way to lobby aristocratic trustees of the British Museum to publish the catalogues and establish them as the worldwide authorities of types and thus species. These began publication in the 1840s.

The huge fight had its short-term resolution, in a certain sense, in Darwin. His monograph on barnacles was the first to explicitly use the new Stricklandian rules, but also the first to use the new Gray catalogues. It was Darwin who tried to create a resolution of the rules from the committee of which he was a member, and the catalogues of types. This was an uneasy compromise that has not been a complete success – the controversy ran through the late 19th century.

Figure 5. John Edward Gray, the chief Keeper of Zoology at the British Museum (Bloomsbury).

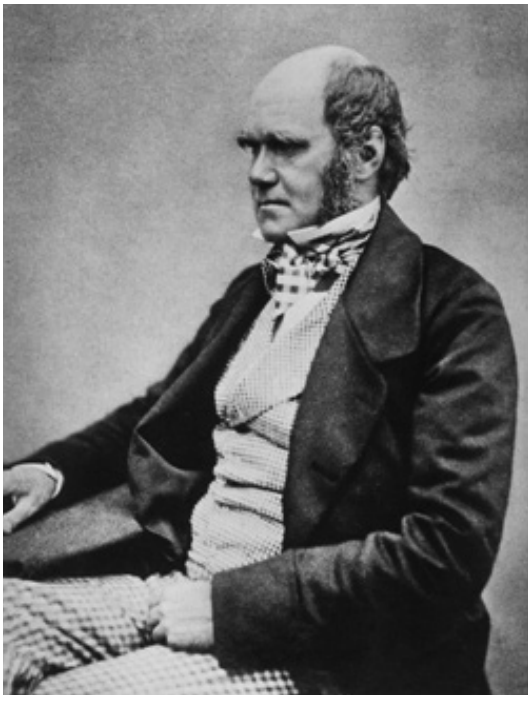


Figure 6. Charles Darwin and a plate from his work on barnacles.

Figure 7. A Elliot Coues **B** Joel A. Allen

It was then in the new Natural History Museum in South Kensington where the next steps were taken in the great nomenclatural debate, and the seeds were sown for Sherborn's great project. A great but controversial American zoologist, Elliot Coues (1842–1899) (Evenhuis this volume; Dickinson, this volume) happened to be visiting spiritualist sites throughout Europe. He and his partner in crime, Joel A. Allen (1838–1921), arrive at the Natural History Museum and advocated a new American way of doing field-based zoology, specifically ornithology, instead of the stodgy museum-based biology of the Old World. They set out an ornithological set of rules for nomenclature, which was supported by the American Ornithological Union.

The AOU rules were basically grounded on the Stricklandian rules except for one striking addition – the introduction of subspecies names, based on geographical distribution. Organisms would now be identified by a trinomial that would include the geographical location. All three parts would comprise the organism's name. For the British this was an utter travesty from ignorant Americans that promised a return to anarchy, to use the phrasing from William Flower, the director of the Natural History Museum's words. For the British, this was clearly mixing up, negating, the original Lockian perspective. It mixed up naming and meaning, violating all that had been achieved in establishing a system-free nomenclatural authority.

Thus, on July 1st, 1884 Coues presented his new system of trinomial nomenclature in a meeting in the new Natural History Museum London. Every British zoologist

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occur when the N.P.D. of the sun was neither great nor small, but midway between the two extremes. These facts will be made clearer by the accompanying woodcuts, in which the globes are shown in four different positions. Fig. 45 represents cases 1 and 3, and Fig. 46 cases 2 and 4. In Figs. 47 and 48 these facts are shown in different ways: Fig. 47 represents the aspect of the earth as seen from the sun at the summer solstice, when it will be seen that England is seen to lie near to the centre of the hemisphere; while in Fig. 48, representing the conditions at the winter solstice, England is so near the edge that it cannot be properly represented. This experiment then will enable us to go further, and to say that the plane of the earth's equator, and therefore of the earth's spin, is not parallel to the plane of the ecliptic, but is inclined to it at an angle represented by the difference between 90° and 66', or 90° and 113°; that is to say, the angle between these two planes, that of the earth's rotation and that of its revolution, is something like 23°.

In the non-coincidence of these two planes we have one of the most fundamental points in astronomy, for the reason that what Greenwich is to earth measurement the point of intersection of these two planes is to heaven measurement. The result of this inclination of these two planes is that at one particular point in its course round the sun the equatorial plane of the earth seems to plunge below the plane of the ecliptic, whilst at another and an opposite point it seems to come up from below that plane.

These two points are known as the nodes of the orbit, the

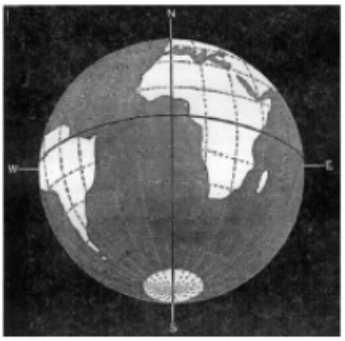

FIG. 48.—The earth, as seen from the sun at the winter solstice (noon at London).

ascending node at that point where the earth comes up from below, the descending node when it is plunging down from above. It will be remembered that when the question of terrestrial longitude was occupying our attention it was pointed out that it might begin anywhere: we begin at Greenwich, the French prefer Paris, the Americans Washington, and so on. With regard to celestial longitude, although it also might begin anywhere, yet there is a general agreement among astronomers that the right ascension of stars shall be counted from this ascending node, or, as it is otherwise called, the first point of Aries, where we get the intersection of the earth's plane of rotation with the ecliptic plane of revolution. That is the start-point not only of right ascension for the stars, but of celestial longitude, because it is necessary that we should have a means of determining the positions of stars, not only with reference to the plane of the earth's rotation, but with reference to the plane of the ecliptic itself, and the number of degrees which a heavenly body is observed above or below that plane (such degrees being called degrees of celestial latitude) require to be known in order to determine absolutely the position of any star. With the transit instrument and the sidereal clock the precise angle of intersection of these planes is determined, but it is necessary to know also the precise point in the orbit at which the intersection takes place, before we can use either our transit instrument or our clock for the determination of the precise position of a heavenly body. And now that so much has been said, we can go further with regard to our sidereal clock, and say that it shows 0h. 0m. 0s. when the first point of Aries is exactly on the central wire of the transit instrument, and that it will come back to that time, 0h. 0m. 0s., after an interval of twenty-four hours. In that way, by discussing the point of the intersection of the planes, we come to the conclusion not only that the earth's axis is inclined 23½° to the ecliptic plane, but that we have at that point the most convenient starting point both for the right ascension of stars as determined by a sidereal clock, and the longitude of stars, if we choose to define their positions with reference to the ecliptic plane, instead of with reference to the plane of the earth's rotation. It is curious how in dealing with these matters we find that phenomena apparently the most diverse are really bound up in a most intimate connection with each other. In further considering the subject it will be seen that not only do we get these precious start-points from these considerations, but that they bring before us questions of the greatest interest and value to all earth-dwellers, questions that enable us accurately to study not only time as applied to the dealing out of our days and nights, as applied to those changes which take place during the year, as applied to those changes which effect the years themselves, but as applied to those yet greater changes which have probably been going on in this planet of ours for very many millions of years.

J. NORMAN LOCKYER

(*To be continued.*)

ZOOLOGICAL NOMENCLATURE

ON Tuesday last week a meeting was held in the Lecture Room of the Natural History Museum, where a number of leading British zoologists assembled to meet Dr. Elliott Coues, who is now on a visit to this country, and to hear from him an exposition of the views advocated by himself and the leading American zoologists with regard to the adoption of Trinomial Nomenclature.

Among those present were representatives of many branches of science, and we noticed the following British naturalists:—Lord Walsingham, Prof. Flower, F.R.S., Dr. Günther, F.R.S., P. L. Sclater, F.R.S., Dr. H. B. Woodward, F.R.S., Prof. Traquair, F.R.S., W. T. Blanford, F.R.S., Henry Seebohm, F.L.S., Howard Saunders, F.L.S., Prof. F. Jeffrey Bell, J. E. Harting, F.L.S., G. A. Boulenger, H. T. Wharton, F.L.S., S. O. Ridley, F.L.S., W. F. Kirby, Sec. Ent. Soc., Herbert Druce, F.L.S., W. R. Ogilvie Grant, and R. Bowdler Sharpe, F.L.S.

The chair was taken at 3 p.m. by Prof. Flower, F.R.S., the Director of the Natural History Museum, who briefly opened the proceedings by reading a letter from Prof. Huxley, P.R.S., expressing his great regret at not being able to be present, being prevented by pressure of official business.

The Chairman said:—The subject we have met to discuss is one of extreme importance as well as difficulty to zoologists, for though in so many respects the name attached to any natural object is the most trivial and artificial of any of its attributes, and may hardly be thought worthy of scientific consideration, laxity in the use of names causes endless perplexities and hindrances to the progress of knowledge. I must confess that I feel some sympathy with the young lady, lately quoted in a speech by Sir John Lubbock at the University of London as an instance of hopeless stupidity, who, after listening to a lecture on astronomy, said she had no difficulty in understanding how the distances, motions, and even chemical composition of the stars were discovered, but what puzzled her was how their names were found out. Now, I have often had little difficulty in making out the characters and structure of an animal, and even the functions of some of its organs, but when I have to decide by what name to call it, I am often landed in a sea of perplexity. Yet those of us who work in museums are constantly engaged in cataloguing and labelling, and we are supposed to be able at once to give the correct name to every creature in the collection. I hope that this discussion will help to clear up our ideas upon the subject. With the impartiality due from the chair, I shall not give any opinion upon the merits of the rival schemes to be proposed, at all events not until after hearing the arguments to be brought forward for or against them, and I cannot say that I am very sanguine of being able to do so then. I now call upon Mr. R. Bowdler Sharpe to read a paper "On the expediency, or otherwise, of adopting Trinomial Nomenclature in Zoology."

Figure 8. Report of the meeting discussing trinomial nomenclature.

of note was there – Schlater, Bolter, Guenther, Sharp. Huxley sent a note saying he couldn't attend but give'em hell. All were there to give the upstart Americans, Coues and Allen, a piece of their minds and defend their rules and their museum. The verbatim report from *Nature* makes interesting reading from a philosophical standpoint, as all the debates from the early 19th century are rehearsed in 1884 (Fig. 8). In fact, these

arguments about the meaning of language, of dubbing, of authority, are rehearsed again and again subsequently, and perhaps still through the ICZN. Fears of anarchy are continually raised if there were to be a rejigging the 'meaning of meaning' for all of zoological nomenclature.

The British scientists argued that, by identifying location, trinomials were giving meaning within the name itself. This was liable to abuse, and would destabilise the system of authority so deeply established by rules and by the museum. Coues attempted to fight his corner but to no avail. The meeting was raucous and Coues was sent limping. The debate lasted long past that Tuesday 1st July, carrying on for the rest of the year in the press and journals.

Enter Sherborn and the *Index*

Recently employed by the geologist Thomas Rupert Jones in the British Museum (who might well have attended the raucous discussions on rules and meaning in names), was the 23 year-old Charles Davies Sherborn. He had already shown a predilection for indexing. We saw that Elliot Coues had tried to provoke him by saying only an inspired idiot could perform such a work. With the inspiration of Flower, Guenther, Slater and others, Sherborn published the announcement for the project of his great work in the May 1890 issue of *Nature* (Fig. 9). As stated in the announcement, the index was to be built on binomials (binominals) alone. He would constantly write that if something was a trinomial, it was not a name. The list was alphabetised by species, not genus. And the philosophical rule of priority, of first dubbing, now set to be from the 12th edition of Linnaeus, was to apply. The index became a deciding foundation to the problematic first presented by an attempt to anchor zoological discourse in a philosophy of language. It was a method of grounding and dubbing. It wore its origins and philosophical genealogy proudly.

As Sherborn stated later in life, in a 1933 private letter to Vaughn, the head of the Scripps Institute in the United States,

"After all this work, there are only two rules that are any good: First - Priority, which dates from 1st January 1758, and Second, that the first trivial is the type. If the generic diagnosis does not agree, then so much the worse for the genus, and it must be revised, unless the type is specifically mentioned. Them's my sentiments."

Sherborn continues,

"The International Zoological Committee is of little value as it meets only once in five years and then talks, but decides nothing. What we want is a Mussolini who can decide. Not a congress or a conference or such body who merely argue and make suggestions. I regard the first trivial name in a genus as the type unless it is otherwise fixed."

NATURE [MAY 15, 1890

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"Index Generum et Specierum Animalium."

NATURALISTS have long needed a reference book to the names of genera and species. Such a want has already been partially supplied by Agassiz, Bronn, Morris, Marschall, Scudder, Waterhouse, and others—only Bronn and Morris having attempted palæontological species—but no one book including references to all names given to living and fossil animals has yet been attempted. Botanists, more fortunate, will soon possess Daydon Jackson's index to flowering plants. The idea has therefore suggested itself to me to begin at the end of June next, such an "Index Generum et Specierum Animalium," taking the following rules for guidance:—

(1) The earliest reference is to date from the twelfth edition of Linnæus, 1766.

(2) The last reference to close with December 31, 1899.

(3) The names of genera and species to be given in a single alphabetical sequence, and accompanied by a reference to the original source.

(4) The names of species of each genus to be also quoted in alphabetical order under that genus.

(5) No attempt at synonymy to be given; but, to assist reference, the various genera in which a species has from time to time been placed, to be indicated under that species.

(6) Pre-Linnæan names to be quoted as founded by the author first using them after 1766:—*e.g. Echinocoryt*, Leske, 1778 (*ex* Klein, 1734). Should a pre-Linnæan species or genus have been re-named after 1766, before the post-Linnæan use of that pre-Linnæan name, the new name is to stand. [References will be given to Artedi, Brisson, and Scopoli, in accordance with British Association rules.]

Among the many offers of assistance, that of Prof. Flower, F.R.S., Dr. Günther, F.R.S., and Dr. Henry Woodward, F.R.S., who have promised the necessary space for the storage of the MS. in the Natural History Museum, is most valuable, as it practically ensures safety from fire, and renders the MS. easily accessible to those wishing to consult it while still imperfect.

The contribution of inaugural addresses, theses, or other publications difficult to obtain, would be of great assistance; and, after use, such pamphlets would be handed over to the library at the Museum.

Any suggestions for the improvement of this plan, before the commencement of the undertaking, would be gladly received and carefully considered.

Appended is a rough outline of the scheme:—

[cordatus -a, -um]

——— Amphidetus (Penn.) Düb. and Koren, Zool. Bid. 285 1844
[*v.* Echinus]

——— Amphidotus (Penn.) E. Forbes, Brit. Starf. 190, fig. 1841
[*v.* Echinus]

——— Echinocardium (Penn.) J. E. Gray, Cat. R. Ech. 43 1855
[*v.* Echinus]

——— Echinus, Pennant, Brit. Zool. iv. 58, xxxiv. 2, xxxvi. 2 1777
[*v.* also Amphidetus, Amphidotus, Echinocardium, Spatangus]

——— Spatangus (Penn.) Flem. Brit. Anim. 480 ... 1828
[*v.* Echinus]

Cordia, Stål, Hem. Afric. iv. 78 ... ... Hem. 1866
[albilaterata, peragrans.]

Cordienia, A. Rouault, B. S. géol. France, v. 207.. Gast. 1848
[biaritziana, iberica, palensis, pyrenaica, all *nom. nud.*]

CHARLES DAVIES SHERBORN.

540 King's Road, London, S.W.

Figure 9. Announcement of Sherborn's plans for his hugely ambitious project.

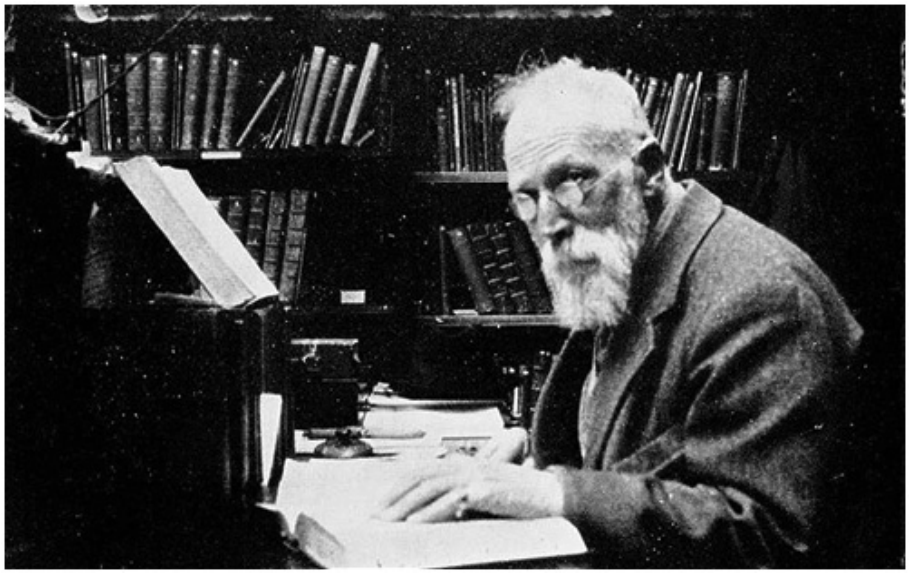

Figure 10. An iconographic picture of Sherborn in later years – staged, but revealing and taken at about the time of the final quote.