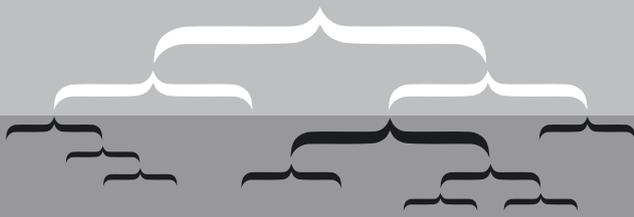


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# Allgemeinwissen und Gesellschaft





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# Per modum quaestionis compilatum ...

## The Collections of Natural Questions and their Development from the 13th to the 16th Century

### 1 Introduction

During the last two decades, the interest for medieval encyclopaedias has risen consistently. There are several reasons for this new attention to medieval scientific collections. First, some centres of research devoted particular studies to this literary genre and its development from the sixth to the sixteenth century, emphasizing the changes experienced by the encyclopaedias according to the contemporary scientific progress, and analyzing the strategies used by their authors in order to put scientific data at their readers' disposal.<sup>1</sup> Second, some congresses were especially dedicated to encyclopaedic literature; the publication of their proceedings contributed toward a wider knowledge and a new evaluation of medieval encyclopaedias, Latin as well as vernacular.<sup>2</sup> In these contributions, the role played by encyclopaedias in the transmission of science and philosophy, their relationship with other literary genres (scientific texts, historical works or maps), and their place within the history of books, of book illustration and of libraries were stressed particularly.

Some texts attracted special interest because their authors were well acquainted with the contemporary scientific culture and aware of its evolution, and used some skilled strategies of organization. Among these authors, the names of Bartholomew the Englishman, Thomas of Cantimpré, and Vincent of Beauvais deserve special mention; their texts, their strategies of organization of the material, and the reception of their works were objects of interest for many scholars. Their texts can be defined as both huge and compact *summae* of scientific knowledge, aiming at reproducing the natural world, at explaining natural phenomena with the help of science and philosophy, and at putting a ›complete‹ scientific knowledge at disposal of their readers.

In the encyclopaedias, the role played by sources and reference texts is considerable, while the personality of the compiler seems to disappear behind the texts he is relying upon. Thus, the reaction of some scholars analyzing medieval encyclopaedias was depreciating.<sup>3</sup> According to them,

**1** In den letzten Jahren ist das Interesse für die mittelalterlichen Enzyklopädien gewachsen. Einleitend werden deshalb die Tendenzen der Enzyklopädie-Forschung der letzten Jahrzehnten dargestellt.

<sup>1</sup> Among these centres of research, I would like to mention the »Atelier Vincent de Beauvais« (Université Nancy2, France), and the DFG-research project directed by C. Meier (Westfälische Wilhelms-Universität Münster).

<sup>2</sup> Becq (Ed.), *L'encyclopédisme*; Picone (Ed.), *L'enciclopedia medievale*; Binkley (Ed.), *Pre-Modern Encyclopaedic Texts*; Harvey (Ed.), *Hebrew Encyclopedias*; Meier (Ed.), *Enzyklopädie im Wandel*; Stammen (Ed.), *Wissenssicherung, Wissensordnung und Wissensverarbeitung*.

<sup>3</sup> Cf., for instance, De Boüard, *Encyclopédies médiévales*.

*Die große Verbreitung der Wesen auf der Oberfläche der Erde kann durch die Kraft der Struktur gleichzeitig in die Abfolge einer beschreibenden Sprache und in das Feld einer mathesis eintreten, die eine allgemeine Wissenschaft der Ordnung wäre. Diese konstitutive und so komplexe Beziehung entsteht in der offensichtlichen Einfachheit eines beschreibenden Sichtbaren.*

(Michel Foucault, *Les mot et les choses*, dt. Übersetzung: *Die Ordnung der Dinge. Eine Archäologie der Humanwissenschaften*, Frankfurt a.M.1974, 179).

encyclopaedias are works lacking in originality, being only collections of extracts drawn from scientific and philosophic treatises, and the compilers were judged as simple copyists or as uncritical collectors of material they did not really understand.

Thanks to recent studies, medieval encyclopaedias are experiencing a re-evaluation involving their nature, their structure, and their public.<sup>4</sup> The re-evaluation process can be summarized as follows:

a) The encyclopaedic literature has been acknowledged as a coherent literary genre, aiming at providing books describing the world and the natural phenomena characterizing it, and organizing the didactic material in order to substitute a library the readers cannot own or consult. As C. Meier pointed out, encyclopaedias play at the same time the role of a *Weltbuch* and of a *Bibliothekersatz*, whose purpose is to be useful to the readers.<sup>5</sup>

b) Natural collections have been evaluated not only according to the extension of the scientific culture they display, but also with reference to the strategies the compiler used by organizing their material, to the hierarchy of sciences shown by the texts, to the treatment and the interpretation of sources, and to the importance given to natural phenomena. Moreover, the idea of a unitary ›encyclopaedic knowledge‹ has been integrated with the concept of ›type(s) of encyclopaedic text‹; structure, content, and orientation are considered as the result of a decision taken by the compiler in order to create a text with particular features written for a specific public.<sup>6</sup>

c) Particular attention was also paid to the identification of the public. Some recent studies focused on the ways the compiler points to the public he is trying to reach, by analyzing prologues, choice of material, systems of organisation of the material, or the presence of specific branches of knowledge related to a particular type of readers.<sup>7</sup> At the same time, the concrete reception of the single works was examined, as well as the different ways and cultural contexts in which the text was read, used, and updated.<sup>8</sup>

Although encyclopaedic literature is a literary genre where many works share some common aims – viz. the description of nature, the reproduction of an updated scientific knowledge, the organisation of data in a pragmatic and user-friendly way – it also forms a complex universe, where different strategies are used in order to reach various kinds, levels, and

<sup>4</sup> Cf. Meier, *Grundzüge der mittelalterlichen Enzyklopädik*.

<sup>5</sup> On the idea of *utilitas*, see Meier, *Organisation of Knowledge*; Meier, *Enzyklopädischer Ordo*.

<sup>6</sup> Cf. Tomkowiak (Ed.), *Populäre Enzyklopädien*.

<sup>7</sup> Cf., for example, the analysis of Bartholomew the Englishman's *De proprietatibus rerum*, its content, and its structure in: Meyer, *Enzyklopädie des Bartholomaeus Anglicus*.

<sup>8</sup> Cf., for instance, Twomey, *Western Medieval Encyclopaedias, on the reception of medieval encyclopaedic texts in England*.

types of readers. Therefore, its internal axe shifts from big works to small collections: encyclopaedic knowledge can be transmitted in various forms, viz. through a scientific collection, a handbook, a poem, a dialogue, or a novel, or by using different metaphors and schemes of organization. This flexibility, witnessed both by the content and the structure of collections, can be related with their ›pragmatic‹ purpose and with their necessity to be adapted to the different needs of the public: encyclopaedias, perhaps as well as other scientific or technical texts, are works dealing with the reality of nature, using strategies with concrete aims and finally facing the real world of their readers.

Particularly during the Late Middle Ages, some ›popular‹ encyclopaedias were written to satisfy the thirst for knowledge of a larger public, and not only for the needs of a small elite; these texts also hand over scientific data related to everyday life, avoiding exotica or natural phenomena the readers could not verify in their own life.

In order to better define the idea of ›popular encyclopaedias‹ and, consequently, of a ›popular scientific‹ culture transmitted by them, I would like to focus on the history of a particular type of encyclopaedia which has been defined as ›popular‹, viz. the collections written in a question-answer form,<sup>9</sup> by presenting some of its most representative texts. In the following pages, I will outline the origins and the development of this literary genre, and describe some types of texts written between the thirteenth and the seventeenth century. I will also analyze some of their features, viz.:

- a) the structure, the organization, and the strategies of communications of knowledge;
- b) the branches of knowledge considered there, the attitude towards their sources and the conception of natural phenomena;
- c) the levels and types of public they attempt to reach.

In order to illustrate the reasons for the success of the question-answer scheme within the encyclopaedic literature, I will begin by describing the ancient and medieval cultural heritage which probably influenced the redaction of quaestiones collections, by recalling the related literary genres that flourished between the Late Antiquity and the Early Middle Ages, and by referring to the most famous works which later compilers could consult.

## 2 A Short History of the quaestiones-Collections: Origins, Patterns, and Textual Traditions

The question-answer form was a widely used framework for the transmission of scientific and philosophic contents during Antiquity and the Middle Ages. Many scientific texts were structured as an abstract succession of questions and answers or as a dialogue. The existence of a continuity in the use of this system, which might suggest the existence of a literary genre,

2 Die Verwendung der Quaestio-Form und der Technik des fiktiven Dialogs kennzeichnet einen Teil der enzyklopädischen Gattung von der Antike bis zum 18. Jahrhundert, weshalb hier eine kurze Skizze der Entwicklung dieser Typologie von Enzyklopädien der Antike und des Mittelalters präsentiert wird.

<sup>9</sup> On this literary genre cf. Blair, *Authorship in the Popular ›Problemata Aristotelis‹*; Blair, *Problemata as a Natural Philosophical Genre*; Cherchi, *Il quotidiano, i ›Problemata‹ e la meraviglia*; Ventura, ›*Quaestiones*‹ and *Encyclopaedias*; Ventura, *Reception of Pseudo-Aristotele's Problemata*. (cf. Note 15), forthcoming.

was firstly stressed in 1963 by B. Lawn.<sup>10</sup> His studies, developed around the manuscript tradition of the so-called ›Quaestiones salernitanae‹, offered a broad survey of the story of the natural collections written in a question-answer form.<sup>11</sup> Moreover, by stretching his interest from the Antiquity until the seventeenth century, he provided a rich catalogue of texts and offered many suggestions about the possible relationships between the collections and the contemporary philosophic and scientific culture.

Thanks to various studies, we are now more informed about origins, purposes, and development forms of both literary genres of the philosophic-scientific dialogue and the quaestiones literature.<sup>12</sup> First of all, we know that the two literary forms of the dialogue and of the scientific quaestio cannot be completely separated: the quaestiones literature represents a form of communication closely related to the dialogue, because both share some common aims: both types of texts hand over data by regrouping them in a compact and user-friendly form, both intend to attract the attention of the readers, and to encourage a certain continuous ›interaction‹ with the works. On the other hand, the literary genre of the quaestiones collections borders the wide literature of the quaestio disputata practiced in schools and universities, especially the medical quaestio.<sup>13</sup> Nevertheless, the connections between the quaestiones naturals collections and the tradition of the quaestio disputata should not be overestimated. Both literary genres originated from the same tradition relying on Pseudo-Aristotelian *Problemata*, on the ancient literature of natural questions, and on the anonymous *Quaestiones salernitanae*. They also deal with the same topics, aiming to explain ›enigmatic‹ aspects of nature. Thus, structure and purpose of the two literary genres are different. However, while the scholastic quaestio can be defined as a ›high level‹ product deriving from the university milieu and written with the aim of discussing aspects of nature, the quaestio form used in the natural collections is a way of explaining the world of nature and some of its characteristics. In other terms, the encyclopaedic question has a pedagogical purpose, a teaching value, while the scholastic quaestio has a dialectic one. Some authors of collections of natural questions did come from a university milieu, and used texts diffused, for example, in the Faculty of Medicine.<sup>14</sup> Nevertheless, the structure and the content of the questions do not suggest that they wrote for a university level public.

The history of classical literature shows various attempts to summarize and communicate knowledge with the help of text structures teaching and attracting readers by presenting them an easily memorized, well structured sequence of questions and answers or by involving them in a fictive dialogue or discussion. Both schemes are represented in Greek as well as in Latin works, as Seneca's *Naturales quaestiones*, Macrobe's *Saturnalia*, Aulus Gellius' *Noctes atticae*, Plutarch's *Symposiaca problemata* (also known with the Latin title *Quaestiones conviviales*), and Alexander of Aphrodisia's *Problemata* show. Another example of scientific text written

<sup>10</sup> Lawn, *Salernitan Questions; Lawn, Rise and the Decline of the Scholastic ›Quaestio Disputata‹*, 66–84.

<sup>11</sup> Lawn, *Salernitan Questions; Cf. Baldwin, Language of Sex; Van der Lugt, Le ver, le demon, et la vierge*.

<sup>12</sup> On the literary genre of the dialogues cf. Bernt, *Dialog; Von Moos, Zwischen Schriftlichkeit und Mündlichkeit; Wilhelm, Mündliche Unterhaltungserzählungen im Due-Trecento; Von Moos, Gespräch, Dialogform und Dialog; Hempfer, Möglichkeiten des Dialogs; Jacobi (Ed.), Gespräche lesen; Cardelle de Hartmann, Diálogo literario y polémica religiosa; Friedlein, Der Dialog bei Ramon Llull*.

<sup>13</sup> On the quaestio disputata, see Peri, *Scholastische Disputation. On the literature of medical questions* cf. Lawn, *Rise and the Decline of the Scholastic ›Quaestio Disputata‹; Jacquart, La question disputée dans les Facultés de Médecine; Keil, ›Die frag ist, ob der arczet schuldig sey oder nit‹.*

<sup>14</sup> See, for example, the case of Giovanni Battista da Monte, whose *Problemata partium physica, partium medica* were published 1590 in Wittenberg.

in question-answer form is represented by the Pseudo-Aristotelian *Problemata*, a work probably based on a former collection written by Aristotle, and composed around the second century AD. Among the sources of the collection we find Aristotle's, Hippocrates' and Galen's writings.<sup>15</sup> This text is a sort of encyclopaedia of natural science, medicine, physiognomy, rhetoric, mathematics, and physics divided into 38 books; it achieved a certain success in the Late Antiquity, but was transmitted to the Latin Middle Ages only in a reduced form, known as *Problemata antiquissima*; another collection was handed over in a medical handbook written in Germany during the eighth century, the *Lorscher Arzneibuch*.<sup>16</sup> The genuine Pseudo-Aristotelian *Problemata* disappeared, as did most Aristotelian works, during the High Middle Ages; they were translated from Greek into Latin by Bartholomew of Messina between 1258 and 1265 at the court of King Manfred. Therefore, their influence on the literature of *quaestiones naturales* can be retraced only from the fourteenth century onwards.

During the High Middle Ages dialogues or question-answer forms were not used to communicate natural science: other branches of knowledge (theology, philosophy, ethic, and religion) represent the main interest of the authors of dialogues and questions.<sup>17</sup> The literary genre of the fictive dialogue of the High Middle Ages appears to be contaminated by similar or related texts forms, such as the riddle, the *altercatio*, the *soliloquium*, while the tradition of scientific *quaestiones* written during Antiquity was consigned to oblivion. A good example of the nature and the purpose of the high medieval dialogue can be found in the tradition of the *Dialogus Adriani et Epicteti*, where religion and spirituality form the bulk of the text.<sup>18</sup> A more evident cultural purpose is shown, on the other hand, by texts like Alcuin's *Disputatio Pippini et Albini* and by the learned dialogues written during the Carolingian Renaissance; in these texts, the dialogue becomes an active tool for the transmission of the branches of knowledge of the trivium (in this sense, Alcuin continues the tradition of Donat's *Ars*), and for the educational program promoted by the Carolingian court.<sup>19</sup>

The tendency to treat spiritual, religious, or theological topics with the help of a dialogic structure is also confirmed by the success enjoyed by the *Lucidarius*, a fictive dialogue written by Honorius of Autun and dealing with dogmatic and theological issues. The work, composed with the aim of providing the monks with simple answers to theological and dogmatic issues, was widely diffused, and was later used by preachers for the homiletics as well as by laymen.<sup>20</sup>

Natural science becomes subject of *quaestiones* during the twelfth century, perhaps because of the new philosophical and scientific Renaissance permeating the period, and in connection with the renewal of medicine through Constantine the African's translations, with the literary production of the Medical School of Salerno, and with the rise of university learning. In this century, the complex tradition of the *Quaestiones saler-*

<sup>15</sup> On the Pseudo-Aristotelian *Problemata* see Goyens/De Lee-mans, *Aristotle's Problemata in Different Times and Tongues*.

<sup>16</sup> On the *versio antiquissima* of the Pseudo-Aristotelian *Problemata* cf. Lacombe (Ed.), *Aristoteles Latinus. On the Lorscher Arzneibuch*, see Keil (Ed.), *Das Lorscher Arzneibuch und die frühmittelalterliche Medizin*; Keil (Ed.), *Das Lorscher Arzneibuch. Faksimile der Handschrift*; Stoll (Ed.), *Lorscher Arzneibuch*.

<sup>17</sup> This phenomenon does not characterize only the Latin Middle Ages, but also the Hebrew tradition. Cf. Yassif, *Pseudo Ben Sira*.

<sup>18</sup> Edition in: Suchier, *Das mittellateinische Gespräch Adrian und Epictitus*.

<sup>19</sup> Houwen, *Alcuin of York*.

<sup>20</sup> On this text cf. Gottschall, *Das »Elucidarium« des Honorius Augustodunensis*; Ruhe (Ed.), *Elucidarium und Lucidaires*; Ruhe, *Gelehrtes Wissen*; Kleinmans, *Lucidare vault tant a dire comme donant Lumiere*; Türk, *»Lucidaire de grant sapientie«*.

*nitanae* emerges. This work, whose origins are still object of discussion, represents a turning point in the tradition of the quaestiones collections. Its reception provided new scientific material to be discussed, offered new ways of dealing with the world of nature, and enlarged the range of topics and of branches of knowledge to be considered in the literary genre of the quaestiones collections. With the tradition of the *Quaestiones salernitanae*, medicine, gynaecology and natural science become subjects of discussion. The collections of natural questions are also made a tool for the transmission of medical knowledge. The *Quaestiones salernitanae*, for example, contributed to the diffusion of the medical and scientific theories elaborated in the Medical School of Salerno.

The work was widely diffused, but the stages of its development are still obscure.<sup>21</sup> An ancient unidentified version was used by Adelard of Bath in his *Naturales quaestiones*, a dialogue between the philosopher and his nephew written in the first half of the twelfth century, and by William of Conches in the *Dragmaticon philosophiae*, a fictive dialogue between a dux and a philosophus composed between 1144 and 1149.<sup>22</sup> Later, groups of questions derived from Adelard and from William were incorporated into the tradition of the *Quaestiones salernitanae*.<sup>23</sup>

Adelard's *Naturales quaestiones* and William's *Dragmaticon*, although being philosophic dialogues and not collections of natural questions, show some characteristics reappearing in the Late Medieval quaestiones. Firstly, they witness a new conception of nature, which emphasizes the role played by rationality in the structure of the natural world and in its interpretation. Here, natural phenomena are explained logically, not related to supernatural or divine power.<sup>24</sup> Secondly, the role of authority changes: although various texts are used, and different scientific traditions (Greek, Arabic, and Latin) are compared with each other, the sources are no longer considered as the supreme auctoritates; their content is submitted to logic. Finally, with Adelard and William the technique of the quaestio and the atmosphere of the learned conversations held in the schools leave this milieu, and are converted into a book.<sup>25</sup>

Emergence of reason, logical explanation of the natural world, new role of the authority, new strategies used to attract the public: these elements will also represent some of the features of the Late Medieval collections of natural questions.

Our short journey through the literary genre of the quaestiones collections of the High Middle Ages ends with the re-discovery of the Pseudo-Aristotelian *Problemata*. The work, a short version of which (the *Problemata antiquissima*) had a limited circulation from the eighth to the tenth century, re-emerged from many centuries of oblivion thanks to the translation accomplished by Bartholomew of Messina, a not better identified translator who put into Latin other Pseudo-Aristotelian works, among them the *De*

<sup>21</sup> The diffusion of the work is also witnessed by the poem *Adelae comitissae* written by Baudri de Bourgueil (ed. by Abrahams, *Les Oeuvres poétiques de Baudri de Bourgueil*, 196–253). Here, the verses 1285–1295 contain a short list of medical questions related to the tradition of the *Quaestiones salernitanae*.

<sup>22</sup> On Adelard of Bath's *Quaestiones naturals* see Burnett (Ed.), *Adelard of Bath, Conversation with his nephew*; On William of Conches' *Dragmaticon* cf. Ronca/Badia/Pujol, *Guillelmus de Conchis, Dragmaticon*. On both texts see Speer, »Ratione duce».

<sup>23</sup> See Burnett (Ed.), *Adelard of Bath, Introduction*, XXIII–XXVI.

<sup>24</sup> On the development of a new conception of nature during the twelfth century see Speer, *Die entdeckte Natur*.

<sup>25</sup> Cf. Speer, »Ratione duce».

*mundo*, the *Liber de pomo*, the *Magna Moralia*.<sup>26</sup> Bartholomew's translation had a certain success, especially in the university milieu, although it never became the object of official lectures; it was also commented around 1310 by Peter of Abano.<sup>27</sup> His rich ›encyclopaedic commentary‹ became the standard explanation of the text, and its usual ›accessus‹; a later exposition, written by John of Jandun, has been proved to be only a partial copy with rare additions.<sup>28</sup> The work was not only known and used in the university milieu; numerous manuscripts hand over abridged forms, extracts of single books or collections of questions dealing only with medicine, physiognomy, or botany. Particularly important is the insertion of single sections of the work dealing with medical problems into miscellaneous medical manuscripts, since it demonstrates that not only philosophers, but also physicians read the Pseudo-Aristotelian *Problemata*. The work was also translated into French by Evrart de Conty for Charles V around 1380; in order to make the Latin understandable for his public, the translator included in his translation some sections of Peter's commentary.<sup>29</sup> Although the French translation did not have any circulation (it was a courtly product, written for the cultural needs of the king and his entourage), the presence of a vernacular version of the text can be considered as a witness of the interest shown by laymen to this collection of natural questions and ›curiosities‹.

### 3 *Problemata* and Encyclopaedias between the Fourteenth and the Seventeenth Century: A Selection of Texts

The *Problemata* and the *Quaestiones salernitanae* offered rich and easily adaptable material for the redaction of new encyclopaedias which could attract readers belonging to different cultural levels. The bulk of these collections is represented by medicine and physiology; therefore, their centre is neither the whole world of nature nor the system of the artes liberales, but the human being considered as the core around which the world of nature is structured. Moreover, these texts show a user-friendly form: they consist of a compact sequence of questions and answers easy to be consulted, to be read, and to be memorized.

But which are the types of texts written in a question-answer form? Which are the types of encyclopaedic knowledge provided and delivered by them? Who are the potential readers? On which library shelves could these books be found? Which kind of texts can be connected to them in a virtual ›encyclopaedic net‹? These questions cannot be answered easily. The huge success of the literary genre of the quaestiones collections does not imply an internal coherence of the genre. From the thirteenth century onwards, and particularly in the sixteenth and seventeenth century, all possible topics, such as the curiositates naturales, human behaviour, as well as human history, love, moral life, and strange events, became possible

**3** In diesem Kapitel wird eine Liste der Werke vorgelegt, die im Mittelpunkt der vorliegenden Studie stehen werden. Die ausgewählten Texte zeigen, daß die Quaestiones-Enzyklopädien sich in zwei Gruppen einordnen lassen, und zwar in Kompilationen, die sich hauptsächlich mit Medizin und menschlichen Anatomie befassen, und in Sammlungen von *Mirabilia* und *Curiositates naturae*.

<sup>26</sup> About Bartholomew of Messina, see Marengi, *Un capitolo dell'Aristotele medievale*; Venturini, *La traduzione latina di Bartolomeo da Messina*.

<sup>27</sup> On the diffusion of the Pseudo-Aristotelian *Problemata* in the Greek, Arabic, Hebrew, and Latin culture of the Middle Ages, see, respectively, Flashar, *Einleitung*; Filius, ›*Problemata Physica*‹ attributed to Aristotle; Louis (Ed.), *Aristote, Problèmes*, Vol. I, VII–LIV (Introduction). On Peter of Abano, see Siraisi, *The ›Expositio Problematum Aristotelis‹ of Peter of Abano*; Paschetto, *Pietro d'Abano medico e filosofo*; Federici Vescovini, *Il ›Lucidator Dubitabilium Astronomiae‹ di Pietro d'Abano*, 17–36 (Introduzione); Hasse, *Pietro d'Abano's ›Conciliator‹ and the Theory of the Soul in Paris*.

<sup>28</sup> Kuksewicz, *Les ›Problemata‹ de Pietro d'Abano*.

<sup>29</sup> On Evrart's translation, see Guichard Tesson, *Métier de traducteur*; Minnis, ›*Magister amoris*‹, 257–314; Verdenne, *L'homme sous la mer*; Goyens/De Leemans, *Traduire du grec au latin et du latin en français*.

*Oui, c'est un Dieu puissant qui de la Médecine, / Pour l'homme, a su créer la science divine.  
/ Le malheureux au monde apparu un jour / A grand pas vers sa tombe avance sans retour,  
/ Né d'hier, mort demain et mis en sépulture; / Le passant foule un corps dont les vers font  
pâturage. / D'un régime savant lui prêter le secours, / C'est à des jours comptés ajouter  
quelques jours. / La médecine, hélas! bornée en sa puissance, / Ne peut à l'infini prolonger  
l'existence; / Gardien de la santé, l'art qui prévient le mal / Retient l'homme glissant vers le  
terme fatal. / Pour que ta vie atteigne à l'extrême veillesse, / Sois vieux, avant le temps, par  
tes mœurs, ta sagesse.*

(Regimen sanitatis Salerni, I, vv.12–24: Exhortatio sanitatis [Exhortation à la santé], in: L'École de Salerne. Traduction en vers français par Ch. Meaux Saint-Marc, avec le texte latin précédée d'une introduction par le Docteur Ch. Daremberg, et suivie de commentaires avec figures, Paris 1880, 56–57).

subjects of a collection of questions. Two types of texts, however, attract our attention, since they represent some of the main trends of this literary genre, namely:

1) The medical encyclopaedias, whose content is structured around the description of the human body and its characteristics. These encyclopaedias, written both in Latin and in vernacular languages, cannot be defined as genuine medical texts, but more as works providing basic medical knowledge to laymen. They also show some common aims with the regimina sanitatis, since these books aim at providing their readers with a sufficient knowledge of the human body and its properties, not only to satisfy their thirst for knowledge, but also to suggest a better life-style. The relationship between knowledge and life-style also suggests that the small medical encyclopaedias may be related to the literary genre of the medieval and the early modern *specula principum*.

2) The collections of *mirabilia*, *curiositates*, and secrets of nature. A large part of the encyclopaedic literature is characterized by a certain attraction for the marvels of nature. The reasons for this attraction to the marvellous can be sketched as follows: while in the High Middle Ages the insertion of marvellous plants, animals, and human beings represents a way of recognizing the variety of nature, and of praising its Creator, the discussion of the natural *mirabile* in the collections written during the Early Modern Time is more a strategy used by the author to show his erudition, and a way for the reader to increase his own one. The transformation in the value and the purpose of the *mirabile* is the result of a complex process and of a long philosophical debate developed throughout the Late Middle Ages. Certain aspects of the debate are also reflected by some questiones collections dealing with the *mirabilia naturae*. These works were often written for well-educated readers, who could appreciate and enjoy the cultural background offered by the author.

As an example of the first type of encyclopaedia, the following texts will be discussed:

a) The anonymous *Problemata Aristotelis ac philosophorum medicorumque complurium*, a work also known as *Problemata varia anatomica*,

- viz. the title of the version preserved in a Bolognese manuscript, or *Summa ›Omnes homines‹* from its incipit;
- b) the anonymous *Summa recreatorum*;
  - c) the anonymous *Mensa philosophica*;
  - d) Girolamo Manfredi's *Liber de homine*, better known with the title *Libro del perché*.

All these texts are dated within the second half of the fifteenth century and, except Manfredi's *Libro del perché*, they are Latin works written in the German-speaking area.

The second group of texts will be represented by the following works:

- a) the anonymous *Responsorium curiosorum*;
- b) Girolamo Garimberto's *Problemi naturali e morali*;
- c) Ortensio Landi's *Quattro libri de' dubbi*;
- d) Alessandro Tassoni's *Dieci libri di pensieri diversi*.

These works date from 1350 (probable date of composition of the *Responsorium curiosorum*) to the seventeenth century. By discussing works written from the Late Middle Ages to the Modern Time, it will be possible to sketch the changes experienced in the idea of mirabile through the centuries.

## 4 Encyclopaedic knowledge for a perfect life: the medical encyclopaedias

### 4.1 The *Problemata Aristotelis ac philosophorum medicorumque complurium* (or *Summa ›Omnes homines‹*)

The work bearing the title *Problemata Aristotelis ac philosophorum medicorumque complurium* (or *Summa ›Omnes homines‹*<sup>30</sup>) is a collection of natural questions particularly focusing on the human body a capite ad calcem.<sup>31</sup> The work was probably written at the beginning of the fifteenth century in Germany or Bohemia, and achieved a big success; it was printed repeatedly until the nineteenth century, and it was translated into French, German, and English. It was considered and used as a ›family encyclopaedia‹.<sup>32</sup> The work is also preserved in some manuscripts showing some slight differences compared with the printed text. The work consists of ca. 350 questions structured a capite ad calcem, and dealing with the body's principal organs and its senses. Matters like digestion or urine are also discussed; particular attention is devoted to the problems related to the sexual sphere, the coitus, the semen and the menstrual flow, to abortion and monstra.<sup>33</sup> Having discussed the problems concerning the human body, the compiler turns his attention to some questions based on the natural world. This section shows some differences in the printed texts and in the manuscripts. In the *Problemata varia anatomica* preserved in a Bolognese manuscript, for example, the compiler offers to explain the causes of phenomena like *Quare lepores dormiunt apertis oculis?* or *Quare ova oblonga efficiunt mares et obtusa femellas?*, etc.: these topics may

**4.1** Der vierte Teil meines Beitrags konzentriert sich auf die sogenannten *Problemata Aristotelis*, eine anonyme Kompilation, analysiert ihre Struktur und ihre Quellen, zeigt die Tendenzen ihrer Verbreitung und die von ihr verkörperte enzyklopädische Typologie.

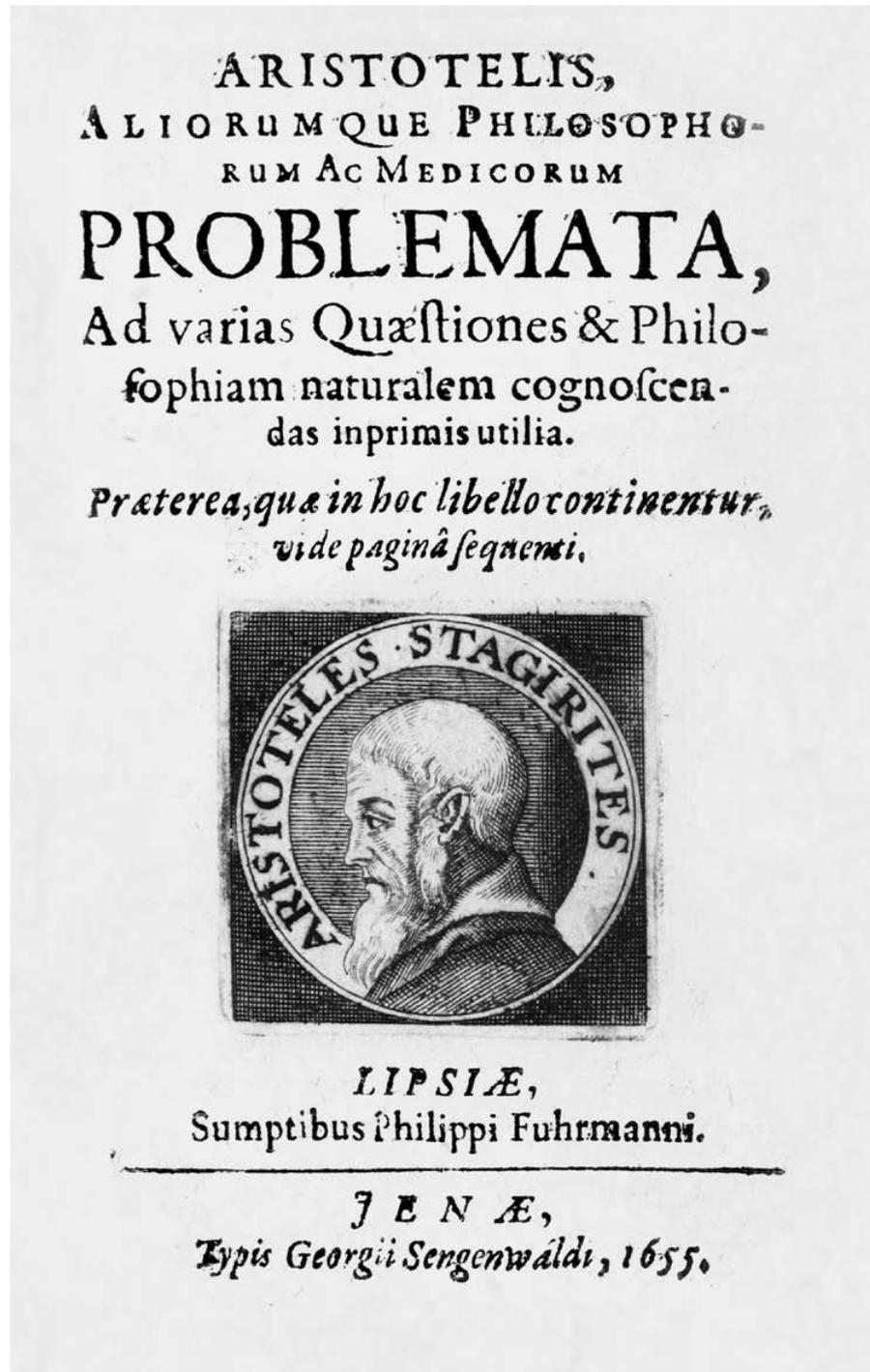
<sup>30</sup> The title is derived from the famous opening sentence of Aristotle's *Metaphysics*, where the philosopher emphasizes human natural thirst of knowledge.

<sup>31</sup> *Problemata Aristotelis ac medicorum philosophorumque complurium*, Jena 1618. On this work, cf. Schleissner, *Sexuality and Reproduction in the Late Medieval ›Problemata Aristotelis‹*; Blair, *Authorship in the Popular ›Problemata Aristotelis‹*; Blair, *Problemata as a Natural Philosophical Genre*; Blair, *Theatre of Nature*; Ventura, ›*Quaestiones*‹ and *Encyclopaedia*.

<sup>32</sup> On the story of the printed text cf. Blair, *Authorship in the Popular ›Problemata Aristotelis‹*; Krayer, *Printing History*.

<sup>33</sup> Cadden, ›*Nothing Natural Is Shameful*‹.

Aristotelis Problemata  
printed in Jena 1655,  
title page



<sup>34</sup>Lind (Ed.), *Problemata Varia Anatomica*. The University of Bologna, MS 1165 (The University of Kansas Publications, Humanistic Studies, 38) Lawrence 1968.

appear as inconsistent, or as not useful for everyday life.<sup>34</sup> Their insertion, however, can be motivated with the fact that they are used by the compiler as instances to explain medical theories or to report the opinions of some medical and philosophical authorities on zoology.

The compiler's effort to provide a solid, but compact medical and scientific encyclopaedia can be noticed in the treatment of both content and sources: the answers are short and clear, the references limited to the necessary

## PROBLEMATA.

Et homines, ut ait Sophocles? Tu vero fer-  
res, quasi pullus cibi copia: Venter enim tuus  
Et male insolescit. Ex quo Romani M. Cras-  
sum fœnum in cornu habere dictaverunt, Et  
qui ceteros in Republica lacerabant, huic  
tanquam munitum ac providum, Et injuria-  
rum persecutissimum fugiebant: quan-  
quam postea rursus dictum est, Casarem Eras-  
so fœnum detraxisse. Primus enim illi in  
Republic. restitit Casar, Et eum  
contempsit.



## F I N I S.



indications (*ut dicit Aristoteles, ut dicit Albertus* [e.g. Albert the Great]), included to supply the given reason with the mention of an authority. Only in the Bolognese manuscript, which points to a university milieu and to a more highly specialized public, the answers are more complex and the quotations of authority sometimes very precise (*ut dicit Aristoteles in libro Meteororum, secundum Avicennam tertio Canonis*), in order to enable the reader to check the reference.

**4.2** Aufgrund ihrer auffälligen Gemeinsamkeiten werden in diesem Abschnitt zwei anonyme, vor dem Anfang des 15. Jahrhunderts geschriebene Kompilationen, die *Summa recreatorum* und die *Mensa philosophica*, beschrieben. In diesen Kompilationen bildet die Kombination zwischen naturwissenschaftlichen und literarischen Teilen eine besondere Texttypologie, was ein spezielles Verhältnis zwischen Leser und Buch fordert.

Here, I reproduce one of the questions concerning the stomach: *Quare stomachus sit amplius? Respondetur per Aristotelem in libro de animalibus, quia in eo sicut in olla cibus primo decoquitur et digeritur, per quam digestionem impurum terrestre separatur a puro quod eiicitur per secessum, et ideo propter magnitudinem cibi quo indiget animal natura stomachum ampliavit.*<sup>35</sup>

The main sources of the *Summa ›Omnes homines‹* can be identified in the *Quaestiones salernitanae*; other mentioned texts are Hippocrates' *Aphorismi*, Galen's *De semine*, Avicenna's *Liber canonis*, Constantine the African. Aristotle's *De animalibus* (*Historiae animalium*, *De partibus animalium*, *De generatione animalium*), *Libri Meteororum*, and *Physiognomica* are also employed; the influence of Pseudo-Aristotelian *Problemata*, on the other hand, is limited to the last section dedicated to the world of nature.

Among medieval writers, it is important to stress the presence of Albert the Great, whose *De animalibus* and the spurious *De secretis mulierum* are often quoted. The list of the sources is still incomplete, but it suffices to emphasize an important characteristic of this encyclopaedia: its wide corpus of reference-texts does not point to a very ›popular‹ milieu. The compiler probably was a well-educated person, perhaps a physician or, at least, a man with a good medical culture. The same cultural skills are required of the readers; they are expected to share the same cultural background, even if they do not know of some specific texts. The apparent banality of the questions and their connection to everyday life do not presuppose an ›everyday reader‹. The readers of the *Summa ›Omnes homines‹* were not very far away from a high scientific level. Therefore, although these texts recall the literature of the regimina sanitatis and of the ›medical secrets‹, they do not belong to the same ›popular level‹.

#### 4.2 The *Summa recreatorum* and the *Mensa philosophica*

The *Summa recreatorum* was written between the end of the fourteenth century and 1412; it is preserved in five manuscripts, but was never printed. The *Mensa philosophica*, on the contrary, achieved a big success: written in the second half of the fifteenth century, it was printed for the first time around 1480. The two works can be described together, since they share the same structure, use the same sources, and show common purposes.<sup>36</sup> As the Prologues of both texts declare, the aim of the compiler is to gather together some scientific and moral material that the readers can use during the conversation at table, in order to transform the banquet into an occasion of intellectual and spiritual progress. The need of a *Konversationlexikon* is well documented during the Late Middle Ages. In the first half of the fourteenth century, for instance, the Dominican friar Philippine of Ferrara wrote a *Liber de introductione loquendi* with the aim of helping mendicant friars at finding examples, short stories, and data concerning everyday life, food and drink they could use in various occasions during conversations with laymen.<sup>37</sup>

<sup>35</sup> Lind (Ed.), *Problemata Varia Anatomica*, 43.

<sup>36</sup> On the *Summa recreatorum* and the *Mensa Philosophica* cf. Rauner, ›*Summa recreatorum*‹; Wachinger, ›*Convivium Fabulosum*‹; Wachinger, *Erzählen für die Gesundheit*; Ventura, ›*Quaestiones*‹ and *Encyclopaedias*. The text of the *Summa recreatorum* is not printed. For my researches, I have used the following manuscript: Praha, Narodni Knihovna, Rodnice VI.Fc.34. A critical edition of the first two books is currently prepared by D. Ruzickova (Brno). For a facsimile edition of the *Mensa philosophica*, cf. Erwin Rauner and Burghart Wachinger (Ed.), *Mensa philosophica. Faksimile und Kommentar* (Fortuna Vitrea, 13) Tübingen 1995.

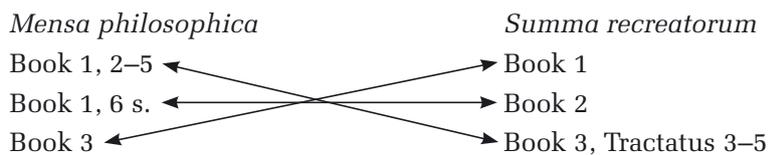
<sup>37</sup> On Philippinus of Ferrara, see Stein, *Philipp von Ferrara*.



Diffusion of the printed versions of the *Summa ›Omnes homines‹* and of the *Mensa philosophica*

The *Summa recreatorum* and the *Mensa philosophica* seem at first glance to undertake the same task of connecting food and spiritual improvement, and of using the banquet as an occasion of progress; in this context, however, entertainment turns out to be more important than the spiritual improvement. The enjoyment at table (*recreatio mensalis*) is closely connected with the use of scientific and literary material. The *Summa recreatorum* is divided into five books: the first and the second deal with food and with its medical and dietetic properties; the third contains a *regimen sanitatis*, followed by some chapters concerning dietetics and rules for nutrition. Among the first three books, only the first one is structured in a question-answer form, while the other two show a more usual division into chapters. The fourth and the fifth sections are concentrated on the entertainment at table, and consist of literary and historical material: stories, tales, and poems form the bulk of the fourth book, while the fifth is based on extracts of John of Wales' works and of moral texts like the *Secretum secretorum*.

The *Mensa philosophica* consists of four books, where the same material displayed in the *Summa recreatorum* is ordered in a different way, showing another combination of science and literature. Here, the first book is the result of a combination between the second book of the *Summa* and a selection of chapters derived from the third, while the questions formerly included in the first book of the *Summa* are transferred to the third section of the *Mensa*.<sup>38</sup> The following scheme represents the relationship between the collections.



Here, I reproduce an example of the questions included in both text:  
*Cur comedentes ficus molles et dulces leduntur in dentibus? Dicendum secundum Aristotelem XIX parte Problematum quod propter viscositatem*

<sup>38</sup> For a general survey of the content and the structure of the *Summa* and the *Mensa* see Rauner/Wachinger, *Mensa philosophica*, 224–313 (Nachweisungen).

*que advenit lignis interdum per dentes et quia sunt molles putrefactionem faciunt velociter sicut calida excessiva, fortassis autem propter masticationem et earum duriciem dolent dentes velociter.*<sup>39</sup>

As far as the sources concern, the sections dedicated to the questions generally rely upon the *Quaestiones salernitanae* and the Pseudo-Aristotelian *Problemata*; the chapters dealing with medicine and dietetics, on the other hand, are based on various sources. Among them we find Dioscorides' *De materia medica*, the Salernitan herbal *Circa instans* of the Pseudo-Matthaeus Platearius, Isaac Israeli's *De dietis*, Avicenna's *Cantica*, Constantine the African, Rhazes' *Liber ad Almansorem*, Arnald of Villanova's *Regimen sanitatis*. Among the scientific sources, the presence of Albert the Great's works *Quaestiones super de animalibus* and of Peter of Spain's *De animalibus* is noticeable. The scientific culture of the compilers, however, should not be overestimated. The close similarities shown in the content by the *Mensa philosophica* and the *Summa recreatorum* suggest that both works are related to a common source, since no evidence could be found of a reciprocal plagiarism. This still unidentified source was also used by the anonymous author of the *Responsorium curiosorum*, to which we will return. It probably was a small encyclopaedia whose author was well acquainted with medical and scientific literature. Therefore, both the *Summa* and the *Mensa* are collections relying on a second-hand scientific knowledge: that should prevent us from venturing into excessive estimations of the compilers' culture.

In the *Summa recreatorum* and in the *Mensa philosophica* the question-answer form does not simply represent a tool used to communicate medical and scientific data, but also becomes a strategy adopted to suggest that science can be transformed into a subject of conversation. The compilers of the *Summa* and of the *Mensa* restructure scientific data into a question-answer form with the aim of transforming them to subjects of dialogue. This strategy allows them to emphasize some features of the natural elements they deal with, and to communicate the scientific material in a more concrete way. However, it is important to notice that the compilers choose not to include their scientific background into the structure of a dialogue; they collect material for a dialogue, but do not write down a fictive one. In the *Mensa* and in the *Summa*, the conversation is not simulated or reported as if it had taken place, but only presented as a future possibility, to which some material is provided. The fact that the dialogue is only suggested by the presence of the question-answer form, but that the question does not turn into a dialogue, separates the *Summa* and the *Mensa* from the literary genre of the scientific dialogues like the *Livre de Sydrac*, where the form of the fictive dialogue has the function of attracting the readers by letting them ›experience‹ the discussion.

The choice of inserting science into the ›reality‹ of the table conversation through the use of the question-answer form is more evident in the *Mensa*

<sup>39</sup>Rauner/Wachinger (Hgg.), *Mensa philosophica*, 101 (III,10,1); *Summa recreatorum*, 1,2 (MS Praha, Narodni Knihovna, Rodnice VI.Fc.34, f. 15v).

*philosophica*, where the section devoted to the *quaestiones mensales* changes position within the collection, since it is transferred from the first, introductory book, to the third part, viz. the ›reproduction‹ of the banquet. In this sense, the knowledge of food and drink derived from a text becomes an essential element of the *recreatio mensalis*, not a preparation for it.

As far as the public of the *Mensa philosophica* and the *Summa recreatorum* concerns, we know that while the former text had a considerable success, was printed at least 24 times, and also translated into English, the latter is preserved only in a limited number of manuscripts<sup>40</sup>. If we compare, however, the diffusion of the *Mensa* with the success of the *Summa ›Omnes homines‹*, we see that the former text was not as widely diffused as the latter, but was read only in specific cultural milieus. Most editions of the *Mensa* were published in the university towns of the North-Central Europe, particularly in the German speaking area. Thus, the readers of the *Mensa* can be identified as both students and teachers of the universities; the small size of the book also made it relatively cheap and easily accessible. The work was probably read as a ›vademecum‹ of both scientific and literary material, or as a short collection of quotations ›ready to use‹, but was never used as a source for other texts or collections. It became a ›small personal encyclopaedia‹ to be kept in the library of an erudite.

### 4.3 Girolamo Manfredi, *Libro del perché*

With the *Liber de homine*, also known as *Libro del perché*, written by the Bolognese physician Girolamo Manfredi during the second half of the fifteenth century and published for the first time in 1474 in Bologna, we are confronted with one of the first vernacular *quaestiones* collections.<sup>41</sup> Manfredi's work consists of two parts, the first of which (*de conservazione sanitatis*) contains some rules for the preservation of health. It is divided into seven chapters, discussing food and drink, sleep and waking state, physical exercise, *evacuatio* and *repletio*, air, and psychological states (fear, sadness, etc.). The second section is specifically devoted to physiognomy, and is composed of thirteen sections organized *capite ad calcem*. The work consists of 565 questions. The *Libro del perché* had a considerable success and was printed until the nineteenth century; it was also translated into Spanish<sup>42</sup> and became a source for some later collections, among which Anton Francesco Doni's *Marmi* and Ortensio Landi's *Quattro libri de'dubbi*.<sup>43</sup> Its large diffusion led the editors of the seventeenth century to publish a ›censored‹ version, where many questions, especially in the second part, were omitted.<sup>44</sup> In this later version, the structure too was deeply changed, the division in two parts disappeared, and the sections were reduced to eight, the first six of which were devoted to medicine and dietetics, and the last two to physiognomy. The main source has been identified in the Pseudo-Aristotelian *Problemata*; the use of Peter of Abano's commentary, on the other hand, is still discussed. Manfredi,

**4.3** Der 1474 erstmals veröffentlichte *Libro del perché* zählt zu den wichtigsten *Quaestiones*-Enzyklopädien der Renaissance. Ziel des Kapitels ist einerseits die Darstellung des Inhalts des Werkes sowie die Suche nach seinen Quellen, andererseits die Beschreibung der vom Text betonten Kombination von Wissenschaft und sozialem Leben.

<sup>40</sup> List of the manuscripts of the *Summa recreatorum* in Rauner, ›*Summa recreatorum*‹. For the history of the printed editions of the *Mensa philosophica*, cf. Rauner/Wachinger, *Mensa philosophica*, 165–180 (with further bibliography).

<sup>41</sup> Edition of the text: Anna Laura Trombetti Budriesi et Fabio Foresti (Ed.), Girolamo Manfredi, *Liber de homine. Il Perché*, Bologna 1988; On this text cf. Cherchi, *Il quotidiano, i ›Problemata‹ e la meraviglia*.

<sup>42</sup> Carré/Cifuentes, *Quesits*.

<sup>43</sup> Cf. Cerchi, *La ›selva‹ dei Marmi di A.F. Doni*.

<sup>44</sup> *Libro intitolato Il Perche, tradotto di Latino in Italiano, dell'Eccellente Medico, et Astrologo, M.Gieronimo de'Manfredi, et dall'istesso in molti luochi dilucidato et illustrato. Con mostrar le cagioni d'infinita cose, appartenenti alla sanità. Con la dichiarazione delle virtù d'alcune herbe. Di nuovo ristampata, et ripurgata di quelle cose, che havessero potuto offendere il semplice animo del Lettore, In Venetia, appresso i Guerra, 1607 (Copy: Wolfenbüttel, Herzog-August-Bibliothek, 143.12 Medica).*

however, does not reproduce tout court the answers provided by the Pseudo-Aristotle. Moreover, he does not mention his sources: only Avicenna is quoted twice. Nevertheless, he seems to have employed a large library: he used, for instance, some texts deriving from the tradition of the Salernitan Medical School, Constantine the African's works, and perhaps the *Regimens sanitatis salernitanum*, whereas he did not consider the *Quaestiones salernitanae*. The Aristotelian corpus is represented by the *Meteora* and the *De animalibus*. Manfredi's scientific knowledge can be explained with the fact that he was a famous physician and astrologer, and professor at the faculty of medicine of the University of Bologna.<sup>45</sup>

The structure of the work, the choice of the discussed topics, and the treatment of the material show some peculiar characteristics. Manfredi adapted the question-answer form provided by the Pseudo-Aristotle to create a medical encyclopaedia. The text does not focus neither on physiology nor on dietetics, as the works we have examined before, but combines them; besides, it deals with a ›new discipline‹ for this literary genre, the physiognomy.<sup>46</sup> The presence of all these branches of knowledge demonstrates the broad horizon of the collection, which deals with aspects of both the human body and the human life. I daresay, the work emphasizes the social role of the human being as well as the physical nature of its body. The work combines the characteristics of a regimen sanitatis and of a quaestiones collection. The interest for the human being as a combination of bodily and spiritual characteristics is also demonstrated by the allusions to daily life dispersed throughout the questions; that points to the fact that the author intended to write for well-educated laymen, not for physicians.

In order to provide an example of the content of the *Libro del perché*, following question can be reproduced here:

*Perché non nuoce I fructi recenti a quei che s'afaticano e fanno molto exercitio.*

*L'aquosita che si genera dai fructi per lo loro exercitio se rissolve e ancho l'humore crudo se padisse; adoncha i fructi non sono convenienti se non a quei che s'afaticano over al tempo del gran caldo e in color che hanno gran sete.*<sup>47</sup>

As far as the internal structure of the chapters concerns, we observe that the answers are brief, clear, but not banal or limited to the discussion of a single natural phenomenon. On the contrary, the discussion of natural phenomena often represents an occasion for the author to explain general problems like the theory of humours or the interaction between cold and warm, spreading out from the context of the single problems. He also includes in the answers further elements taken from real life and from common experience. In this sense, Manfredi's work seems to display some of the features emphasized by C. Meier in her description of the ›domestic encyclopaedias‹.<sup>48</sup>

<sup>45</sup> On Manfredi's biography, see Trombetti Budriesi, Manfredi, *Liber de nomine*, 9–24.

<sup>46</sup> Cf. Agrimi, *Fisiognomica e ›Scolastica‹*.

<sup>47</sup> *Libro del perché*, I,i,67.

<sup>48</sup> On the literary genre of the ›domestic encyclopaedias‹ cf. Meier, *Organisation of knowledge*, 124–125; Meier, *Enzyklopädischer Ordo*, 530–531; Chojecka, *Bayerische Bild-Enzyklopädie*.

The mixed character of the *Libro del perché* is also shown by the unusual presence of magic in the context of the quaestiones collection: the section concerning arms and hands (II, 7) also deals with chiromancy. Manfredi's choice, however, does not surprise, since he was well acquainted with astrology and magic. Moreover, chiromancy and astrology were not considered pseudo-sciences, but as a part of the contemporary cultural background.

If we now try to portrait what the *Libro del perché* represents, we notice that it is a work where both scientific culture and social education are represented. This text is the result of a large and skilled culture and of a well-developed academic niveau. The book, however, was not written for the academic milieu, but for a well-educated reader who did not only want to achieve a certain medical culture, but also to get some practical suggestions concerning his own bodily and social life. The *Libro del perché*, I argue, was owned by the same type of reader who bought the *Regimen sanitatis salernitanum*, or a printed copy of the *Secretum secretorum*.

The *Libro del perché* succeeded in the difficult task of combining knowledge and rules for a good life. To its success contributed the choice of the discussed topics, which reflected the contemporary cultural trends, and particularly the use of the question-answer form, a reliable scheme able to teach and attract the readers. This scheme provided a structure where both theoretical and practical arguments could be combined, and where the discussion of a relatively small number of ›problems‹ could lead to a more general knowledge of nature. With the *Libro del perché*, the transformation of a quaestiones collection into a book providing scientific knowledge related to everyday life is completed.

## 5 Natural Questions and Medical Encyclopaedias: A Preliminary Evaluation

After having briefly sketched some representative collections of natural questions, I will try to draw some provisory conclusions on the basis of the selected texts. My aim is to describe the features of the specific type of ›medical encyclopaedia‹ we have already analyzed, and to identify their potential readers.

First of all, the definition of ›medical encyclopaedia‹ does not suffice to identify the type of encyclopaedia represented by the *Summa ›Omnes homines‹*, by the *Summa recreatorum*, by the *Mensa philosophica*, and by the *Libro del perché*. Rather, they can be defined as a mixed literary genre bordering the medical collections, the domestic encyclopaedias, and the *regimina sanitatis*; all these kinds of texts share a common aim, viz. to connect the acquisition of medical and scientific knowledge with the concrete goal of living a healthy life.

5 Dieses Kapitel beschließt die Abhandlung über die erste Typologie von Quaestiones-sammlungen, in denen die Medizin im Mittelpunkt des Interesses der Kompilatoren steht. In diesem Teil wird unter anderem die Beziehung zwischen dieser Gattung und anderen Formen von populären wissenschaftlichen Texten (wie die *regimina sanitatis*) gezeigt, und es wird versucht, den typischen Leser dieser Enzyklopädien zu porträtieren.

### *Feed yourselves with questioning: / That reason, wonder may diminish.*

(W. Shakespeare, *As you like it*, Act V, Scene 4, vv. 138–139) (German translation: *Frägt euch satt nach diesen Dingen: daß euer Stauen sei verständigt*).

As far as the content concerns, we may say that the goal of the collections is not to describe the whole world of nature, but to convey the necessary information concerning the human body and life the readers need for a good knowledge of themselves. Therefore, the space devoted to the discussion of the natural world is very limited; elements of nature are discussed when they have a meaning for human life: for example, if the flesh of an animal can be eaten. In this sense, the collections of natural questions do not reproduce the model of the general encyclopaedia, but of the particular, thematically oriented one.

The main object of these texts is the human body. Therefore, the collections focus on all branches of knowledge dealing with the human body, viz. on anatomy, medicine, and dietetics. Only Manfredi's *Libro del perché* shows a certain interest in a particular section of magic, viz. the chiromancy. Particularly astonishing is the absence of two branches of knowledge related with medicine, viz. therapeutic and pharmacology. This absence demonstrates the purpose and the limits of the ›medical‹ collections written in a question-answer form: they are not meant to furnish a complete medical culture, but more to offer an overview of the human body and its nature, and to educate their readers to the correct use of it. Therefore, their purpose differs from the aim of the literary genres of the late medieval *Arzneibücher* and handbooks of medical culture written for laymen, and not for specialized physicians.<sup>49</sup> These medical works are meant for a more pragmatic use than our collections of questions. It is not impossible, however, that the *Summa ›Omnes homines‹*, a *regimen sanitatis*, and a medical handbook might have been kept in the same library. Moreover, they show some common interests, e.g. the dietetics, and share some similar elements in the content.

Moreover, it is also interesting to notice that the collections of natural questions I have described display different ways of connecting scientific knowledge with social life. While the compiler of the *Summa ›Omnes homines‹* does not seem to have been deeply interested in the traits of human life, the anonymous authors of the *Summa recreatorum* and of the *Mensa philosophica* show the intention of creating a particular relationship between science and life; in fact, they structure their collections in order to provide material for a high-level dialogue to be held at table. With this decision, they point to a possible use of some parts of natural science for a spiritual development of the participants of the banquet. Moreover, by connecting science with literature and moral examples, they show that their aim was not the redaction of a book on medicine or dietetics, but of a ›manual of good behaviour‹ teaching the way to live a perfect life both in a

<sup>49</sup> On the *Arzneibücher*, see Keil, *Arzneibücher; Riha, Vom mittelalterlichen ›Hausbuch‹ zur frühneuzeitlichen ›Hausväterliteratur‹*.

physical and in a spiritual sense. Finally, Girolamo Manfredi shows in his *Libro del perché* that science can be connected with human life, by including in his work branches of knowledge like chiromancy or physiognomy, in which scientific elements are combined with ethics and spirituality, and by inserting in his answers some examples derived from everyday experience. In this way, Manfredi let his readers acknowledge how closely science and social life were related, and to appraise immediately which kind of relationship they had.

Who were the readers of these collections? And in which way did their owner read them? At the moment, a definitive answer is not possible: to assess the meaning of the *Summa ›Omnes homines‹*, of the *Mensa philosophica*, or of Manfredi's *Libro del perché* (the *Summa recreatorum* did not have a large diffusion), the history of the printed editions and their presence in the private libraries of the early modern erudite people should be examined.<sup>50</sup> For the present state of research, I argue that these works were not written for the same public, or, at least, were not diffused within the same cultural milieus. The diffusion of the *Mensa philosophica*, for instance, which was printed only in some university centres in North and Central Europe, and read only until the beginning of the sixteenth century, indicates that the work was probably considered as private lecture or as a small vademecum delivering elementary scientific information and providing, with its literary or moral sections, delight to erudite people. On the other hand, the large and long-lasting success of the *Summa ›Omnes homines‹* can be related to the emergence of a need for scientific information among readers belonging to a low cultural level: with its combination of discussion of serious problems and apparently extravagant formulation of the single questions, the *Summa ›Omnes homines‹* could attract very different types of readers, who were not necessarily well-educated. A good witness of the large diffusion of the *Summa ›Omnes homines‹* can be found in the presence of the work within miscellaneous volumes: here, the work is combined either with some ›literary‹ collections of problems produced or translated during the Renaissance (for example, the collection written by Marc'Antonio Zimara or with some of Plutarch's questions), or with the complex *Problemata gelliana* written by Giulio Cesare Scaligero.<sup>51</sup> During its history, however, the *Summa ›Omnes homines‹* progressively lost its character of scientific collection to become a ›popular‹, pseudo-scientific text. A further pattern of transmission and diffusion is shown by Manfredi's *Libro del perché*, who did not only find a place in many private libraries in Italy and Spain, but was also excerpted by later authors of quaestiones collections, as we will see in the next sections. Because of the use of vernacular language and of the combination of academic medicine and branches of knowledge like chiromancy and physiognomy, this work could enjoy a considerable success among people interested in medicine, as well as among erudite readers and writers.

<sup>50</sup> On the diffusion of science through the printing cf. Chrisman, *Lay Culture, Learned Culture*; Vogel, *Kulturtransfer in der frühen Neuzeit*.

<sup>51</sup> For instance, in the edition Amsterdam 1650: *Aristotelis aliorumque Problemata, Cui de novo accessere Iul. Caes. Scaligeri Problemata Gelliana*, Amstelodami, apud Iodocum Jansonium, anno 1650.

**6.1** Bevor die ausgewählten Mirabiliensammlungen im einzelnen beschrieben werden, wird zuerst kurz die Entwicklung des Begriffs ›mirabile‹ kurz skizziert sowie seine Interpretation und seine Funktion innerhalb der mittelalterlichen Kultur diskutiert.

To conclude; the diffusion of the ›medical‹ encyclopaedias written in a question-answer form shows us not only the flexibility and adaptability of this structure, and its capacity for transmitting elements of anatomy, medicine, dietetics, and physiognomy to different kinds and levels of public. It also makes us aware of the variety of forms the late medieval and early modern encyclopaedic culture assumed in order to hand over different aspects of science to a larger and more varied public.

## 6 Discovering the wonders of nature: the collections of mirabilia

### 6.1 Introduction: On the Attitude towards mirabilia between the Antiquity and the Middle Ages

The mirabilia, viz. the marvellous or curious aspects of the natural world played an important role in the history of encyclopaedias and of didactic literature; the marvellous was used, reproduced, discussed, denied, and combined with philosophic or scientific explanations or with moral and allegoric meanings.<sup>52</sup> Although some compilers affirm to have limited their interest to real things, mirabilia and curiosities of nature populate the world of medieval and Early Modern encyclopaedias. The following reasons for the success of the mirabilia within the encyclopaedic literature can be pointed out:

Firstly, the curiosities of nature were objects of many works belonging to different literary genres. Ancient encyclopaedias like Pliny's *Naturalis historia* or Solin's *Collectanea rerum memorabilium* delivered a huge background of mirabilia that later authors could reproduce, discuss, and adapt in their own works. Beside of the encyclopaedias, other works presented some mirabilia: chronicles, historical works, as well as legends and lives of saints offered a background of miracles and supernatural phenomena. Travel literature, novels, and poems reported the existence of marvellous animals, strange plants, and monstrous people settled in fabulous remote countries. Finally, bestiaries (like the *Physiologus*), herbals and lapidaries displayed wonders related to animals, plants, and precious stones, and sometimes combined them with allegorical or moral meanings. All these texts did not only furnish a background of legends and marvels, but also created a literary tradition later authors could refer to.

Secondly, the mirabilia had both an entertaining and a pedagogic function.<sup>53</sup> By reporting a curious characteristic of an animal or of a plant, the medieval compiler would delight his readers and satisfy their natural curiosity, but also enlarge their knowledge of nature. Moreover, by describing curious phenomena, the authors drew the attention of their readers to the spiritual message connected with them, increasing the praise of God, the Creator of the universe. Finally, curious properties of plants and animals were related to an allegoric meaning or to an aspect of human behaviour.

<sup>52</sup>On the idea of marvellous cf. Le Goff, *L'imaginaire médiéval*; Ceard, *La curiosités à la Renaissance*; Platt, *Reason Diminished*; Daston/Park, *Wonders and the Order of Nature*.

<sup>53</sup>Rothmann, *Zeichen und Wunder*; Rothmann, ›Wundergeschichten‹.

By displaying the pious, cruel, patient attitude of an animal, for example, the medieval author invited his readers to adore God, to avoid cruelty, to tolerate misfortunes, and to forgive offences. The pedagogic function of nature is particularly reflected by the moralising encyclopaedias written for preachers, while the entertaining aspect is emphasized in texts written for the courtly world like Gervase of Tilbury's *Otia imperialia*.<sup>54</sup>

The development of the concept of mirabile in the Middle Ages is closely related to the changes that occurred in the philosophy of nature. A first, noteworthy change applies to the idea of nature in the twelfth century, when philosophers like Adelard of Bath and William of Conches affirm the concept of a natural world ruled by the principles of rationality. Thus, according to Adelard and to William, every natural phenomenon, even the most ›marvellous‹ one, has a rational explanation.<sup>55</sup> A further important stage in the philosophical debate involving the concept of mirabile is achieved during the fourteenth century. In this period, thanks to Nicole Oresme, author of the *De causis mirabilium* or to the Pseudo-Albert the Great in his *De mirabilibus mundi*, the idea of an inexplicable supranaturale related to divine or demoniac powers was converted into a definition of a praeternaturale which could be explained, since it has natural causes.<sup>56</sup> The interpretation of the praeternaturale can also be used as a preliminary step to discover the laws of nature. The search for a logical explanation of natural phenomena also implied the refuse of any form of superstition, heresy, magic and astrology in favour of a causal explanation.<sup>57</sup>

The changes occurring in the idea of mirabile, however, did not prevent people from being fascinated by miracles, or from reading about them, as the long time success of the collections of mirabilia shows. Nevertheless, something changed: the readers were not only interested in exotic, rare or inexplicable wonders and fables, but also in all curious phenomena that happened in their daily life.

The changes in the idea of the mirabile, in its interpretation and in its function are also reflected by some collections of natural questions written in a question-answer form between the fourteenth and the seventeenth century. Here, I will analyze some of them with the aim of showing in which way the compilers deal with curious phenomena and how they use, interpret, and communicate them. Particularly, I will stress the role played by erudition in the treatment and in the explanation of the natural phenomena and how the mirabile is used to provide both cultural improvement and private entertainment.

## 6.2 The *Responsorium curiosorum*

The *Responsorium curiosorum* can only be read in the printed edition published by Lucas Brandis in 1476 in Lübeck; the manuscript used for the print is lost, and no other is known.<sup>58</sup> The work was probably written during

**6.2** Obwohl nicht weit verbreitet, gilt das *Responsorium curiosorum* als gutes Beispiel der naturwissenschaftlichen Kultur im deutschsprachigen Raum im 14. Jahrhundert. Ziel der Analyse dieses Werkes ist eine umfassende Darstellung seines Inhalts, seiner Quellen und eine Definition der Konzeption des mirabile, die diese Enzyklopädie vermittelt.

<sup>54</sup> Rothmann, Wissen bei Hofe zwischen Didaxe und Unterhaltung.

<sup>55</sup> Cf. Speer, Die entdeckte Natur.

<sup>56</sup> Hansen, Nicole Oresme and the Marvels of Nature.

<sup>57</sup> Daston/Park, Wonders and the Order of Nature.

<sup>58</sup> *Responsorium curiosorum*, Lübeck: Lucas Brandis, 1476.

### A Marvel from the North: the Birds Hidden under the Snow

From: Olaus Magnus, *Historia de gentibus septentrionalibus*, Romae 1555, 677.



### De Avibus sub niue reclusis.

the second half of the fourteenth century in Northern Germany. Some parallelism between the *Responsorium curiosorum* and the *Liber similitudinum naturalium*, a preachers' encyclopaedia written by Conrad of Halberstadt, a Dominican author who flourished around 1350, lead some scholars to attribute both collections to him.<sup>59</sup> This attribution, however, should be rejected, since the two authors use different texts and do not seem to be interested in the same topics. The *Responsorium curiosorum* also shows some similarities with the *Summa recreatorum* and the *Mensa philosophica*, particularly in the sections concerning food and dietetics. However, the purpose of the former work is different: the *Summa* and the *Mensa* are more concentrated on dietetics and medicine, while the *Responsorium* is a collection of scientific problems. Nevertheless, all three works drew material from a common source, probably a contemporary encyclopaedia.

The *Responsorium curiosorum* is divided into four parts. The first book considers the whole spectrum of the organic and non-organic world (sky, plants, animals, precious stones), while the second, the third, and the fourth books focus on living beings, their bodies and their characteristics. The 214 questions of the first book deal with astronomy, meteorology, mineralogy, and botany, following a scheme descending from sky to earth. The second book can be considered as a general introduction to both human and animal anatomy and physiology. A first part of the 142 questions grouped here deal with some general aspects of both human and animal life, e.g. with sleep, movement, respiration, growth, nutrition, procreation and sexual intercourse; a second group examine the properties of some central organs of the human and animal body (heart, brain, stomach, blood, veins etc.). The third book, the largest of the collection, consists of 343 questions dealing with the human body a capite ad calcem; here, some aspects of human life (food, drink, sight, laughter) are also treated. Another part of the book discusses physiognomy. The fourth book finally consists of a short treatise on zoology organised into 182 questions. This last book shows a twofold structure: its first part offers a general description of the animal world and

<sup>59</sup> On Chonrad of Halberstadt, see Ventura, Iolanda, ›Liber similitudinum naturalium‹ Konrads von Halberstadt und seine Quellen.



### A Description of a Dangerous Monster Fish

From Olaus Magnus, *Historia de gentibus septentrionalibus*, Romae 1555, 737.

#### De suffocatione nauium per monstrosos Pifces.

of some of its curiosities, while the second part contains some paragraphs devoted to particular species of animals (birds, quadrupeds, insects etc.).

The sources of the *Responsorium curiosorum* point to a well-stocked library, probably connected to a university centre. Some of them are listed in the general prologue: here, the author reports to have used the pseudo-Aristotelian *Problemata*, Albert the Great's *De animalibus* (together with the *Quaestiones super de animalibus*), Roger Bacon's *Perspectiva*, Constantine the African's *Viaticum* and Peter of Spain's works. Most of these texts do not belong to the usual background of the encyclopaedias, but to the University libraries. The distribution of the sources, however, differs within the books. The first one can be defined as an »encyclopaedia«. Here, many sources are used, among them we find the pseudo-Aristotelian *Problemata*, Seneca's *Naturales quaestiones*, Moses Maimonides' *Dux perplexorum*, William of Conches, Albert the Great's scientific works, Al-Ghazzali's *Liber philosophiae*. On the other hand, the second, the third and the fourth books heavily depend on three sources, viz. the pseudo-Aristotelian *Problemata*, Albert the Great's *De animalibus*, and Peter of Spain's *Problemata* (also known as *Quaestiones de animalibus*). Some rare quotations are also derived from Avicenna's *De animalibus* and *Liber canonis*, from Macrobius' *Saturnalia* (particularly in the third book), from Averroes' *Colliget*, and from Peter of Spain's *Commentarius super Tegni Galeni*. Therefore, the *Responsorium curiosorum* seems to convey the literary genres of the encyclopaedia as well as of the collections of extracts derived from single works.

An interesting aspect of the *Responsorium curiosorum* is represented by the idea of mirabile and of curiosity of nature shown by the compiler. In the Prologue, he affirms to have written his collection in order to provide friars with scientific material they could use during conversations with laymen. This material is meant to help answering the questions people will put because of their natural curiosity and their need for explanations of the marvellous things they experience in their life.

**6.3** Durch die Darstellung des Inhalts und der Struktur der Kompilationen von Girolamo Garimberto und Ortensio Landi, wird sowohl die Benutzung der Quaestiones-Form als auch die Interpretation und die Funktion des ›mirabile‹ in den italienischen Kompilationen der Renaissance dargestellt.

An example of a typical question is: *Quare ferrum valde ignitum scintillat? Dicendum secundum Albertum quia tunc educitur humidum, quod valde compressum fuit cum sicco, quando ferrum vehementer ignitur.*<sup>60</sup>

The questions do not concern fabulous countries, monstrous races of animals and plants, stones of magic power or rare phenomena; on the contrary, they are strictly related to everyday life. Moreover, the answers the friar would give are not supposed to entertain, but to educate; they will provide the laymen with a better knowledge of the world of nature surrounding them. However, the compiler does not seem to have respected his aim completely: a partial exception to a strict adherence to an ›everyday marvellous‹ can be recognized in the fourth book. Here, we do not find only questions concerning animal anatomy, but also some *mirabilia animalium* and some curious aspects of their life. Here, we face data we expected to find in a bestiary, in a moralized encyclopaedia, or in a sermon. Does this mean that the compiler has abandoned the universe of daily life and of its marvels to discuss legends, curiosities, or *mirabilia*? Maybe we should consider this apparent contradiction from another point of view: the *mirabilia* which the *Responsorium curiosorum* deals with are not considered as wonders, but as natural phenomena deserving an explanation. Moreover, they represent a possibility to investigate the principles of nature, moving from a natural particular to a definition of a general rule. Finally, the *mirabilia* discussed in the *Responsorium* are not fables created by the anonymous author, but represent a background of data handed over and legitimated by literary authorities like Aristotle or Ambrose of Milan. Therefore, they are part of the reality of nature discussed by medieval scientists, philosophers, and compilers, and belong to the universe of questions that laymen will put and the friars should answer. In this sense, there is no difference between the animal legends and the marvellous to be experienced in everyday life, since both are connected with a pedagogical function.

In the *Responsorium curiosorum*, the curiosities of nature are neither marvellous things put together to provide entertainment, nor examples displayed in order to communicate allegorical meaning or moral lessons, but natural problems, viz. surprising aspects of nature deserving a scientific explanation, and ought to be comprehended, not only accepted spiritually. Therefore, the questions included in the *Responsorium curiosorum* show an idea of the *mirabile* which recalls the same process of rationalization of nature and of transformation of the inexplicable into something explicable characterizing the approach to the marvellous in the scientific culture of the fourteenth century.

### **6.3** Girolamo Garimberto, *Problemi naturali et morali* and Ortensio Landi, *Quattro libri de'dubbi*

By examining Girolamo Garimberto's *Problemi naturali et morali* and Ortensio Landi's *Quattro libri de'dubbi*, we can define the function of the

<sup>60</sup> *Responsorium curiosorum*, f. 34r.

question-answer form within the encyclopaedic texts written in Italy during the second half of the sixteenth century. Before starting the discussion of the two works, however, I would like to sketch some features of the Italian encyclopaedism of the Renaissance.<sup>61</sup> The vernacular encyclopaedias written in Italy during the sixteenth and the seventeenth century do not represent coherent encyclopaedic projects aiming at structuring and providing a complete knowledge, but are erudite miscellanies.<sup>62</sup> Their titles, for instance *Selva* or *Giardino*, show that data of different origins are gathered together without an apparent order.<sup>63</sup> This literary genre is permeated by the ideal of the *πολυμαθία*, and is characterized by the authors' tendency to display erudition, by the attraction exerted on compilers and readers by *exotica*, curiosities, and *mirabilia*, as well as by the inclination to privilege delight over the usefulness of the work. Italian Renaissance encyclopaedias are, in short, literary products written by erudite people to delight readers belonging to the same cultural milieu. For both the authors and their public, encyclopaedias do not constitute a useful tool written and read in order to provide scientific knowledge, but a book to be consulted to derive pleasure from the marvels of nature. Other types of books, such as scientific treatises, polemic works written within the academic milieu, or essays devoted to specific topics, kept the readers informed about the progresses of science. The invention of printing played a consistent role in the diversification of the types of scientific books, since it increased the possibilities of acquiring knowledge from different sources.

The polymaths of the Italian Renaissance had abundant material at disposal: the progresses in botany, zoology, and medicine, as well as the new importance achieved by branches of knowledge like alchemy or magic, enlarged the number of topics and sources, causing an ›information overload‹. The Italian polymaths, however, do not really make use of new information: generally, they prefer to re-use the material former authors had already included in their own collections, or, more simply, to copy from each other. The same data are transmitted, with slight modifications, from one text to the other. Thus, a consistent part of the Italian encyclopaedic literature of the Renaissance is affected by plagiarism.

The works of Garimberto and Landi belong to the literary genre of the erudite miscellanies of the Renaissance. They were respectively published in 1550 and in 1552;<sup>64</sup> both authors draw their material, among other sources, from the Pseudo-Aristotelian *Problemata*, from Alexander of Aphrodisia, and from Girolamo Manfredi's *Libro del perché*. Let us briefly describe the structures of both works. Girolamo Garimberto's *Problemi naturali e morali* is divided into five books, dealing respectively with the causes of the natural phenomena (book I), with the animal world (book II), with the human body and life (book III), with human perceptions and senses (book IV), with virtues and feelings (book V). The books are subdivided into smaller sections: Book I consists of three parts, viz. *Della generazione*

<sup>61</sup> On the Italian encyclopaedic literature of the Renaissance, see Cerchi, *Polimattia di riuso*; Cerchi (Ed.), *Sondaggi sulla riscrittura del Cinquecento*; Cerchi (Ed.), *Ricerche sulle selve rinascimentali*.

<sup>62</sup> On the ›erudite miscellanies‹ cf. Kenny, *Palace of Secrets*.

<sup>63</sup> Cerchi (Ed.), *Ricerche sulle selve rinascimentali*, 9–41.

<sup>64</sup> Garimberto, Girolamo, *Problemi naturali et morali*, Vinegia 1550; Ortensio Landi, *Quattro libri de' dubbi, con le solutioni a ciascun dubbio accomodate. La Materia del Primo è Amorosa, del Secondo è Naturale, del Terzo è Mista, ben che per lo piu sia Morale, del Quarto è Religiosa*, In Vinegia, appresso Gabriel Giolito de' Ferrari, 1556. On Garimberto and Landi, see Cerchi, *Il quotidiano, i ›Problemata‹ e la meraviglia*.

*universale, Della generazione dell'huomo, Dei sensi*. Book II is formed by two parts, dealing respectively with some general features of animals and with particular characteristics of single species. The same structure is used in book III, whose two sections consider the human beings both in *universale* and in *particulare*. Book IV firstly discusses the perception in a general way (section I), then with special reference to the human senses (section II), and finally, focuses particularly on sounds and hearing (section III). Book V leaves the natural world, and concentrates on human feelings: its sections discuss virtues (section I), delight and boredom (section II), love and hate (section III). Compared to Garimberto's work, Landi's *Quattro libri de'dubbi* show a simpler structure. In its definitive form, published in Venice in 1556, the text consists of four books, dealing respectively with love (book I), with the natural world (book II), with human psychology and ethics (book III), and with religion (book IV).<sup>65</sup>

Concerning the internal structure of the books, Garimberto's work is a collection of questions followed by long and detailed answers, while Landi arranges his text as a fictive dialogue, in which the author answers questions put by some *gentilhuomini*. Both Garimberto and Landi discuss problems related to the world of nature and to human psychology and spiritual life. The presence of psychology and religion is not entirely new: In 1540, Leonardo Giacchini of Empoli published a *Quaestionum naturalium libellus* in which he included some questions about love; in 1536, Francesco Giorgio Veneto devoted his *In Scripturam Sacram et philosophos tria millia Problemata* to the Bible; finally, in 1567 Gian Matteo Durastante focused in his *Problemata* on religion and demonology. Moreover, ethics and spiritual life were not introduced as subjects of didactic literature in the Renaissance, since they already made up an important part of it in the Middle Ages, and were discussed in collections of questions or in fictive dialogues, as the huge success of the *Lucidarius* and its vernacular translations demonstrates.

The two works witness some changes in the idea and in the function of the marvellous. Firstly, they show that marvellous or curious aspects are not found only within the natural world (*viz.* among plants, animals, or meteorological phenomena), but also in ourselves and in our lives. According to them, everything around and within us can be turned to an object of curiosity and a topic for questions and explanations. Secondly, they indicate that all topics which can be treated as ›problems‹ are also an occasion of displaying erudition, of showing how wide the personal culture of the compiler is, and how able he is to answer all kinds of questions. The erudite side of the *mirabile* is also made evident by the fact that the two compilers sometimes combine an apparent simple question with an explanation incorporating allusions to many reference-texts. Most of the problems discussed by Garimberto or Landi are not results of their own fantasy, but are derived from the Pseudo-Aristotle or from Girolamo Man-

<sup>65</sup> On the history of the text cf. Cherchi, I ›Dubbi‹ di Ortensio Lando in inglese erroneamente attribuiti ad Alain Chartier.

fredi, and thus belong to a traditional background. Finally, the marvellous is closely related to the aim of delighting the readers; for the two authors, the pleasure of reading can be increased not only by searching for strange or unusual questions, but also by stretching the range of topics from science to ethics and spirituality.

The function of the marvellous or of curiosities of nature is made evident in the types of problems discussed by Garimberto and Landi. If we read, for example, the questions included by Garimberto in section I of book II, which deals with the animal world in general, we notice that the limited number of questions included in this part does not help us very much to get to know the animal world better, but only points to a selection of strange phenomena. Here, I reproduce the general index of this section:

*Libro II. Degli animali in universale.*

- 1) *Perche causa alcuni filosofi hanno tenuto che ancora gli animali ir-rationali habbiano ragione in loro.*
- 2) *D'onde viene, che de gli uccelli, molti formano il canto, e alcuni la parola, e delle bestie nissuno può formare né l'uno, né l'altra.*
- 3) *Perche causa gli animali piccioli sono più fecondi de i grandi.*
- 4) *Onde si causa, che gli uccelli sono più libidinosi de gli altri animali.*
- 5) *Perche cagione tutti gli animali neri hanno i denti bianchi, havendo le corna, e l'onghie nere.*
- 6) *Onde procede, che nelle penne de gli uccelli siano tutti i colori, e nei peli de gli altri animali ne siano pochi.*<sup>66</sup>

Moreover, by reading the answers given to some of the mirabilia by Garimberto or Landi, we are surprised by the complex, well-documented, ›serious‹ explanations. Probably, the complexity and the scientific background of the answers do not aim to explain the natural phenomenon or at reducing it to something ›understandable‹ with the help of rationality and science, but to show the readers that even insignificant natural phenomena hides some very complex mechanisms. In this sense, the scientific explanation does not have the function of diminishing the surprise the marvellous cause in the readers, but of increasing it, together with the delight connected with it.

Structure and purpose of the problemata included in Landi's and Garimberto's collections become more clear by reading two of Landi's questions, which I reproduce here.

*Donde nasce, che gli huomini, c'hanno la voce aspra sogliono essere invidiosi, et di maligno cuore? L'asprezza della voce procede dalla asprezza della canna del pulmone, la quale nasce da freddezza; et da siccità di complessione, si come essere sogliono i maninconici; et perché i maninconici sono naturalmente timorosi, per ciò non ardiscono di manifestar la nequitia del lor cuore; ma celata la tengono quanto più possono.*

*Per qual ragione sogliono i cacciatori Alemanni tener il fiato quando desiderano udir, se ci sia alcuno uccello o altra fiera per dargli la caccia?*

<sup>66</sup> Garimberto, *Problemi naturali et morali*, Index of book II.

*Tutte le volte che si ritiene il fiato, l'organo dell'udito si accosta piu alle parti di fuori, et per conseguenza meglio vi si può avvicinar la voce, o il suono che poscia proibisce l'udire.*<sup>67</sup>

The problems included in the *Problemi naturali* and in the *Quattro libri de'dubbi* are not gathered together with the aim of helping the reader to acquire a complete knowledge of the natural world and of its marvellous aspects, as we have seen, for example, in the case of the *Responsorium curiosorum*. On the contrary, the two compilers aim at extracting some curious aspects from the whole world of nature and to discuss only them with the aim of delighting their readers. In this sense, the appeal of curiosities of nature and the need to explain them seems to have lost its function as a first step for the acquisition of knowledge, in order to become a strategy to offer and get entertainment.

In short, we may conclude that at the time when Garimberto and Landi wrote their collections, pleasure and erudition have substituted usefulness and pragmatic function of scientific culture as factors influencing the redaction of encyclopaedic works. Moreover, the two collections show how the function of the marvellous changed in the collections of *quaestiones naturales*: the aim of these encyclopaedias is not to transform the curiosity of nature into a subject of science with the help of a rational explanation supported by the sources, but to transform aspects of natural science into curiosities through the use of an apparently wide, but ultimately superficial, erudite culture.

As far as the use of the question-answer form concerns, I argue that this structure is not used here to hand over scientific knowledge in a simple way, to explain the general laws of nature based on specific natural phenomena, or to affirm a logical explanation of nature over other forms of interpretation. In the Renaissance collections, the question-answer form turns out to be just a strategy to attract the attention of the readers and to increase their pleasure in reading, helping the compilers to realize the project of providing fun through science.

#### 6.4 Alessandro Tassoni, *Dieci libri di pensieri diversi*

For the Italian scientific and philosophic culture, the sixteenth and the seventeenth century can be considered as a period of particular development. Philosophers like Bernardino Telesio, Girolamo Cardano, and Giulio Cesare Scaligero deeply influenced the contemporary philosophy of nature and promoted a discussion on the scientific methodology, which philosophers and scientists should use for the interpretation of the natural world. Some clues to the debates characterizing the contemporary philosophy of nature can also be found in certain encyclopaedias. The *Dieci libri di pensieri diversi*, for example, an encyclopaedia published by Alessandro Tassoni in 1610, perfectly reflects the status of science and philosophy of his time.<sup>68</sup>

<sup>67</sup> Landi, *Quattro libri de' dubbi*, II, 78, quoted in Cherchi, *Il quotidiano*, I ›Problemata‹ e la meraviglia, 29.

<sup>68</sup> Tassoni, Alessandro, *Dieci libri de' Pensieri Diversi. Corretti, ampliati, e arricchiti in questa ultima impressione per tutto dall'Autore di nuove curiosità: Ne' quali per via di Quisiti con nuovi fondamenti, e ragioni si trattano le più curiose materie Naturali, Morali, Civili, Poetiche, Istoriche, e d'altre facoltà, che vogliono venire in discorso fra Cavalieri, e Professori di Lettere. Con due copiosissime Tavole: Una de' Libri, Quisiti e Capitoli, e l'altra delle cose più notabili e memorabili*, In Venetia, Per il Barezzi, all'Insegna dell'Abbondanza, 1646. On Tassoni see Cerchi, *Il quotidiano*, I ›Problemata‹ e la meraviglia.

Tassoni continuously refers to theories expressed by Cardano, by Telesio, by Scaligero, or by Ludovico Settala, a contemporary physician who also commented Hippocrates' works. Tassoni's use of the contemporary philosophical and scientific literature is not limited to mentioning the main reference texts: he also refers to Cardano's or Telesio's opinions to criticize or approve them, or to build up his own assessment of a natural phenomenon. In this way, he transforms his encyclopaedia into a ›forum of discussion‹, where he does not only describe natural phenomena, but also discusses some theories related to them.

The *Dieci libri di pensieri diversi* are an encyclopaedia organized in form of problems, where some questions concerning specific natural phenomena are followed by long and richly documented explanations. The work is divided into ten books, which are respectively dedicated to materia and forma (I), sky and stars (II), sun and moon (III), air, water, earth (IV), accidenti and properties of things (V), human uses and habitudes (VI), literature (VII), anthropology and political structures (VIII), history and poetry (IX), biographies of famous people (X); in this sense, Tassoni's work appears to reflect the structure of an encyclopaedia more than that of a collection of questions. All books but the last one are organised in a question-answer form; only in the case of the biographies, the author prefers to rely upon the usual division into chapters. Here, as well as in Landi's or in Garimberto's works, the question-answer form is used to discuss not only aspects of the natural world, but also features of human life. However, the function of the question, the interpretation of the natural phenomenon, as well as the nature and purpose of the work are slightly different. In order to identify the main features of Tassoni's *Pensieri*, let us try to examine the nature of the work, its content, and the role played by the question-answer form in the text. Tassoni's encyclopaedia is structured in form of ›problems‹, but by reading them, we perceive that we are not facing real ›questions‹, but a list of topics of discussion or of ›research fields‹. The author uses the question as a strategy to introduce new topics, to summarize a theme he intends to discuss, and to provide a general scheme into which he can arrange a net of data and of references to his sources.

Most of the ›curious problems‹ are concentrated in the book V, viz. in the section devoted to the accidenti and the properties of natural elements. The structure of this book can be summarized as follows: a first section (problems 1–26) focus on mankind and on some features of the human body (eye, sight, mouth, voice, teeth etc.); this is followed by a second group of problems (27–42) dealing with some curious aspects of the animal world. The book closes with two questions discussing problems related to ethics and spiritual life, viz. *Perche l'huomo havendo l'anima immortale habbia il corpo di così breve vita*, and *Se la vita di Diogene cinico sia lodevole, o biasimevole*. The choice of the problems discussed and their internal structure shows a characteristic we have already remarked in Garimberto's

**6.4** Tassoni's *Dieci libri di pensieri diversi* bieten ein gutes Beispiel einer frühneuzeitlichen Gelehrten-Enzyklopädie, eine zwischen dem 17. und dem 18. Jahrhundert in Italien verbreitete Gattung. Durch die Untersuchung dieser Enzyklopädie wird gezeigt, wie die Auseinandersetzung mit den mirabilia für die Gelehrten der Frühen Neuzeit im wesentlichen dazu diente, ihre eigene Kultur zu dokumentieren, und die *curiositates naturae* als Gelegenheit zu benutzen, sich mit der zeitgenössischen wissenschaftlichen Debatte zu konfrontieren.

or Landi's collections, viz. the close relationship of the questions with the topics of discussion established by philosophic tradition or by the contemporary natural science. As in Garimberto and in Landi, the problems are selected and gathered together to reconsider questions which other authors had already dealt with; most questions derive from Cardano's *De subtilitate* or *De rerum varietate*,<sup>69</sup> or from Telesio's works, while some of them reproduce the content of the Pseudo-Aristotelian *Problemata* or of the problems of Alexander of Aphrodisia. Compared to Garimberto and Landi, however, Tassoni pushes the play of erudite allusions further: he does not limit himself to draw the material from his sources without mentioning them; he disperses quotations throughout the chapters of his work, creating a net of references in order to summarize the contemporary scientific debate. Moreover, he does not restrict his author's role to reproduce the solutions he draws from his sources, but he uses them to reach his own.

The ›problems‹ gathered together by Tassoni exhibit a particular idea of the marvellous. At a first glance, they do not deal with mirabilia or exotica, but with small, almost irrelevant aspects of nature and of human life. Initially, they seem to reproduce the everyday marvels we have already found included in collections like the *Responsorium curiosorum*. Does this mean that here we do not face the marvellous at all? Or maybe that we are confronted with another nature and function of it? If we read better between the lines, we discover that the situation is different. The problems included by Tassoni in his encyclopaedia do not derive from a direct observation of nature; moreover, they do not purport to help the reader to build up his own knowledge of its laws. They have an erudite origin; they are a product of books, not of reality. This scholarly origin is also witnessed by the nature of the questions: they are, in fact, ›natural paradoxes‹ describing improbable situations, chosen with the aim of using them to discuss the contemporary philosophy of nature, not to explain its reality.

The relationship between reality and marvel is therefore subverted: in a certain sense, there is no reality to explain, and no mirabilia to admire, since everything is contained in the world of books and in the logic of erudite people. Beside of that, the rich and well documented explanation given by Tassoni intends to give to the paradox the role of a real ›problem‹, which deserves to be discussed, and to transcend it to the level of the scientific erudition. Therefore, if we try to define the function of the curiosities of nature in the *Pensieri diversi*, we notice that the aim of the author is not to transform curiosity into science (as the compiler of the *Responsorium curiosorum* did), nor to extract single aspects of the nature to build up a world of curiosities, but to ›annihilate‹ the mirabile by making it the object of a scientific or philosophical explanation, or by conforming it to the idea of nature which the science and philosophy of the seventeenth century wanted to transmit.

<sup>69</sup> On Girolamo Cardano, cf. Keßler (Ed.), *Girolamo Cardano*; Siraisi, *The Clock and the Mirror*.

In order to explain better Tassoni's treatment of the marvellous, I reproduce here the content of a question drawn from the fifth book of the *Pensieri diversi*:

*Il Cardano havendo mosso questo quisito nel 4. lib. De subtilitate, il risolve, dicendo, che ciò veniva, Quia pilus densa substantia est et crassa, neque lucis capax. Onde lo Scaligero per così fatta soluzione il beffeggiò col dire: Che è l'istesso il domandare, perche non si trovino animali col pelo verde, che il domandare, perche non si trovino piante con foglie nere; e che i peli non sono altro, che piante; e le piante non son'altro, che peli verdi della terra; e che si trovano Scimie di color verde, e molti uccelli verdi, le cui piume non sono altro, che peli. Veramente egli non si può negare, che la ragion del Cardano non habbia dello sciapito; conciosia che se le sostanze dense non si colorassero in verde, gli smeraldi non sarebbero verdi; e se i capelli fossero incapaci di luce, non lucerebbono i biondi. Ma ne quello che lo Scaligero adduce merita al mio parere molto applauso; percioche il dire, che i peli sian piante, perche hanno simbolo con le piante, e piume, perche hanno simbolo colle piume, è metafora più che poetica. Che parimenti si trovino Scimie verdi, io non so alcuno, che ne vedette giammai: e pure ho parlato con molti in Ispagna, che sono stati per l'Indie, e per l'Africa. Sonovi bene alcuni gatti Indiani, che hanno verde la pelle in alcuni luoghi, ma il pelo verde non già. Quello poi, ch'egli aggiugne delle foglie de gli albori, non iscioglie il quisito del Cardano, ma ne forma un altro diverso. Là onde io direi quello, che ne' suoi problemi disse Alessandro Afrodiseo trattando della cagione della canutezza de gli huomini, cioè, che'l pelo riceva il colore dal nutrimento, il che pure non seppe negar lo Scaligero stesso nella particella 59. delle sue sottigliezze, allegando che per ciò le pulci de'cani grassi biancheggiano, perche si pascono di pinguedine. L'umor verde ne gli animali è feccia, ed escremento nocivo; e pero ne' pelosi la natura non lo trasmette alla pelle per non infettare il sangue, essendo che i peli non porrebbero succiarlo, ed asciugarlo tutto, ma il separa, e chiude nel fiele. Ma in alcuni uccelli, ne'quali egli è più sottile, e la carne più porosa, ella il trasmette alla pelle, e lo smaltisce nelle piume loro, le quali ne succiano molto più, che non sarebbero i peli, come ne' pappagalli si vede. E perche lo Scaligero opponendosi a questo, anzi a se stesso, allega l'esempio de gli ebuli, i quali hanno il sugo nero, e nondimeno le foglie loro, che da quel sugo ricevono l'alimento, non sono nere, ma verdi; rispondesi, che la scorza delle piante nutrisce le foglie, e'l sugo del legno nutrisce i frutti; sì che non è maraviglia, se gli ebuli, che hanno la scorza verde, hanno anco verdi le foglie; percioche il sugo dentro concorre al nutrimento de'frutti; e per questo i frutti degli ebuli sono nerissimi anch'eglino; e le ciriegie son rosse, perche il sugo del legno è di quel colore, e le foglie son verdi, perche l'umor della scorza verde è quello, che le nutrisce. Aristotile nel cap. 6 allegato di sopra del quinto della generazione degli animali disse, che la varietà de'peli, e delle penne procedeva dal color della pelle, che se la pelle era negra, anche le*

7 Dieses Kapitel enthält die Schlußbemerkungen des zweiten Teil dieser Studie und versucht, die Tendenzen der Entwicklung der Gattung der Mirabiliensammlungen zu skizzieren sowie die Beziehungen dieser Texte zur Evolution der philosophischen und naturwissenschaftlichen Kultur zwischen dem Spätmittelalter und der Neuzeit zu zeigen.

*penne, e i peli erano negri, e se bianca bianchi; ma io so certissimo contra la sua dottrina, che le galline, e i porci neri hanno la pelle bianca; e che i beccafichi grassi, e gialli di pelle, non hanno le piume gialle.*<sup>70</sup>

In Tassoni's view of the natural world, the report of mirabilia and of curiosities of nature only obtain a small space: they take the form of anecdotes included in the answers with the function of supplementing them with strange or unusual stories. In *Pensieri* for instance, a section answering the question *Why do people lose their teeth when they get older?*, Tassoni recalls, that he once met an old woman in Contursi (in the South of Italy), who did not lose her teeth; on the contrary, when she was 97 a line of new ones appeared in her mouth!<sup>71</sup> The function of these anecdotes, I argue, is not to integrate the answers through real situations, nor to entertain the readers with strange stories, but to give an example of the theory exposed in the answer. Tassoni does not expect his erudite readers, who were well acquainted with the theories of interpretation of nature developed by Cardano or by Scaligero, to be impressed or delighted by some small curiosities. They were looking for examples supporting the theories they adhered to.

## 7 The Quaestiones Collections and the Mirabile between Late Middle Ages and Early Modern Time

During our journey through the literary genre of the collections of curiositates naturales, we have seen in which way the idea of the marvellous changed in the encyclopaedic literature of the Late Middle Ages and the Early Modern Time, according to the development of the philosophic and scientific culture. Moreover, the readers' taste for the marvellous changed. We have seen, for instance, how an author of the fourteenth century was confronted with a mirabile originating from everyday life, structured it into a collection aiming at giving an almost complete reproduction of the world of nature, and succeeded in providing his readers with concrete and useful explanations of it, supported by a conscious use of contemporary scientific sources. Two centuries later, in the middle of the sixteenth centuries, we have considered two erudite polymaths dealing with the mirabile by extracting curious aspects from the world of nature and incorporating them into a collection in order to provide their readers with subtle and sophisticated entertainment. Finally, we have observed how an encyclopaedist of the seventeenth century used his collection of mirabilia to take part in the contemporary debate concerning the philosophy of nature. In order to do that, he freely constructed some artificial curiosities of nature by structuring his questions as paradoxes. At the same time, he blew up the mirabile by overloading it with explanations derived from his sources, and by making it the object of an erudite discussion. The changes displayed in the treatment and the representation of the marvellous in the collections cannot be understood without considering the fact that between the end

<sup>70</sup> Tassoni, *Dieci libri de' Pensieri Diversi*, V, 10 (*Perche non nascono peli verdi*).

<sup>71</sup> Tassoni, *Dieci libri de' Pensieri Diversi*, V, 24.

of the Middle Ages and the end of the Early Modern Time the number of marvellous things and phenomena increased considerably, e.g. through the discoveries of new territories. Moreover, the approach of the erudite people to the marvellous was not henceforth limited to the analysis of its causes; on the contrary, philosophers and scientists began to collect and catalogue marvellous things in Wunderkammer, and later to try to explain and reproduce them. This new approach is perfectly reflected by the encyclopaedias written in question-answer form, where the same structure is used to discuss different forms of the marvellous and different approaches to it.

The changes in the content of the collections are paralleled by changes in the structure of the question-answer form. While the questions of the *Responsorium curiosorum* are organized as small unities, where a single topic is discussed with the help of a single source, and the problems are gathered together with the aim of forming a coherent content, the small and apparently simple answers provided by Garimberto and Landi effect an altogether different situation. Their short ›problems‹ constitute a net of allusions to texts and theories that seemingly the compilers are not interested in revealing to their readers. Probably, their public did not expect a coherent, well documented encyclopaedia, but a book created to entertain them; in this kind of book, quotations are not necessary. Moreover, their questions are not meant to deliver a coherent picture of nature, but only to emphasize some of its strange aspects. Their collections of questions do not present coherent encyclopaedic projects, but erudite miscellanies dealing with selected topics. Finally, with Tassoni's encyclopaedia, the question becomes a tool used to reproduce the contemporary debates developed around the philosophy of nature, and constitutes a text form in which different opinions and theories can be gathered together and compared. I argue that this late development of the question-answer form is closely related to its function as shown by Girolamo Cardano, and to the influence of his *De subtilitate* and *De rerum varietate* on the contemporary scientific and encyclopaedic culture. Probably, the influence of contemporary science and philosophy may also be related to Tassoni's use of paradoxes of nature.

Which kind of encyclopaedic culture do these works represent? Who read them? Which place do these texts have within the history of the medieval and early modern encyclopaedism? An exhaustive answer cannot be given here. Nevertheless, I would like to express some general observations here. As far as the *Responsorium curiosorum* concerns, we know that the work did not enjoy any success. It was printed only once, and this in a very limited number of copies. This encyclopaedia did not meet the taste of the public; a reader would hardly enjoy its flat and cold succession of questions and answers, where the explanation is nothing but a simple copy of excerpts drawn from scientific and philosophic sources. A text like the *Summa ›Omnes homines‹*, for instance, and its short, synthetic,

and clear answers might have been perceived as more interesting and intriguing. The *Responsorium* could not compete with such a text, and could not satisfy the taste of a public who did not just look for useful scientific information, but also for pleasant reading. The daily marvels collected in the *Responsorium* and the interpretation there according to the scientific culture of the fourteenth century, did not attract the public of the age of printing.

On the other hand, Garimberto's and Landi's collections appear to have been very successful, especially because of the choice of the discussed curiosities of nature and in the attractive way to explain them. It would be intriguing, however, to trace their position within the Renaissance encyclopaedism. Garimberto's and Landi's collections do not seem to correspond to the ideals otherwise permeating the encyclopaedic culture of the sixteenth century, but rather to constitute a specific literary genre. Their collections do not aim at conveying as much scientific data as possible, but at reducing their number, at selecting and organizing a small group of topics. Moreover, their authors do not intend to construct large books, trying to satisfy a need for universal knowledge, but to create small and easily readable texts. In this connection, Garimberto's and Landi's works cannot be ranked with the literary genre of the universal encyclopaedias, but with the literature of the commonplaces books and of the scientific miscellanies.<sup>72</sup> The fact that Garimberto and Landi cannot be considered to be at the same level as Alsted or Bayle does not mean, however, that they were read by a public different from that of the big encyclopaedic texts; they just have a different function within their owner's libraries. The typical reader of a large encyclopaedia could appreciate a small collection, but made a different use of it; he did not consult Garimberto's *Problemi*; he read them. He did not use them to improve his knowledge; he opened them to enjoy their contents. As Francis Bacon pointed out in his *Essay Of Studies* (1612), *Some books are to be tasted, other to be swallowed and some few to be chewed and digested; that is, some books are to be read only in parts; other to be read, but not curiously; and some few to be read wholly, and with diligence and attention.*<sup>73</sup> In this context, the function of Garimberto's and Landi's collections and of their curiosities of nature was that they should be read (or, better, be tasted) with pleasure.

Finally, Tassoni's work and its meaning can be examined by considering the scientific and the encyclopaedic culture of the seventeenth century. By reading through his sources, it emerges that Tassoni was well acquainted with the scientific culture of his time. However, his work does not correspond to the progresses taking place in science and philosophy of nature at that time. For instance, during the seventeenth century scientists and philosophers developed new methodologies for the observation and the interpretation of the natural world: they devoted their attention to the way in which natural phenomena were originated, analyzed the circum-

<sup>72</sup> Yeo, *Encyclopaedic Visions*.

<sup>73</sup> Quoted in: Blair, *Reading Strategies for Coping With Information Overload*, 13–14.

stances in which they occurred, studied the possibilities of reproducing them. In this sense, the questions they put was not just ›Why?‹ something happened, but ›How?‹ it happened, ›When?‹, or, finally, ›Could it be reproduced?‹. From the point of view of the contemporary scientists and naturalists, Tassoni's natural paradoxes, although well-documented, might have appeared as intellectual sophisms, as sophisticated erudite games without any practical utility. They simply had no meaning, since they could not answer the real questions, which the contemporary science posed and tried to answer. Moreover, their mirabilia did not fit into the portrait of the natural world that the natural science was trying to trace at that time.<sup>74</sup>

The birth of modern science condemns the literary genre of the collections of natural questions to death, or rather, to a de-evaluation. From the second half of the seventeenth century onwards, natural problemata are more and more considered as a literary genre transmitting pseudo-science on a ›popular‹ level. No more important collections were produced, and also the forms, the structures, and the strategies of organization of the material used by encyclopaedic authors changed.

Nevertheless, while the scientific culture of the seventeenth century was witnessing the slow waning of the collections of questions and their failure as books created to hand over scientific knowledge, a part of the contemporary vernacular encyclopaedic literature still pursued a certain tendency towards *πολυμαθία*, and showed a preference for the curiosities of nature. If we consider the wide literature of vernacular encyclopaedic texts written in Italy, and especially works like Daniello Bartoli's *La ricreazione del savio*, Tommaso Garzoni's *Serraglio degli stupori del mondo*,<sup>75</sup> or Giovanni Imperiali's *Notti beriche*, we notice that despite of the progresses of natural science in the perception and interpretation of the natural world, the taste for the mirabilia and the curiosities of nature was still alive.

What was changing, however, was the relationship between marvels of nature and scientific culture: while the *Responsorium curiosorum* could still bridge the distance between them, and use the former to reach the latter, the encyclopaedic texts of the Early Modern Time clearly show that this connection was not possible anymore. From the seventeenth century onwards, science focuses more and more on the analysis of the usual, of the normal, and of what can be rationally perceived. The authors of problemata collections, however, did not perceive this change, but went on staring at the mirabilia of nature, without daring to look at them with the new eyes of Reason.

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<sup>74</sup>Cherchi, *Il quotidiano, I ›Problemata‹ e la meraviglia*, 34–40.

<sup>75</sup>On Tommaso Garzoni cf. Cherchi, *Enciclopedia e politica della riscrittura*.

## Résumé

Pendant les dernières années, les encyclopédies médiévales ont attiré l'intérêt de plusieurs chercheurs. En particulier, le rôle joué par les encyclopédies dans la diffusion de la culture scientifique parmi des lecteurs qui n'avaient pas accès aux oeuvres originales, et les stratégies utilisées par les compilateurs avec le but de faciliter la transmission des données à leur public ont été fait objet de nombreuses études. Dans cet article, j'examinerai une typologie particulière de texte encyclopédique diffusée à travers le Moyen Age et la Renaissance, c'est à dire, la compilation encyclopédique organisée en forme de questions et réponses. En particulier, mon but est d'examiner la structure, les sources, les techniques d'organisation montrées par ces textes, et leur relations avec la culture scientifique et philosophique à leurs contemporaines. Dans mon étude, je vais examiner deux groupes de compilations, dont le premier pourrait être défini comme appartenant à la typologie textuelle de «l'encyclopédie médicale», car il se concentre sur la description du corps humain, de ses parties, et de quelques aspects de la vie de l'homme. D'autre coté, un autre group de compilations encyclopédiques nous présente une typologie de texte rédigé avec le but de montrer aux lecteurs une sélection des mirabilia et des curiosités de la nature. Pourtant, ces textes encyclopédiques ont une certaine importance pour la définition soit du niveau de la culture scientifique de ses auteurs, soit des progrès et des changements dans la conception du mirabile dus à l'évolution de la culture scientifique et philosophique entre le Moyen Age et la Renaissance.

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**Allgemeinwissen und Gesellschaft. Akten des internationalen Kongresses über Wissenstransfer und enzyklopädische Ordnungssysteme, vom 18. bis 21. September 2003 in Prangins**

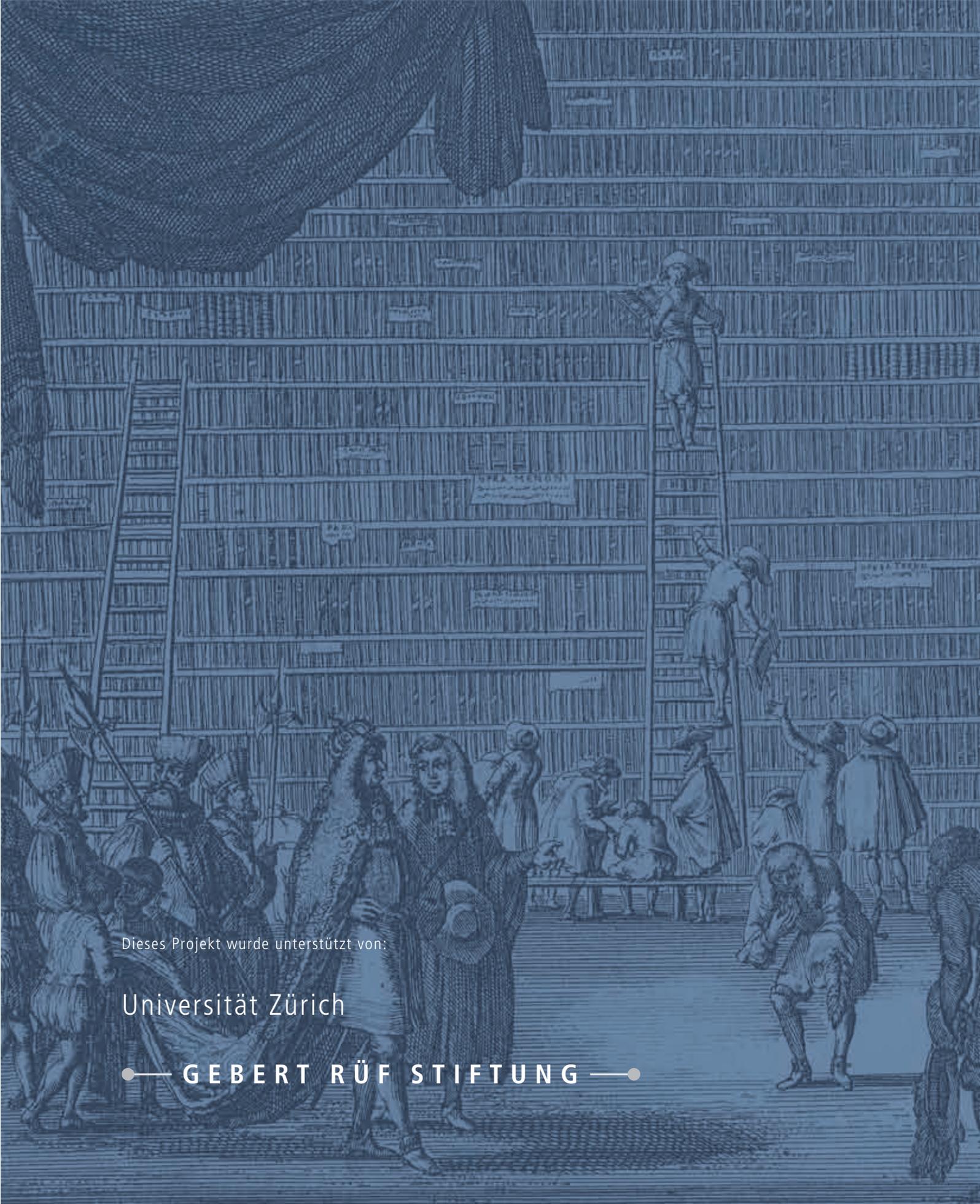
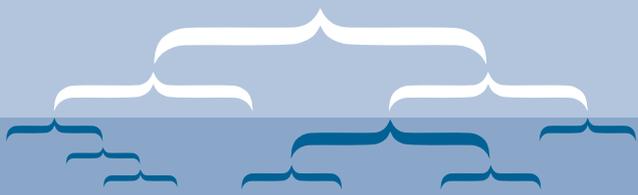
»Allgemeinwissen« ist ein gesellschaftliches Konstrukt, dessen Nachfrage ebenso erfunden ist wie seine Inhalte und die Formen seiner Anordnung – aber wer sind die Akteure im Prozess der Vermittlung von Wissen, Bildung und Information und in welchem Verhältnis stehen sie zur Gesellschaft? Der Band diskutiert die Problematik »Allgemeinwissen« am Beispiel einer scheinbar stabilen und angeblich einheitlichen Form des Wissens: den Enzyklopädien. Wie sich diese Medien des Kulturtransfers verändern, wie sie mit dem Dilemma umgehen, einerseits stabiles und andererseits aktuelles Wissen zu reproduzieren, ist Gegenstand einer Debatte, die sich weder auf die Enzyklopädien der Neuzeit noch auf ausschließlich europäische Beispiele beschränkt. Enzyklopädien tragen zur Popularisierung von Werten und Ideen im Alltäglichen bei, und ihre Erforschung erlaubt es, die Verbreitung von gesellschaftlichen und politischen Ordnungsvorstellungen nachzuvollziehen. Die Beiträge sind interdisziplinär und global vergleichend konzipiert, sie untersuchen Verlegerdynastien, fragen nach dem Einfluss von Zivilgesellschaften und thematisieren die Rolle politischer Machthaber bei der »Bildung« von Gesellschaften. Die nationalstaatlichen Interessen im Entstehungsprozess von Enzyklopädien in Indien und Australien stehen demnach ebenso zur Debatte wie die in die Antike zurückreichenden Vorstellungen, wie Wissen geordnet sein sollte. Die Mechanismen der Zensur in Frankreich des 18. Jahrhunderts wie auch Formen des Sammelns und Ordnen in demokratischen und totalitären Systemen der Neuzeit werden genauso berücksichtigt wie die Frage, durch welche deontologischen Grundprinzipien die Suche nach Wissen gelenkt wird.

**All you need to know. Proceedings of the international congress on knowledge transfer and encyclopaedic ordering principles: Prangins, 18–21 September 2003**

»General knowledge« is a social construction. All its aspects, ranging from the need for it, to its content and its forms of organisation, are invented. But who are the protagonists in the process of transferring knowledge, education and information and what is their role in society? This volume discusses the issue »general knowledge« using the example of an apparently stable and supposedly consistent form of knowledge: encyclopaedias. Questions like how these medias of cultural transfer change through time, how they deal with the dilemma of reproducing stable and at the same time current knowledge are treated through a wide range of examples, including non-European and non-modern texts. Encyclopaedias contribute to the popularisation of values and ideas in everyday life, and research on encyclopaedias can reveal notions about social and political order. The articles are designed to be interdisciplinary and comparative on a global scale. They examine publishing dynasties, enquire about the influence of civil societies and deal with the role of political rulers in efforts to »educate« societies. The interests of nation states in the production of encyclopedias in India and Australia are debated along with ideas dating back to the ancient world on how knowledge should be organised. Mechanisms of censorship in 18th century France and ways of collecting and organising knowledge in democratic and totalitarian systems of modern times are considered just like the question, through which deontological principles the search for knowledge is regulated.

**Les labyrinthes du savoir. Actes du congrès international sur la transmission du savoir et les principes d'ordre encyclopédiques, 18–21 septembre 2003 à Prangins**

Le concept de »culture générale« est une construction humaine. Ses exigences, ses contenus et la forme de sa présentation sont des produits artificiels – mais qui sont les acteurs dans cette transmission du savoir, de la culture et des informations et quel rôle jouent-ils dans une société? Le volume présente ces questions liées à la »culture générale« à partir d'un exemple du savoir accumulé que l'on croit acquis et uniforme: les encyclopédies. Quels transformations ont subi ces médias du transfert culturel? Comment ont-ils géré le dilemme d'être à la fois garant d'un savoir acquis sans pourtant négliger l'actualité? Ce débat ne se limite ni aux encyclopédies des temps modernes ni aux exemples européens. Les encyclopédies apportent dans la vie quotidienne des systèmes de valeurs et des concepts intellectuels; leur analyse permet de reconstituer la diffusion des systèmes de classification d'ordre social et politique. Les contributions reflètent une approche interdisciplinaire et comparative au niveau global. Ainsi elles analysent des dynasties d'éditeurs, l'influence de la société civile ou du pouvoir politique sur le concept de »culture générale« d'une société. Le débat s'ouvre sur des thèmes aussi variés que les intérêts nationaux dans la création d'encyclopédies en Inde ou en Australie, les concepts de classification remontant à l'antiquité, la censure dans la France du XVIIIe siècle et les différentes formes de donner un ordre aux collections dans des régimes démocratiques et totalitaires. Enfin, nous trouvons la question cruciale de savoir quels sont les principes déontologiques qui nous dirigent dans notre recherche du savoir.



Dieses Projekt wurde unterstützt von:

Universität Zürich

— GEBERT RÜF STIFTUNG —