

# SIR HANS SLOANE, SCIENTIST

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MAARTEN ULTEE

'ECCE Gloriae Mathematicarum et Physicarum'; so reads the inscription on an eighteenth-century engraving showing Sir Isaac Newton and Sir Hans Sloane (fig. 1). While Newton has remained a household word for scientific genius, Sloane is remembered (if at all) as a collector of *curiosities*, the founder of the British Museum, and Lord of the Manor of Chelsea—but *not* as a scientist of note. Famous in his time as a physician to high society and as the natural historian of Jamaica, Sloane was criticized even then as a mere 'virtuoso', an indiscriminating collector who lacked understanding of scientific principles.<sup>1</sup> Yet Hans Sloane was First Secretary to the Royal Society for two decades and served as President, after Newton's death, from 1727 to 1741. He published three volumes of natural history and edited the *Philosophical Transactions*, contributing articles and comments on many subjects.

A negative opinion of his talents has been accepted by some historians of science, who have followed the lead of eighteenth-century literary critics in blaming Sloane for the decline of serious scientific work in the Royal Society. Joseph M. Levine declares, 'Sloane was essentially a dilettante collector with a great web of personal connections which he used to help build both his practice and his collections. He was certainly no philosopher.'<sup>2</sup> J. L. Heilbron describes Sloane as 'a compulsive collector, who began by stuffing the Transactions with the trifles he enjoyed', yet notes in mitigation that 'he printed tripe not only because he liked it, but also because he received little else'.<sup>3</sup> And Roger D. Lund has apparently accepted at face value the caricature of Sloane presented by his enemies: 'Sloane symbolized all that was most excessive, self-aggrandizing and ridiculous in the activities of the modern virtuoso.'<sup>4</sup> Hans Sloane's close association with Isaac Newton was no defence against envious critics: Newton's presidency of the Royal Society came at the conclusion of his scientific career, a time of acrimonious disputes. Dr John Woodward told a Swiss correspondent that 'this age has little regard to learning. 'Tis quite sunk and lost in England, since Dr. Sloane and Sir Isaac Newton have quite confounded and sunk the Royal Society.'<sup>5</sup>

The renewed interest in Sloane represented by the articles in this issue of *The British Library Journal* suggests the need for a reappraisal of his scientific reputation. Sir Hans Sloane was a considerable botanist and natural historian in his own right, a man with a keen sense of the practical applications of his studies. Furthermore, Sloane's view of



Fig. 1. Sir Isaac Newton and Sir Hans Sloane, engraving by Jacob Smith. B.M., Department of Prints and Drawings, P.8/225. Reproduced by courtesy of the Trustees of the British Museum

scientific work was shared by John Ray, William Derham, John Locke, and many other members of the Royal Society. Claims of scientific merit in Sloane are supported by the manner in which he fulfilled his editorial responsibilities in the *Philosophical Transactions* from 1693 to 1712; his network of correspondents helped to collect and publicize science. While the *Transactions* have been criticized as a miscellany of curious rather than learned articles, we should recognize that Hans Sloane held a more open-minded view of scientific work than many of his critics. He was receptive to communications from all researchers and willing to consider any observed phenomena and plausible explanations, even if they presented challenges to established preconceptions and theories. This approach had its philosophical basis in the medical empiricism of Thomas Sydenham and John Locke, and was particularly fruitful in medicine and the life sciences in general. By contrast, a narrower approach concentrating on mathematics and the physical sciences would have severely limited both theoretical and experimental advances. What is important in the history of science is not merely what fits the context of later science, or fires revolutions in thought; as Hans Sloane knew, progress in science may require the pursuit of intriguing but ultimately unsatisfactory paths.

Sloane's path to scientific renown began with his education.<sup>6</sup> After a childhood fascination with nature in his native Ireland, he studied chemistry and botany in London. He then went on an educational grand tour whose high points included medical lectures, along with visits to botanical gardens, in Paris and Montpellier. Sloane became acquainted with leading French doctors and scientists such as Joseph Pitton de Tournefort, Pierre Chirac, and Pierre Magnol; he took his MD degree by examination at the Protestant University of Orange in 1683. On his return to London in 1684 he expanded his clinical knowledge of medicine as an assistant to Thomas Sydenham, and began a lengthy correspondence with the naturalist John Ray, author of the *Historia plantarum* (London, 1686). Thus Sloane was able to act as intermediary between French and British scientists. He practiced medicine in London, acquired friends and was elected to the Royal Society in 1685 on the recommendation of the zoologist and experimenter Dr Martin Lister.<sup>7</sup> Lister had previously nominated Tancred Robinson, Sloane's travelling companion on the grand tour. All of these men influenced his later scientific work, and Sloane maintained friendships with them through meetings and letters over the years. In 1687, however, came the greatest influence of all: Hans Sloane was appointed personal physician to the Duke of Albemarle, governor-general of Jamaica.

When Sloane sailed for Jamaica in September 1687, the European learned public already had some knowledge of the West Indies. English readers could consult the relations of voyages published by Samuel Purchas in his *Pilgrimage*, which went through numerous editions beginning in 1613. On the continent Johannes de Laet of Antwerp published descriptions of the New World in Dutch, Latin, and French editions. Purchas and de Laet were both collectors who incorporated into their writings accounts by Spanish and Portuguese travellers; de Laet later edited works by Willem Piso and Georg Marggraf on medicine and natural history in Brazil. These accounts varied greatly in quality: as Sloane noted, Piso had little knowledge of natural history, Marggraf did not live long enough to publish his work, and de Laet introduced errors that 'may easily be pardoned, in one who was no more than a collector and an editor of books wherein he did not pretend to any great knowledge'.<sup>8</sup> By 1660, the printed materials included accounts in French by Vincent Le Blanc, Jean de Lery, and André Thevet of voyages to Brazil; to Martinique by Jacques Bouton; and to the Caribbean Islands by J. B. du Tertre and Rochefort. Rochefort's account, which owes much to du Tertre, had been translated into English. Among the original English works was Richard Ligon's rambling *True and Exact History of the Island of Barbados* (London, 1657).

The Royal Society had heard about Jamaica from the querulous Henry Stubbe, who went there for three years and sent reports published in the *Philosophical Transactions* for 1667 and 1668. Stubbe remarked on the sea and winds; he attributed the night wind blowing off the island to 'Exhalations, which the Sun hath raised in the day, [making] haste (after his strength no longer supports them) to those Mountains by a motion of *Similar Attraction* and there gather in Clouds, and break thence by their own force and weight'.<sup>9</sup> Stubbe's brief observations on plants and animals were miscellaneous rather



than systematic, more curious than learned. The blood of tortoises was colder than any water, 'yet is the beating of their heart as vigorous, as that of any animal (as far as I have observed)'. He noted 'admirable' melons growing in sandy soil, and the lack of seasons: 'the fruit of trees there of the same kind ripen not at the same time'. He declared that pelican meat would lose its fishy taste if buried in the ground for two hours, 'as I have been told for certain'. According to Stubbe, 'Infinite might the observations be, if I had always enjoyed my health, for the speculative philosophers; almost every thing there being new, and nature being luxuriant in her productions in those parts.'<sup>10</sup> While Stubbe mentioned a few earlier writers on natural history and medicine in the West Indies, his own anecdotal case-histories and picturesque details could not be considered a comprehensive scientific account of the islands.

Sloane was more conscientious in his approach to the natural history of Jamaica. He observed wildlife and recorded descriptions in his journal, together with rule-of-thumb measurements. On expeditions to remote parts of the island Sloane collected seeds and dried leaves; he also commissioned the Revd. Garrett Moore to make drawings of plants, fish, birds, and insects. By the time Sloane returned to England in 1689, he had gathered 800 plant specimens that he could show to his friends and attempt to propagate in Europe. The Chelsea Physic Garden in London, the Oxford Botanical Garden, and the private gardens of Sir Arthur Rawdon at Moira in Ireland benefited from Sloane's generosity. In response to Sloane's discoveries, Rawdon sent his gardener James Harlow to Jamaica to get plants. When these were successfully grown in Ireland, Sloane asked for samples to study while preparing his books.<sup>11</sup> It is clear that Sloane's experiences in Jamaica made him appreciate both the difficulty and the value of field work. For years afterwards he communicated his findings to other naturalists in letters and papers. He also exchanged specimens and encouraged collectors such as the apothecary James Petiver and Mark Catesby, a naturalist sponsored by Sloane and others to explore the Carolinas.<sup>12</sup>

The first fruits of Sloane's scientific labours appeared in papers for the *Philosophical Transactions*. These papers describe Jamaican plants such as the Pepper Tree and the coffee-shrub; they also contain accounts of the earthquakes that struck Lima in 1687 and Jamaica in 1687/8 and 1692. The last of these destroyed the infamous low-lying pirate city of Port Royal. In presenting these papers to the Society, Sloane argued for the significance of exact description of nature:<sup>13</sup>

. . . considering that they give account of different earthquakes, or that they contain differing observations of the same earthquake; and that we cannot have too many of the phenomena, or matters of fact accompanying them recorded, I think it will be best they be all preserved for future use, and I have sent the papers themselves as most satisfactory.

There was an understandable tendency for Dr Sloane to relate his Jamaican experiences, and to make comparisons to them when reading other papers. Thus 'An Account of Four sorts of strange Beans, frequently cast on Shoar on the Orkney Isles' was presented with his 'conjectures about the way of their being brought thither from Jamaica', and

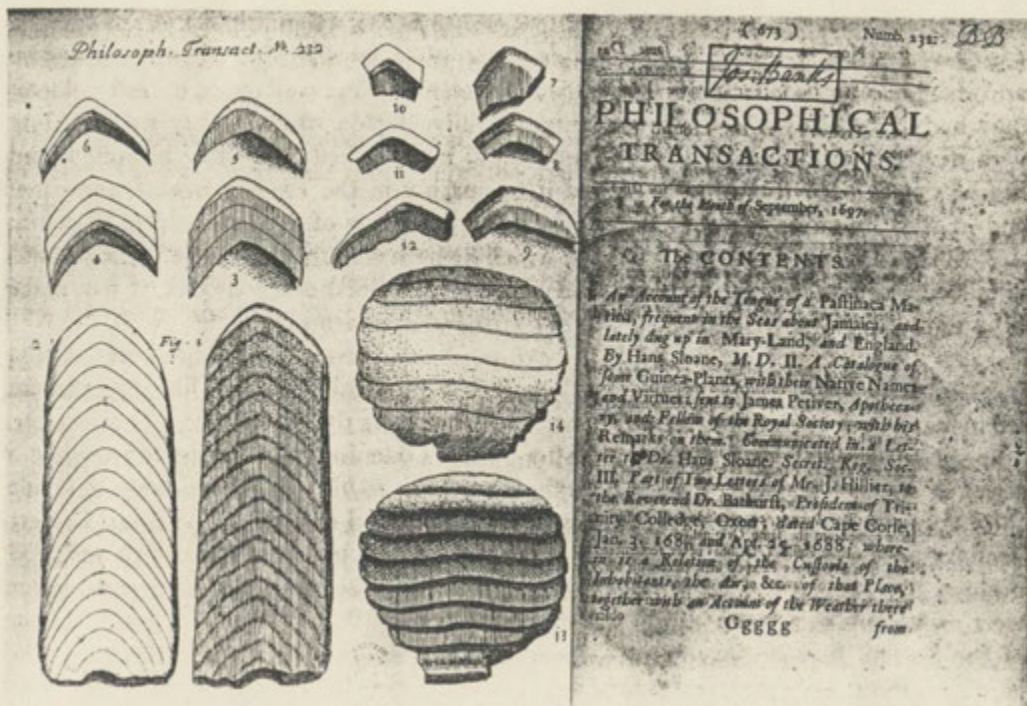


Fig. 2. *Philosophical Transactions*, no. 232 (vol. xix). C.144.1.1.

he also contributed 'An Account of the Tongue of a *Pastinaca Marina*, frequent in the seas about Jamaica, and lately dug up in Maryland, and England' (fig. 2).<sup>14</sup> Reports of medical cases provided an opportunity for Sloane to comment professionally, with references to his own observations. In general he was cautious about new remedies such as ipecacuanha, not infrequently deferring to the judgment of physicians treating each case.<sup>15</sup>

The same caution marked his work on the catalogue of Jamaican plants, *Catalogus Plantarum quæ in insula Jamaica sponte proveniunt* . . . Publication was delayed until 1696 while Sloane consulted botanical authorities among his friends. Foremost among these was John Ray, who commented on Sloane's descriptions in many detailed letters from his retreat in Black Notley, Essex. Useful information was also provided by Jacob Bobart, keeper of the Oxford Botanical Garden, and William Sherard, who was employed by Sir Arthur Rawdon in Ireland and later met continental botanists on his travels through Holland and Italy. To assist Sloane in describing the Caribbean plants, there were accounts by other observers of the West Indies, including Charles Plumier's *Description des plantes de l'Amérique*, a magnificent work with 108 plates published by the French government in 1693. Sloane made a conscientious effort in his Jamaican catalogue not only to describe new plants but also to list the 'synonymous names' of



plants given by earlier writers, in order to avoid unnecessary multiplication of species. This was a valuable scientific contribution in the pre-Linnaean age, when there was no universally accepted system of classification.<sup>16</sup> Botanists were well aware of the problem: they had to take pains to identify plants carefully, decide whether they were dealing with new species, and establish how they could be classified. John Ray himself found Sloane's book very useful; he reviewed it favourably in the *Philosophical Transactions* and in 1697 he wrote privately to Edward Lhwyd, keeper of the Ashmolean Museum: 'Dr. Sloane's History of Jamaica Plants, which he hath frankly contributed to my work, is indeed a great treasure, he having very exactly described every species; it will make up a third part of the Supplement [to my *Historia Plantarum*].'<sup>17</sup>

Hans Sloane's scientific work might have progressed faster had he not accepted the position of First Secretary of the Royal Society in November 1693. This appointment led to many time-consuming activities, not the least editing the *Philosophical Transactions*. The society had fallen on hard times after Henry Oldenburg's death in 1677, when a series of indifferent successors to the office had allowed the journal to lapse.<sup>18</sup> While Sloane was in Jamaica in 1687, Tancred Robinson advised him that 'The Royal Society declines apace, not one Correspondent in being. . . . I am afraid that you will find nothing but ruins at your return, all will appear an Alsace to you.'<sup>19</sup> However, there were soon signs that a restoration was at hand. Richard Waller became First Secretary of the Society in 1687, beginning a long term that promised more continuity in the administration—seven years until Sloane's appointment, followed by twenty-one more years as Second Secretary. At first Waller attended some two-thirds of the council meetings, but by 1694 he was writing plaintive letters to Sloane, begging to be excused from his office:<sup>20</sup>

[I] entreat you and the rest of my good friends to bethink themselves of a fitter person to serve the society in my place . . . my living so very much in the country . . . makes me incapable of doing that service . . . Sir, I am real in this, 'tis not *nolo Episcopavi*, for believing I shall be rather more than less out of town for the future, I shall be necessitated to be more slight, if it be possible in one that is sensible of having done almost nothing hitherto . . .

Waller repeated this refrain in subsequent letters to Sloane from Northampton: 'as for the Transactions I am ashamed yet must own I cannot look after the printing of them at this distance'.<sup>21</sup> His confessions of incompetence appear quite credible in view of references to missing papers, lost keys to document presses, and incomplete or delayed translations and abstracts.<sup>22</sup>

The revival of the *Philosophical Transactions* had begun grandly enough before Sloane took charge. In January 1692/3 a preface praised the 'large steps having been made towards the discovery of nature by the indefatigable industry of this last age'. Far from being exhausted, science still had many more tasks:<sup>23</sup>

And since publications of this nature have been thought no small advancement to that greater design, because it collects and preserves several small tracts, which otherwise might possibly be lost, the publisher has yielded to the solicitation of some friends to undertake this work as an engagement to the learned, of communicating (as constantly as hath ever been at any time

practised) whatever of a philosophical nature shall come to his hands, clearing the Royal Society, (which is in no way concerned therein) from all miscarriages he may possibly commit, and promises himself he shall never fail of materials from the ingenious . . .

When Sloane took over Waller's neglected editorial duties, his preface was more down to earth. He was aware that there were 'too many errata's' (*sic*), and attributed these<sup>24</sup> chiefly to

the variety of matter, characters and translators . . . perhaps considerable ones may have escaped, occasioned by my necessary attendance on my profession, which has sometimes hindered me from taking due care to revise the press, whereby the sense has been perverted in some places.

Perhaps in emulation of the lively Franco-Dutch critical journals of the age, Sloane also wanted to print better accounts of recently published books, but he was forced to rely on extracts made by other writers.

Sloane's editorial influence soon became apparent. John Wallis, Martin Lister, Anthony van Leeuwenhoek, Marcello Malpighi, and other long-established contributors sent him letters from home and abroad. Members collected reports and passed them on to the Secretary. The proportion of articles devoted to medicine and natural history increased, and they came primarily as letters from Sloane's friends. If some articles appeared improbable, the readers would have to judge their validity for themselves. Strange and wonderful reports provided ammunition for literary critics of Sloane and the Royal Society in general, but Waller had set the pattern. He thought that even a bad article should be published and saw no 'inconvenience in publishing it though the hypothesis should not hold good, the publishers of the Transactions you know are in no ways answerable for the validity of what is there set forth'.<sup>25</sup> This important principle was confirmed by the Society in 1708, when the irascible Dr John Woodward 'complained of Dr. Sloane in a very eloquent harangue at a meeting of the Society, but they told him that the Secretary was free to print what he pleased in the *Philosophical Transactions*, and that the authors only were accountable for their particular papers . . .'.<sup>26</sup> For his part, Sloane saw the value of printing papers exactly as they were submitted, corrected only by the authors. He had a clear philosophical justification:<sup>27</sup>

There is no doubt but the more discerning will make a great difference between what is related in them as matter of fact, experiment, or observation, and what is hypothesis. The first sort of relations (of which all these papers contain, some) are, and must always be useful, and the latter may be passed over by such as dislike them. For my own part such hypotheses as are, or shall be found in any papers of mine, I have so little regard for them, that considering what has happened to others better qualified than myself, I must conclude, that future accidents, and observations will make them go off, and be hereafter succeeded by others more plausible. The mischiefs these Hypotheses, and their authors have done, by putting people from further search, out of the way, and making them wrest matters of fact to their fancies, have been very great.

Sloane had a good example of the danger of hypothesizing in the delayed medical use of quinine, or Jesuits' Bark, 'which was opposed by physicians from 1640 or thereabouts,

till about twenty years since' on theoretical grounds. When an Indian cured the governor's wife in Peru in 1638, he

overthrew with one simple medicine, without any preparation, all the hypotheses, and theories of agues, which were supported by some scores not to say hundreds of volumes, and 'tis plain did mischief by hindering the advantage men might have received sooner from so innocent and beneficial a remedy.

In publishing reports of specific medicines and cures, Sloane was careful to add the names of the persons who sent them, 'that they may be either relied on, convicted of falsehood, or further inquired into by those who desire to be better satisfied'.<sup>28</sup>

This anti-theoretical attitude has not endeared Sloane to modern historians of science, but it was a common-sense empiricism that agreed with Sloane's clinical training. Thomas Sydenham had taught him that medicine should be learned at the patient's bedside, not from books of theory. These views were consistent with those of John Locke, Sloane's friend and fellow student of Sydenham. According to the editors of the catalogue of his library, Locke 'did not distinguish more than roughly between natural science and medicine'.<sup>29</sup> The philosopher had not been a very active member of the Royal Society since his election in 1668, but in the 1690s Sloane persuaded him to contribute articles on natural history, weather observations, and an unusual medical case to the *Philosophical Transactions*. Locke, then living in retirement with Lady Masham at Oates in Essex, appreciated Sloane's letters and attempts to maintain his scientific connections: 'It is very kindly and charitably done of you to send me some news from the commonwealth of letters into a place where I seldom meet with anything beyond the observation of a scabby sheep or a lame horse.'<sup>30</sup> In the same letter Locke commented on an enlarged spleen which Sloane had found in a female patient:

This is an observation very well worth recording and publishing and may give great light about tumors in the abdomen . . . Polyps in the blood vessels are found so frequently that I think they would deserve to be treated of as a particular disease, if there were collections enough of their history and symptoms to build any theory on and lay a foundation for their cure.

Locke also expressed interest in plant and animal generation as well as philosophical problems of species. 'I conclude that there is no thing constantly observable in nature, which will not always bring some light with it, and lead us farther into the knowledge of her ways of working.' It should not be surprising that his library included two huge folio volumes of pressed flowers and plants, a *herbarium vivum* of almost a thousand specimens he had gathered at the Oxford Botanic Garden.<sup>31</sup> His friend Hans Sloane, of course, amassed thousands more, and laid the foundation for the world's greatest museum and library.

Sloane's collecting was guided by scientific principles, not mere random acquisition or the desire to amass a monumental collection. He sought to preserve representative specimens of animals and plants, books and paintings of natural history, medical Manuscripts, antiquities and coins. The European tradition of cabinets of curiosities had been well-established in the sixteenth and seventeenth centuries, and the Ashmolean



museum at Oxford had been opened to the public in 1683.<sup>32</sup> Sloane certainly fitted into this tradition, but in contrast to armchair connoisseurs he had the benefit of a scientific education, and had travelled to Europe and the West Indies to collect many items himself. As John Ray noted in his review of Sloane's *Catalogus Plantarum*, 'The author of this catalogue doth not present the reader with titles of plants collected out of other men's writings, or of which he had seen only dried specimens, but of such as himself saw growing in their native places'.<sup>33</sup> Travellers and diarists regarded Sloane's museum on Great Russell Street as a London sight worth seeing: John Evelyn recorded a visit as early as 1691 and in 1701 and 1702 the Yorkshire antiquaries Ralph Thoresby and Richard Richardson brought Sloane reports of antiquities and plant-fossils found in coal pits.<sup>34</sup> These visitors testified to his courtesy and expressed interest in his forthcoming natural history of Jamaica. Sloane's curiosities attracted foreign visitors as well. A detailed description of four large rooms with cabinets and bookshelves was given in 1710 by the learned German traveller Zacharias Conrad von Uffenbach, who was warmly welcomed by Sloane 'in a manner completely different from that of the coxcomb Dr. Woodward. [Dr Sloane] spoke to us at once in French, which, for an Englishman, is quite unusual . . .'. Indeed, Uffenbach stayed four and a half hours, but wished he had had more time to look through the large collection of handsome objects. He noted that Sloane was 'particularly civil to Germans, and to those who have some scientific knowledge [*Wissenschaft*] of his collections'.<sup>35</sup> Later in the eighteenth century the Swiss scientist Albrecht Haller, Voltaire, Benjamin Franklin and Linnaeus were among the visitors who made Sloane's acquaintance and saw his treasures.

Despite the admiration of European scientists and scholars, Sloane and his collection encountered satirical attacks, which should be seen in the context of contemporary literary criticism of science. By 1700 Sloane was the most renowned 'virtuoso', a term that carried more abuse than veneration. The early Royal Society had been ridiculed in plays and pamphlets because, as Samuel Butler wrote, it 'ran too much at that time into the Virtuoso taste, and a whimsical fondness for surprising and wonderful stories in natural history'.<sup>36</sup> Thomas Shadwell's play *The Virtuoso* (1676) has as its central character Sir Nicholas Gimcrack, a pretended natural philosopher whose experiments parody those of Robert Boyle and the Royal Society. The character of the virtuoso as a vain and impertinent collector of things, described by Judith Drake in *An Essay in Defence of the Female Sex* (London, 1696), might be identified as Woodward or Sloane, but William King's *The Transactioneer* (London, 1700) left no doubt that the intended victim was the First Secretary of the Royal Society and editor of *Philosophical Transactions*. Dr King quoted liberally from what he thought were the most amusing pages of the journal. Showers of butter and fish, natural wonders and bizarre deformities, allegedly illustrated Sloane's gullibility and barbarous style.<sup>37</sup> The attack provoked some irritation. Sloane himself huffily called it 'a very malicious pamphlet', and wrote to the Oxford mathematician John Wallis:<sup>38</sup>

I am very glad the author of it was so ignorant, for in many things he ridicules the terms of art and lays down very false principles that any person who knew the least in surgery, anatomy,

physic or natural history must own to be great mistakes. And for the critical part, either he is altogether out, or frivolous. For my part I am not in the least concerned at it and shall answer it no other ways than by despising it.

Wallis told Sloane that King was the author of this attack as well as of the *Journey to London*, a satire of Dr Martin Lister's *Journey to Paris in 1698*: 'I do not hear him

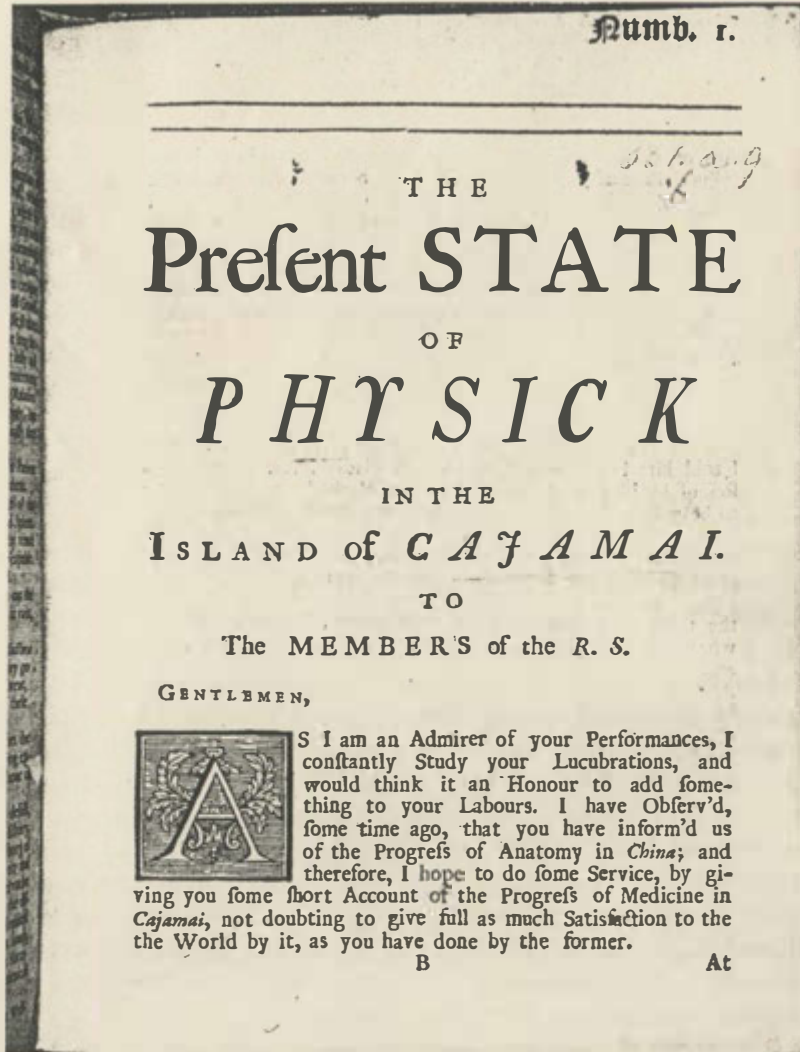


Fig. 3. Title-page of the first number of William King's *Useful Transactions* (1709). 551.a.9.(6.)

commended for either, and it is thought below his character to trifle at that rate . . . Such writers are best answered by being neglected. They hurt nobody more than themselves.<sup>39</sup> Nonetheless there was an official but inconclusive investigation by the Royal Society, where certain jealous fellows were suspected of having a hand in the work.<sup>40</sup> But King was undeterred; he returned to the assault in *Useful Transactions, to be continued monthly as they sell* (London, 1708-9) (fig. 3). The third (and final) number, 'A Voyage to the Island of Cajamai . . . by Jasper van Slonenbergh, learned member of the Royal Virtuosi of Great Britain' was a laboured attack on Sloane's natural history of Jamaica.<sup>41</sup>

When Joseph Addison joined the chorus with a mock-mournful last will and testament of Sir Nicholas Gimcrack in *The Tatler* for 26 August 1710, he objected to virtuosity as a waste of talent. Addison adopted the rhetorical pose of Shadwell, Drake, and King—attacking the science of the contemporary Royal Society in the name of a more serious philosophy of nature or natural theology:<sup>42</sup>

Nature is full of wonders; every atom is a standing miracle, and endowed with such qualities as could not be impressed on it by a power and wisdom less than infinite. For this reason I would not discourage any searches that are made into the most minute and trivial parts of the creation. However, since the world abounds in the noblest fields of speculation, it is methinks, the mark of a little genius to be wholly conversant among insects, reptiles, animalcules, and those trifling rarities that furnish out the apartment of a virtuoso. . . . Observations of this kind are apt to alienate us too much from the knowledge of the world, and to make us serious upon trifles; by which means they expose philosophy to the ridicule of the witty, and contempt of the ignorant.

Addison gave Gimcrack a suitably ridiculous will, leaving his butterflies, caterpillars, crocodile eggs and other natural history specimens to his family and friends. Two weeks later *The Tatler* printed a supposed letter from the grieving widow, Lady Gimcrack, offering to sell her husband's collections.<sup>43</sup> Apparently some readers took the articles seriously and identified Gimcrack with Sloane. The Revd. Elisha Smith, rector of Castle Rising, Norfolk, who had known Sloane for several years, wrote anxiously to Thomas Hearne at Oxford: 'Is Dr. Sloane dead? for the *Tatler* has banter on the late Virtuoso. Dr. Harris writes himself Secretary of the Royal Society.'<sup>44</sup>

Sloane was not dead, of course; he far outlived his critics. In 1707 he produced the first volume of his masterpiece, *A Voyage to the Islands Madera, Barbados, Nieves, S. Christophers and Jamaica, with the natural history . . . of the last of those islands* (fig. 4). This massive folio, dedicated to Queen Anne, does include an account of Sloane's voyage, but most of the volume is taken up with an illustrated description of the plants of Jamaica. The preface notes that eighteen years had passed since the author sailed to Jamaica. Sloane had hoped that the voyage would allow him to discover plants with medicinal value, and he describes his efforts to observe, gather, dry, depict and describe them. He thanks those who had helped him and notes the exchanges of botanical specimens and expertise. The classification system used by Sloane was based on the number of petals of flowers and followed those of John Ray and Rivinus, although he



A  
V O Y A G E  
To the Islands  
*Madera, Barbados, Nieves, S. Christophers*  
A N D  
J A M A I C A,  
WITH THE  
Natural History  
OF THE  
*Herbs and Trees, Four-footed Beasts, Fishes,*  
*Birds, Insects, Reptiles, &c.*  
OF the last of those ISLANDS;

To which is prefix'd An  
I N T R O D U C T I O N,  
Wherein is an Account of the  
*Inhabitants, Air, Waters, Diseases, Trade, &c.*  
of that Place, with some Relations concerning the Neigh-  
bouring Continent, and Islands of *America.*

ILLUSTRATED WITH  
The FIGURES of the Things describ'd,  
which have not been heretofore engraved;  
In large Copper-plates as big as the Life.

By HANS SLOANE, M.D.  
Fellow of the College of Physicians and Secretary  
of the Royal-Society.

In Two Volumes. Vol. I.

*Many shall run to and fro, and Knowledge shall be increased. Dan. xii. 4.*

L O N D O N:  
Printed by B. M. for the Author, 1707.

Fig. 4. Title-page of vol. i of Sloane's *A Voyage to the Islands . . .* (1707). 38.f.4.

admits in the preface that if Tournefort's method had been available, he would have used it. As for the illustrations, Sloane included many engraved at his own expense by Michael van der Gucht and John Savage, working from drawings of Everhard Kickius and Moore. However, Sloane thought Plumier's engravings of West Indian plants 'so good, that I did not judge it necessary the same plants should be engraven again'.<sup>45</sup>

Perhaps of most interest is Sloane's vigorous defence of his serious scientific purpose. The knowledge of natural history, he declared,<sup>46</sup>

being observation of matters of fact, is more certain than most others, and in my slender opinion, less subject to mistakes than *Reasonings, Hypotheses, and Deductions*. . . . These [facts] are things we are sure of, so far as our senses are not fallible; and which, in probability, have been ever since the Creation, and will remain to the End of the World, in the same condition we now find them . . .

The first use of natural history was to show 'the power, wisdom and providence of Almighty God'.<sup>47</sup> But there were practical and worldly applications as well. The inhabitants of the West Indies, be they Europeans, Indians or African slaves, needed to know the uses of the plants. Consequently Sloane tried to confirm their virtues as identified by other authors and explorers. He thought European readers of voyages could use his book as a reference work explaining unusual terms. Sloane's most explicit philosophical purpose was to prompt reflection on the distribution of species: 'how parts of vegetables and animals, real sea-shells and substances should be found remote from the seas, wherein they seem to have been produced and bred'. He specifically mentioned corals, echini marini, palates and tongues of fishes found alive in Jamaica and fossilized in England, 'as if it had once been the natural place of their production and increase'. This theme had appeared earlier, of course, in Sloane's articles for the *Philosophical Transactions*; contentions over the honour of presenting fossil evidence to the Royal Society had also engendered disputes with Dr Woodward.<sup>48</sup> The plants of the New World were not merely distant objects of idle curiosity, for they had been brought to Europe and successfully transplanted. Many of them were 'used in medicines every day, and more may, to the great advantage of physicians and patients, were people inquisitive enough to look after them'. Sloane did not think that the number of species was infinite, or, as he put it, 'that there is no end of such discoveries'. Indeed, despite differences of longitude and latitude, he had found the same wild plants growing in Jamaica, England, and France. Thanks to James Petiver's efforts, similar plants had been found in Spain, Portugal, the Barbary coast, Guinea, and the East Indies. Sloane therefore believed that his own work on Jamaica would describe plants found all over the world.<sup>49</sup>

The preface closes with a pre-emptive strike against critics, 'those who strive to make ridiculous anything of this kind, and think themselves great wits, but are very ignorant, and understand nothing of the argument'. As they resemble those who would abuse their princes and blaspheme their maker, Sloane declared, they deserve nothing but the greatest contempt.<sup>50</sup>

The work opens with an account of the discovery of Jamaica and a geographic description running to over eighty pages. Local customs are discussed in detail: as we might expect, the physician pays particular attention to eating, drinking, sleeping, heat, exercise, and working conditions. He remarks upon the varied ethnic backgrounds of the population and observes differences in their styles of life. Here again his interest is medical science, healthful and unhealthful practices, preventatives, and healing techniques. Sloane heard a great deal about the slaves' cures for diseases, but he found them neither 'reasonable, nor successful in any'; even so, he allowed that their plastering the body in clay might have some beneficial effects. 'That little they know of simples here, seems to come from the Indians, they being used for the same diseases in Mexico and Brazil, as Piso, Marcgrave, Hernandez, Ximenes, and others relate.'<sup>51</sup>

Sloane's own medical case-histories cover another sixty pages. Before his voyage he had been told that the diseases of Jamaica were different from those of Europe, and consequently required different treatments. At first, therefore, he was cautious in recommending European remedies, but he soon discovered that his methods were successful. When the Jamaicans saw the good effects of Sloane's physic on the Duke of Albemarle's household, they accepted his advice, although he admitted that they frequently sought second opinions, ignored his prescriptions, and died. The good doctor concluded that almost all of the diseases of Jamaica were exactly the same as European ones. His case-histories illustrate the point with descriptions of alcohol abuse, venereal disease, fevers, dysentery, malaria, madness, and various forms of pretended disease or 'dissembling'—especially common among servants and slaves. Sloane's most famous patients, the Duke of Albemarle himself and the buccaneer Sir Henry Morgan, ate and drank to excess, 'not being able to abstain from company, . . . and not taking well any advice to the contrary'; they died within two months of each other in 1688.<sup>52</sup>

The critical reception of Sloane's natural history of Jamaica was generally positive. His English friends had been urging him to publish for some time and received the work eagerly.<sup>53</sup> In addition to the expected notice in *Philosophical Transactions*,<sup>54</sup> continental European learned journals gave a warm welcome to the publication. The *Journal des Sçavans* of Paris reviewed the book on 21 May 1708, noting that Sloane was a 'faithful and enlightened observer' who offered readers more than the light entertainment of a traveller's adventures. Few writers on the natural history of America could compare with him for 'exactness and the fund of knowledge needed for these sorts of researches'. Earlier works are mentioned, but Sloane's plates and descriptions of plants receive special praise. Indeed, the reviewer hoped to see a series of volumes on the animals and minerals of Jamaica as well. Among the extracts presented were details of Jamaican eating habits, 'which give M. Sloane occasion to make long and judicious reflections on the nature of digestive fluid in the stomach . . .'. The reviewer expressed reservations only about Sloane's remedies for sea-sickness; the overall tone is highly favourable.<sup>55</sup> This review appeared while France and Britain were still fighting the War of the Spanish Succession. Of course Sloane had maintained correspondence



with friends in France since his student days, but publication of the *Voyage to the Islands* confirmed his scientific distinction. In the following year, 1709, Sloane was elected as one of eight foreign associates of the Académie Royale des Sciences.<sup>56</sup> It was also at this time that he began a long and fruitful correspondence with the Abbé Jean-Paul Bignon, editor of the *Journal des Sçavans*, guiding spirit of the French Academies, censor of books, and (most significantly) nephew of Chancellor Phélypeaux de Pontchartrain.<sup>57</sup>

The *Acta eruditorum* of Leipzig was more restrained in its review, which did not appear until March 1710. The *Acta* referred to Sloane's earlier catalogue, and noted that he had described and illustrated Jamaican plants at length. Curious readers were provided with two examples, complete with fold-out engravings: the 'fungus lapideus' coral and the sugar cane. The reviewer also mentioned Sloane's experiments to prepare sugar by boiling cane juice without 'temper', the infusion of wood-ashes and quicklime that made it coagulate. Sloane found that some 'temper' was always required, the amount depending on the soil in which the cane had been grown.<sup>58</sup> Like the *Journal des Sçavans*, the *Acta eruditorum* looked forward to the appearance of Sloane's second volume on the rest of Jamaican natural history.

That second volume was long delayed. By 1710 Hans Sloane had acquired a European reputation as the scientific authority on Jamaica, and as First Secretary of the Royal Society and editor of *Philosophical Transactions*. His Museum was a learned tourist attraction, and his comfortable social position was confirmed by appointment as royal physician in 1712 and the grant of a baronetcy in 1716. Although he relinquished his secretarial and editorial duties, Sloane remained active in the Royal Society and the College of Physicians; he also continued his learned correspondence. When the natural history of Jamaica was finally completed in 1725, he attributed the delay to 'a multiplicity of business in the practice of physic, which I esteem one of my first cares, and must be minded, if the lives of persons be regarded . . .'.<sup>59</sup> The work of cataloguing and preserving his collections had taken much of his spare time, and he was anxious to show his industry. Thus the new introduction listed his thousands of objects by categories and mentioned other projects. His co-operation with Bourdelot on a revised edition of van der Linden's *de Scriptis medicis* had come to nothing because of the war and Bourdelot's death; his own botanical work was hindered by James Petiver's death, though he had acquired the apothecary's vast collections. He did not mention that he had quarreled with William Sherard, to their mutual disadvantage. Yet Sloane thought his second volume of natural history 'more curious than the first' because it included animals and trees; he also admitted some mistakes and responded to carping criticisms. Dr. Richard Richardson found much to admire in the book.<sup>60</sup>

All lovers of natural history must own themselves very much obliged to you for the many rare discoveries contained in it, and for so great a number of curious and useful observations. Your descriptions of both plants and animals are very exact, as well as the figures; and indeed the synonymous names of both is a work of one man's age, together with the authors of the voyages that have named them upon some occasion.

Sloane was then sixty-five and a senior statesman of science. He had become president of the College of Physicians in 1719, and was to follow Newton in the presidency of the Royal Society after a contentious election in 1727.<sup>61</sup> In some senses he had outlived his age: his principal scientific work was done, his reputation was established, and many of his mentors and friends of youth had passed away. The achievements of the Royal Society during his long membership were considerable. While it would be unjustified to attribute to Sloane's influence the successes of two generations of brilliant scientists, historians have identified a decline in serious science from his retirement in 1741, when the presidency passed to Martin Folkes, his opponent in 1727.<sup>62</sup>

From Newton's election in 1703 until Sir Hans Sloane's retirement in 1741, the president had been a man of scientific or scholarly distinction. Folkes was neither scientist nor scholar. Under his presidency, the Society came increasingly to be dominated by dilettantes, whose major interests lay in antiquarian pursuits; . . . a 'greater proportion of trifling and puerile papers' appeared in the *Philosophical Transactions* during Folkes's administration than at any time before or after. The Society became a laughing stock to the critics.

Recent scholarship on the early history of the Royal Society has led to a re-evaluation of scientific research in the seventeenth century.<sup>63</sup> Sir Hans Sloane, who played such an important part in collecting and publishing scientific work, likewise deserves more attention: a more detailed examination of his scientific correspondence, his editorial policies in *Philosophical Transactions*, and his medical practice is beyond the scope of this study. But in its general outlines, the emerging picture shows us a serious, strikingly modern scientist.

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- 1 Walter Houghton, 'The English Virtuoso in the Seventeenth Century', *Journal of the History of Ideas*, iii (1942), pp. 51-73 and 190-219; R. H. Syfret, 'Some Early Critics of the Royal Society', *Notes and Records of the Royal Society*, viii (1950), pp. 20-64. Cf. Robert G. Frank Jr., 'The Physician as Virtuoso in Seventeenth Century England', in *English Scientific Virtuosi in the 16th and 17th Centuries* (Los Angeles, 1979), pp. 59-114; and Claire Pace, 'Virtuoso to Connoisseur: Some Seventeenth-Century English Responses to the Visual Arts', *The Seventeenth Century*, ii (1987), pp. 167-88.
- 2 Joseph M. Levine, *Doctor Woodward's Shield: History, Science, and Satire in Augustan England* (Berkeley, Los Angeles, London, 1977) p. 88.
- 3 J. L. Heilbron, *Physics at the Royal Society*

during Newton's Presidency (Los Angeles, 1983), pp. 10-12.

- 4 Roger D. Lund, "'More Strange than True': Sir Hans Sloane, King's *Transactioneer*, and the Deformation of English Prose', *Studies in Eighteenth-Century Culture*, xiv (1985), p. 214.
- 5 Woodward to J. J. Scheuchzer, 5 October 1714, Zentralbibliothek, Zürich, MS. H 294, pp. 253-5. See also Heilbron and Levine, op. cit.; Richard S. Westfall, *Never at Rest: a Biography of Isaac Newton* (Cambridge and New York, 1980); A. Rupert Hall, *Philosophers at War* (Cambridge, 1980).
- 6 For Sloane's life see G. R. de Beer, article in *Dictionary of Scientific Biography*, xii (1975), pp. 456-9; and *Sir Hans Sloane and the British Museum* (London, 1953). See also Eric St John Brooks, *Sir Hans Sloane: the Great Collector and his Circle* (London, 1954). For this study I have consulted original sources, including Sloane's correspondence at the British Library

- and elsewhere, and Thomas Birch, 'Memoirs relating to the life of Sir Hans Sloane, Bart., formerly President of the Royal Society', BL Add. MS. 4241.
- 7 Sloane paid his subscription, 1685-86. Michael Hunter, *The Royal Society and its Fellows, 1660-1700: The Morphology of an Early Scientific Institution*, British Society for the History of Science Monographs 4 (Chalfont St Giles, 1982), pp. 232-3.
  - 8 Hans Sloane, *A Voyage to the Islands Madera, Barbados, Nieves, S. Christophers and Jamaica, with the natural history . . . of the last of those islands*, 2 vols. (London, 1707-25), vol. 1, Preface, C-1<sup>r</sup>.
  - 9 'Observations made by a curious and learned persoh, sailing from England, to the Caribe-Islands', *Phil. Trans.*, ii, no. 27 (July-Aug.-Sept. 1667), pp. 493-500. The editor, Henry Oldenburg, took the liberty of adding a plainer explanation to Stubbe's lyrical remarks on winds, but had to defend his comments in a later issue after Stubbe complained; *Phil. Trans.*, iii, no. 37 (13 July 1668), pp. 717-22.
  - 10 *Ibid.*, ii, p. 500. Stubbe may have hoped these articles would secure his election to the Royal Society, but he was disappointed and later became one of its greatest critics. James R. Jacob, *Henry Stubbe, Radical Protestantism and the early Enlightenment* (Cambridge, 1983), p. 49.
  - 11 Sloane, *A Voyage to the Islands*, vol. i, Preface, A-2.
  - 12 Sloane helped Petiver gain election to the Royal Society and published his contributions in *Phil. Trans.*; he was ridiculed for both favours by William King in *The Transactioneer* (London, 1700). Raymond Phineas Stearns, 'James Petiver, Promoter of Natural Science, c. 1663-1718', *Proceedings of the American Antiquarian Society*, lxii (1953), pp. 243-379. For sponsorship of Catesby's expedition see George Frederick Frick and Raymond Phineas Stearns, *Mark Catesby, Colonial Audubon* (Urbana, Illinois, 1961), pp. 19-21.
  - 13 'A Letter from Hans Sloane, M.D. and S.R.S., with several Accounts of the Earthquakes in Peru . . . and at Jamaica . . .', *Phil. Trans.*, xviii, no. 209 (March-April 1694), pp. 78-100.
  - 14 'An Account of Four Sorts of Strange Beans . . .', *Phil. Trans.*, xix, no. 222 (September-October 1696), pp. 298-300. 'An Account of the Tongue of a Pastinaca Marina . . .', *ibid.*, no. 232 (September 1697), pp. 674-6.
  - 15 Ipecacuanha is described in *Phil. Trans.*, xx, no. 238 (March 1698), pp. 69-79; Sloane commented that 'it may be considered of, and brought into use, if by proper judges of the circumstances of the sick, it may be thought harmless and helpful'.
  - 16 Philip R. Sloan, 'John Locke, John Ray, and the Problem of the Natural System', *Journal of the History of Biology*, v (1972), pp. 1-53, and 'The History of the Concept of Biological Species in the Seventeenth and Eighteenth Centuries, and the Origin of the Species Problem', University of California, San Diego, Ph.D. dissertation, 1970.
  - 17 Robert W. T. Gunther (ed.), *Further Correspondence of John Ray* (London, 1928), p. 271. Ray's review is in *Phil. Trans.*, xix, no. 221 (June, July, August 1696), pp. 293-6.
  - 18 Marie Boas Hall, 'Oldenburg and the Art of Scientific Communication', *British Journal for the History of Science*, ii (1965), pp. 277-90.
  - 19 Sloane MS. 4036, fol. 30, quoted by G. R. de Beer, *Sir Hans Sloane*, p. 83.
  - 20 Waller to Sloane, 26 November 1694, Sloane MS. 4036, fol. 194.
  - 21 Waller to Sloane, September 1696, *ibid.*, fol. 266.
  - 22 *Ibid.*, fols. 282, 360. A more positive view of Waller appears in the biographical note by Sir H. Lyons, *Notes and Records of the Royal Society of London*, iii (1940), pp. 92-4.
  - 23 Preface, *Phil. Trans.*, xvii, no. 196 (January 1692/3), p. 582.
  - 24 Preface, *Phil. Trans.*, xix, no. 215 (January-February 1694/5).
  - 25 Waller to Sloane, 4 December 1699, Royal Society, Early Letters, W. 3, fol. 68, quoted by Heilbron, p. 40.
  - 26 Richard Richardson to Ralph Thoresby, W. T. Lancaster (ed.), *Letters Addressed to Ralph Thoresby* (Leeds, 1912), p. 195.
  - 27 *Phil. Trans.*, xxi (1699), preface.
  - 28 *Ibid.*
  - 29 John Harrison and Peter Laslett, *The Library of John Locke*, 2nd edn. (Oxford, 1971), p. 24. See also Maurice Cranston, *John Locke: A Biography* (Oxford, 1957; 1985), p. 382; Kenneth Dewhurst, 'The Correspondence between John Locke and Sir Hans Sloane', *Irish Journal of Medical Science*, 6th ser., no. 413 (May, 1960),



- pp. 201-12, and John Locke, *Physician and Philosopher* (London, 1963); and John Dunn, *John Locke* (Oxford, 1984), pp. 3, 7.
- 30 John Locke to Sloane, 14 September 1694, Sloane MS. 4036, fol. 185; published by Dewhurst, 'The Correspondence between John Locke and Sir Hans Sloane', pp. 203-4, and in E. S. de Beer (ed.), *The Correspondence of John Locke*, vol. v (Oxford, 1979), pp. 127-8.
- 31 Harrison and Laslett, pp. 26-7.
- 32 Arthur MacGregor and Oliver Impey (eds.), *Tradescant's Rarities: Essays on the Foundation of the Ashmolean Museum* (Oxford, 1983); and *The Origins of Museums: the Cabinet of Curiosities in Sixteenth- and Seventeenth-Century Europe* (Oxford, 1985). Michael Hunter et al., *Elias Ashmole and his World* (Oxford, 1983). R. F. Ovenell, *The Ashmolean Museum, 1683-1894* (Oxford, 1986).
- 33 *Phil. Trans.*, xix, no. 221 (June, July, August 1696), p. 293.
- 34 E. S. de Beer (ed.), *The Diary of John Evelyn*, vol. v (Oxford, 1955), p. 48; Joseph Hunter (ed.), *The Diary of Ralph Thoresby*, vol. i (London, 1830), p. 341; Richardson to Thoresby, 1702, in J. Hunter (ed.), *Letters from Eminent Men Addressed to Ralph Thoresby* (London, 1832), vol. i, pp. 409-10; Dawson Turner (ed.), *Extracts from the Literary and Scientific Correspondence of Richard Richardson, M.D., F.R.S.* (Yarmouth, 1835), pp. 40-3; quoted by G. R. de Beer, p. 120.
- 35 Zacharias Conrad von Uffenbach, *Merkwürdige Reisen durch Niedersachsen Holland und Engelland*, (Ulm and Memmingen, 1753-4), vol. iii, pp. 247-51; Eng. tr. in W. H. Quarrell and Margaret Mare, *London in 1710* (London, 1934), pp. 185-8. Partially quoted by G. R. de Beer, pp. 121-2. Sloane had a number of German technical correspondents, see Hans-Joachim Braun, *Technologische Beziehungen zwischen Deutschland und England* (Düsseldorf, 1974), pp. 51-2.
- 36 Quoted by Syfret, 'Some Early Critics' (see n. 1 above), p. 59. See also Claude Lloyd, 'Shadwell and the Virtuosi', *Proceedings of the Modern Language Association*, xlv (1929), pp. 472-94; Walter Houghton, 'The English Virtuoso', (see n. 1 above); P. M. Rattansi, 'The Literary Attack on Science in the late 17th and 18th centuries', University of London Ph.D. thesis, 1961.
- 37 [William King], *The Transactioneer, with some of his Philosophical Fancies, in two Dialogues* (London, 1700) reprinted in J. Nichols (ed.), *The Original Works of William King, LL.D.* (London, 1776), vol. ii, pp. 1-56.
- 38 Sloane to Wallis, 6 February 1699/1700, Wellcome Institute for the History of Medicine, MS. no. 50838.
- 39 Ibid., Wallis to Sloane, 19 February 1699/1700, draft on same sheet.
- 40 For details see Levine, *Doctor Woodward's Shield*, pp. 85-6; Lund, p. 214.
- 41 [William King], *Useful Transactions, to be continued monthly, as they sell*, pt. 1, January and February, 1708/09; pt. 2, March and April, 1709; pt. 3, May, June, July, August, and September, 1709. Reprinted in *Original Works*, vol. ii, pp. 57-178.
- 42 'The will of a Virtuoso', *Tatler*, no. 216, 26 August 1710; reprinted in George A. Aitken (ed.), *The Tatler*, vol. iv (London, 1899), pp. 110-13. Cf. Judith Drake: 'I would not have any Body mistake me so far, as to think I would in the least reflect upon any sincere, and intelligent Enquirer into Nature, of which I as heartily wish a better Knowledge as any *Virtuoso* of 'em all. . . . But though I have a very great veneration for the [Royal] Society in general, I can't but put a vast difference between the particular members that compose it.' *Essay*, pp. 104-5. Also William King: 'Perhaps it may seem strange, that I, who am no Member of the Royal Society, should deal so freely with the person and some correspondents of one who is slipped into the post of Secretary to that illustrious Body. But I am moved by the respect I have for Natural Studies, and a fear lest those men who have made such great advances in it, and thereby gained the applause of all the learned world, should lose any part of it by the trifling and shallow management of one who wants every qualification that is requisite for such a post', *The Transactioneer*, p. 5.
- 43 *Tatler*, no. 221, 7 September 1710; Aitken, op. cit., vol. iv, pp. 133-6.
- 44 Bodleian Library, MS. Rawlinson letters 9, fol. 118, cited in *Hearne's Collections* (Oxford, 1899), vol. iii, p. 73. There are a few letters from Smith among the Sloane MSS.
- 45 Sloane, *Voyage to the Islands*, vol. i, Preface, B-1<sup>v</sup>. For details of the illustrations, see J. E. Dandy, *The Sloane Herbarium* (London, 1958), p. 204.

- 46 Sloane, *Voyage to the Islands*, vol. i, Preface, B-1<sup>v</sup>.
- 47 Ibid. John Ray was instrumental in popularizing this view: see Neal C. Gillespie, 'Natural History, Natural Theology, and Social Order: John Ray and the "Newtonian Ideology"', *Journal of the History of Biology*, xx (1987), pp. 1-49.
- 48 In 1702 Richard Richardson visited London and showed Woodward drawings of plant-fossils found in the North Bierley coal pits, then retrieved them and gave them to Sloane. When Sloane showed them at a meeting of the Royal Society, Woodward was furious. Sloane said he was only doing his duty: 'I must do what I can to serve the society . . . without regard to the humours of those who would discourage every thing that comes not to the support of their hypotheses', Sloane to Thoresby, 26 May 1702, *Letters of Eminent Men . . . to Thoresby*, vol. i, p. 414. Related letters of Richardson and Woodward to Thoresby, 11 and 16 May 1702, *ibid.*, vol. i, pp. 409, 410; Sloane to Richardson, 16 May 1702, *Extracts*, p. 43; Thoresby to Richardson, 19 May 1702, *ibid.*, p. 46. Levine, p. 87.
- 49 Sloane, *Voyage to the Islands*, vol. i, Preface, C-2<sup>v</sup>.
- 50 Ibid.
- 51 Ibid., Description, pp. liv-lv; also p. cxli: 'There are many such Indian and Black doctors, who pretend, and are supposed to understand, and cure several distempers, but by what I could see of their practice, (which because of the great effects of the Jesuits' Bark, found out by them, I looked into as much as I could) they do not perform what they pretend, unless in the virtues of some few simples. Their ignorance of anatomy, diseases, method, etc. renders even that knowledge of the virtues of herbs, not only useless, but even sometimes harmful to those who employ them.' The point is not that Sloane held racist views (as Sheridan, n. 52 below suggests), but that he was interested enough to investigate Indian and Black medicine.
- 52 Sloane, *Voyage to the Islands*, vol. i, xc-cliv. Richard B. Sheridan, 'The Doctor and the Buccaneer: Sir Hans Sloane's Case History of Sir Henry Morgan, Jamaica, 1688', *Journal of the History of Medicine and Allied Sciences*, xli (1986), pp. 76-87.
- 53 The urge to publish was an oft-repeated theme of learned correspondence. But some readers' eager anticipation turned to disappointment. On first seeing Sloane's natural history, the Revd. George Plaxton wrote to Ralph Thoresby, 'tis a majestique book'; a week later, however, he had decided 'tis an expensive volume and good for little. . . . I thought I should have found wonders [in] it, but—*parturiunt montes*. I hope the second volume may be better', *Letters Addressed to Ralph Thoresby* (1912), pp. 149, 152.
- 54 *Phil. Trans.*, xxv, no. 311, July-September 1707, pp. 2433-7.
- 55 *Journal des Sçavans*, 21 May 1708 (Paris, 1708), pp. 291-8.
- 56 The only other British subject who had received this honour was Isaac Newton. I. Bernard Cohen, 'Isaac Newton, Hans Sloane and the Académie Royale des Sciences', *Mélanges Alexandre Koyré: I: L'aventure de la science* (Paris, 1964), pp. 61-116, esp. pp. 78-95; Jean Jacquot, 'Sir Hans Sloane and French men of science', *Notes and Records of the Royal Society*, x (1953), pp. 85-98; G. R. de Beer, 'The relations between Fellows of the Royal Society and French men of science when France and Britain were at war', *ibid.*, ix (1952), pp. 244-9.
- 57 Jack A. Clarke, 'Sir Hans Sloane and Abbé Jean-Paul Bignon: Notes on Collection Building in the Eighteenth Century', *Library Quarterly*, 1 (1980), pp. 475-82; 'Abbé Jean-Paul Bignon, "Moderator of the Academies" and Royal Librarian', *French Historical Studies*, viii (1973), pp. 213-35. See also Françoise Bléchet, 'L'abbé Bignon, Bibliothécaire du Roy, et les milieux savants en France au début du XVIIIe siècle', *Buch und Sammler: Private und öffentliche Bibliotheken im 18. Jahrhundert* (Heidelberg, 1979), pp. 53-66.
- 58 *Acta eruditorum* (Leipzig, March 1710), pp. 131-2.
- 59 Sloane, *Voyage to the Islands*, vol. ii, Introduction, i.
- 60 Richardson to Sloane, 13 November 1725, *Extracts from the . . . Correspondence*, p. 226.
- 61 G. R. de Beer, *Sir Hans Sloane*, pp. 92-3.
- 62 Robert E. Schofield, *Mechanism and Materialism: British Natural Philosophy in an Age of Reason* (Princeton, NJ, 1970), pp. 92-3, citing and confirming C. R. Weld, *History of the Royal Society* (London, 1848). See also Theodore M. Brown, 'From Mechanism to Vitalism in Eighteenth-Century English Physiology',

*Journal of the History of Biology*, vii (1974), pp. 179-216.

- 63 See e.g., K. Theodore Hoppen, 'The Early Royal Society', *British Journal for the History of Science*, ix (1976), pp. 1-24, 243-73, also Michael Hunter, 'The Significance of the Royal Society' in *Science and Society in Restoration*

*England* (Cambridge, 1981) and 'Early Problems in Professionalizing Scientific Research: Nehemiah Grew (1641-1712) and the Royal Society, with an unpublished letter to Henry Oldenburg', *Notes and Records of the Royal Society*, xxxvi (1982), pp. 189-209.