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Grollier de Servière, the brothers Monconys

Curiosity and collecting in seventeenth-century Lyon

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Of collections in seventeenth-century Lyon, we can know most about the collection of machine models created by Grollier de Servière, and the general collection amassed by the traveller Balthazar de Monconys and his brother Gaspard. Comparison of the eighteenth-century published catalogue of Grollier's collection with accounts given of it by contemporary visitors reveals changes in the perception and presentation of the collection between 1650 and 1710, while comparison of the two collections reveals differences in the nature of 'curiosity' even within the seventeenth century.

Monsieur Grolier de Serviere, conserve encore le Cabinet d'ouvrages de Mathematique & de Mechanique que son Ayeul avoit inventez & qui a tant eu de réputation: il en a fait graver les Figures & en a donné des explications dans un volume *in quarto* imprimé à Lyon en 1719.

THUS Baudelot d'Airval summarized the collection of Grollier de Servière in 1727. Immediately afterwards he noted of '*Monsieur Postalossi* Medecin', that he had shells of all kinds, '& de diverses autres curiosités naturelles',[1] a somewhat summary description of the collection of Jérôme Jean Pestalozzi (1674–1742) who, in 1700, had acquired the extensive collection of the brothers Monconys which he had subsequently never stopped enlarging. Of these two very different collections, little enough survives today. Grollier's creation we know mainly by what his grandson published, for virtually all of it has disappeared; some pieces from the Monconys/Pestalozzi collection may survive among the specimens in the Muséum d'Histoire Naturelle at Lyon, but they have lost their identity and are unrecognizable.

The disappearance of the two collections is not in itself unusual: the fate of virtually every other seventeenth-century Lyonnais collection of which there is any trace has been the same. Only occasionally can a painting, an antiquity, a coin or a medal be identified as coming from any of the collections listed by Jacob Spon (1647–85)[2] or indeed from any of the contemporary Lyonnais collections not listed by Spon.[3] Spon himself collected – mainly antiquities, particularly numismatic items – as did his friend the apothecary and merchant, Philippe Sylvestre Dufour, the apothecaries Guillemin and Moze, the city treasurer Baptiste Pianelli (1602–85), the city receiver François Dufaure, the merchants Alexander Colbenschlag and Claude Paleron, the goldsmith Jean Sibut (1639–1714), the clock-maker Jean Debombourg (*c.*1634–94)[4] and the painters Germain Panthot (1602–75), Thomas Blanchet (1617–89) and Samuel Boissière (1625–1703), to name but a few.

Those contemporary collections that he did mention, Spon divided into three broad groups: naturalist (especially flowers and plants), fine arts (mainly paintings), antiquarian and numismatic. Such categorization, however, does little justice to the eclecticism of seventeenth-century taste. Although interest in a particular subject could predominate, skewing the balance of a collection towards just one or two topics and thus destroying the universalist ambitions of the 'cabinet of curiosities' to form a balanced representation of the arcana of art and nature, the curiosity of the cultural nation in the seventeenth century was still broad and all-embracing. Thematic collections were few; variety was characteristic, for what such collections reflect is the intense desire of the educated to know and understand their world. Where the creators of sixteenth-century cabinets sought to *display* the microcosm around them and to do so whenever possible by objects bizarre, unusual and exceptional, collectors in the later seventeenth and the eighteenth centuries were increasingly motivated by a desire to *understand* the world around them and to illustrate its nature through representative objects; to set out knowledge so far acquired and, gradually, to add to

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that knowledge by the comparative examination of collected specimens.

Diversity was typical of the seventeenth-century collection because curiosity – rational curiosity that wanted to know the how and the why rather than simply to wonder at unexplained marvels – ranged widely. The investigations that Balthazar de Monconys noted in the record of his travels display clearly the rational mind at work and the variety of objects upon which it could focus. The collection that he formed with his brother, Gaspard, in so far as it can be reconstructed, seems a haphazard accumulation, but it appears so because the variety of the world over which he ranged was still far from being categorized and classified. Monconys's miscellany of things and thoughts is not markedly more disorganized than is the confusion of observations, experiments and reflections which make up a good part of Pierre Gassendi's christianized, epicurean natural philosophy.[5] The aim of both was understanding; their techniques of presentation, however, were still defective.

Cabinets were *à la mode* in seventeenth-century Europe. They were one result of that desire to explore and to comprehend both microcosm and macrocosm, which developed with increasing force throughout the Early Modern period. 'Curiosity' was a characteristic of this activity. Finding out something new, probing the mysterious, in time and space, in customs and manners and in the natural and the super-natural, was the motor which, when combined with rational analysis, led to the establishing of new knowledge. Collections encapsulated and increased this new knowledge, for the 'curious' were investigators whose cabinets, like their libraries, were tools for research.

Curiosity has many forms and many objects;[6] the practice of curiosity increases this multiplicity still further by itself changing across time. The careers of two Lyonnais collectors, Balthazar de Monconys (1611–65) and Nicolas Grollier de Servière (1593–1686) illustrate something of this variety and the change in style of collecting in the course of the seventeenth century. Their collections were very different, although paradoxically that of the younger man, Monconys, seems more old fashioned than that of his elder contemporary. This, however, is in part explained by the fact that Monconys probably began collecting when he first started travelling in 1627, whereas Grollier de Servière did not begin forming his collection until *c.*1650.

Of the life of Grollier de Servière almost all we know comes from family sources.[7] Born into a family of Lyonnais notables, 'la maison des Grolliers', of whom the best known is the bibliophile Jean Grollier, Vicomte d'Aguissy (1495–1565) and ambassador to Rome, Nicolas was the son of Antoine Grollier (1545–1610), Seigneur de Bel-Air, and of Marie Camus. Antoine, at the outbreak of the wars of religion, was a Consul of Lyon and secretary of the city. A firm supporter of Henry de Navarre, he played an active part in the campaigns of the future monarch. Nicolas was the fourth of his eight sons, twin with his fifth son, Emeric. 'Des sa plus tendre jeunesse on lui reconnue, jusque dans ses amusemens un genie naturel pour les Mathematiques, une adresse merveilleuse, et un goût décidé pour les armes.' [8] He followed his father into military service at the age of fourteen. Despite losing an eye at the siege of Verceil during his first campaign, he continued a military life, for some forty years serving in the French, Dutch and Imperial armies. Captain, then Lieutenant-Colonel of the infantry regiment of Aigues-bonne, he was increasingly employed in engineering and siege works to which his taste for mathematics was well adapted, and of which he had acquired the elements from 'un habile ingenieur' while serving in the army of Maurits, Prince of Orange:

> Il visita avec lui touttes les places, touttes les villes, et tous les endroits où il y avoit quelques travaux a faire, ou quelque chose a reparer, soit pour les fortifications, soit pour les digues, soit pour les canaux et les ports de mer … il perfectionna ses talens, surtout pour l'hidraulique, il leva les plans de toutes les machines qui lui parurent nouvelles ou singuliées, il en prit exactement les proportions, et chercha dans la suitte les moyens de les perfectionner, ou d'en inventer de meilleurs ou de plus simple.[9]

On 29 June 1640, Grollier made an advantageous marriage with Catherine de Fenoui. Shortly afterwards, in 1641 or 1642, he retired from military activity, devoting himself in Lyon to the production of twelve children and the creation of a collection of machine models and mathematical devices for use and amusement. Exactly why and when he began the collection is unknown but it was a logical extension of his engineering activity and is consonant both with the growing fashion for mathematical diversion, especially in optics, during the mid-century, and with the tendency that Pérez and Guillemain[10] have detected among Lyonnais collectors, for professional men to collect objects related to their speciality.[11]

Knowledge of the contents of Grollier's collection depends largely on the description of it first published by his grandson Gaspard II, Comte de Servière (1676–1745) in 1719. He, after an active military career in which he attained the same rank of Lieutenant-Colonel as his grandfather, became Commisaire provincial des Guerres (1708–28), a member, 'l'un des vingt-cinq', of the Académie de Lyon and Directeur of the Société des Beaux-Arts. Written some thirty years after the death of Nicolas, Gaspard II's *Recueil d'ouvrages curieux de mathematique et de mecanique, ou description du Cabinet de Monsieur Grollier de Serviere* … although full and detailed with ninety-two magnificent engraved plates[12] is not an accurate reflection of the collection as its founder conceived and left it. This is for two reasons. Firstly, after the death of Nicolas his son, Gaspard I (1646–1716), Grand Prior of the royal abbey of Savigny, 'ne s'est pas contenté durant sa vie, d'imiter les Ouvrages de son Pére, mais encore il a enrichi son Cabinet par des Piéces de son invention, qui ne méritent pas moins que les autres, de trouver place dans cette Description'.[13] Unfortunately, Gaspard II makes no distinction in his text between the works of father and son. Secondly, soldier, administrator and academician, Gaspard writes from a rationalist position in which emphasis is laid on what is useful and improving, executed with good taste, in the collection. It is 'tout ce qui peut être utile & commode au Public, & aux Particuliers' which takes up the greater part of the book – 117 pages out 152. These models of useful machines for water raising and milling, moving weights and warfare (particularly the latter) include wheelbarrows and bridges, rope walks, rafts, missile throwers, drawing and surveying instruments, a wheelchair and a reading wheel. All are described in detail and in a logical, methodical way 'afin d'en abreger les explications & de les rendre plus sensibles, & enfin de faciliter le choix à ceux qui voudront les mettre en usage' (pp. 36–7). These machines, 'dont le Public peut tirer de l'Utilité', are grouped in the third section of the work where 'Non-seulement je donnerai les figures des Machines qui la composent; mais encore je les expliquerai le plus clairement qu'il me sera possible; & je n'oublierai rien de ce qui me paroîtrai nécessaire, pour contribuer à l'exécution des idées de cet Illustre Mathématicien'. Treatment of the turned ivory works and the clocks described in the first two parts of the book (34 pp.) is quite different. Here detailed explanation is eschewed, it being left to the 'Persones curieuses' who regard them to work out the principles for themselves 'laissant une libre carriére à ceux qui voudront, ou l'imiter, ou raisonner, sur ses principes, je me reduise à une explication simple des Piéces de Tour, & des effets des Horloges, sans développer l'Art qu'il a employé pour former les unes, & pour donner mouvement aux autres'.

In presenting the objects of the collection in this way, Gaspard II claims to be following his grandfather's ideas, but his even more summary treatment of items in the collection which relate to the category of mathematical amusements – automata and trick machines – betrays a certain disdain for 'de petites machines qui paroîtront peut-être au Savans ne pas mériter autant que les autres, d'être décrites' (p. 26). Gaspard includes them only in order to be complete and feels obliged to defend his ancestor who 'n'avoit inventé celle-ci que pour les personnes qui n'aiant aucune intelligence ni de l'art du Tour, ni des Mathématiques, vouloient cependant voir ses ouvrages' (p. 27). 'Ces sortes de personnes, qui l'emportent en nombre sur les autres, ne trouvent de beauté qu'en ce qui frape leur préjugé; & faute de connoître les difficultés d'une Piéce curieuse, ils ne sont point touchés de son véritable mérite, & loüent très souvent ce qu'elle a de plus commun. C'est donc pour s'accomoder à la sphère de leur génie, & pour donner une espéce de satisfaction à leur curiosité, que nôtre grand Mathématicien, aussi complaisant qu'habile, a joint à ses ouvrages ces sortes d'amusemens.' (p. 27).

Two forms of curiosity and two ways of experiencing wonder are here in confrontation. For Gaspard what is worthy of admiration is all that is rational, understandable and useful. For earlier visitors to the cabinet, it was the inexplicable and the startling that was impressive. This movement from astonishment to understanding in the exercise of curiosity emerges clearly in an account of a visit to the cabinet written in 1671 by an anonymous Augustinian.[14] His description moves from analysis to subjugation. Describing a 'cadran de temperament qu'il fait toucher à la personne, et l'éguille comme si elle avoît une sympathie particuliere s'arreste au temperament de la Personne', he notes with pride that 'Je vis bien de quelle maniere cela se faisoit'. The artifice of a cabinet which, on successive openings, showed a different scene was also no mystery for him 'je m'apperceûs bien comme cela se faisoit encore'. But as the visit proceeded, guided by

Grollier de Servière himself, the Augustinian and the group with him became increasingly perturbed. Efforts at rational comprehension give place to a simple list of objects seen in which emotion becomes increasingly dominant 'des changements de tableau, vous croyez voir quelque chose de beau de pres, et si tost que vous estes advancé, cela n'est plus, il vient autre chose d'affreux et hideux qui se presente a vos yeux'. After several more demonstrations comes the most spectacular together with a rare example of seventeenth-century recorded speech:

> Il me dit: 'apellez un peu quelqu'un a ce coing de cette chambre', je luy dis: 'hors que ce ne soit pour me faire voir quelque chose de curieux, je n'ay que faire d'autre que vous'! 'Apellez, me dit-il vous verrez; je dis donc, aussitost une porte s'ouvrit et une Maure [*recte* mort] d'une hauteur prodigieuse vint se mettre au milieu de nous, qui epouvanta quelques uns de l'assistance: je dis 'Mr cela est un peu affreux, et donne de la terreur à l'assemblé, renvoyez-le; il me respondit: vous l'avez fait venir, il n y a que vous seul qui puisse le renvoyer'! 'S'il ne tient que a moy, repartis-je, que cet hideuse et espouvantable figure ne s'en aille, je lui commande de se retirer au plustost', et en mesme temps elle se retourna, et la porte d'ou elle estoit venüe referma'.

By the end of the visit, the Augustinian was overwhelmed by curiosities, 'Je ne puis vous exprimer tout ce que je vis dans ce cabinet, je n'eus pas assez d'yeux pour tout voir, ces deux lieux estant extraordinairement remplis'.

This description of a visit to Grollier's cabinet offers a quite different view of it from the serious presentation of the pious grandson. Showmanship was deployed to great effect, visits were organized in groups and guided by Grollier himself. The Augustinian's reactions are a mixture of wonder and rational analysis. The collection is unusual and well known, it is this that has picqued his curiosity to go there, but effects are made through surprise and the unexpected. The useful machines on which Gaspard II laid such emphasis are conspicuously missing from this account.

In the introduction to his catalogue, Gaspard II noted how the collection differed from others:

> tous les autres Cabinets curieux … ne sont pour ordinaire rempli, que de quelques Piéces rares, ramassées à prix d'argent; & qui ne sont estimées que par leur antiquité, ou parcequ'elles viennent des Païs éloignés, ou bien encore parce qu'elles sont des productions extraordinaires de la nature. Les Personnes les plus riches peuvent se picquer d'avoir les plus beaux de ces Cabinets; mais celui-ci ne tire son éclat que du génie & de l'adresse de Monsieur de Serviere, qui a seul inventé, & exécuté tout ce qu'on y voit.

Disdain for older style, rather miscellaneous, cabinets of curiosities and a degree of exaggeration are neatly combined in this remark. In being thematic and largely made by Grollier himself, the cabinet was indeed unusual though not unique.[15] That all was of his own invention certainly not so. The turned pieces were variations within a standard repertoire, many of the clock designs although still unusual at the date when Grollier executed them, can be shown to have originated elsewhere.[16] The same is true of many of the more useful items although in only one case, that of the book wheel, does Gaspard II acknowledge the predecessor – Agostino Ramelli.[17] But 'inventé' in the seventeenth century need mean no more than 'found the way to make' rather than 'conceived' or 'devised' with a connotation of originality.[18] Certainly Grollier had the merit of having realized, sometimes with original variations, devices of which he may have had only a general idea, with only his own experience to guide him.

Not unique, though highly unusual, thematic, aiming simultaneously to be useful and to entertain, the cabinet of Grollier de Servière contrasts markedly with the far more traditional collection formed by the brothers Gaspard and Balthazar de Monconys, sons of the Lieutenant-Général Criminel and Prévôt des Marchands of Lyon, a position which they both successively held. Gaspard, who succeeded early to the post, spent most of his life in Lyon where he had links with local *savants* and through them with the wider scholarly community and where he collected 'médailles, Monnoyes, Peintures, Camayeux, Inscriptions, Pierres, Insectes, & autres raretez qu'il recherchoit curieusement dans le Thresor de la Nature, ou dans celui de l'Antiquité'.[19] Bathazar,[20] investigator rather than collector, 'eût plus d'inclination à penetrer les causes, & chercher les raisons naturelles des curiositez, que son Frere ramassoit avec soing'.[21] He was an inveterate traveller. In his youth 'curieux jusqu'à l'exces', he followed the dictates of his passion to know, which led him into investigations of both the occult and the natural sciences; he was also led into a proto-ethnographic recording of manners and customs, dress and habitat in the European and oriental countries that he visited. The curiosity of Monconys, as recorded in his travel journals published by his son, was boundless and as such would have provoked the reprobation of moralists such as La Bruyère.[22] But to his curiosity, Monconys married

a strong rationalism which led him to test with a sceptical eye the apparent wonders with which he was confronted. Visiting the possessed Ursuline nun at Loudun, whose accusations had led to the burning of Urbin Grandier and who still carried on her arm the names left by the devil while being exorcized – 'Jesus', 'Marie', 'Joseph' – his suspicions are aroused by the length of time ('une grosse demi-heure') he has to wait for her to appear. He notices that at the end of the interview, the red of the letters seemed less bright than earlier 'Avec le bout de mon ongle j'emportai par un leger attouchement une partie de la jambe de l'M, dont elle fût fort surprise, quoique la place resta aussi belle que les autres endroits de la main. Je fus satisfait de cela'.[23] A salamader purchased in Cairo and immediately tested, 'craint le feu et se brûle'.[24] Disappointed by the incompetence of geomancers in the city, he visits a 'maguerbin' who promises visions, 'mais je ne vis rien de ce que le Maguerbin m'avoit assuré; mais bien qu'il étoit une bête comme tous les autres'.[25]

If de Monconys was curious about everything, his curiosity was nonetheless controlled by the sceptical rationalism characteristic of the *savants* whose company he so assiduously sought everywhere that he travelled. Always he collected with passion, seeking out that which Grollier had not, 'quelques pièces rares … des Pais éloignés'.[26] From Florence medals, precious stones, engraved gems and a cow's eye were dispatched to Lyon; from Cairo a crocodile, scarabs, precious stones, statuettes and 'diverses curiositez'; from Germany books and engravings.[27] All served to enrich the collection maintained by Gaspard which must surely be considered a joint creation and one which maintained universalist ambitions. Specimens, whether natural or artificial, if they were in some way rare, unusual or instructive could enter the collection which was in part a reflection of Balthazar's travels. The long sub-title of the published version of his diaries reveals the interests which the Monconys collection encapsulated:

> un nombre infini de nouveautez, en machines de Mathematique, Experiences physiques, Raisonnemens de la belle Philosophie, curiositez de Chymie, & conversations des Illustres de ce Siècle; Outre la description de divers Animaux & Plantes rares, plusieurs Secrets inconnûs pour le Plaisir & la Santé, les Ouvrages des Peintres fameux, les Coûtumes & Moeurs des Nations, & ce qu'il y a de plus digne de la connoissance d'un honnéte Homme dans les trois Parties du Monde.

The engraved title page visually displays this variety.

Gaspard de Monconys died in April 1664. Inheritor of his official position and of the collection, Bathazar followed him on 28 April 1665. The collection then passed to his son, who had accompanied Monconys on his journey through Germany with the Duc de Chevreuse. He published his father's travel diaries in two quarto volumes in 1665/6,[28] but being without successors, in 1700 he ceded the collection to Jean Jérôme Pestalozzi from whom it passed to his son, Antoine Joseph Pestalozzi (1703–79), Médecin de l'Hôpital de Lyon and an investigator in electricity. He, immediately, put his father's library up for sale. The catalogue of it prepared for the occasion describes individually each of the 1,416 books and also provides a succinct description of the natural history collection since this was also offered for sale but in its entirety as a single purchase.[29] If the books were sold on this occasion the natural history collection clearly was not, since in 1771 Pestalozzi *fils* negotiated the transfer of it to the city in exchange for a life pension (*rente viagère*) of 1,500 livres. The city deposited its new resource in the Académie des Sciences et Belles-Lettres. There it was merged with the library and collection (medals and natural history specimens, mainly shells, fossils and minerals) of Pierre Adamoli.[30] In 1777, the joint collections were opened to the public every Wednesday.

From this point on the Monconys/Pestalozzi collection largely disappears. Seized at the Revolution, what was left of it passed eventually to the Muséum d'Histoire Naturelle. Today it is difficult to identify specimens from the earlier collection. One piece, however, which escaped during the lifetime of the brothers, can be identified. This is a Byzantine relief medallion in green porphyry representing the Virgin and datable to 1078–81. Subject of a publication in 1661[31] and shortly afterwards of a sale negotiation between Gaspard de Monconys and the Archduke Leopold Wilhelm of Austria, the sale agent died during the course of the negotiation and the medallion disappeared for some 200 years. It is now in the Victoria and Albert Museum, London.[32]

Like the specimens of the Monconys/Pestalozzi collection, those of the cabinet of Grollier de Servière have also largely disappeared. Visited by Louis XIV in December 1658, by the English traveller Philip Skippon in 1665, by the anonymous Augustinan discussed above in 1671,

and by John Locke in 1675, the collection remained of interest to the family de Servière and continued to 'fournit dans Lyon ou il est, un juste sujet d'admiration à tous ceux que la Curiosité porte à le voir'. To this information, Charles Plumier (1646–1704) adds that in the preparation of his book on turning – the first to be devoted exclusively to the subject – he had been greatly aided by Gaspard I de Sorbière who had allowed him to examine his machines and to draw 'les plus belles pieces d'yvoire de son cabinet pour servir de modèle à ceux qui entend à la perfection de cet Art'. Plumier reproduces eight pieces from Grollier's cabinet in his work, two of which are not illustrated in Gaspard II's *Recueil*.[33]

During all this time, the collection could be visited. On 22 June 1682, Jacob Spon informed Claude Nicaise that he had shown some distinguished visitors to Lyon the antiquities of the city and that 'M. Anisson[34] leur fit voir le cabinet fameux de M. de Serviere dont il ne fit pas fort grand état. En quoi il montre qu'il a beaucoup d'esprit, car effectivement il y a bien des badineries qui paraissent à la vérité surprenantes à ceux qui ne pénètrent pas les choses'.[35] The comment recalls the attitude of Gaspard II de Servière. Enlightened *savants* were emancipated from the open-mouthed wonder of the ignorant. Gaspard II was explicit that his catalogue of 1719 was intended 'pour la satisfaction & l'utilité du Public'.[36] That the reputation of the collection held up despite these changes in attitude is implied by the republication of the *Recueil* in 1733 and again in 1751. For the family de Servière, it was a source of honour and reputation. Probably, however, by the mid-1750s, the collection was already depleted or models were being replaced. In 1754, it was visited by the English natural philosopher of Huguenot origin, Stephen Demainbray (1710–82) who, on leaving, was presented with a model of a pile driver.[37] Absorbed into the English royal collections, it is today in the Science Museum, London,[38] the only object from the collections known with certainty to survive.[39] Although, according to the *Almanach de Lyon* the collection could still be visited in 1761, nothing is known of it thereafter.

Sharply contrasting, the collections of de Monconys and Grollier de Servière are the two Lyonnais collections from the seventeenth century about which most is known. They are instructive about collecting in Lyon, in France and in Europe generally, for both belong to European-wide patterns of collecting at the moment when rationally organized investigation and accumulation was displacing older styles of collecting based on the analogy of macrocosm and microcosm and the desire for the abnormal. If Grollier de Servière represents one tendency of empirical investigation which delimited the area of study in order to penetrate it more fully, de Monconys retains a universalist aspiration while subjecting it to sceptical control. Both are representative of the ambiguous state of learning in the mid-seventeenth century, poised between wondering curiosity and rational curiosity. Both also played a role in the mathematical and natural philosophical culture of Lyon in the seventeenth and eighteenth centuries. If the Monconys collection had a definite input to the formation of the collections of the nineteenth-century Muséum d'Histoire Naturelle, that of Grollier de Servière also contributed to the ethos of education from which that institution emerged. Both are essential in any study of collecting and collections in Lyon.

Appendix I

Editions of the Recueil

[Gaspard] Grollier, [Comte] de Servières, *Recueil d'Ouvrages curieux de mathématique et de mécanique, ou description du Cabinet de Monsieur Grollier de Servière Avec des figures en Taille douce; par Mr. Grollier de Servière, Ancien Lieutenant Colonel d'Infanterie son petit fils*, Lyon, David Forey, 1719.

4°, [28] +101 + [11] with eighty-five engraved plates numbered to 88, but plates 39, 48 and 76 are not called for.

[Gaspard] Grollier, [Comte] de Servières, *Recueil d'Ouvrages curieux de mathématique et de mécanique, ou description du Cabinet de Monsieur Grollier de Servière Avec des figures en Taille douce; par son petit-fils Mr. Grollier de Servière, Ancien Lieutenant Colonel; l'un des vingt-cinq de l'Academie des Sciences & des Belles-lettres de Lyon, seconde edition, revûë, corrigée & augmentée de nouvelle Machines, & de plusieurs Planches,* Lyon, David Forey, 1733.

4°, pp. [xxiv] + 152 + [viii] with 92 plates numbered 1–31, 31A, 32–38, 40–47, 49, 50–52, 52A, 53–56, 56A 57–61, 63–72, 72A, 73–75, 77–84, 84A, 84B, 84C, 84D, 85–88. This erratic numeration nonetheless corresponds with the contents list. In the instructions to the binder (viii verso – viv recto), the engraver's error in numbering the plates is noted. Plates 39, 48 and 76 are not called for.

Re-issue, with new title page, Paris 1751.

Appendix II

Jean-Jérôme Pestalozzi's catalogue of his collection.

At the end of the short description of the natural history cabinet included in the sale catalogue of J. H. Pestalozzi's library in 1743[40] is the note that 'M. Pestalozzi a eu un soin particulier d'en composer l'Histoire, qu'il vouloit donner au Public en deux Volumes in quarto: mais la Mort l'ayant prévenu, on delivrera son Manuscrit à ceux qui feront acquisition de son Cabinet'. The cabinet was not sold in 1743, and when finally it was acquired by the city in 1771, Pestalozzi's description may not have been with it. If it was it may have been lost at the Revolution. Whatever the case, from 1743 we have no knowledge of the manuscript until 4 March 1909 when it was purchased by the Bibliothèque Municipale de Lyon from a Parisian collector of autographs for 150 francs.[41]

The 'Histoire' is a manuscript of 395 folios. It was apparently written by Jean-Jérôme Pestalozzi before 1738 as parts of it reappear in papers read by him to the Académie de Lyon in that year. The full title is as follows:

Cabinet de Naturalitez ou Description des Mineraux, des Petrifactions, des Congelations des cristaux et cristalizations, des Pierres simples et usuelles, des cailloux, des pierres figurées, soit en empreinte, soit de relief, des marbres, des Pierreries des Mines, des metaux, des Marcassites, des cadriries, et des Pierres qui s'engendront dans les corps des Animaux, commes aussi des Plantes marines, des fruits etrangers, des animaux, des Monstres &c.

Ouvrage curieux et agreable aux personnes qui ont du gout pour l'Histoire Naturelle, et tres utile à tous ceux qui veulent connoitre le détail des ouvrages de la Nature.

In effect, the work is a catalogue of the Monconys/Pestalozzi collection with a number of discursive essays added. In the first of these Pestalozzi dilates on nature as the work of God, and the study of natural history as the finest way of celebrating him:

Elle [nature] est l'ouvrage du Tout puissant, et c'est faire connoistre sa toute puissance, sa grandeur, et sa sagesse infini, que de manifester les beautez, qui sont cachées dans ce bas monde.

Le chef d'Oeuvre le plus accompli, et le seul réellement parfait c'est l'ouvrage de la Nature, Ouvrage achevé, Ouvrage divin, ouvrage par excellence ! *Et vidit Deus quod esset Bonum.*

Laissons les merveilles des Cieux: arrestons nous simplement sur nostre demeure. La Terre ne publie pas moins que le firmament la gloire du Créateur' [fol 2r].

The study of nature is both delightful and useful to man. 'L'Histoire Naturelle est une connoissance si curieuse et si amusante ? Son utilité est encore au dessus'. A proof of this for Pestalozzi is the existence of so many collections of the products of nature. Pestalozzi gives a brief survey of the best known of these before allowing a nationalist note to creep in:

Plusieurs Cabinets d'Histoire Naturelle sont ecrits en Latin, en Italien, et en d'autres langues. L'echantillon qui en paroit dans le Cabinet de la fameuse Bibliotheque de Ste Genivieve, n'est capable que de mettre en gout. Il est temps qu'il paroisse un cabinet françois' [fol. 3v].

If Pestalozzi's is not the richest of existing collections, it will be, he claims, the first to be fully described in French.

The catalogue is arranged according to the three kingdoms, Mineral, Vegetable and Animal. Minerals go from earths to salts to inflammable substances such as bitumen, to sands to crystals to petrifactions to figured stones to stones in general to marbles to precious stones to stones in animals. The botanical class, as he avows, is less complete. It is made up of an *herbarium* 'qui contient les plantes transportables des Jardins du Roi de Paris' and an *herbarium* of plants local to the lyonnais region. The 'ornament' of this section, however, is the collection of marine plants. Animals are represented by a more complete collection which ends with specimens of monsters, animal, human and vegetable. In an appendix, there are descriptions of 'quelques pièces etrangeres et de main de l'homme pour divers usages' [fol. 5r]. For each piece described, Pestalozzi gives a relatively detailed description while 'une dissertation physique precede chaque genre'. In the thirty years that he had spent enlarging the Monconys collection, Pestalozzi had clearly read widely. Such research, he notes, is particularly suited to physicians, and he cites widely from earlier and contemporary writers, as well as noting local initiatives. Mr Lefeure, a doctor at Uzès has made artificial colcotha from iron filings and sulphur [fol. 12r]. But Pestalozzi is also informed about research in Paris. He cites experiments by Homberg [fol. 14v] and Boulduc [fol. 15r].

Pestalozzi eschews theory in favour of specific description'. …la même effet, selon M. Newton, doit etre produit par la même cause. Chaque physicien apparemment a deja prit la dessus son parti, dont la meilleur est de ne prendre aucun'. To give descriptions that can allow others to recognize specimens is his primary aim, but he also explains the uses to which they may be put and their origins. His work is a compendium of contemporary beliefs concerning substances. In marking the limits of knowledge, he also shows how his descriptions can serve to advance it: 'peut être ce queue [of a ray-fish, unlike any so far recorded] est elle monstrueux, peut-etre en a-t-on vûe de pareille; c'est ce que nous ne sçavans pas; les connoisseurs seront à même d'en jugé par sa description' [fol. 295r]. Knowledge of nature leads to self-knowledge and so to God. 'L'homme seul est en luy mesme l'abregé de tout l'univers; puisque il referme en sa nature celle de tous les autres mixtes, et qu'il a par dessus cela une ame immortelle, image de la divinité' [fol. 356v].

Unusually for its date, but perhaps less so for the work of a medical practitioner, the catalogue includes a substantial section on monstrous forms of all kinds some of which had been examined, even dissected, before finding their place in the collection. By way of a supplement, there is the section describing a selection of artificial, man-made, objects. Perhaps the Egyptian mummies, scarabs, vases and papyrus leaves described emanated from the Monconys collection, together with some of the other foreign oddities, but the provenance cannot be presumed. Of a Mogul painting Pestalozzi notes that it had been brought to France by 'un compagnon de voyage de Tavernier'. Remarkable pieces of French or European popular art are also present. Of an ivory carved figure of St Sebastian attached to a tree and pierced by arrows contained in a bottle, Pestalozzi notes 'il a fallu une grande adresse pour ajuster tout cet assemblage de pieces dans cette bouteille dont le gouleaux est tres étroit' [fol. 395v].

Pestalozzi, it seems clear, had a strong predilection for natural history (in particular minerals), to which the greater part of his catalogue is devoted. It may not therefore present all the items contained in the Monconys collection that he had acquired, which probably contained a higher proportion of man-made objects. His catalogue nonetheless is remarkable evidence of the level of knowledge to which a collector of the middle order could attain and of the wide variety of specimens that he could acquire. It is an early example, and a detailed record, of a natural history collection such as would play an increasingly important role in the later decades of Linnaeus's century.

Appendix III

A Treatise on the mechanical arts projected by Gaspard [II] Grollier de Servière

The improvement ethos, together with a delight in the mechanical arts, was strong in Gaspard [II] Grollier de Servière. Towards the end of his life, after having published the second edition of his catalogue of the collection of his grandfather and uncle, he turned his thoughts to writing a systematic treatise on the machines and tools used in craft trades. The work was never to be completed but sections of it, together with at least part of the overall plan were presented as papers to the Académie des Beaux-Arts de Lyon and have survived in its archives.

Grollier had earlier justified his subject for on 22 August 1736 he read to the Académie a 'Dissertation sur les ouvrages de Mechanique, ou Paralelle des ouvrages de Litterature avec les ouvrages des mains'.[42] In this, he argues for the parity of manual work, often denigrated, with 'works of the mind'. Firstly, he offers the apparently paradoxical argument that learning to be a literary man is more exacting and onerous than a training in manual skills. Secondly, he suggests that manual work may be more satisfying since a created object, even if it fails to satisfy a fine connoisseur, can still earn its maker approbation from the middling sort of men. A literary composition often seems unsatisfactory to its author who has only other literary models and the approval of the learned as criteria for his judgement whereas for the plastic arts nature itself is the model which supplies the standard of judgement. Manual artistic work is active, and it provides physical exercise which is necessary to life; the literary arts do not offer this. In the end, Grollier concludes that each activity can be equally satisfying, but he rather undercuts the generality of his title by restricting his discussion to painting and sculpture only, rather than treating generally of all the mechanical arts.

Abstract discussions of this kind were part of the staple diet of academies throughout Europe.[43] Though unspecific, they nevertheless played a rôle in raising the level of respectability for mechanical practice. This, it has been noted above, was important to Gaspard [II] both for the honour of his grandfather and the

reputation of his family, for maintaining the Grollier cabinet as a public attraction, and as a contribution to the public good. Gaspard's own project seems to have been wide ranging and may be compared in its aims with those of the Société des Arts in Paris, active at exactly the same time, which played a determinant rôle (albeit at the cost of its own destruction) in leading the Paris Académie Royale des Sciences first to publish the *Machines et Inventions approuvées par l'Académie Royale des Sciences …*[44] and then to undertake its own wide-ranging *Description des Arts et Métiers.*[45] Gaspard's title sums up his aim:

La Mechanique abregée Des Arts et Metiers ou l'on trouve les figures, les proportions et l'explication des principales Machines, et des principaux outils qui leur sont propres avec des observations sur les moiens de les porter à leur perfection, pour la pratique;

Survey, explain, improve—the triple aim was common to the Société des Arts, to the Académie Royale des Sciences and to Grollier de Servière.

Part I of Grollier's book concerned 'Des ouvrages en fer' arranged, after an introductory general account of iron by the trades that used it.

Ch preliminaire du Fer	
forgerons	fourbisseurs
Marechaux	Balanciers
Cloutiers	Equilliers
Serruriers	Epingliers
Couteliers	Couliers
Taillandiers	Ouvriers en fil de fer
Armuriers	Ouvriers en fer blanc
Eperroniers	Ouvriers en metiers de bas

Of these parts, Grollier read to the Académie de Lyon a version of the preliminary chapter at an unrecorded date,[46] *taillanderie* on 16 February 1639,[47] and *serrurerie* on 30 January 1740.[48] Clearly at this date, his plan was still fluid for both these subjects are described as comprising the fifth chapter of Part I, whereas in the undated plan the fifth trade listed is that of the cutlers. A year later, on 18 January 1741, Grollier read to the Académie the chapter on *menuiserie*, intended for the second part of the work which was presumably to be devoted to the wood-working trades.

This, for the moment however, is all that is known of Grollier's projected treatise. The sections that have survived offer clear, concise accounts of the tools used in the trades described and the work that could be produced with them. Particularly interesting in the section on white smithing is a detailed description of the making of a coffee pot, a description written exactly at the moment of the second surge in popularity of the black beverage.[49] The section on cabinet making is complete with pencil sketches of the tools used, arranged to be engraved on two plates. The approach is serious and systematic, the aim is amelioration. Comparing the works of grandfather and grandson displays the change from a baroque culture of amusement and *émerveillement* to the self-consciously socially responsible enlightenment ethos of improvement.

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Notes and references

1 Baudelot d'Airval, *De l'utilité des voyages et de l'avantage que la recherche des Antiquitez procure aux sçavans*, new edn. (Paris 1727), vol. II, p. 443.

2 The list is given at the end of his *Recherches des antiquités et curiosités de la ville de Lyon …* (Lyon, 1673, 1675).

3 See M.-F. Pérez and J. Guillemain, 'Curieux et collectionneurs à Lyon d'après le texte de Spon (1673)', in R. Etienne and J.-C. Mossière (eds.), *Jacob Spon, un humaniste Lyonnais du XVIIe siècle* (Paris, 1993).

4 For whom see E. Vial and C. Côte, *Les Horlogers lyonnais de 1550 à 1650* (n.p., 1927), p. 44.

5 As set out in his *Syntagma philosophiae Epicuri, cum refutationibus dogmatum quae contra fidem christianum ab eo assert sunt, oppositis per Petrum Gassendum …* (The Hague, 1659). See also his unfinished *Syntagma philosophicum, in quo capita praecipua totius philosophia edisseruntur,* in *Opera omnia* (Lyon, 1658), vols I and II.

6 For explorations of the meanings of 'curiosity' and related terms, see K. Pomian, *Collectionneurs, amateurs et curieux: Paris – Venise, XVIe – XVIIIe siècle* (Paris, 1987), pp. 61–80; K. Pomian, 'Curiosité et science moderne/Curiosity and modern science', in *Nouvelle curiosités/New Curiosities*, (Digne-les-Bains, 2003), pp. 5–26. See also the 'Introduction' by Alexander Marr in R. J. W. Evans and Alexander Marr (eds.), *Curiosity and Wonder from the Renaissance to the Enlightenment* (Aldershot, 2006), esp. pp. 2–4. The notes to this essay provide a useful bibliography of recent studies of the subject.

7 What follows is based on the life of Nicolas given in an address to the Académie de Lyon by his grandson Gaspard (II) de Servières, and now preserved in the Académie des Sciences, Belles-Lettres et Arts de Lyon, MS 182 fol. 215v ff. An abridged version of this was included in the Preface to Gaspard's catalogue of the collection, *Recueil* (for the full title of which with bibliographical details see Appendix I). The entries in *Nouvelle Biographie Générale* and *Dictionnaire de Biographie Française* contain a small amount of additional information.

8 Virtually all biographical accounts of Nicolas give 1593 for his birth date, as does Gaspard II Grollier de Servières in the first edition (1719) of his *Recueil*. In the 2nd edition, however, he discreetly corrects this to 1596 while in the manuscript version of the life he gives the date of 18 January 1599.

9 *Recueil*, op. cit. (note 7), MS 182 fol. 216r following a 'Memoire escrit de sa main' as we are informed by a marginal note.

10 Pérez and Guillemain, op. cit. (note 3).

11 Of the character of Grollier his grandson had this to say: 'Il etoit naturellement franc, vif, bouillant et prompt, mais bon, humain, et Charitable, on le voyoit toujours empressé et prêt a faire plaisir et a rendre service a tout le monde … il etoit d'une probité a toutte epreuve et ne pourroit souffrir les flatteurs, – aussy etoit il un tres mauvais Courtisant, il aimoit en tout et par tout l'ordre et la regle, la verité et la justice ce qui le rendoit exact … a remplir ses moindres devoirs … mais … aussy quelques fois un peu severe et un peu dur'. Op. cit. (note 7), fol. 226r.

12 At least some of these may have used drawings by Nicolas for when Philip Skippon visited the collection in 1665 he was shown a thick folio volume of drawings of the pieces on display.

13 *Recueil*, op. cit. (note 7), sig. e4v.

14 Bibliothèque Nationale de France, MS fr 24255 fols. 276–7, printed in full as an appendix to Pérez and Guillemain, op. cit. (note 3).

15 How original one considers Grollier's collection to be depends in part on the date from which one regards it. While the idea of the collection clearly can be related to the 'theatre of machines' tradition stemming from the Renaissance, and its playful nature linked with that of the trick machines (especially hydraulic ones which soaked the spectator), fashionable until at least the middle of the seventeenth century, a comparable purely mechanical collection with objects made by the proprietor himself is difficult to find at the mid-century. This said, the collection of Brostrup de Schort, visited by Balthazar de Monconys at Kassel in 1663, seems close. De Schort was interested in fortifications, worked 'admirablement bien au tour', had a cabinet of models of bridges, water-raising machines and the like, and his own method of whitening brass to make mirrors better than in steel. *Voyages de M. de Monconys divisez en V. Tomes* (Paris 1695), vol. IV, pp. 31–4. As the century advances, however, parallels do begin to appear, first with the machine models and mechanical devices included in the collections of the Académie des Sciences in Paris (see C. Frémontier, 'Les Dépôts de collections d'histoire naturelle, d'instruments et de machines', in E. Brian and C. Demeulenaere-Douyère, *Histoire et mémoire de l'Académie des Sciences: Guide de recherches* (Paris, 1996), pp. 255–60. Then more exactly with the collection of machine models created by Jean Baptiste Picot and exhibited commercially in Paris (rue de la Harpe) in 1683. See A. Birembaut, 'L'exposition de modèles de machines à Paris en 1683', *Revue d'histoire des sciences et de leurs applications* 20 (1967), pp. 141–58.

16 The inclined plane clock for example seems to have been invented by a member of the Habrecht dynasty of clockmakers at Strasbourg during the first half of the seventeenth century. An example acquired by Duke Augustus of Braunschweig (1579–1666) survives in the Herzog Anton Ulrich-Museum, Braunschweig and is illustrated in H. Alan Lloyd, *Old Clocks*, 4th edn (London 1970), p. 50 and pl. 4. The empty case of another was offered for sale at the Hôtel Drouot, Paris, 15 May 1993, lot 121. At least five examples by other seventeenth-century makers are known and the model was included among the unusual clocks described by G. Schott, *Technica Curiosa sive mirabilia* artis … (Nuremberg, 1664), pl. 8. For the development of the clock in general, see S. A. Bedini, 'The inclined plane clock', *La Suisse Horlogère* 78 and 79 (1958 and 1959); A. J. Turner, *Maurice Wheeler's Account of the Inclined Plane Clock 1684* (London, 1972).

17 *Recueil*, op. cit. (note 7), 2nd edn. (1733), p. 150, pl. 85. A. Ramelli, *Le Diverse et artificiose machine …* (Paris, 1588), ch. 188. In the introduction to the English translation and edition of the latter by Martha Teach Gnudi and Eugene S. Ferguson (1976, re-edition, New York, 1987), the editors note (p. 39), that 'The influence of Ramelli upon the book of Grollier de Servière (1719) is direct and clear', and they offer several examples.

18 Compare the definition of invention given by Simone Mazauric based on her reading of Théophraste Renaudot 'Par invention, il faut entendre un procédé ingénieux, destiné à resoudre un problème de l'ordre essentiellement pratique', S. Mazauric (ed.), *Théophraste Renaudot: De la petite fille velue et autres conférences du Bureau d'Adresse (1632–1642)* (Paris, 2004), p. 21. In the seventeenth and eighteenth centuries originality is not implied by the word 'invention', as it is in modern usage.

19 *Voyages*, op. cit. (note 15), vol. I, sig. *8v.

20 For his life, see M. Varille, 'Bathazar de Monconys', *Bulletin de la Société Littéraire, historique et Archéologique de Lyon* 13 (1934); S. Cordier, *Bathazar de Monconys* (Paris, 1967). Monconys's remarks on art are collected by le Comte de Marcys, 'Balthazar de Monconys. Analyse de ses voyages au point de vue artistique', *Bulletin de la Société des Beaux Arts de Caen* 6 (1880), while a summary of his record of contemporary science is given by C. Henry, *Les Voyages de Baltazar de Monconys: Documents pour l'histoire de la Science* (Paris, 1887). That part of his journals which concerns Egypt has been reprinted with an introduction by H. Amer, *Voyage en Egypte de Balthasar de Monconys 1646–1647* (Cairo, 1973).

21 *Voyages*, op. cit. (note 15), vol. I. Sig. *9r.

22 For whom see Pomian, op. cit. [*Collectionneurs*] (note 6), pp. 77–8.

23 *Voyages*, op. cit. (note 15), vol. I, pp. 15–16.

24 Ibid., vol. I, p. 407.

25 Ibid., vol. II, p. 122.

26 *Recueil*, op. cit. (note 7), sig. e1r.

27 *Voyages*, op. cit. (note 15), vol. IV, p. 344.

28 Reprinted in 4to Paris 1667 and again in Paris in 12mo (4 vols. in 5) in 1695.

29 *Catalogus Librorum Bibliothecae Domini Joannis – Hieronymi Pestalozzi, Medici Lugdunensis Celeberrimi* (Lyon, 1743). The sale prepared by the brothers Duplain was a sale with fixed

prices which were marked on each item and, 'suivant notre coûtume', were not subject to discount (p. 5).

30 For whom see Y. Sordet, *L'Amour des livres au siècle des lumières: Pierre Adamoli et ses Collections*, Mémoires et Documents de l'Ecole de Chartes LX (Paris, 2001); S. Ben Massaoud, 'Pierre Adamoli (1707–1769), bibliophile des Lumières', in M. Viallon (ed.), *Voyages de Bibliothèques. Actes du Colloque des 25–26 avril 1998 à Roanne* (St. Etienne, 1999), pp. 137–47. Y. Sordet, 'La dévolution au public d'un bibliothèque particulière au XVIIIe siècle, l'exemple de Pierre Adamoli et de quelques uns de ses contemporains', in ibid., pp. 148–69.

31 J. Chiflet, *Vetus Imago sanctissimae Deipace in Jaspide Viridi … inscripta Nicephoro Botaniatae …* (Paris, 1661).

32 'A Byzantine disc for South Kensington', *Burlington Magazine* 50 (1927), pp. 106–8.

33 C. Plumier, *L'Art de tourner ou de faire en perfection toutes sortes d'ouvrages au tour …* (Paris, 1749).

34 Probably one of the two sons, Jean and Jacques, of the noted printer Laurent Anisson.

35 Cited from Pérez and Guillemain, op. cit. (note 3).

36 Op. cit. (note 8), Préface sig. A4r.

37 Ibid., fig. 89.

38 A. Q. Morton and J. Wess, *Public and Private Science: the King George III Collection* (Oxford, 1993), p. 150. For Demainbray, see ibid., pp. 89–119.

39 The catalogue of an auction conducted in Paris on 24 March 1969 by Etienne Tajan, Jean-Louis Picard and Antoine Tajan claimed on its title page to include a 'Collection de pièces de tour des XVIIe et XVIIIe siècles provenant du Cabinet de Monsieur Grollier de Servière'. In the body of the catalogue, however, where the items constitute lots 92 to 116, this claim is neither repeated nor justified. Of the nine pieces illustrated, three have strict parallels in the *Recueil* as do elements of two others. The remaining pieces are clearly in the style of those produced by Grollier and illlustrated in the *Recueil* a copy of which itself constituted lot 117. Firm evidence, however, is wanting that any of these pieces were originally in Grollier's cabinet.

40 See *Catalogus* op. cit. (note 29), p. 10.

41 Bibliothèque municipale de Lyon, MS 2439. The original asking price for the volume was 500 francs.

42 Académie des Sciences, Belles-Lettres et Arts de Lyon MS 20 fols. 89r–96r. Since the Académie was still itinerant, the address was given at a meeting held in Grollier's own cabinet.

43 Another discourse of this sort had been made by Gaspard (II) to the académie several years earlier. 'Le Boncoeur: si les qualitéss de l'esprit sont préferables à celle du coeur', 23 May 1719. It is preserved in Académie de Lyon MS 134.

44 Edited by J.-G Gallon in 6 vols. (Paris, 1735).

45 For the *Description*, see A.-S. Guénoun, 'Les publications de l'Académie des Sciences', in E. Brian and C. Demeulenaere-Douyère (eds.), *Histoire et mémoire de l'Académie des Sciences: Guide de recherches* (Paris, 1996), pp. 107–27 (esp. 123–5). For the influence of the Société des Arts, see R. Hahn, 'Science and the arts in France: the limitations of an encyclopaedic ideology', *Studies in Eighteenth Century Culture* 10 (1981), pp. 77–93. For its importance in the creation of one career, see A. Turner, 'Sciences, arts and improvement: Jean Antoine Nollet from craftsman to savant', in L. Pyenson and J.-F. Gauvin (eds.), *The Art of Teaching Physics: The Eighteenth-Century Demonstration Apparatus of Jean Antoine Nollet* (Quebec, 2002), pp. 29–46.

46 Académie des Sciences, Belles-Lettres et Arts de Lyon, MS 182, fols. 179r–91v.

47 Ibid., fols. 164r–167v.

48 Ibid., fols. 86r–106r.

49 See A. Turner, *Coffee, an Essay* (Paris, 2002), ch. 4–5.