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ACTES COLLOQUE ASCONA
USES, PRACTICES AND FUNCTIONS OF HISTORICAL HERBARIA

THE BOTANICAL LEGACY OF THE INCOMPLETE,
THE DISREGARDED AND THE DISCRIMINATED AGAINST

DAVID J. MABBERLEY¹

Abstract

Chaillet, a key figure in this volume, collected and communicated much – but published little. The prime example of such behaviour in that period must surely have been Sir Joseph Banks (1743-1820), a rich and generous international networker who facilitated much scientific progress but was perhaps too busy for the nitty-gritty of taxonomic work despite devoting much time and effort to exploration and plant-collecting. This paper explores Banks and his associates' failure to publish his materials from the Pacific, especially New Zealand and Australia, and the consequences of this failure.

Other less eminent workers, whose efforts were not to be recognised in their time, were perhaps victims of snobbery and other prejudices. Examples from the author's research are pinpointed. Although Sarah Bowdich (1791-1856) was very well-connected in French academic circles, she had to publish her own work; she was the first woman not only to collect plant specimens in tropical Africa but also the first to describe new genera of plants. Despite this, her work was not recognised and evaluated for almost 200 years. She seems to have been the victim of prejudice, as were many others whose work was ignored, notably Goethe's protégé, Friedrich Dietrich (1768-1850) in Germany, and Richard Salisbury (1761-1829), who was shunned by « the Establishment » in England.

With the prestige given to the naming of new plants and fungi in the nineteenth century, the ignoring of such work has become embedded in modern research work, as current databases all derive from indexes and registers immersed in such prejudice – xenophobia, imperialism, racism, misogyny, homophobia, class distinction and the deliberate outlawing of work by those considered to be outside « the Establishment »: this article examines the cases of Buc'hoz, Rafinesque and E. L. Greene. Snobbery was such that, for example, *Index kewensis*, the fount of all modern plant databases, did not include even the nomenclatural novelties of Kew staff « moonlighting » on other, largely horticultural, projects.

Keywords : Sarah Bowdich, Joseph Banks, Pierre-Joseph Buc'hoz, Jean-Frédéric Chaillet, Friedrich Dietrich, Edward Lee Greene, Constantine Rafinesque, Richard Salisbury.

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Résumé

Chaillat, personnage clé de cet ouvrage, a beaucoup collecté et communiqué, mais a peu publié. Le meilleur exemple d'un tel comportement à cette époque doit certainement être Sir Joseph Banks (1743-1820), un riche et généreux réseau international qui a facilité de nombreux progrès scientifiques, mais qui était peut-être trop occupé pour les détails du travail taxonomique, bien qu'il ait consacré beaucoup de temps et d'efforts à l'exploration et à la collecte de plantes. Cet article examine l'incapacité de Banks et de ses associés à publier ses documents provenant du Pacifique, en particulier de Nouvelle-Zélande et d'Australie, et les conséquences de cette incapacité.

D'autres travailleurs moins éminents, dont les efforts n'ont pas été reconnus à leur époque, ont peut-être été victimes de snobisme et d'autres préjugés. Des exemples tirés des recherches de l'auteur sont mis en évidence. Bien que Sarah Bowdich (1791-1856) ait été très bien introduite dans les cercles académiques français, elle a dû publier ses propres travaux ; elle a été la première femme non seulement à collecter des spécimens de plantes en Afrique tropicale, mais aussi la première à décrire de nouveaux genres de plantes. Malgré cela, son travail n'a pas été reconnu et évalué pendant près de 200 ans. Elle semble avoir été victime de préjugés, comme beaucoup d'autres dont les travaux ont été ignorés, notamment le protégé de Goethe, Friedrich Dietrich (1768-1850) en Allemagne, et Richard Salisbury (1761-1829), qui a été mis à l'écart par « l'Establishment » en Angleterre.

Avec le prestige accordé à la dénomination de nouvelles plantes et de nouveaux champignons au XIX^e siècle, le fait d'ignorer de tels travaux est devenu partie intégrante du travail de recherche moderne, puisque les bases de données actuelles dérivent toutes d'index et de registres imprégnés de tels préjugés – xénophobie, impérialisme, racisme, misogynie, homophobie, distinction de classe et proscription délibérée des travaux de ceux considérés comme n'appartenant pas à « l'Establishment » : cet article examine les cas de Buc'hoz, Rafinesque et E. L. Greene. Le snobisme était tel que, par exemple, l'*Index kewensis*, la source de toutes les bases de données modernes sur les plantes, n'incluait même pas les nouveautés nomenclaturales du personnel de Kew qui travaillait au noir sur d'autres projets, essentiellement horticoles.

Mots-clés : Sarah Bowdich, Joseph Banks, Pierre-Joseph Buc'hoz, Jean-Frédéric Chaillat, Friedrich Dietrich, Edward Lee Greene, Constantine Rafinesque, Richard Salisbury.

Zusammenfassung

Chaillat, eine Schlüsselfigur in diesem Band, sammelte und teilte viel – veröffentlichte aber wenig. Das beste Beispiel für ein solches Verhalten in dieser Zeit war sicherlich Sir Joseph Banks (1743-1820), ein reicher und großzügiger internationaler Netzwerker, der viele wissenschaftliche Fortschritte ermöglichte, aber vielleicht zu beschäftigt war, um sich mit den Grundlagen der taxonomischen Arbeit zu befassen, obwohl er viel Zeit und Mühe in die Erkundung und das Sammeln von Pflanzen investierte. In diesem Artikel wird untersucht, warum Banks und seine Mitarbeiter seine Materialien aus dem Pazifikraum, insbesondere aus Neuseeland und Australien, nicht veröffentlicht haben, und welche Folgen dies hatte.

Andere weniger bedeutende Forscher, deren Leistungen zu ihrer Zeit nicht anerkannt wurden, waren möglicherweise Opfer von Snobismus und anderen Vorurteilen. Der Autor nennt Beispiele aus seiner Forschung. Obwohl Sarah Bowdich (1791-1856) in französischen akademischen Kreisen sehr gut vernetzt war, musste sie ihre eigenen Arbeiten veröffentlichen. Sie war nicht nur die erste Frau, die Pflanzenproben im tropischen Afrika sammelte, sondern auch die erste, die neue Pflanzengattungen beschrieb. Dennoch wurde ihre Arbeit fast 200 Jahre lang nicht anerkannt und gewürdigt. Sie scheint ein Opfer von Vorurteilen gewesen zu sein, wie viele andere, deren Arbeit ignoriert wurde, insbesondere Goethes Schützling Friedrich Dietrich (1768-1850) in Deutschland und Richard Salisbury (1761-1829), der vom « Establishment » in England gemieden wurde.

Mit dem Prestige, das der Benennung neuer Pflanzen und Pilze im 19. Jahrhundert zuteil wurde, hat sich die Missachtung solcher Arbeiten in die moderne Forschungsarbeit eingebettet, da alle aktuellen Datenbanken von Indizes und Registern stammen, die von solchen Vorurteilen geprägt sind – Fremdenfeindlichkeit, Imperialismus, Rassismus, Frauenfeindlichkeit, Homophobie, Klassenunterschiede und die bewusste Ächtung der Arbeit von Personen, die als außerhalb des « Establishments » stehend gelten: Dieser Artikel untersucht

die Fälle von Buc'hoz, Rafinesque und E. L. Greene. Der Snobismus ging so weit, dass beispielsweise *Index kewensis*, die Quelle aller modernen Pflanzendatenbanken, nicht einmal die nomenklatorischen Neuheiten der Mitarbeiter von Kew enthielt, die nebenbei an anderen, hauptsächlich gartenbaulichen Projekten arbeiteten.

Stichwörter: Sarah Bowdich, Joseph Banks, Pierre-Joseph Buc'hoz, Jean-Frédéric Chaillet, Friedrich Dietrich, Edward Lee Greene, Constantine Rafinesque, Richard Salisbury.

INTRODUCTION

A rather tired old English adage is «history is written by the victors», a maxim attributed to the wartime British prime minister, Winston Churchill (1874-1965), though similar sentiments are probably much older, perhaps originating with Robespierre during the French Revolution. Whether it is fair or not, such an aphorism can be applied as much to the history of biology as to military or political history. One only has to consider the furore surrounding the discovery of the structure of DNA – and the way that an apparently major contribution by a woman, Rosalind Franklin (1920-1958), was played down so that the men, Crick and Watson, still receive all the credit in the public arena (COBB & COMFORT, 2023).

The fact is that the biological «Establishment» has its enduring heroes: Linnaeus, Lamarck, Cuvier, Darwin, Mary Anning, Humboldt, Mendel, and Pauling, to name a few – and authors who question their originality or point out their failings are often pilloried. Perhaps even more egregious is the way that the Establishment has ignored or ridiculed the work of men and women who, for whatever reason, are, or were, seen as outsiders.

In the 1970s, while reading the correspondence of a «hero», Robert Brown (1773-1858), perhaps the greatest botanist of the nineteenth century, I became aware of a host of

apparently «minor» players in the advancement of botany in the Enlightenment and subsequently (MABBERLEY, 1981). The «victors» have largely left them out of the history books, and I am interested as to why and how this came about.

SIR JOSEPH BANKS

Sometimes, it was because they wrote little, and therefore, there is no mainstream account of their importance. For example, Jean-Frédéric Chaillet collected and communicated much but published little, so only through archival work has his real contribution become apparent (DI MAIO *et al.*, 2022).

Although scarcely an overlooked figure, Sir Joseph Banks (1743-1820) must surely have been the prime example of such behaviour in that period. He was a rich and generous international networker and facilitator of much scientific progress but perhaps too busy (or lofty?) for the nitty-gritty of taxonomic work despite having devoted much time and effort – and great expense – to exploration and plant-collecting, particularly on James Cook's first voyage to the Pacific from 1768 to 1771.

Banks became interested in plants when he was just a boy, and he grew up during the revolution in plant classification and nomenclature

brought about by Carl Linnaeus (MABBERLEY, 2017: 20).

Daniel Solander (1733-1782) was Linnaeus's favourite pupil and became Banks's curator-librarian, accompanying Banks on Cook's *Endeavour*. The plant and animal specimens collected during the voyage were drawn by Sydney Parkinson (c. 1737-1771), who managed to complete many of his life-size drawings as watercolours. However, he could not keep up with the ever-increasing volumes of collections being brought to him to draw. He died before the end of the voyage in what is now Indonesia, leaving some finished watercolours but also many unfinished sketches, though with notes on colour.

As early as November 1771, Banks was said to have put aside £10 000 to publish the botanical results of the voyage in 14 volumes: this grandiose venture was planned to be his greatest contribution to science (MABBERLEY, 2024). By the Spring of 1777, 213 unfinished Parkinson drawings had been completed by artists employed by Banks, such that, including Parkinson's finished ones, there were 483 ready for the engravers labouring in a workshop set up in Banks's London house. Banks had originally listed 942 subjects but eventually settled on slightly more than 800, of which 753 were finally engraved. Solander's death in 1782 slowed the work, but with his successor, Jonas Dryander, to add the scientific diagnoses, there should have been no impediment to realising Banks's enormous investment, already perhaps £4500, with up to £7500 (c. 1.7 M Swiss francs in today's money) calculated to bring it out.

Meanwhile, the brother of the dead Sydney Parkinson published Sydney's journal, which described a number of new species from the voyage. Their names, no doubt coined by Solander, have to be attributed to Parkinson, one being the first published name for breadfruit [*Artocarpus altilis* (Parkinson) Fosb., Moraceae], a plant that was to figure



Fig. 1. Proof engraving [*Didymocheton spectabilis* (G. Forst.) Mabb. & Holzmeyer (Meliaceae)] in Linnaeus the Younger's set of proof engravings [Linnean Society of London BL1172 no. 20, '(MS Solander[?], pencil) *Trichilia cauliflora*'] from a copper plate by Gerard Sibelius after Frederick Nodder's undated watercolour based on Parkinson's field sketch made in New Zealand, 1769-1770. Photograph by Will Beharrell, courtesy of the Linnean Society of London.

prominently in Banks's later push to transport Pacific plants of economic value to the Caribbean.

Edwin Rose (ROSE, 2020) argued that «Gifting lavish publications secured Banks's reputation as a patron of natural history and a gentleman who did not need to rely on profits from commerce or government grants for his income.» However, Banks's income from wool and his other agricultural interests fell during the depression following the American War of Independence; he was president of

the Royal Society – and he was newly married. His interest and, perhaps more importantly, constrained resources are generally held to be the reasons for his not completing the project in which he had invested so much (MABBERLEY, 2022b: 324-325). Nonetheless, in November 1784, he could still write of it, «*Because everything was produced by our common effort, Solander's name will appear on the title page next to mine... it can be completed in two months if only the engravers can come to put the finishing touches to it.*» He was still planning to issue the book in parts in 1791, laying blame for the delay on his work at Kew and, the next year, citing other official duties, though he perhaps had developed an eye for something better. He was to embrace the Austrian Bauer brothers Franz and Ferdinand, natural history artists, whose work was known to him from 1788 at the latest. Although Parkinson's work was infinitely superior to any earlier illustrations of Pacific plants, the Bauers' work a few years later was the highest pinnacle of botanical art before modern times (LACK, 2015).

In the event, just a small number of uncoloured engravings were run off and distributed to fellow botanists on the Continent (MABBERLEY, 2024). A set of 45 was given to Linnaeus the Younger (fig. 1), and these are now in the Linnean Society of London (another set of 32, differing in content, is now in The Peter Crossing Collection in Australia, while some left-over pulls from what is now the Natural History Museum in London reached Kew at the end of the nineteenth century). The copper plates made from Parkinson's drawings lay unused at the British Museum (and later the Natural History Museum) in London until 1897, when some six sets of uncoloured engravings were run off for museum collections in New Zealand. Only at the turn of the twentieth century, 130 years after they had been executed, were some of the drawings published – as lithographed plates, but this project, too, was abandoned.

In the late 1980s, with the publication of *Banks' Florilegium* as hand-coloured unbound engravings (113 impressions), without commentary, all of Parkinson's engraved drawings were finally published, albeit in a very exclusive way. In 2017, with the publication of *Joseph Banks' Florilegium*, a selection of the finest coloured images with commentaries (MABBERLEY, 2017), the best of them were at last made accessible in a book – and Parkinson's work truly publicly recognised. However, Solander's labours never saw the light of day. Had Banks not prevaricated – for whatever reason – and published what was in effect not only Parkinson's but also Solander's work, the history of botany, particularly in terms of the names of many of the commonest Pacific plants, would have been very different.

«FORGOTTEN» PIONEERS: SARAH BOWDICH

Other less eminent workers in less elevated circles, whose efforts were not to be recognised in their time, were perhaps more often the victims of snobbery and other prejudices rather than dilatoriness. The period has been viewed as the acme of colonialism, though it was merely a crescendo in a long-established trend, in that by 1815, there had already been 400 years of continuous European imperialism (MABBERLEY, 2022a). Vladimir Lenin (1870-1924), following the British economist John Hobson (1858-1940), attributed this expansion to new economic forces, to «*excessive capital in search of investment*», hence the search for lucrative overseas enterprises. As European nations could satisfy their own markets as they industrialised, surpluses had to go elsewhere – but there was more to it, as Cambridge historian David Thomson has noted in elegant alliteration (THOMSON, 1966: 498), «*It was not just that trade followed the flag, but that the flag accompanied the botanist and buccaneer, the Bible and the bureaucrat, along with the banker and the businessman.*» The Bible part entailed

well-travelled protagonists implementing so-called «civilising» missions (particularly to Africa and the Far East) as missionaries and teachers in fledgling colonial settlements (ORR, 2015). Many, both men and women, also made botanical collections, drawings, and observations, as did colonial administrators, surgeons, and military officers, as well as their wives, daughters, and sisters.

A remarkable example of such a woman, largely ignored by the British Establishment in her time, is Sarah Eglinton Bowdich (1791-1856) (MABBERLEY, 1978, 1981; ORR, 2015; MABBERLEY, 2022: 223), the first woman to systematically collect plants in tropical Africa and to name and publish new genera of plants anywhere in the world. Sarah's husband, Edward, left his pregnant wife in Britain when he sailed for Africa in 1815, but, independently, both decided to re-unite; Sarah left for what is now Ghana just as Edward left there for Britain, but he then returned to Africa to be with her. It is clear (ORR, 2015) that Sarah contributed observations that were incorporated, without acknowledgement, in her husband's influential book, *A Mission to Ashantee* (1819), in which a number of plant species were recorded as new to science.

Edward petitioned the all-powerful African Committee to fund a second mission to West Africa, this time to Sierra Leone, to engage in scientific exploration – in the intellectual footsteps of Linnaeus's pupil, Adam Afzelius (1750-1837), who made observations and collections there from 1792 to 1796. The African Committee declined, perhaps due to Edward's published criticisms of its African Company of Merchants (MABBERLEY, 1985a: 245-246), so from 1819 to 1822, Sarah and her husband lived in Paris where, with the end of Napoleon's wars, the major international scientific collections at the Museum in the Jardin des Plantes were available to foreigners for study.

The Bowdiches became acquainted with naturalists in Paris, notably Cuvier and

Alexander von Humboldt, and befriended Cuvier's step-daughter (Antoinette) Sophie Duvaucel, a natural history illustrator. However, all this was a means to an end: to churn out a flurry of books on natural history and geography to finance their African expedition. The most successful was their comprehensive *Taxidermy*, running to six editions (the last in 1843), including «*Elephants. We are now arrived at the largest animals, the most expensive, and the most difficult to mount* [ed. 2 p. 41].» There are, perhaps surprisingly, sections on «*mineralogy and geology*» and the «*vegetable kingdom*», dealing with living and preserved plants: «*The collection of a great number of foreign plants ought not to be considered as an object of luxury or curiosity. It is useful to the progress of science* [ed. 2 p. 143]» (MABBERLEY, 2022: 223).

Sarah had three children in Paris, two of whom survived. Her elder daughter was under four and the younger only a few months old when, in 1823, the family left Le Havre for Lisbon and Madeira, destined for Sierra Leone (ORR, 2015), the workaholic Edward managing to write yet another book (no doubt with Sarah's aid) whilst in Lisbon and prepare an important survey in Madeira. There, Sarah gave birth to a further daughter, and they all survived a very trying voyage via the Cape Verde Islands, reaching what is now Banjul in The Gambia, whence they planned to sail to Sierra Leone. However, they never got there: Edward died in January 1824, likely of malaria, after frenetic work surveying the River Gambia.

Two months later, the widowed Sarah returned to London with her children on a voyage so tempestuous that she was washed out of her berth and spent two weeks sleeping in sodden bedclothes (MABBERLEY, 1978). Hardly surprisingly, her herbarium, largely made up of materials brought to her by Gambians, and her books and sketches were largely destroyed, but Sarah took the surviving plant fragments and fieldnotes with

her to the Paris herbarium for further study. Typically, she wrote a book (in both English and French editions), *Excursions in Madeira and Porto Santo*. She included florulae in the book and, in so doing, was the first woman to name what she considered new genera after her colleagues and helpers, among them *Duvaucellia* (nom. rej.), the only genuinely new one (= *Kohautia*, nom. cons., Rubiaceae), very likely named after Sophie Duvaucel, the first woman to be so commemorated by another woman. In doing this, Bowdich was, of course, engaging in the colonial imposition of botanists' names on tropical plants, following the Linnaean canons, Linnaeus having written in his *Philosophia Botanica* (1751) following argumentation in his *Critica Botanica* (1737): «*Generic names that have been formed to perpetuate the memory of a botanist who has done excellent service should be religiously preserved. This, the only and pre-eminent reward for such labour, should be religiously preserved and fairly awarded*» (FREER, 2003: 185).

Sarah later remarried and, as «Mrs R. Lee» continued to pour out books on natural history, as well as short stories and (poorly received) novels like *Adventures in Australia* (1851). Just two years before her death, she was at last granted a Civil List pension of £50 per year (MABBERLEY, 1985a: 349-350), but the significance of her taxonomic work was only assessed in the 1970s (MABBERLEY, 1978).

As Mary Orr (ORR, 2015) has written, «*The invisibility of her works therefore derives not from their unimportance but from an imposed and established view of how, where, and by whom important science findings should be published. Scientific papers were read by members of scientific societies and disseminated in sanctioned society Transactions or similar reviews.*» In effect, then, Bowdich seems to have been the victim of this implicit prejudice of the time. The same can be said of the contributions made by many early European collectors constrained by

government or military orders; the work of the «lower ranks» was frequently attributed to their superiors, as, for example, in colonial Australia, as fully documented some years ago by Robyn and William Barker (BARKER & BARKER, 1990).

UNSEEMLY RIVALRIES

A third thread in this story concerns professional rivalries with antagonists in different «schools» of thought or opposed in other ways. Notable in this regard in Germany (MABBERLEY, 2020) was the ignoring of the work of Goethe's protégé, Friedrich Dietrich (1768-1850) in comparison with that of Kurt Sprengel (1766-1833), a member of the Establishment.

DIETRICH v. SPRENGEL

On a botanical excursion, Friedrich Dietrich met the great polymath Johann Wolfgang von Goethe (1749-1832); Goethe, very impressed with the youthful, handsome, and enthusiastic Dietrich, made it possible for him to finish his schooling and supported Dietrich's further botanical education in Jena. Dietrich later provided plants to Goethe, who was by now favouring a natural system of classification based on overall similarity, as opposed to the Linnaean one based on the numbers of floral sexual organs, and is said to have helped him with his ground-breaking *Versuch die Metamorphose der Pflanzen zu Erklären* (*Metamorphosis of Plants*, 1790), which was the first clear enunciation of what is now called homology in biology. Dietrich wrote a monumental 30-volume dictionary, *Vollstaendiges Lexicon der Gaertnerei und Botanik*, from 1802 to 1840; the last volume contains general chapters on botany, including botanical history and a discussion of Goethe's work, complete with a natural classification. In 1845, he became director of the ducal botanical gardens in Eisenach and Wilhelmstal, Germany.

The taxonomic and nomenclatural significance of this monumental work was exposed only a few years ago (MABBERLEY, 2020). Why did it take so long? The starting point for all modern plant name databases derives from the Charles Darwin-funded *Index Kewensis*, which was based on an annotated interleaved copy of Steudel's *Nomenclator Botanicus* ed. 2 (1840-1841) held at Kew. The question, therefore, turns to why Dietrich's 30 volumes of up-to-date taxonomic (and horticultural) information were in such large part neglected by those secondary sources and thence up until recently.

Kurt Polycarp Joachim Sprengel (1766-1833) was a German doctor and botanist who lived in Halle, in 1797 becoming full university professor there (succeeding his father-in-law, Johann Reinhold Forster, naturalist on James Cook's second voyage to the Pacific): he could be described as «*worlds apart from Dietrich in hierarchy-minded nineteenth-century Germany*», as Hans Walter Lack has opined (pers. comm. 3 June 2020). He is largely remembered now in the thousands of names coined in his compiling of an edition of Linnaeus's *Systema Vegetabilium* (5 vols, [1824] 1825-1828). In the formidable bibliography to his *Systema*, Sprengel cited Dietrich's *Lexicon*, but a close reading of his text shows that he did more than cite it in that he plagiarized that work and appears to have deliberately replaced many of the *nomina nova* in Dietrich's *Lexicon* with his own.

Was Sprengel jealous of Dietrich and Goethe's patronage of him or disdainful of the «mere» ducal gardener Dietrich's more original work in that somewhat unconventional and heterodox milieu? That Sprengel copied parts of Dietrich's text yet did not cite even some of Dietrich's new combinations and *nomina nova* indeed suggests some enmity or antagonism, snobbery or prejudice, rather than innumerable slips of the pen (cf. POLIANSKI, 2004). Nonetheless, Sprengel's work, with all its faults and apparent injustices, was cloaked in the

contemporary respectability of being a «new» edition of Linnaeus's *Systema*, presented entirely in Latin (rather than with accompanying German text) and in the scholarly Linnaean manner rather than the practical alphabetical order of Dietrich, which was accessible to horticulturists as well as botanists and had likely been developed under the influence of Goethe, who had by then rejected the Linnaean stranglehold on the central European botanical establishment of the time. Consequently, the book was swept into the scientific mainstream and Dietrich's work was generally disregarded, apparently not least because of what Sprengel – as part of the Establishment – had, apparently wilfully, done.

SALISBURY v. SMITH

Much more blatant was the attempt by the British Establishment to obliterate the work and legacy of Richard Salisbury (1761-1829). In 1796, Salisbury, who frequented Joseph Banks's herbarium, brought out his privately printed *Prodromus Stirpium in Horto ad Chapel Allerton Vigentium*, which allegedly dealt with plants growing in his extensive country estate and, very innovatively for England, used a form of the natural system, in contradistinction to the Linnaean system championed by his friend, James Edward Smith, the founding President of the Linnean Society of London. Salisbury and Smith had known one another as students in Edinburgh, and Smith had even suggested that various *Banksia* species be called «*Salisburia*» (though he went on to rename the genus *Ginkgo* using Salisbury's surname instead).

Salisbury, as did Lamarck and several other earlier authors, very often replaced earlier published names with those of his own coining, meaning his *Prodromus* is a nomenclatural nightmare. In this regard, it was for Smith an irritant that led to an excruciatingly public dispute between them, including a kind of pamphlet warfare – one of the most vitriolic scientific disagreements in nineteenth-century

botany. Salisbury's book was published a few weeks after Smith had read a paper on Myrtaceae at the Linnean Society; before the paper was published in 1797, Salisbury had re-named Smith's unpublished new species in his book.

Salisbury was brilliant but opinionated; Smith was perhaps less thorough but very prolific. Salisbury was the outsider, and Smith was of the Establishment. It looked as though it was going to end badly – and it did. The public bickering became even more personal because of certain aspects of Salisbury's private life: after two years of marriage, Salisbury's wife left him, and Salisbury declared himself bankrupt, his fortunes falling until he had just «*a vast collection of rare plants in pots, in a garden thirty feet square*» in London. Salisbury gathered further opprobrium in 1802 in attempting to lead astray the protégé of the rather prim Smith, one William (later the Reverend) Drake, then just sixteen years old (MABBERLEY, 1985a: 153), Salisbury offering to take Drake to see «*a girl of his acquaintance in London*» explaining that «*it would be good for him, manly &c., &c.*»

The last straw was the 1809 publication of Joseph Knight's *On the Cultivation of the Natural Order Called Proteeae*, a book on the growing and classification of Proteaceae. Over four meetings of the Linnean Society, from January to March that year, Robert Brown, who worked in Banks's library, read a magisterial and lengthy paper on Proteaceae, complete with public criticisms of Salisbury's work. It was beaten to print by *Proteeae*, a work purportedly authored by Joseph Knight (1777-1855), a young gardener who had set up a nursery in Chelsea, London, in 1808. It was no doubt in large part the work of Salisbury because a number of Brown's observations were included, yet the preface boasted, «*Perhaps few works have greater claims to originality than the present, not a single line being copied from any other.*» This appeared little short of scandalous. However, it seems

that Knight's book had been held up in publication, and there is a suspicion that Brown meanwhile was encouraged to get his paper ready in order to prevent his careful work from being overtaken by «Knight's» and the all-important names he had coined from being pre-empted.

It appears likely, therefore, that in the light of Brown's reading of his paper, or having learned of its contents simply through conversation with him, Salisbury made amendments to the final manuscript to reflect the new findings – just as he had already done with Smith's paper on Myrtaceae in his own *Prodromus* in 1796. The Establishment tried to ignore Knight's publication. Smith wrote to Brown, «*I have indeed got the Proteeae, but shall not keep it – I mean hereafter not to notice it or any other of the author's productions.*» Brown pronounced, «*I scarcely know what to think of him except that he stands between a rogue and a fool.*» Only in the twentieth century was Salisbury's work rehabilitated, though as early as 1903, the director of the Royal Botanic Garden Sydney, Joseph Maiden (MAIDEN, 1903) could write, «*A thief may technically have priority by hurrying publication, but he can only be effectively punished by declining to accept his names*» – and in the end, Brown's later names were conserved over Salisbury's because of decades of those being suppressed by the Establishment.

This sorry tale – and no doubt there are more from other countries – was inextricably linked to Salisbury's righteous war against the Linnaean system. Indeed, the cases of both Dietrich and Salisbury epitomise a long battle between the Linnaean Establishment and the progressive revival of the natural system, but both are also flavoured with prejudices of other kinds.

THE OUTCASTS

This article's final thread is an extension of the Salisbury story in that certain other workers were considered completely beyond the pale

during their lifetimes. Pierre-Joseph Buc'hoz (1731-1807) was a French lawyer and doctor who recommended music as therapy for depression ('melancholy') and also a botany teacher. He poured out natural history publications, over 500 works, mostly conspicuously plagiarised from the work of others. In naming a genus *Buchozia* after him, civil-servant-cum-botanist, Charles Louis L'Héritier de Brutelle (1746-1800) wrote, «*To the memory of Pierre-Joseph Buc'hoz, Doctor of Medicine, who was among the passing jumble of parasitic authors and of almost no botanical importance, but was more often very much known as injurious to science*» (translated from Latin by R. GEREAU in LACK *et al.*, 2021).

In a July 1788 note, L'Héritier wrote to Banks, «*Do not suspect me of trying to prostitute Botany by means of the name Buchozia, it is more to take revenge*» because of the foetid odour of the eponymous plant, which is now one of the most important bonsai subjects, almost universally known as *Serissa japonica* (Thunb.) Thunb. (Rubiaceae; see CHEN *et al.*, 2024). It is perhaps redolent of the story of Linnaeus himself naming the smelly weed *Sigesbeckia orientalis* L. (Compositae) after a critic of his sexual system, the Prussian botanist Johann Siegesbeck (1686-1755). However, it seems Linnaeus likely named it before they fell out, though afterwards, Linnaeus certainly sent him some seeds labelled «*Cuculus ingratus* (ungrateful cuckoo)» which germinated as *Sigesbeckia*².

Buc'hoz's works have suffered the indignity of being «cancelled» in modern parlance, in that the Establishment, in the form of the

International Code of Nomenclature, has formally suppressed his works with regard to his nomenclatural innovations. Nonetheless, Buc'hoz may have had the last laugh in that he is very well known in the art trade because of his books' coloured engravings of plants, much influenced by Chinese painting; they are popular and increasingly prized. Another outcast was the botanical prodigy Hippolyte Arnaud (1832-1908), who was publishing monographic work in Lyon when just 15 years old but seems to have been ostracized because he was a bastard, the illegitimate son of a seamstress by her dancer-lover (MABBERLEY & MALÉCOT, 2023).

Such happenings were not restricted to Europe. The most famous case is probably that of Constantine Rafinesque (1783-1840), who, of necessity, published in local American newspapers and magazines, besides self-publishing comprehensive botanical books, erecting hundreds upon hundreds of new generic and many more species names (some 6700 plant binomials, as documented by MERRILL, 1949). As a young man, the doyen of American botanists, Asa Gray (BOEWE, 2011: 417), «memorialized» Rafinesque: «*Considering his limited advantages, he must be deemed a botanist of unusual promise for that period, notwithstanding the defects which, increasing in after life, have obscured his real merits, and caused even his early writings to be in a great measure disregarded.*»

At the Seventh International Botanical Congress in Stockholm in 1950 (BOEWE, 2011: 428-429) there was a motion effectively to «cancel» Rafinesque and suppress his works, Leon Croizat, signing himself «Henricus Quatre» (after England's king Henry IV, who had heretics burnt at the stake), declaring that Rafinesque's plant names were «*a flood of polluted nomenclature contributed by a lunatic, who wrote botany because he was of unsound mind*»: the motion was lost. A psychiatrist asked by Merrill to read Rafinesque's work diagnosed

² Linnaeus was perhaps not above playing games with such eponymy (MABBERLEY, 2016). In the appendix to his *Species Plantarum* (1753), the text is rather overloaded with such eponyms. Among them, *Rumphia amboinensis* L. is the name for a tree from south India (now identified as *Canarium strictum* Roxb., Burseraceae), figured in Van Rheede's *Hortus Malabaricus*, but named after Rumphius of Indonesia – or was this just an error (JARVIS, 2019)?

Rafinesque as a paranoid neurotic with «*an enlarged and hypertrophied ego*» but also said «*evidence adequately warrants the conclusion that Rafinesque was a genius*». A more recent diagnosis suggests Rafinesque suffered from bipolar affective disorder.

Of Rafinesque's 2700 generic names, fewer than 50 were in use in Merrill's time (cf. MERRILL, 1949: 23), but several more have been revived since. Even Gray admitted that «*Many of Rafinesque's names should have been adopted; some as a matter of courtesy, and others in accordance with strict rules*» (MERRILL, 1949: 25).

Also in America, there is the case of Edward Lee Greene (1843-1915), «*one of the most colourful and controversial personalities in the history of American botany*» (MCINTOSH, 1983), an episcopal priest and a botanist who could recall impressions of plants from when he was younger than 1½ years old, but who was to rub members of the American botanical establishment up the wrong way. A handsome, six-foot bibliophile bachelor and minister of great physical strength, he was also gay (MABBERLEY, 1985b): one critic noted that «*around the turn of the [twentieth] century, San Francisco had many street Arabs, newsboys, bootblacks, etc. Some of them knew Greene and his weakness [sic]. When he came over to the California Academy of Sciences on Market Street, he ran the risk of being mobbed by the street boys, who made life miserable for him*» (HERRE, 1960).

Despite this, according to some historians, the formidable botanist Katherine Brandege (1844-1920) fell for the «*handsome and eligible pastor*». Apparently rebuffed, she turned on him with biting criticism of his work, declaring, «*This kind of botany [referring to his work on herbals] was taught, probably, in the Middle Ages to which Mr. Greene properly belongs*» (MCINTOSH, 1983). Greene was also a severe critic of sloppiness in others' work, which no doubt added to the opprobrium he earned; this was such that in 1913, a contemporary uttered, «*If he could only quietly*

pass away in one of his apoplectic fits, how much better for American botany.» When he did die, another wrote, «*Greene, the pest of systematic botany has gone and relieved us from his botanical drivel. They say that [misquoting Shakespeare] the good that men do lives after them, but the evil is interred with their bones. I suspect that his grave must have been a big one to hold it all*» (MCINTOSH, 1983).

MODERN SIGNIFICANCE

This paper is not merely an exercise in exposing historical human foibles and failings because, in botany, with the prestige given to the naming of new plants and fungi, particularly in the nineteenth century, the ignoring of such work has become embedded in modern research, as name databases all derive from indexes and registers immersed in such prejudice – xenophobia, imperialism, racism, misogyny, class distinction, homophobia and the deliberate outlawing of work by those considered to be outside the Establishment because of their personal behaviour or mental disposition.

Snobbery was such that, for example, *Index Kewensis*, the fount of all modern plant databases, did not include the nomenclatural novelties of Kew staff «moonlighting» on other, largely horticultural, projects – or even the findings of the in-house *Index Londinensis*, a dictionary of published plant-illustrations, edited by no less than the keeper of the Kew Herbarium (MABBERLEY, 1981, 1991; MABBERLEY & MALÉCOT, 2022). Many of the popular encyclopaedias and dictionaries *Index Kewensis* staff had no time (or inclination) to scan were, of course, far more widely circulated than the more academic books and papers and so were much better known to the end-users – for whom, after all, botanists are supposed to be providing a sound nomenclatural framework.

There is now a push to rename many plants, no doubt to the consternation of those «end-users» in contradistinction to the tenets of the International Code, «cancelling» many names

commemorating those with behaviour considered unacceptable today (see MOSYAKIN, 2023 for discussion). However, as I have tried to outline here, there are other injustices within the practice of botany itself to be addressed, so perhaps at least those academic prejudices should first be dealt with so as to put our own house in order, according to the rules of priority in the International Code of Nomenclature.

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and texts at the crossroad between humanities and sciences / Héritages botaniques des Lumières: exploration de sources et d'herbiers historiques à l'intersection des lettres et des sciences», funded by the Swiss National Science Foundation between 2020 and 2024 (Grant no. CRSII5_186227). The conference entitled «Uses, practices and functions of historical herbaria / Usages, pratiques et fonctions des herbiers historiques» was held from 5-9 November 2023, and hosted and partially financed by the Congressi Stefano Franscini, a conference platform of the Swiss Federal Institute of Technology Zurich (ETH).

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