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van de Roemer, B.

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NEAT NATURE: THE RELATION BETWEEN NATURE AND ART IN A DUTCH CABINET OF CURIOSITIES FROM THE EARLY EIGHTEENTH CENTURY

Bert van de Roemer

University of Amsterdam

In collections of the early modern period, the combination of art and nature could accomplish attractive results. A good example of this is still to be seen at the Zoological Museum in Amsterdam, where three drawers containing shells, dating from the beginning of the eighteenth century, survive in the collections (Figure 1).¹ In the drawers, each shell resides, species by species, on a bed of white silk, within a little compartment of its own bounded by slats painted blue. The drawers as a whole make up an elegant assemblage of colourful shells, arranged in geometrical patterns. These designs served a practical function, in that the shells were prevented from rolling around in the drawer; but they also served a less prosaic purpose: the harmonious arrangements enhanced the sensory pleasure engendered by the collection. Modern viewers can still appreciate the beauty of the drawers.

In this article I will investigate some of the rationales that were responsible for this peculiar arrangement of shells, but first I will sketch briefly the cultural setting in which these objects should be placed. The drawers originate from one of the many private bourgeois collections of curiosities in which Holland was so rich during the seventeenth and eighteenth centuries. Just as in other European countries, collecting was a recognized pastime and many Dutch burghers possessed a so-called *ra-reiteitenkabinet*² (cabinet of rarities). An illustrative cross-section of Dutch collectors is offered in the inexhaustible travel account of Zacharias Conrad von Uffenbach (1683–1734), *Merkwürdige reisen durch Niedersachsen, Holland und Engelland* (published 1753–54). During his stay in Holland in the first months of 1711, the traveller visited some fifty collections in Amsterdam. Together with his brother, this learned bibliophile from Frankfurt saw cabinets belonging to persons of different professions such as officials, tradesmen, merchants, artisans, apothecaries and physicians. The quality varied from little assortments related to workshops to distinguished museums of wealthy regents.³ Sometimes, the quality of these collections could be exceptionally high. Von Uffenbach was amazed at the exquisite collection of Greek coins in the cabinet of Jacob de Wilde (1645–1721), and commented that nowhere was an assemblage of similar excellence to be found, not even in the Royal Cabinet in Paris. As a high official of the Admiralty in Amsterdam, de Wilde was able to give special commissions to captains who sailed to foreign countries, and who hoped to make a good impression by fulfilling his wishes. Apart from the coins, von Uffenbach also paid attention to the library, the antique gems and statuettes, and the mathematical instruments. There was no star in heaven, asserted de Wilde,

FIG. 1. Three shell drawers, Zoological Museum, Amsterdam.

that he did not observe.⁴

Von Uffenbach also saw less distinguished cabinets. He was disappointed at the anatomical collection of the physician Johan Rau (1668–1719). Even though the preparations were well executed, the collector did not put much effort into their preservation: there was insufficient spirit in the glasses, and von Uffenbach suspected that greed was an object here. He remarked that the collection was not in good order, but Rau explained that he possessed the collection for use, not for ornament.⁵ The von Uffenbachs were offered a more pleasing sight in the house of Mrs del Court, who had three rooms filled with porcelain.⁶ She stressed that Prince Eugenius of Savoye had spent half a day there, and that everything had cost a lot of money. Von Uffenbach admired her exquisite collection of precious stones and little art objects made of coral, ivory and mother-of-pearl. Mrs del Court also possessed a considerable quantity of modern medals and antique coins, and the German visitor was pleasantly surprised at her profound knowledge of these objects. She warned him against the so-called *chevallartjes*, fake coins circulated by the fraudulent merchant Nicolas Chevalier. Von Uffenbach noted that Mrs del Court's husband, a dyer, did not understand his wife's hobby, and just laughed and expressed surprise as she was talking about the objects.

If the accounts of von Uffenbach show anything, it is the great variety to be found in the professions, wealth, social backgrounds and manners of the collectors. It is said that collecting in the Republic, as in most other countries, was popular among members of the middle and higher strata of society, but von Uffenbach gives some fine examples of collectors of more modest status. When he paid a visit to the *loerbereyter* van Roede (probably a maker of decoy birds) to see his collection of birds, he encountered scandalously bad manners. In response to a compliment, the host replied by rudely asking why he did not speak Dutch. Von Uffenbach noted that the bird collection was in an awful jumble, and that van Roede was an example of a coarse and uncouth Dutchman.⁷ It is revealing that von Uffenbach informs us about such less-civilized collectors, because otherwise our modern view might well be clouded by the fact that collectors of the lower social strata left fewer recorded data. In general, such people did not publish catalogues or keep visitors' books, like their more sophisticated and wealthier counterparts. We should therefore be on our guard when speaking in general terms about "the Dutch collector".

However, after we have explored a variety of sources, some specific features of early modern collections in Holland come to the surface, as compared to those found in other European countries. As the Dutch Republic lacked a royal court or significant nobility, collecting belonged to the domain of citizens.⁸ For them it was comparatively easy, especially in Amsterdam, to gather all kinds of objects from different parts of the world. In the seventeenth century, Amsterdam was a busy metropolis with one of the most important staple markets in the world. Dutch ships of the East India Company (founded in 1602) and West India Company (1621) sailed the oceans in search of profitable goods such as spices.⁹ Along with the cargo, the crew members brought exotic objects back home: shells, plants, animals, costumes,

weapons, Chinese porcelain, and Japanese lacquer work. As the example of de Wilde showed, they often did this at the explicit request of the collector. Evidently, exotic goods were so numerous that there were several East India shops to be found in Amsterdam, specializing in rarities from the distant regions. A collector could also obtain his specimens from numerous apothecaries, or he could visit the frequently held public sales. Presumably, these auctions played an important role in the interaction between collectors and functioned as an unofficial meeting place. Learned societies, which often formed a driving factor in other European countries, were not yet to be found in the Republic: the institutionalization of extramural interests for the sciences and arts started comparatively late and was not realized until the second half of the eighteenth century.¹⁰ Obtaining new objects was the main motive for visiting public sales, because here whole collections came under the hammer. Usually the content of a cabinet was auctioned immediately after the death of the owner, so that the proceeds could be divided among the heirs. This normal procedure is also the main reason why no Dutch collection has been handed down to us.

The presence of many overseas contacts was also an important reason for another feature of Dutch collections: the abundance of natural objects. Approximately three-quarters of the collections in Amsterdam in the seventeenth century contained natural objects, and almost all of these included shells.¹¹ By far the most comprehensive collection of exotic natural objects in Amsterdam was owned by the apothecary Albertus Seba (1665–1736). We are well informed about this collection, because Seba published a bulky, four-part catalogue of his collection, *Locupletissimi rerum naturalium thesauri* (1734–65), in which he presented the content of his cabinet in 446 sumptuously executed prints.¹² They show an enormous variety of natural objects, such as snakes, lizards, crocodiles, small mammals, shells, stones and minerals. The books in fact display Seba's second collection, because his first cabinet was sold to Tsar Peter the Great in 1716 and thus became the basis of the imperial museum in St Petersburg. After this sale, Seba immediately began a new collection, and this achieved international status. It was visited by many foreign guests, of whom the Swedish naturalist Carl Linneaus was probably the most famous.¹³ The vast quantity of natural objects from overseas might suggest that collectors were exclusively interested in exotic and unusual things, but this inference needs some modification. For example, the Mennonite preacher Jean Houbakker (1685–1715) showed von Uffenbach thirty glasses with snakes, iguana, lizards, birds, small crocodiles and crabs, but the pride of Houbakkers's collection was a hundred boxes with insects, of which half were indigenous.

The easy availability was not the only reason for the inclination of the Dutch collectors towards objects from nature. It was also directed by religious connotations. Protestant collectors in particular, such as Calvinists, Mennonites and Lutherans, showed a significant preference for natural objects.¹⁴ Especially among the latter group, with their aversion to elaboration and their striving for simplicity, collecting *naturalia* was accepted and widespread. The reformed view of nature played important roles in shaping the conduct of collectors, as we shall see.

The history of Dutch collections is still relatively unknown to an international audience.¹⁵ When compared to the great number of studies of collections in other European countries, attention to this region has lagged behind. If scholars researching German and Italian collections are engaged in hunting for concepts and ideas underpinning the vast quantity of collected objects, research into Dutch collections is still mainly in a descriptive phase. After some pioneering studies,¹⁶ a serious attempt to grasp this topic was made in 1986, when a research project was launched by the Netherlands Office for Fine Arts at the instigation of the historian Jaap van der Veen. A group of scholars from different disciplines undertook detailed research into various aspects of the collections of the ‘Dutch Golden Age’ in the period 1585–1735. Their research led to an exhibition, a catalogue and a collection of essays, all under the name *De wereld binnen handbereik*, but the results of this project were limited for the most part to a Dutch-speaking audience.

To the historian reflecting on Dutch cabinets of curiosities, the same questions arise as with the collections of other countries. The great diversity of objects that were to be found in the cabinets may well seem peculiar to the modern beholder, who is left to wonder how we should comprehend and evaluate the activities and rationales of these collectors. In the last twenty-five years a great many studies have appeared in which modern scholars have taken the *Kunst- und Wunderkammern*, *studioli* and cabinets of curiosities more seriously.¹⁷ Among the questions they have raised are whether such collections should be regarded as important centres of research or rather as places of polite diversion. Guiseppe Olmi remarked during his research into Italian private collections of the seventeenth century, that it is “difficult to justify the view of them as centres of scientific research”. In contrast to their precursors from the sixteenth century, they could even represent in some sense a retrogression.¹⁸ Another debatable topic is the question of the extent to which collectors were aiming at totality.¹⁹ Had they sincere encyclopaedic ambitions to get “the world within a hand’s reach”, as the Amsterdam exhibition was called, or were the objects and the displays in the cabinets primarily aimed at exciting wonder? Lorraine Daston, who inclined to the latter opinion, pointed out that 99.9% of the known universe was excluded from the collections.²⁰ In addition, the arrangements of the objects pose difficulties for us. Here the question arises as to whether we should look for ordering principles that evade the modern beholder, or accept that the displays of objects answered to a desire for decorative assemblages and bizarre combinations, or were simply jumbled.²¹

Contemporary views on the interplay between nature and art can often serve as a key to a better understanding of the cabinets and their content. The two main categories to be found in most collections were *naturalia*, objects produced by nature, and *artificialia*, the counterparts thereto crafted by human hands. This appealing distinction was often applied, for it had a “glamour of completeness”. It was “an unique conceptual instrument that was felt to be almost universally applicable”.²² But the relation between art and nature was ambiguous and had many characteristics.²³ With regard to the collections, the rivalry between art and nature is often emphasized. This aspect was based on the Aristotelian postulation that objects made by human hands

were inferior, because their forms were assigned to them, while objects from nature had an innate impulse to change.²⁴ Within the collections, objects of art challenged their natural counterparts, and in a display of virtuosity, the dividing line between the two categories was deliberately blurred. In the three shell drawers that are the topic of this study, we find another effect of the relationship. Here we see how art gradually could take over from nature in the common goal to present a pleasurable sight for the eye. They give a good example of how art could also improve on nature. The latter is stressed by Elizabeth Scheicher in her study of the Habsburg *Wunderkammern*. Scheicher rightly points out that the term *artes* in this context by no means corresponds to our modern notion of art. In her argument, the early modern expression denotes a skill, a mode of knowledge as possession that enables people to intervene in nature in an ordering and correcting manner.²⁵ In this respect her discussion of a print by the famous Frankfurt printmaker and publisher, Matthäus Merian (1593–1651), is illuminating.²⁶ At the top of the image, God's hand emerges from a cloud inscribed with the tetragram, grasping a chain by which Nature, in the shape of a nude woman, is shackled (Figure 2). In this engraving, God is represented as the Creator of Nature, his being is manifest in her, and from her breast flow all the creatures that inhabit the sublunary world. In her turn, Nature holds a chain to which a monkey, representing the human arts, is attached: the monkey imitates man just as the arts imitate Nature. This is an iconographic reference to the contrast mentioned above. Scheicher, however, points out that the illustration stresses not only the tension between *artificialia* and *naturalia*, but also the fact that they were regarded as the beginning and end of a process of development. The texts adjacent to the monkey figure make clear that the function of the Arts is to enable the improvement of Nature. Here the domain of the Arts is primarily represented by chemistry, described as “art correcting nature in the mineral kingdom”; by agriculture, described as “art assisting nature in the vegetable kingdom”; and by medicine, described as “art complementing nature in the animal kingdom”. The last circle contains the liberal arts (here: fortification, painting, perspective, geometry, music, arithmetic, astrology, cosmography and [study of] time and movement).

The print visualizes the strong but complex alliance between art, nature and God. Even though it is related to a different period and area, this linkage was equally *courant* in the early modern Dutch Republic, and the private collections were places *par excellence* where this bond became manifest. These aspects resonate in some of the reasons for collecting. In the illuminating introduction to *De wereld binnen hanbereik*, the historian Roelof van Gelder distinguishes five different motives which, in varying degrees, played a role in inspiring Dutch citizens to build up a collection.²⁷ Firstly, the possessor of a rich and beautiful cabinet could acquire a good reputation, because he could be sure of important guests entering his house. Secondly, the collected valuables could serve simultaneously as merchandise and as investments. Thirdly, the collected objects, besides contributing to the collection, could generate a certain aesthetic satisfaction. Fourthly, the religious consideration that man could learn to know God better through the study of his Creation played a substantial role

FIG. 2. Matthäus Merian, “Integrae Naturae Speculum Artisque Imago”, engraving from Robert Fludd, *Utriusque cosmi maioris* (Frankfurt, 1617).

for some Dutch collectors. As a fifth reason van Gelder mentions scientific curiosity, deriving from the humanistic ideal of the universal scholar.

Making a distinction of this sort between different rationales for collecting may indeed serve a useful purpose, that of clarifying a complex field of research such as the history of collections. However, Merian’s print warns us against applying these categories too rigidly to the historical material. A rigorous distinction between these

aspects can also blur our view of the collection as a whole. For example, it is evident that distinctions that we take for granted between religion, aesthetic and scientific curiosity were not shared by seventeenth- and eighteenth-century collectors. For them these areas of enquiry were closely related. Collectors might have an entirely different conception of these issues; even more, they might not employ such categories at all. For instance, aesthetic appreciation in the sense that we understand it, as something purely formal and subjective, was not understood in this manner. Therefore, it is appropriate that, in an essay published the following year, van Gelder should have replaced the expression “aesthetic satisfaction” with the historically more accurate “sensory pleasure”.²⁸ In addition, he here revised the rationale of ‘curiosity’ by omitting the word ‘scientific’, in response to the claim that not only the content of science changed in this period, but also the meaning of the enterprise known as ‘science’.²⁹

Present-day specialized knowledge sometimes renders it difficult to explain how a collector in the past could be motivated to assemble all these different objects in such peculiar ways. In general, historians of art are inclined to ask other questions and look for other explanations than do, for instance, historians of science. Krzysztof Pomian was cautious about a limited approach towards a “multi-dimensional phenomenon” such as collections of the past, in particular with reference to research that sought to identify the taste of the collector, and to the typical antiquarian interest, still extant in some fields of art history, which considered collections primarily as a means to learning more about the provenance of a specific object. Even those studies that have sought to correct this approach have sometimes been somewhat one-sided. The table of contents of the essay collection *De wereld binnen handbereik* might serve as an example. It presents essays written by specialists in different disciplines, dealing with topics such as collections of antiquities, of paintings and prints, of Italian art and classical sculpture, of exotica, of natural objects, and of shells.³⁰ Pomian was right to point out that in this way important elements may well be missed, because the essential feature of collections was that all these aspects — the categories of objects as well as the motivations for collecting — were blended together in one room.

It is evident that collections of curiosities offer such a broad scheme of research subjects that it is hardly possible to consider all these aspects in one study, but it is possible to restrict oneself to a case study and to ask questions that extend beyond a single discipline. The three shell drawers of the Zoological Museum offer a good opportunity to investigate some of the different levels of experience of the collector. By restricting myself to these objects, I will ask in this paper why the shells were ordered in this particular fashion, and try to comprehend these arrangements from early eighteenth-century standards. Rather than answering whether we should designate them as “aesthetic”, “(non-)scientific”, or even “regressive”, I will work in the space between the history of art and the history of science, seeking out correlations between the pursuit of sensory pleasure, the curiosity to accumulate knowledge about nature, and the religious implications of the collecting enterprise in the early modern Dutch setting. Another purpose of this paper is to pay more attention to the theoretical background of the collections in the Dutch Republic. Reading recent

studies, one might get the impression that Dutch collectors were mainly interested in the economical and social aspects of collecting. The image of the practical merchant-Dutchman, principally interested in a good profit, still seems to linger in the background. This led to the assumption that the multitude of comments on the religious aspects of collecting and the relation between art and nature, which can be found in many sources, are to be regarded as “commonplaces”.³¹ In this article, I will show that it is essential for a better understanding of the practices of the Dutch collector — of which the shell drawers offer such an attractive result — to take basic notions about nature, art and God into account.

PROVENANCE: SIMON SCHIJNVOET

First it is necessary to situate the drawers more precisely. By utilizing a variety of data, I have been able to ascribe provenance to the Amsterdam official Simon Schijnvoet (1652–1727) (Figure 3). Born in The Hague and educated as a saddle maker, Schijnvoet moved to Amsterdam about 1676. He must have had social ambitions, because soon after his arrival he embarked on a career in the Amsterdam civil service. In 1697 he was registered as servant of the bailiff, and six years later, in 1703, the burgomasters of Amsterdam appointed him to the distinguished function of assistant bailiff and provost to the chaplains’ orphanage (*Aalmoezeniersweeshuis*). In this position he was directly answerable to the city’s bailiff and had access to the burgomasters, the oligarchic rulers of the city. He seemed to have had good relations with several burgomasters, especially the influential Nicolaas Witsen (1641–1717). Witsen, who was also in a position of authority at the East India Company, was the proud possessor of an internationally-famed collection and may have set an example for other collectors, such as Schijnvoet. By the time of von Uffenbach’s visit in 1711, Schijnvoet had attained the status of an esteemed citizen, even though his lack of wealth probably prohibited him from becoming a member of the highest echelons of Amsterdam society.

Renowned for his knowledge of natural history and the arts, Schijnvoet was an important figure in the cultural life of the city and an active member in a ramified network joining collectors, naturalists, scholars and artists: he sent caterpillars to the entomologist Stephan Blankaart (1650–1702),³² collaborated with Maria Sibylla Merian (1647–1717) on the publication of her work,³³ helped the antiquarian Cornelis van Alkemade (1654–1737) by sending coins and drawings of old Dutch castles, and corresponded with the poet and antiquarian Ludolf Smids (1649–1720) over the nature of fossils.³⁴ One of Schijnvoet’s most important tasks in the field of natural history was the preparation of the famous book by Georg Everhard Rumphius (1628–1702), *D’Amboinsche rariteitkamer* (1705). As a merchant for the Dutch East India Company Rumphius concerned himself with the study of the natural history of the island of Ambon. Rumphius gave precise descriptions of the indigenous animals, plants and minerals, and paid a good deal of attention to the biotope of the living species. The manuscript of *D’Amboinsche rariteitkamer*, concerning the crustaceans, shells and minerals of this region, eventually came into the hands of the burgomaster of Delft,

FIG. 3. Pieter Schenk, Portrait of Simon Schijnvoet, engraving.

Hendrik d'Acquet (1632–1706), also a distinguished collector, who handed it over to the Amsterdam publisher François Halma (1653–1722). However, the text displayed several lacunae, and many of the accompanying drawings were missing. For these reasons the publisher asked for the help of Simon Schijnvoet, who had a reputation as a prominent connoisseur of shells. Schijnvoet filled in the gaps by having drawings made of shells existing in Dutch cabinets, and also added footnotes commenting on Rumphius's original text. In his preface, Halma assured the reader that the publication would never have been accomplished without Schijnvoet's whole-hearted commitment.³⁵ Through this, Schijnvoet knew all the shell cabinets in Holland, as he confided to von Uffenbach.³⁶

Schijnvoet also had a reputation as a connoisseur of the arts. At the beginning of the eighteenth century he was given two important tasks by the burgomasters of Amsterdam: halfway through the first decade he was appointed supervisor of the decoration of the wooden vault of the enormous citizens hall (*burgerzaal*) in the Town Hall of Amsterdam and in 1709 he was given the task of rearranging the collection of seven thousand prints bequeathed to the city by the collector Michiel van Hinloopen (1619–1708).³⁷ This collection, kept in a small room in the town hall, became the first public print collection in the Netherlands, and was aimed at helping young artists to study examples and to improve their *métier*. Schijnvoet additionally wrote also poems, theatre plays and aphorisms.³⁸ Above all, Schijnvoet was famed for his activities in the field of garden architecture, designing at least three gardens for well-to-do citizens in the neighbourhood of Amsterdam, most notably Petersburg, the country seat of Christoffel Brants (1664–1732), the ambassador of Peter the Great, and Soelen, the seat of the merchant and collector Christoffel Beudeker (1675–1756).³⁹

The focal point of all these cultural activities was an extensive cabinet of curiosities and prints that Schijnvoet kept in one of the rooms in his lodgings in the huge orphanage building on the Prinsengracht in Amsterdam. The indications are that we can identify Schijnvoet as the creator of the three shell drawers in the Zoological Museum. Two sources make this very probable. First, von Uffenbach visited Schijnvoet on 11 March 1711, and in his detailed account of this visit he devoted much attention to the way in which Schijnvoet stored his collected objects. According to him, every drawer presented a “particular invention of elegant arrangement and order” (“eine besondere Invention von einer zierlichen eintheilung und Anordnung”). The collector had constructed these arrangements himself, inserting small blue slats into the drawers, and these, according to von Uffenbach, stood out beautifully against the white lacquer that had been applied on the drawers' interior.⁴⁰ A second source, namely the 1744 auction catalogue of Schijnvoet's shells, also mentioned the arrangements that were typical of the collection. In the introduction, the author of the catalogue described the contents of the cabinet as follows: “... all the drawers are lined with white silk, and some are made with beautiful borders, in which every horn has its own situation, [each] surrounded by blue-painted frames, so that they will not tumble among one another.”⁴¹ In the auction catalogue too, this language of compartments made with blue-painted slats against a white background is used,

but here the white background consists not of lacquer, but of white silk. Presumably Schijnvoet changed the lacquer for silk in the sixteen years between the visit of von Uffenbach and his death.

Because both sources emphasize the arrangement of compartments with blue raised edges against a white background to such a degree, I believe we may assume that this was a personal invention of Schijnvoet. It is unlikely that von Uffenbach would have devoted a whole passage to the drawers if they had not been striking. No drawers of other Dutch collections have survived from this period that could be used for comparison, but there are illustrations that might serve this purpose. Three illustrations of six shell drawers can be found in the above-mentioned publication of Albertus Seba, and in addition the catalogue of the collection of the cloth merchant Levinus Vincent (1658–1727) includes prints of drawers with *naturalia*. Both examples show a different attitude towards the elegant arrangement of the specimens. In the case of Seba the shells were assembled so that together they formed decorative elements, like bands, stars, foliage, birds and mascerons (Figure 4). The wife of Levinus Vincent, Johanna van Breda, was responsible for the attractive compositions in the drawers of this collection. With needle and thread, adorned with little pieces of coral, she applied the shells in decorative patterns on the cloth underlay in a way

FIG. 4. Anonymous, Shell drawer from the collection of Albertus Seba, engraving from *Locupletissimi rerum naturalium thesauri* (Amsterdam, 1734–65).

that resembled embroidery work (see Figure 4 of the article by Emma Spary in this issue; the print shows a fictitious hall of which the right wall is adorned with some of the drawers of Vincent's collection). In both instances, the shells were subordinated to predetermined ornamental figures that occasionally represented other recognizable forms and were set against a blank background. By contrast, the shells in the drawers of the Zoological Museum make up together a geometrical pattern in a grid that fills up the whole rectangular space. The compartments correspond for the most part to the natural form of the shell and it seems that here the shells dominate the ornamental grid, instead of the decorative figures dominating the arrangements of shells. It therefore appears that the drawers coincide with the specific practice of Schijnvoet as known from von Uffenbach and the auction catalogue. However, it is not likely that it is the contents of the three drawers that is described in the auction catalogue of 1744, because a manuscript note on the final page of the catalogue informs us that Schijnvoet's cabinet was in fact sold with empty drawers. Possibly Schijnvoet kept these drawers separate from his cabinet of shells, or perhaps he sold the drawers during his lifetime to another collector. That such sales occurred is also implied by von Uffenbach, who reports that another collector had offered Schijnvoet two thousand Dutch guilders for one of his most beautiful drawers.⁴²

The drawers of course did not stand by themselves. They formed a subsection of an extensive collection of minerals, corals, insects, coins, art objects, prints and drawings. During the reconstruction of the whole collection, it became clear that it had several specific characteristics that are also important for the interpretation of the shell drawers.⁴³ Schijnvoet had trained himself thoroughly in the practice of architecture and garden design, and this knowledge was manifest in different ways in his cabinet. His cupboards had a particular architectural appearance. Von Uffenbach noted that they did not assume the usual form, of a cabinet raised up on four legs, but that they were fashioned as the bases and pedestals of columns, with many ornaments ("Füsse und Piedestals von Säulen mit vielen Sierrathen").⁴⁴ He cited the mineral cabinet as the most elaborate example of this, and a print allows us to see what he meant (Figure 5). In place of the customary foot or pedestal, the cupboard section, adorned with ornamental borders, rested on a lower level. Its top, decorated with acanthus foliage, served as a base for a bust of the goddess Tellus (Mother Earth). On the front of the cabinet was an inscription indicating the provenance of the minerals and metals kept in the cabinet, and which now stood at the viewer's disposal for research, wonderment and pleasure. The specific architectural design was also visible in the other cabinets in his collection. Schijnvoet possessed a cabinet containing Roman coins, and this was shaped like a triumphal arch, which he had elaborately designed in accordance with the architectural rules and measurements of the Corinthian order (Figure 6). The arch was decorated with scenes from the life of Julius Caesar. Another cabinet, with medals and coins of Louis XIV, was executed according to the rules of the Dorian order.

Schijnvoet's cabinet with shells was probably conceived in the same manner as his mineral cabinet, although no print is extant. The aforementioned auction catalogue

FIG. 5. Anonymous (Jan Goeree?), The cabinet of minerals from the collection Simon Schijnvoet, engraving from Abraham Bogaert, *S. Schijnvoets muntkabinet der Roomsche keizers en keizerinnen* (Amsterdam, 1695).

FIG. 6. Anonymous (Jan Goeree?), The cabinet of Roman coins from the collection of Simon Schijnvoet, engraving from Abraham Bogaert, *S. Schijnvoets muntkabinet der Roomsche keizers en keizerinnen* (Amsterdam, 1695).

for the shells records that it was gilded and heavily ornamented, “just like the mineral cabinet”.⁴⁵ A second source confirms that the two were much alike. The same type of cabinet appears on the frontispiece of *D’Amboinsche rariteitkamer* (Figure 7). Since Schijnvoet was closely involved with this publication, it is not surprising that one of his good friends, the draughtsman and printmaker Jan Goeree (1670–1731), produced the frontispiece for the book. The print shows an open room with a number

FIG. 7. Jan Goeree (design) and Jacobus de Later (engraving), Frontispiece of G. E. Rumphius, *D'Amboinsche rariteitkamer* (Amsterdam, 1705).

of men studying shells around a table. In the background three cabinets are visible, of which the right and the left have the same particular ‘pedestal’ designs as Schijnvoet’s mineral cabinet. Identical rosettes ornament the cornices, and the acanthus leaves on the headpiece are the same. Grotto-style designs using shells and crustaceans crown the cabinets. The third cabinet, in the centre, differs a little since the headpiece is convex and decorated with garlands. On the headpiece is a round picture with an illegible inscription and above it stands a bust of a crowned woman; both details call the cabinet of minerals to mind. It is very likely that Jan Goeree took Schijnvoet’s cabinet as a source of inspiration while he was designing the frontispiece.

According to a Dutch author on natural history from the second half of the eighteenth century, Schijnvoet made “this taste for cabinets” fashionable.⁴⁶ Even though the drawers were not deep enough, the author thought the overall design of the cupboards so dignified that one was to envisage the contents inside as beautiful as soon as one looked at the outside. Even though no cupboards of this specific ‘pedestal’ type are known to us, Schijnvoet seems to have set a short-lived trend in early eighteenth-century Holland. It is no surprise that Schijnvoet, as a garden architect and a connoisseur of classical architecture, opted for this kind of formal architectural language to add more splendour to his collection.

DECORATIVE ARRANGEMENTS

Von Uffenbach admired the extraordinarily appropriate and elegant order of Schijnvoet’s objects. The collector had used his profound knowledge of architecture for the purposes of ordering his shells. The auction catalogue mentions of the drawers that some “are made with beautiful borders”, the term used being *parterres*, a word derived from the vocabulary of garden architecture and used to denote highly stylized arrangements of flowers and plants.⁴⁷ In his cabinet, Schijnvoet used ordering principles similar to those employed in his garden designs.⁴⁸ This can be demonstrated by a comparison between the shell drawers and the prescriptions of a famous Dutch treatise on gardening, *Den Nederlantsen hovenier* (*The Dutch gardener*, 1669), written by the gardener Jan van der Groen. This book was one of the most popular works on gardening in the seventeenth century and underwent several reprints.⁴⁹ As it is also mentioned in the auction catalogue of Schijnvoet’s books, it is very likely that he had knowledge of this text.⁵⁰ In his introduction, van der Groen noted that although nature often appeared irregular, by means of art she “may be arranged, polished, put in good order, made decorative and pleasing.... All these things may be observed in the pleasure garden, insofar as one makes everything regular, that is, equal on both sides”.⁵¹ He explains how this should be put in practice and lays out the procedure for designing a garden or flowerbed.⁵² First, the gardener should make “a neat well-divided sketch” (and he gives step-by-step instructions, see Figure 8). For a rectangular bed, two straight, diagonal lines are first drawn, joining each corner to its opposite. Next, horizontal and vertical lines are drawn through the centre of the rectangle from the centre of each of the four sides. This very simple basic form serves

FIG. 8. Anonymus, “Maniere om de Bloem-percken of Parterris na de Konst te verdeelen”, two pages from Jan van der Groen, *Den Nederlandsen hovenier* (Amsterdam, 1669).

as the starting point for further infilling of the boundaries using geometrical forms such as rectangles, squares or star-shapes. Alternatively, a wooden stake attached to a cord can be placed in the centre in order to draw various circular shapes. The ways of filling in this fundamental scheme are obviously countless. Following his explanation, van der Groen offers two hundred variations on this scheme, in each of which symmetry and concentric design are the basic principles (Figure 9).⁵³ From the prescriptions offered by van der Groen it is possible to build up a picture of the way in which Schijnvoet fashioned his shell drawers. When Schijnvoet's drawers are compared with the examples of garden beds supplied by van der Groen, the similarities are evident (compare Figures 1 and 10). In the same way as in his gardens, Schijnvoet used mathematical proportion and symmetrical composition as the basic tools to arrange and correct nature, or, to speak with the words of van der Groen, to put irregular nature in good order.

Ordering nature this way did not only fulfil a need for visual pleasure. Van der Groen does not neglect to give a moral account for garden architecture in his predominantly practical treatise. He states that life in the country, apart from being delightful, advantageous and healthy, is also less godless and more blessed because in the herbs, flowers, fruits and trees one will find many reasons to honour, prize and thank the Lord. To emphasize this he cites the Dutch Calvinistic authority Jacob Cats (1577–1660), who described in a poem how Adam was given the task to “build”

FIG. 9. Anonymous, Examples for flowerbeds, engraving from Jan van der Groen, *Den Nederlantsen hovenier* (Amsterdam, 1669).

Paradise, so he could contemplate the might of the Creator in the smallest animals and the most delicate herbs.⁵⁴ Many poems and other writings on Dutch gardens dating from the seventeenth and eighteenth centuries show that these religious thoughts were a leading premise for the literal ordering of nature. The art historian Erik de Jong has studied garden architecture in the Republic of this period, and has noted that the religious element of the experience of nature in the Protestant Republic was an important stimulus for the predilection for this art form. “In the garden art and nature cooperated to create the most perfect result: together they could recreate paradise.”⁵⁵ This assertion is equally applicable to the cabinet of curiosities, another setting in which

FIG. 10. Anonymous, A Dutch and French garden, engraving from Jan van der Groen, *Den Nederlandtsen hovenier* (Amsterdam, 1669).

art and nature came together. Comparable references to paradise are to be found in poems on the cabinets of rarities. One of the friendly visitors to Schijnvoet's cabinet, the apothecary and poet Abraham Bogaert (1663–1727), described how his eyes met “a second paradise” through the natural wonders present in the room. Undoubtedly he had the elegant arrangements of shells in his mind while writing these words. Other collections were also associated with the first state of nature. The publisher François Halma compared Levinus Vincent and his wife Joanna in adorning their collection, with Adam and Eve arranging nature in paradise.⁵⁶ Ordering nature and making it ‘neat’ was to bring it closer to its paradisiacal state.

Symmetry as an ordering principle was one of the most important elements of architecture during the Renaissance and the early modern period. The ideal ratio, which was so central to classical architectural theory, was not merely a means of pleasing the senses; underlying it were numerous presuppositions concerning the structure of the world and the cosmos. Rudolf Wittkower showed in his epoch-making *Architectural principles in the Age of Humanism* (1949) how well-known architects such as Alberti, Palladio, Scamozzi and Serlio searched for harmonious proportions as a means of expressing universal truths. In his influential *De re aedificatoria*, Leon Battista Alberti (1404–72) defined beauty as a design in which the relations between all parts of a composition must agree with the harmonious whole, so that nothing could be changed without disrupting that whole.⁵⁷ This so-called organic geometry was a basic principle of humanistic architectural theory. According to the Renaissance

architects, the beauty of this perfect geometrical equilibrium revealed an absolute value within which the divine could reveal itself. The harmony created by man was a visible reflection of the heavenly and universal harmony that God had implanted into the world, and which was still visible in, for instance, the planetary orbits, the human body, the musical scale, snowflakes and honeybee cells — and, of course, in the shape of the shell.

I am not suggesting that Schijnvoet designed his drawers with such exalted concerns constantly in mind. However, I would argue that fundamental notions about the relation between the works of God and the works of men left their marks in his cabinet. Schijnvoet had a profound knowledge of such architectural views; his library contained all the major works by architects who worked from the principle of organic geometry, such as Vitruvius, Palladio, Scamozzi, Serlio and Vignola. Moreover, a print of Schijnvoet's portrait reveals that he liked to represent himself as an architect in the humanistic tradition (Figure 11). It shows two female figures holding a medallion with his profile: on the left is Architecture, with a pair of compasses, a setsquare and a plumb line, and on the right Wisdom as the goddess Pallas Athena. Schijnvoet used this medallion, with the inscription "Archit& S. Schijnvoet", as an *ex libris*. The picture in front of Architecture's feet shows a domed building which calls to mind the Tempietto de S. Pietro in Montorio in Rome by the great architect Donato Bramante (1444–1514). This small circular temple was considered the most successful realization of the ideals for which Renaissance architects strove.⁵⁸ In this way, Schijnvoet placed himself in the tradition of the great architects of the Renaissance.

The foregoing shows that the "particular inventions of elegant arrangements" of shells, about which von Uffenbach made his complimentary remarks, are not adequately explained by referring to the concept of sensual satisfaction alone. In the mind of the early modern collector, other ideas played a constituting role. By arranging nature in mathematical order, the collector endeavoured to establish a harmonic state, the state in which God had intended nature. Just as Merian's cosmogram expressed it, the drawers were an attempt to "correct", "assist" and "complete" nature with the aid of the human arts.

THE SYSTEMATIC ORDER AND THE SCIENTIFIC ATTITUDE OF SCHIJNVOET

So far, we have gained insight into the harmonious arrangements of the shells in Schijnvoet's collection. Another question that arises is whether there was also a systematic scientific ordering involved. This may not seem likely, but the account of von Uffenbach shows that the question can be answered in the affirmative. The German traveller was not only taken with Schijnvoet's beautiful arrangements, he also appreciated the accurate systematic ordering of the shells according to genus and species, which, he claimed, permitted one to glean from the collection the most accurate, natural history of shells:

It is not only a large and yet very select quantity, but [the objects] are also laid down in all sorts of elegant arrangements, and besides so well according to their

FIG. 11. Anonymous (Jan Goeree?), Pillar with allegorical figures and a portrait of Simon Schijnvoet, engraving from Abraham Bogaert, *S. Schijnvoets muntkabinet der Roomsche keizers en keizerinnen* (Amsterdam, 1695).

generibus and species, that one can learn the most accurate *historiam naturalem Conchyliorum* of it....⁵⁹

Von Uffenbach also added that Schijnvoet's practice stood in contrast to that followed by most collectors, who "commonly heap up and mix together whatever strikes the eye". So the order within Schijnvoet's cabinet fulfilled contemporary standards of the scientific and, according to von Uffenbach, was even strikingly systematic in comparison with the practices of other contemporary collectors.

Is it possible to get a clear view of what von Uffenbach meant with these words? Since Schijnvoet was strongly involved with the publication of Rumphius's book, one might expect that, if interested, he would adopt a classification similar to the one applied in the *D'Amboinsche rariteitkamer*. The systematic order and correct denomination of shells played an important role in this work. Rumphius described 339 species of which 157 were recorded for the first time and his research is considered an important step towards a serious conchology. It is even seen as pre-Linnaean, since his nomenclature influenced the Swedish naturalist, who adopted thirty-two of the names in his own *Systema naturae*.⁶⁰ Rumphius ordered the shells on the basis of graduated differences in form and (to a lesser extent) colour and pattern. He discerned three main orders, whirled univalves, unwhirled univalves, and bivalves, and he discussed the families under these orders in separate chapters. The first order was the most sizeable group — and the most popular among collectors — and contained twelve families; the second and third orders contained two and eight families respectively.⁶¹

If the content of Schijnvoet's shell cabinet, as described in the auction catalogue of 1744, is compared with the system of Rumphius, it becomes clear that the Amsterdam collector did not position his shells at random.⁶² Even though it is hard to orient oneself in the mixture of the Old Dutch shell names used in the catalogue, it is possible to discern some systematic order. Schijnvoet's cabinet comprised two rows of twenty-seven drawers. The left side was reserved for his whirled univalves, while the drawers on the right side contained unwhirled univalves and bivalves, with the exception of three upper drawers, which were reserved for the bigger species, like *Nautilus* and *Turbo* shells, and for shells embellished by the mother-of-pearl artist Cornelis Bellekin. A closer look at the content of the drawers with whirled univalves (drawers 1 to 27) shows that in the majority of them one family was dominant. For instance, the first, second, third, fourth and sixth drawers contained only species of the *Volutae*; this genus made up the eighth family in Rumphius's system (nowadays comprising species of *Conidae*, *Volutidae* and *Harpidae*). Shells of this family were extremely popular among collectors and were named *Krullen* or *Tooten* in Old Dutch. The twelfth, thirteenth and fourteenth drawers held species of the sixth and seventh families of Rumphius, *Buccina* and *Strombi*. The author explains that these two families were closely related and named them together *Turbinata* (nowadays including sorts of the *Mitridae*, *Turridae* and *Terebridae* and *Cerithiidae*). Twelve of the remaining nineteen drawers were also dominated by one family.⁶³ The contents of nine drawers (out of the total of twenty-seven) were mixed (or the names were too vague for the contents to be satisfactorily determined).⁶⁴

In his cabinet, therefore, Schijnvoet tended for the greater part towards an organization of his shells by families, even though the mutual order of the drawers seemed mostly at random. When we compare the data presented in the auction catalogue with the drawers in the Zoological Museum, it seems that in the latter more liberty was taken with regard to the combination of different families. In the first two drawers, families like *Conidae* and *Terebridae* prevail, which made up the eighth and seventh families (*Volutae* and *Strombi*) in Rumphius's system. Nevertheless, these specimens are accompanied by shells from many other families. For instance, the first drawer with *Conidae* (like the black-and-white *Conus marmoreus* and the brown-and-white *Conus generalis*) also includes species as *Terebra maculata* (from the seventh family according to Rumphius) and *Cypreaea caputserpentis* (from the tenth family according to Rumphius). Yet we should note that some species that are remote in modern taxonomies nevertheless belonged to the same family in Rumphius's system: according to the author, the shells of the family *Harpidae* (*Harpa harpa* and *Harpa major*, the light-brownish shells in the outer circle of the upper semicircular and the inner circle of the left semicircular) belonged to the same family as the *Conidae*.⁶⁵ Still, in these drawers too many families are represented to speak of a systematic order, even if we take Rumphius's taxonomy as a point of departure. This poses again the question as to how these drawers relate to Schijnvoet's shell cabinet. Did he make them for another collector? Did he position the shells himself or were his decorative arrangements copied by another collector? These questions are hard to answer, but we may conclude that he combined an elegant arrangement, as represented in the Amsterdam shell drawers, with an ordering into families.

This conclusion does not match the general picture of Schijnvoet in modern literature. His activities in the field of conchology are in general regarded in a poor light. Studies have tended to draw a sharp line between the scientific approach of the empiricist Rumphius and the unscientific approach of the collector Schijnvoet. In his annotated translation of Rumphius's book, E. M. Beekman has recently criticized Schijnvoet's "interference". According to Beekman, the collector's additions have little value, and must be seen as a mere excuse to exhibit his intimacy with other collectors.⁶⁶ Beekman apologises for the fact that he was forced to include Schijnvoet's commentaries "no matter how irritating or irrelevant" because, over time, they became an integral part of the text.⁶⁷ In *A history of shell collecting* Peter Dance asserts that Schijnvoet, "to his lasting discredit", added a lot of irrelevant details and unnecessary figures to *D'Amboinsche rariteitkamer*.⁶⁸ Furthermore, Dance suspects that the chapter dealing with the preparation and embellishment of shells was written by Schijnvoet, on the grounds that Rumphius "was not the man to waste precious hours rubbing shells till they shone".⁶⁹ Ernst Ullman, in his monograph on the watercolours of Maria Sibylla Merian, argues that Schijnvoet, in adding pictures of shells from other parts of the world, failed to comprehend Rumphius's intentions. According to Ullman, Rumphius's goal was to describe the fauna of a specific geographical area, while Schijnvoet's main objective was to display spectacular collectors' items.⁷⁰

These opinions are hard to reconcile with the positive remarks of von Uffenbach

and other contemporaries. The German visitor called him one of the “grössten und curiösten Kenner von Natralien” and, in contrast to the modern authors, he mentioned his work for *D’Amboinsche rariteitkamer* as proof of this knowledge. The erudite scholar knew what he was talking about, because during his travels he had seen many collections and he was never afraid to criticize when he did not like what he saw or what he heard. In the same manner Schijnvoet was praised by François Valentijn (1656–1727), a preacher who stayed several years in Ambon in service of the East India Company. In his book about the East Indies he gave a survey of Dutch shell collectors and he mentioned Schijnvoet as a connoisseur of shells, who by his diligence and assiduous research brought Rumphius’s book into the state of perfection.⁷¹ It is probable that Beekman, Dance and Ullman have read the historical source an overly-modern perspective, and have thus not evaluated the original aims of both Rumphius and Schijnvoet. That Rumphius wanted his work to be of use for the collector is demonstrated by his dedication to the Delft mayor and shell collector Hendrik d’Acquet (1632–1706). Here Rumphius asserted that both in the Indies and in Europe, shells bore many different names “so that even the *Liefhebbers* [enthusiasts] sometimes cannot understand one another”. With his work he hoped to resolve this problem, up to a point.⁷² The chapter criticized by Dance was actually written by Rumphius and not by Schijnvoet, for Halma, the publisher of *D’Amboinsche rariteitkamer*, commented in his preface that he had printed the assistant bailiff’s additions in a different type-face, and this is not the case for the chapter in question. So it was actually Rumphius himself who instructed the collector on how to gather and clean his shells, and exhorted him to put new shells in a basin with seawater for two days in order to preserve them well, to file their rough edges, and to dip shells in water once or twice a year to keep their colours fine.⁷³ Rumphius did not write a purely scientific treatise in the modern sense of the word, but aimed his texts at the collectors in Europe.

On the other hand, Schijnvoet’s additions demonstrate that his interest goes further than merely possessing beautiful shells. For instance, for an addendum to Rumphius’s text, he sawed a nautilus shell in half in order to count the number of chambers within. In a footnote, he expresses his amazement at their large number and the fact that they were all filled with fish. He added a drawing of this cross-section and of the living animal within “the more to satisfy the *Liefhebbers*”.⁷⁴ At present these drawings are kept in a binding along with the original drawings for *D’Amboinsche rariteitkamer* in the Royal Library in The Hague (Figure 12). The provenance of this album is not known, nor is it known who cut out the drawings and glued them on the pages. In the auction catalogue of Schijnvoet’s collection of prints and drawings a book is offered as: “A ditto [an art book] with all sorts of shells, crustaceans, minerals and stones depicted in *De Amboinsche Rareteykamer*; drawn after life very neatly, consisting of 565 pieces.”⁷⁵ This number corresponds (to within 1) to the number of drawings in the album of the Royal Library. Possibly Schijnvoet received the remaining drawings that were made on Ambon and pasted them together in an album along with the drawings he had made in the Netherlands.

FIG. 12. Anonymous, A nautilus shell, a cross section of a nautilus shell, the animal living inside the shell, and different shells, drawing in pen and brush in grey from *Dessins originaux des raretes d'Amboine par G.E; Rumphius* (late 17th- or early 18th-century manuscript, Royal Library, The Hague).

Schijnvoet's interest in systematics is also shown by his strong opinions about the correct classification of shells. In three instances, he made additional comments about Rumphius's classification and elected to place a described species under a different family.⁷⁶ However, he made only brief remarks about this in his footnotes and took care to follow the author's own classification in the illustrations. Schijnvoet's procedural method can also be deduced from his depiction of shells from different parts of the world, which has been criticized by Ullman and Dance. The assistant bailiff offered a succinct explanation: the shells had not been collected by Rumphius himself, but Schijnvoet had allowed himself to depict them anyway, again in order to serve the connoisseurs.⁷⁷ He even added that he could have had many more specimens illustrated, but had chosen not to do so out of respect for the author. Throughout the book as a whole, Schijnvoet generally distinguished in his footnotes between illustrations taken from shells in various Dutch cabinets, and those based upon the drawings made by Rumphius. Instead of exhibiting his intimacy with other collectors, this might equally well be considered as a way to make the illustrations verifiable and to bring honour to the collectors who had assisted Schijnvoet. In my view, all these measures show that Schijnvoet took care to do justice to the original text by Rumphius.

From a reading of the original text and the footnotes, we may conclude that the aims of Schijnvoet and Rumphius were not as far apart as Beekman, Dance and Ullman suggest. Certainly both had 'scientific' aspirations for their enterprise, but these should be measured by the standards of the early eighteenth century, which were still largely dominated by the wishes of the European enthusiast. That Rumphius restricted himself to a precise description of shells from the East Indies can be explained by the simple fact that he lived on the island of Ambon. For him it was simply impossible (or at least more difficult) to describe shells from other parts from the world, but this is not to say that he would not have done so had he been in a different situation. From the foreword to his book, it is evident that the work was written with an eye to the collector. In just the same way, Schijnvoet sought to serve the *Liefhebber* with his contribution.

THE RELIGIOUS THEME

Schijnvoet's collection united a particularly elegant arrangement with an accurate systematic ordering. It is striking that von Uffenbach comments positively about both modes of ordering in the same breath. Evidently, formal standards of beauty and scientific systematics were not mutually exclusive at the beginning of the eighteenth century. This poses the question as to what was the relation between the two ordering principles. With hindsight there seems to be a tension between the two, but was this also the case in the experience of the collector himself? It is possible to answer this question by turning to one of the most important contemporary treatises on collecting, the *Unvorgreiffliches Bedencken von Kunst- und Naturalien-Kammern insgemein* (1674) of Johann Daniel Major (1636–93).⁷⁸ This short treatise appeared as an appendix in Michael Bernhard Valentini's *Museum museum* (1704) and in

this edition it was numbered among the books of Schijnvoet's library.⁷⁹ Schijnvoet seems to have been the only collector in Amsterdam in possession of this book, but the reflections on collecting expressed by Major would certainly have appealed to more collectors in the Republic, especially those of a Protestant persuasion.⁸⁰ Major was a medical professor and founder of the Museum Cimbricum in the German city of Kiel, and is regarded as one of the founders of German museology. His treatise was a guide for setting up and maintaining a collection and in his directions he put much weight on the correct order of the collection. He made it clear that a collector should not place all sorts of precious things next to each other, nor should he put them in alphabetical order. According to the author, the collector must take notice of two main principles for a good arrangement: he should take care that everything is set out with splendour and lustre, but at the same time he should pay heed to the natural order of the objects, as dictated by sound philosophy.⁸¹ Only when the conditions of external splendour (*eusserlichem Splendor*) and good physical order (*gutter Physicalischer Ordnung*) are fulfilled will the collection have a positive impact on the mind of the beholder. It seems that Schijnvoet worked according to these principles while composing his shells.

In his writings Major also dealt with the theoretical justification for collecting. He argued that no other science offered so much satisfaction as the knowledge of the objects of nature; the longing for these objects was innate to mankind. Science had no goal in itself but took its nature and origin from a supernatural source and a higher divine power.⁸² The goal of human enquiry was the better knowledge of God, and the author distinguished here between two types of divine knowledge: the study of God's word and the enquiry into his Creation. Major explained this human love of nature evocatively by appealing to the story of Genesis. In the beginning, God created everything in a perfect state. In paradise, Adam, in a highly blessed state, acquired knowledge of the things of nature for the first time and trained himself in the sacred contemplation of God's wonders. But through the awful error of the Fall the "first philosopher" lost his blessed state.⁸³ To express the consequences of this event Major turned to "Adam's brain" as a metaphor. Adam noted down many beautiful and splendid things on the "table of his brain" ("Taffel seines Gehirns") but with the advent of original sin it was wiped clean. According to Major, men today were striving to note down new things on the *tabula rasa*, and in this way to regain the mental state of mankind before the Fall.⁸⁴

Major's explanation for collecting demonstrates how enquiry into nature could bridge the time that had elapsed between paradise and the present. From this it was possible to relate the systematic orders of shells to their elegant arrangements. For both ordering principles, the realization of an idealized state seemed to play a crucial role. In architectural design, this occurred by means of the enhancement of nature, achieved by imposing clear geometrical relations upon her. In natural history, it was achieved through the process of systematic ordering into species and genus. The first improved the state of nature, the second the state of man. In this way, the collector had different means at his disposal to make the inner order of the divine

Creation visible.

Religious concerns as expressed by Major were certainly widespread among collectors in the Dutch Republic. Considering nature as a second book in which one could learn about God was in fact a common attitude among the Protestant part of the population. The second article of the doctrinally official Dutch Confession of Faith⁸⁵ — which every good Protestant had to know by heart — stated that people, apart from reading the Scriptures, could also learn about God through studying nature: “The whole world is before our eyes as a beautiful book, in which all created things, large or small, are as letters showing the invisible things of God.”⁸⁶ It has been noted that this Calvinistic attitude towards nature was an important stimulus for the Dutch predilection for empirical natural research,⁸⁷ garden architecture,⁸⁸ landscape prints⁸⁹ and landscape paintings.⁹⁰ Indeed, it was also a vital spur for collecting *naturalia*. In the prefaces of catalogues and in the poems written on cabinets, the reader was constantly reminded of the fact that within these walls the beholder could convince himself of the omnipotence of the Creator. These reflections depended on a strong Protestant tradition and can for instance be traced back to the writings of Calvin,⁹¹ but this does not mean that we should regard them as commonplaces. On the contrary, references to the might of the Creator were contemporary and vigorous in the time that Schijnvoet and his fellow collectors were active; a time marked by the fear of atheism and Spinozism.⁹² Debates about the relation between God and nature coloured and reinforced the religious reflections on collections. In their writings, collectors and their visitors frequently aimed at the atheists and Spinozists, who inspired so much terror into the hearts of devout Protestants. For instance, Abraham Bogaert expressed in his poem for Schijnvoet how the precious stones and minerals in his friend’s cabinet would strengthen the beholder in his faith and strike the Spinozist as lightning.⁹³ Levinus Vincent confided in the preface of his catalogue that he noticed that the objects in his collection had a positive effect on the heart of his visitors, while they gave the “irrational and godless” reason to honour and recognize the Creator.⁹⁴ The collector Christoffel Beudeker described evocatively in his long poem, *De sprekende konstkamer* (*The speaking art chamber*), how his collection of shells gave eloquent testimony to the might of the Creator. On the basis of the fragile and elegant Precious Wentletrap (*Epitonium scalare*), he summoned the atheist to stand still before his cupboard, and to ask himself what other being than God could be responsible for such a beautiful “work of art”.⁹⁵ According to these collectors the *naturalia* inside their houses proved to the attentive observer the necessity of a wise being who created everything with divine wisdom and continued to govern everything as a sovereign monarch.

That the natural objects in the private collections served a theological purpose is confirmed by another source. In 1715 the physician and regent Bernard Nieuwentijt, the fiercest combatant of Spinozism in the Dutch republic, published *Het regt gebruik der wereltbeschouwingen ter overtuiging van ongodisten en ongelovigen* (*The right use of the worldviews for convincing atheists and unbelievers*). In this book, which became extremely popular in the eighteenth century and was reprinted eight times,

Nieuwentijt discussed all facets of the universe with one goal: to convince the atheist of his erroneous insights and to show God's omnipotence and providence in his Creation. In his apologia, he refers conveniently to the cabinets, which were so numerous in the Republic. In his chapter about animals, the author declares that it is not necessary to dwell on the "enchanting structure" of shells, caterpillars, butterflies, beetles and other small animals, because one can find them in the lavishly filled cabinets of distinguished gentlemen, who divert themselves with the astonishing works of God, and whose cabinets were put together with praiseworthy labour and costs.⁹⁶ The collections played a substantial role in the battle against atheism.

THE ELEMENT OF FIRE

Presenting nature tidily was honouring the Creator. Not only did the elegant arrangements of Schijnvoet's shells allude to the underlying harmonic order of the universe, but also the overall order that he imposed on his collection. Von Uffenbach records that the collector had divided his curiosities "sinnreich" according to the four elements: the shells stood for water, the minerals for earth, the insects for air, and the coins and art objects for fire.⁹⁷ It is not likely that Schijnvoet saw the elements as a suitable explanatory model for the workings of nature. His mineral cabinet harboured an object that proved the invalidity of this doctrine. The catalogue mentions "Water turned into stone, by the famous Boile ..."⁹⁸ This object was recorded as a result of one of Robert Boyle's experiments in which he showed the classic doctrine to be untenable. He demonstrated that one Aristotelian element could bring forth another element and thus redefined the term 'element' from a basic principle into an analytical instrument.⁹⁹ Even though it is questionable whether this stone truly originated from the laboratory of Boyle, it shows that Schijnvoet had some awareness of these proofs and of the accompanying scientific insights. The scheme of the four elements functioned until the nineteenth century as a tool for a thematic and evocative ordering of the diversity of experiences in the world, and in this way it was also applied in Schijnvoet's collection.¹⁰⁰ With this main classification he tried to construct a representation of the world as a well-balanced and ordered system.

For the purpose of this article, Schijnvoet's description of the element of fire is particularly interesting, because it enlightens us on his conception of the human arts. He told von Uffenbach that the *artificialia* within his collection represented the element fire, because these objects were not only made with the aid of fire, but also stemmed from the spirit and fire of human beings. He referred not only to the modification of raw materials by means of fire, but also to the intellectual capacities of people, which made processing and the cultivation of nature possible. Thus Schijnvoet placed the human crafting of natural products within the thematic scheme of the four elements, emphasizing that *artificialia* were actually *naturalia* to which the human spirit was added. In Merian's print, fire, which in the Aristotelian hierarchy counted as the highest of the elements, was the liminal substance between earthly materials and the planetary and celestial spheres. Fire, always striving upwards, was

FIG. 13. Anonymous, Detail from frontispiece of *S. Schijnvoeds stamboek*, coloured engraving (late 17th- or early 18th-century manuscript, Rijksprentenkabinet, Rijksmuseum, Amsterdam).

the element closest to the heavenly realms, and for this reason the human intellect, a gift from God to distinguish people from animals and plants, was comparable with this element. Thanks to this gift, man was in a position to gain knowledge of nature, and to order, transform and improve her. It was the fire burning in Schijnvoet's veins, as a friend wrote, that activated his intellect and made nature open her book of treasures and made the grandest arts pave the way.¹⁰¹

That Schijnvoet's discussion of the element of fire ought not to be seen as an incidental metaphor, but rather as a motto for life, is clear from the Latinized form of his surname: *SPLENDOR ALIT*, which translates as *Schijn voedt*, "Splendor nourishes". His personal emblem illustrates the meaning of this phrase (Figure 13). It shows a large sun pouring out its rays upon a beautifully-arranged garden, ornamented with statues and architectural elements. Even though the natural light of the sun is emphasized

in this emblem, it is clear that the nature depicted is firmly governed by the human hand; it was nature as it was intended to be. Schijnvoet used his own name as a metaphor for the nourishing and forming light of nature, but alluded in his emblem also to the light in man, which further perfected nature through the medium of his artistic powers, governed by his intellect.

These thoughts likewise lay behind the shell drawers from the Zoological Museum in Amsterdam. More than all others, shells were objects by means of which the artistic properties of God's Creation were displayed. Thanks to their enormous diversity of elegant shapes and colours, they exercised a great attraction for man. As *naturalia* they bordered closely upon the *artificialia*. This effect could even be enhanced by filing, cleaning and polishing them, as Rumphius had prescribed. Schijnvoet approached the original beauty of God's Creation even more closely by arranging them in elegant symmetrical compositions and placing them according to the systematic that God himself had laid down in his Creation. In the drawers he achieved an exquisite balance between the boundless variety of nature, the austere symmetry of the mathematical composition, and the lucid organization by species. They revealed how man, thanks to his *artes*, was in a position to bring nature into a more nearly ideal state and was able to bring unity in nature's complexity.

In this case study I have illustrated how the various rationales for collecting, cited earlier, interacted in a complex and entangled way. Searching for the basic principles of the different modes of ordering and their intrinsic connection, I have endeavoured to go further than merely questioning the aesthetic or scientific value of the shell drawers. The apparatus that modern disciplinary divisions still tend to impose upon us, might lead us away from the binding factors within the collections of the past. From a later perspective it is possible to presume that the 'scientific' systematic ordering over time infiltrated the 'unscientific' elegant arrangements, but I believe such views would have been alien to Schijnvoet and many of his fellow collectors. To them the types of ordering systems were two sides of the same coin. The drawers show how a sense of beauty, knowledge of nature and religious contemplation blended together in a common venture. A poem composed on the subject of Schijnvoet's collection demonstrates this beyond all doubt. In the words of the famous pastoral poet Jan Baptista Wellekens (1658–1726), a visitor to the cabinet:

Traces back his steps, and how he founded all;
and wisely arranged it by measure, number and weight;
Thus is the Creator praised through his wonders.¹⁰²

REFERENCES

1. The size of the drawers is 54 × 43 × 10 cm. They have no inventory number. The largest number come from the East Indies, but there are some specimens from the West Indies and the Mediterranean. See the exhibition catalogue published under the auspices of the Amsterdam Historisch Museum: Ellinoor Bergvelt and Renée Kistemaker (eds), *De wereld binnen handbereik: Catalogus* (Zwolle, 1992), 36.
2. The Dutch term for a cabinet of curiosities is *rariteitenkabinet*. The meaning of this word is threefold:

it refers to (1) the room in which the collection was kept, (2) the cupboard in which the objects were kept, and (3) the collection as a whole.

3. Zacharias Conrad von Uffenbach, *Merkwürdige Reisen durch Niedersachsen, Holland und Engelland III* (Ulm, 1754), 534–693. Von Uffenbach's travel journal shows how difficult it is to give an exact definition of a collector or a collection. In his accounts it is often hard to make a clear distinction between the merchandise of a shop, the decoration of a room, or a 'real' collection in the sense of a room filled with intentional collected items. In the case of von Uffenbach, I have taken a broad approach, i.e. a group of objects in a room, which attracted his special attention.
4. Von Uffenbach, *Merkwürdige Reisen* (ref. 3), 630–9.
5. Von Uffenbach, *Merkwürdige Reisen* (ref. 3), 621–5.
6. Von Uffenbach, *Merkwürdige Reisen* (ref. 3), 648–51. The identity of this woman is not exactly clear. Probably it is Petronella Oortmans (1654–1728), married to Abraham du Pré. Her mother, Petronella de la Court (1624–1707), owned an extensive collection and a famous doll's house. This collection passed probably to her daughter, who was named after her.
7. Von Uffenbach, *Merkwürdige Reisen* (ref. 3), 609–10.
8. Exceptions to this were the collection of Stadholder Fredrick Henry and his wife Amalia van Solms, which had some royal grandeur, and the collection of John Maurice of Nassau-Siegen, who after his eight-year stay in Brazil kept in his mansion house in The Hague a considerable collection of *exotica* from these regions.
9. On Dutch commerce and overseas expansion, see Jonathan Israel, *Dutch primacy in world trade, 1585–1740* (Oxford, 1989), and Charles Boxer, *The Dutch seaborne empire, 1600–1800* (London, 1965). For a discussion of the relation between commerce and cultural activities in the Dutch Republic (such as illustrations of natural history) see David Freedberg, "Science, commerce, and art: Neglected topics at the junction of history and art history", in David Freedberg and Jan de Vries (eds), *Art in history/History in art: Studies in seventeenth-century Dutch culture* (Santa Monica, 1991), 377–428.
10. On learned societies and popularization of the sciences in the Netherlands, see Klaas van Berkel, Albert van Helden and Lodewijk Palm, *A history of science in the Netherlands* (Leiden, Boston and Cologne, 1999), 76–88; Wijnand Mijnhardt, *Tot heil van 't menschedom: Culturele genootschappen in Nederland, 1750–1815* (Amsterdam, 1987); *idem*, "The Dutch Enlightenment: Humanism, nationalism and decline", in Margaret Jacob and Wijnand Mijnhardt, *The Dutch Republic in the eighteenth century: Decline, enlightenment, and revolution* (Ithaca and London, 1992), 197–223; Lissa Roberts, "Going Dutch: Situating science in the Dutch Enlightenment", in William Clark, Jan Golinski and Simon Schaffer (eds), *The sciences in enlightened Europe* (Chicago, 1999), 350–88.
11. The historian Jaap van der Veen studied ninety collections in Amsterdam from the period 1585–1735. Sixty-seven of these contained *naturalia*, of which sixty-two included shells. See Ellinoor Bergvelt and Renée Kistemaker (eds), *De wereld binnen handbereik* (Zwolle, 1992), 233. For the special preference for shells in the Republic, see Henry E. Coomans, "Conchology before Linnaeus", in Oliver Impey and Arthur MacGregor (eds), *The origins of museums* (Oxford, 1985), 188–92, and S. Peter Dance, *A history of shell collecting* (Leiden, 1986), 26–29.
12. All these prints are reproduced in: Irmgard Müsch, Rainer Willman, Jes Rust, *Albertus Seba: Cabinet of natural curiosities* (Cologne, 2001).
13. See Hendrik Engel, "The life of Albert Seba", *Svenska Linné-sällskapets arsskrift*, xx (1937), 75–100.
14. See John Michael Montias, "Book review: De wereld binnen handbereik: Nederlands kunst- en rareitenverzamelingen, 1585–1735", *Simiolis*, xxii (1993), 99–105. Montias pointed out that from seventy-nine of the ninety collectors studied by Jaap van der Veen (see ref. 11), the religious signature was known. Within this group there were only four collectors of a Catholic conviction,

- and only two of these possessed some natural objects. This is significantly less than the estimated Catholic population in Amsterdam: c. 25%. From sixty-three collectors who possessed natural objects, forty-five were Reformed, six Lutheran and nine Mennonite.
15. For introductions on Dutch collections of this period in English, see Th. H. Lunsingh Scheurleer, "Early Dutch cabinets of curiosities", in Oliver Impey and Arthur MacGregor (eds), *The origins of museums* (Oxford, 1985), 115–20; Roelof van Gelder and Jaap van der Veen, "Collecting in the time of Rembrandt: Art and curiosa in the seventeenth century", in Bob van den Boogert (ed.), *Rembrandt's treasures* (Zwolle, 1999), 11–31, and E. M. Beekman (transl.), *The Ambonese curiosity cabinet/Georg Everhard Rumphius* (New Haven and London, 1999), pp. civ–cxi.
 16. R. W. Scheller, "Rembrandt en de encyclopedische verzameling", *Oud Holland*, lxxxiv (1969), 81–147, and Lunsing Scheurleer, "Early Dutch cabinets" (ref. 15).
 17. Examples of important studies of the search for theoretical backgrounds and underpinning structures of divers collections in Europe are: Elisabeth Scheicher, *Die Kunst- und Wunderkammern der Habsburger* (Vienna, 1979); Krzysztof Pomian, *Collectors and curiosities: Paris and Venice, 1500–1800* (Cambridge, 1987; first published in French in 1987); Debora Meijers, *Kunst als Natuur: Die Habsburger Gemäldegalerie in Wien um 1780* (Vienna and Milan, 1995; first published in Dutch in 1991); Eileen Hooper-Greenhill, *Museums and the shaping of knowledge* (London, 1992); Guiseppe Olmi, *L'inventario del mondo* (Bologna, 1992); Horst Bredekamp, *Antikensehnsucht und Maschinenglauben* (Berlin, 1993); and Paula Findlen, *Possessing nature: Museums, collecting, and scientific culture in early modern Italy* (Berkeley, 1994). The essays in Oliver Impey and Arthur MacGregor (eds), *The origins of museums* (Oxford, 1985), and Andreas Grote (ed.), *Macrocosmos in Microcosmo: Die Welt in der Stube* (Opladen, 1994), offer a multitude of case studies. For discussions of (the major part of) the above-mentioned literature, see Lorraine Daston, "The factual sensibility", *Isis*, lxxix (1988), 452–70, and Ingo Herklotz, "Forschungsberichte: Neue Literatur zur Sammlungsgeschichte", *Kunstchronik*, xlvii (1994), 117–35.
 18. Giuseppe Olmi, "Science–honour–metaphor: Italian cabinets of the sixteenth and seventeenth centuries", in Impey and MacGregor, *Origins* (ref. 11), 5–16, pp. 13 and 15.
 19. See for instance Pomian, *Collectors* (ref. 17), 53–60.
 20. Daston, "Factual sensibility" (ref. 17).
 21. For studies in search for less evident explanations for the arrangements of collections, see Bredekamp, *Antikensehnsucht* (ref. 17), Hooper-Greenhill, *Museums* (ref. 17); Meijers, *Kunst als Natur* (ref. 17); and Scheicher, *Kunst- und Wunderkammern* (ref. 17).
 22. Edward William Tayler, *Nature and art in Renaissance literature* (New York and London, 1964), 21, 2–3.
 23. On the relation between nature and art in the early modern period see Tayler, *Nature and art* (ref. 22), and Lorraine Daston and Katherine Park, *Wonders and the order of nature, 1150–1750* (New York, 1998), chap. 7.
 24. Daston and Park, *Wonders* (ref. 23), 264–5.
 25. Scheicher, *Kunst- und Wunderkammern* (ref. 17), 12: "Art bedeutet demnach hier Kunstfertigkeit im Sinne der Beherrschung einer Wissenschaft, durch die der Mensch imstande ist, ordnend und korrigierend in die Natur einzugreifen."
 26. Scheicher, *Kunst- und Wunderkammern* (ref. 17), 12. This print was discussed before by Tayler, *Nature and art* (ref. 22), 2, and was reproduced in Bredekamp, *Antikensehnsucht* (ref. 17), 69. The print, titled *Integrae naturae speculum artisque imago* (*Mirror of the whole of nature and image of the arts*), was made to illustrate the book of the English natural philosopher Robert Fludd: *Utriusque cosmi majoris historia* (Oppenheim, 1617).
 27. Roelof van Gelder, "De wereld binnen handbereik", in Bergvelt and Kistemaker (eds), *Wereld* (ref. 11), 15–38, pp. 34–36.

28. Roelof van Gelder, "Noordnederlandse verzamelingen in de zeventiende eeuw", in Ellinoor Bergvelt, Debora Meijers and Mieke Rijnders (eds), *Verzamelen* (Heerlen, 1993), 123–44, pp. 138–9. Van Gelder substitutes the Dutch expression "zintuiglijk plezier" for his earlier "esthetische beleving".
29. Steven Shapin and Simon Schaffer, *Leviathan and the air-pump* (Princeton, 1985). For a thorough discussion of recent and classic literature on the history of sciences see the "Bibliographic essay", in Steven Shapin, *The scientific revolution* (Chicago and London, 1996), 167–211.
30. Bergvelt and Kistemaker, *Wereld* (ref. 11), 5–6. Other topics covered were: the supply of objects, art and curiosities in the interior and the visitors of the collections. Only the contributions of Jan van der Waals (about the world view of the Dutch collector), Klaas van Berkel (about collections of natural objects), and Jaap van der Veen (about the social and cultural backgrounds of ninety collectors in Amsterdam) venture a broader approach.
31. Van Gelder and van der Veen, *Rembrandt's treasures* (ref. 15), 31: "Comparing nature to art was commonplace, and it recurs time and time again in panegyrics to collections and in the prefaces to catalogues. The same can be said of the awe in which people held the Creator..."
32. Stephanus Blankaart, *Schouburg der rupsen, wormen, maden en vliegende dierkens* (Amsterdam, 1668), fol. 3 verso, 11–12, 44–45.
33. In 1717 Schijnvoet designed a frontispiece for Merian's *Der rupsen begin, voedzel en wonderbaare verandering* (Amsterdam, 1717). In 1719, two years after the death of Merian, he urged the publisher Johan Oosterwijk to publish a second, revised edition (according to Merian's own intentions) of her famous book about Surinam insects *Metamorphosis insectorum Surinamensium* (Amsterdam, 1719). See the preface of the publisher in this edition. In Merian's own preface of the edition from 1705 she asserts that she was encouraged in her work by several "liefhebbers". Possibly Schijnvoet was one of them.
34. Two letters of these scholars, addressed to Schijnvoet, are kept in the library of the University of Leiden, signatures BPL 885 and LTK 993.
35. François Halma in Georg Everhard Rumphius, *D'Amboinsche rareitkamer* (Amsterdam, 1705), fol. ** 3 verso and fol. ** 4 recto.
36. Von Uffenbach, *Merkwürdige Reisen* (ref. 3), 670.
37. Jan van der Waals, *De prentschat van Michiel Hinloopen* (The Hague, 1988), 9–10.
38. Schijnvoet published a collection of two thousand moralizing aphorisms entitled *Kortbondige Zinspreuken en Zeedelessen* (Amsterdam, 1689). One of his plays was published posthumously: Simon Schijnvoet, *De kistkruiper, of bedrooge vrijer* (Amsterdam, 1776).
39. Ground plans of these gardens are kept in the *Atlas Beudeker* in the British Library, London, print room C.9.e.9, folio 69 verso (Soelen) and C.9.e.11, folio 48 recto (Petersburg). On Schijnvoet's garden architecture, see A. G. Bienfait, *Oude Hollandsche Tuinen* (The Hague, 1943), 167–9, 172–5; Erik de Jong, *Natuur en Kunst* (Amsterdam, 1993), 56, 163, 170, 171, 173–6, 184; W. Kuypers, "Schijnvoets 'nette schets' van Christoffel Beudekers lustplaats Soelen teruggevonden", *Bulletin van de Koninklijke Nederlandse Oudheidkundige Bond*, lxxvi (1977), 1–8; and Jola Meijer, "De buitenplaats Petersburg, een ontwerp van Simon Schijnvoet", *Bulletin van de Koninklijke Nederlandse Oudheidkundige Bond*, xcv (1996), 203–13.
40. Von Uffenbach, *Merkwürdige Reisen* (ref. 3), 671–2.
41. *Catalogus van het wytvermaarde en zeer uitmuntende kabinet van allerhande soorten der raarste hoorens, schelpen en zeegewassen ... nagelaten zyn door ... Simon Schijnvoet* (auction catalogue, 26 August 1744, Amsterdam), fol. 4 recto: "alle de laeden zyn met wit Armosyn gevoert, sommige met fraaye Parterres gemaekt, waar in ider Hoortje op zig zelfs legt, rontsomme met blauw geschilderde Lysjes, so dat dezelve niet onder elkanderen vallen."
42. Von Uffenbach, *Merkwürdige Reisen* (ref. 3), 671.
43. For a full description of Schijnvoet's cabinet of curiosities, see Bert van de Roemer, "De geschikte

- natuur" (dissertation, University of Amsterdam, in preparation).
44. Von Uffenbach, *Merkwürdige Reisen* (ref. 3), 669.
 45. *Catalogus ... schelpen ... Simon Schijnvoet* (ref. 41), fol. 4 recto.
 46. See Johannes le Franq van Berkheij, *Natuurlyke Historie van Holland II.2* (Amsterdam, 1771), 1196–7.
 47. *Catalogus ... schelpen ... Simon Schijnvoet* (ref. 41), fol. 4 recto.
 48. See for the relation between gardens and cabinets: John Dixon Hunt, "Curiosities to adorn cabinets and gardens", in Impey and MacGregor (eds), *Origins* (ref. 11), 193–203.
 49. On this treatise see Erik de Jong, "For profit and ornament: The function and meaning of Dutch garden art in the period of William and Mary, 1650–1702", in John Dixon Hunt (ed.), *The Dutch garden in the seventeenth century* (Washington, D.C., 1990), 13–48.
 50. *Een versameling van veele keurlyke boeken ... naagelaten door Simon Schynvoet* (auction catalogue, 2 February 1728, Amsterdam), 174.
 51. Jan van der Groen, *Den Nederlandtsen Hovenier* (Amsterdam, 1669), fol. B1 verso.
 52. Van der Groen, *Hovenier* (ref. 51), 42–47.
 53. Van der Groen, *Hovenier* (ref. 51), 48–71.
 54. Van der Groen, *Hovenier* (ref. 51), B2 recto.
 55. De Jong, *Natuur en Kunst* (ref. 39), 38.
 56. Abraham Bogaert, *De gedichten van Abraham Bogaert* (Amsterdam, 1723), 387–8; Levinus Vincent, *Korte beschryving van den inhoud der cabinetten* (The Hague, 1727), 20.
 57. Rudolf Wittkower, *Architectural principles in the Age of Humanism* (London and New York, 1988; first publ. in 1949), 18.
 58. Wittkower, *Architectural principles* (ref. 57), 32–34.
 59. "Es ist deren nicht nur eine sehr grosse und dennoch auserlesene Menge, sodern sie sind auch zierlich in allerhand Arten von Eintheilungen, und dabey nach ihren *generibus* und *speciebus* so wohl gelegt, dass man die accurateste *historiam naturalem Conchyliorum* daraus erlernen kan..", von Uffenbach, *Merkwürdige Reisen* (ref. 3), 669.
 60. About the taxonomical work of Rumphius see E. von Martens, "Die Mollusken (Conchylien) und die übrigen wirbellosen Thiere im Rumpf's Raritätskammer", in M. Greshoff and J. E. Heeres (eds), *Rumphius Gedenkboek* (Haarlem, 1902), 109–36, and Dance, *History of shell collecting* (ref. 11), 26–29.
 61. Shells of the first order are discussed in chaps. 1 to 25, of the second order in 26 and 27, and of the third order in 28 and 30 to 37.
 62. In Appendix 3 of my dissertation, "De geschikte natuur" (ref. 43), I give a more detailed record of this research. It is hazardous to put the actual content of a collection on a par with the description of this collection in an auction catalogue. Nevertheless in this particular case, I think it is quite safe to do so, because the preface of the catalogue of Schijnvoet's mineral cabinet (which was published in a pair with the catalogue of the shell cabinet) reports that these printed catalogues were made after the handwritten inventory of the owner himself.
 63. The 5th drawer contained species of *Cochlea Globosae*, the fifth family according to Rumphius; the 7th, 9th and 15th drawers contained species of *Cochlea Lunar*is and *Trochus*, both belonging to the second family according to Rumphius; the 11th contained species of *Cochlea Valvatae*, the first subfamily of the third family according to Rumphius; the 16th mostly contained *Murices* and some *Turbinata*, the fourth and sixth family respectively according to Rumphius; the 17th contained *Murices* and *Cassides*, both categorized under the fourth family by Rumphius; the 18th contained *Strombidae*, the ninth family according to Rumphius; the 21st contained *Porcellanae*, the tenth family according to Rumphius; the 23rd contained species of *Cochlea Globosae*, the fifth family according to Rumphius; the 24th contained species of *Cassides Leaves*, the third

- division of the fourth family according to Rumphius; while the drawer contained *Strombidae*, the ninth family according to Rumphius.
64. These are drawers nos 7, 8, 10, 15, 19, 20, 22, 25 and 27.
 65. Rumphius described the *Harpidae*, the *Voluta marmorata* (*Conus marmoreus*) and the *Voluta fasciata* (*Conus generalis*) as the eighth, ninth and seventeenth species of the eighth family. See Rumphius, *Amboinsche Rariteitkamer* (ref. 35), 104–6. I would like to thank Rob Moolenbeek of the Zoological Museum for helping me with the identification of the shells.
 66. Beekman, *Ambonese curiosity cabinet* (ref. 15), p. xc. Beekman assumes that Schijnvoet was a “living patron” of Halma, but this is not probable. In the early years of the eighteenth century Schijnvoet was not in the position to give commissions, but rather to receive them.
 67. Beekman, *Ambonese curiosity cabinet* (ref. 15), p. cxii.
 68. Dance, *History of shell collecting* (ref. 11), 31.
 69. Dance, *History of shell collecting* (ref. 11), 54.
 70. Ernst Ullmann, *Maria Sybilla Merian* (Lucerne, 1974), 123.
 71. François Valentijn, *Oud en nieuw Oost-Indiën* (Amsterdam, 1727–28), 561.
 72. Rumphius, *Amboinsche rariteitkamer* (ref. 35), fol. * 5 verso.
 73. Rumphius, *Amboinsche rariteitkamer*, 163–4.
 74. Schijnvoet in Rumphius, *Amboinsche rariteitkamer*, 62.
 75. *Catalogus van een uytmuntende party tekeningen en prenten ... nagelaten door Simon Schijnvoet* (auction catalogue, 18 February 1728, Amsterdam), 10.
 76. Schijnvoet in Rumphius, *Amboinsche rariteitkamer* (ref. 35), 81, 107 and 108.
 77. Schijnvoet in *Amboinsche rariteitkamer*, 160–1.
 78. On Major, see Eva Schulz, “Notes on the history of collecting and of museums in the light of selected literature from the sixteenth to the eighteenth century”, *Journal of the history of collections*, ii (1990), 204–18; Bredekamp, *Antikensehnsucht* (ref. 17), 43–44.
 79. *Versameling ... boeken ... Simon Schijnvoet* (ref. 50), 12.
 80. For more information about the libraries of Dutch collectors in the seventeenth century, see Jan van der Waals, “Met boek en plaat: Het boeken- en atlantenbezit van verzamelaars”, in Bergvelt and Kistemaker (eds), *Wereld* (ref. 11), 205–31.
 81. Johan Daniel Major, *Unvorgreiffliches Bedencken von Kunst- und Naturalien-Kammern insgemein* (Kiel, 1674), §8.2, §6.1, §8.6. From the edition in Michael Bernhard Valentini, *Museum museum* (Frankfurt am Main, 1704).
 82. Major, *Unvorgreiffliches* (ref. 81), §1.1. From the edition in Valentini, *Museum museum* (ref. 81).
 83. Major, *Unvorgreiffliches* (ref. 81), §1.4.
 84. Major, *Unvorgreiffliches* (ref. 81), §1.7.
 85. The Dutch Confession of Faith was written in 1561 by Guido de Brès. In 1619 it was officially acknowledged by the Dutch Reformed Church at the Synod of Dordrecht.
 86. As translated in Reyer Hooykaas, *Religion and the rise of modern science* (Edinburgh and London, 1972), 105.
 87. Hooykaas, *Religion* (ref. 86), 98–99, 105.
 88. De Jong, *Natuur en kunst* (ref. 39), 38.
 89. Boudewijn Bakker and Huigen Leeftang, *Nederland naar 't leven: Landschapsprenten uit de Gouden Eeuw* (Zwolle, 1993).
 90. M. de Klijn, *De invloed van het Calvinisme op de Noord-Nederlandse landschapschilderkunst 1570–1630* (Apeldoorn, 1982).
 91. Bakker and Leeftang, *Nederland* (ref. 89), 24; W. Balke, “Calvijn over de geschapen werkelijkheid

- in zijn psalmencommentaar”, in W. Balke (ed.), *Wegen en gestalten in het Gereformeerde Protestantisme* (Amsterdam, 1976), 89–105. With regard to the topic of this paper Calvin’s *Commentary on Psalms* is especially illuminating. According to the reformer, it was the duty of humankind to look for the “ordo naturae” or “ordo creationis”, which God had laid down in His Creation, and which had degenerated after the Original Sin into a “tristis rerum confusio”.
92. Jonathan Israel, *Radical enlightenment: Philosophy and the making of modernity 1650–1750* (Oxford, 2001); Margaret Jacob, *The radical enlightenment: Pantheists, Freemasons and Republicans* (London, 1981); Paul Hazard, *La crise de la conscience européenne (1680–1715)* (Paris, 1935).
 93. Abraham Bogaert, *De gedichten van Abraham Bogaert* (Amsterdam, 1723), 389.
 94. Levinus Vincent, *Wondertooneel der Nature* (Amsterdam, 1706), 23. See also the article of Emma Spary in this volume.
 95. On the religious motive of Dutch collectors in this period, see Bert van de Roemer, “God en het rariteitenkabinet: Het religieuze motief van Noord-Nederlandse rariteitenverzamelaars eind zeventiende en begin achttiende eeuw”, *Theoretische geschiedenis*, xxv (1998), 242–55. This article presents more examples of religious statements by Dutch collectors.
 96. Bernard Nieuwentijt, *Het regt gebruik der wereltbeschouwingen ter overtuiging van ongodisten en ongelovigen* (Amsterdam, 1715), 561.
 97. Von Uffenbach, *Merkwürdige Reisen* (ref. 3), 669.
 98. *Naamlijst van het zeer uitmuntend kabinet van allerhande soorten van de raarste bergstoffen ... nagelaten ... Simon Schijnvoet* (auction catalogue, June 1744, Amsterdam), 10: “Water in Steen veranderd, door den berugte Boile, doende dezelve ten Overstaan van zeeker voornaam Heer, maar een wynig Poeder in een glas met Water, waar op het in wynig tyds in Steen veranderde.”
 99. Gernot Böhme and Harmut Böhme, *Feuer, Wasser, Erde, Luft: Eine Kulturgeschichte der Elemente* (Munich, 1996), 134.
 100. *Ibid.*, 140–2.
 101. David van Hoogstraten, “Aen den vernuftigen Simon Schynvoet”, 1695, in *Simon Schijnvoeds Stamboek* (late seventeenth-/early eighteenth-century manuscript, Rijksprentenkabinet, Rijksmuseum Amsterdam), signature 310 N.
 102. Jan Baptista Wellekens, *ibid.*:
 “Spor na zyn voetstap, hoe hy ’t alles heeft gesticht;
 En wyslyk schikte in maat, getallen en gewicht;
 Zoo word de Schepper in zyn wonderdaân gepreezen.”