



The Languages of Natural Philosophy in the Late Sixteenth Century: Bodin's *Universae Naturae Theatrum* and Its French Translation

Citation

Blair, Ann. "The Languages of Natural Philosophy in the Late Sixteenth Century: Bodin's *Universae Naturae Theatrum* and Its French Translation." In *Acta Conventus Neo-Latini Hafniensis*, edited by Rhoda Schnur, 311-21. Vol. 120. Binghamton, NY: Medieval & Renaissance Texts & Studies, 1994.

Permanent link

<http://nrs.harvard.edu/urn-3:HUL.InstRepos:41510945>

Terms of Use

This article was downloaded from Harvard University's DASH repository, WARNING: This file should NOT have been available for downloading from Harvard University's DASH repository.

Share Your Story

The Harvard community has made this article openly available. Please share how this access benefits you. [Submit a story](#).

[Accessibility](#)

manuscript of

Ann Blair, "The Languages of Natural Philosophy in the Late Sixteenth Century: Bodin's Universae naturae theatrum and its French translation," Acta Conventus Neo-Latini Hafniensis, ed. Rhoda Schnur et al. (Binghamton, NY: Medieval and Renaissance Texts and Studies, 1994), pp. 311-21.

The Languages of Natural Philosophy in the Late Sixteenth Century:
Jean Bodin's Universae naturae theatrum and its French Translation

A few months before his death in 1596, the celebrated political philosopher Jean Bodin published a little-known encyclopedia of natural philosophy, the Universae naturae theatrum. Composed as a dialogue between an ignorant pupil Theorus and his learned master Mystagogus, the text covers "all of nature" in 633 octavo pages: starting with the principles of physics, then ascending the chain of being from the elements to minerals and metals, plants, animals, souls and the heavenly bodies. The Latin text was reedited twice by Wechel in Frankfurt, 1597 and Hanau, 1605. It also spawned two vernacular works: a French translation by a medical doctor from Lyon named François de Fougerolles (Lyon, 1597) and a German vulgarization by one Damian Siffert of Lindau, first published in Magdeburg in 1602 and reedited with minor modifications four more times until 1679.ⁱ The success of this vulgarization, which was explicitly drawn from Bodin's original but involved a complete overhaul and drastic reduction of the Latin text, contrasts with the single printing of the French translation which, in being fairly faithful to the Latin text, failed to acquire a specifically French readership. The different versions of Bodin's Theatrum and their reception raise many questions concerning the position of traditional natural philosophy in the period just preceding and concurrent with the Scientific Revolution, which I try to address in my dissertation.ⁱⁱ Today I will examine Fougerolles' French translation for what it reveals about the emergence of French as a language of science in various fields of natural philosophy in the late sixteenth century.

The purpose and reception of the Latin Theatrum:

Jean Bodin's first two published works, cast in the humanist mold, were written in Latin: a poetic translation with commentary of Oppian's Cynegetica in 1555 and his Methodus ad facilem historiarum cognitionem in 1566--a difficult text (despite its title) which offers advice and judgments on the reading and writing of histories. These works addressed an international community of humanist scholars and were not translated before this century. Bodin's next major works, which propelled him to wide national and international fame, were first written in French. The République (1576) and the Démonomanie (1580) treated issues of immediate political relevance and were especially targeted to reach "the greatest possible number of his countrymen," as Bodin wrote,ⁱⁱⁱ in particular the nobility and the lawyers and judges of France respectively. In both cases their national success soon warranted translations into Latin and other vernaculars. Bodin translated the République into Latin himself in 1586 with significant revisions, including changes designed to increase its international appeal (reducing nationalist statements, adding examples from other countries and more general conclusions).^{iv} The fact that Bodin had experience in writing in both French and Latin adds all the more weight to his choice

of language for his last published work, the Universae naturae theatrum. As I will show, Latin was indeed the appropriate choice for the subject and structure of the work he wrote.

Bodin presents the Theatrum as a work of physics or natural science the goal of which is to uncover the causes of natural phenomena and in so doing to lead the reader ineluctably toward God. Although he claims that he has adopted the "method of questions and answers because nothing is easier nor more efficacious for the memory,"^v the Theatrum is not in fact easy of access, let alone for memorization. Erudite marginal notes refer to over 250 authors (many of them second-hand). Above all the questions that Bodin poses make sense only against the background that he takes for granted of an extensive reading in classical sources like Aristotle, Pliny and Theophrastus. "Why is the goat dumbfounded in front of an eryngius thistle? ... why are fish not subject to epidemic diseases?" (Bodin, 298, 394) Bodin does not first establish the facts which underlie these questions but only offers causal explanations, which seem puzzling to readers unfamiliar with Pliny's Natural histories VIII, 50 and Aristotle's History of animals VIII, 19 where these facts are discussed. In other cases the phenomena Bodin tries to explain might be well known (like earthquakes or underground springs) but his detailed criticisms of existing Aristotelian theories could be appreciated only by readers familiar with them.

Even if novices in natural philosophy could learn from the questions that Bodin poses as well as from his answers, the Theatrum does not offer the systematic coverage of "all of nature" that the title announces. A table of contents of the five books at the beginning of the work delineates sections defined by topic but which do not appear in the text itself. Each book thus comprises over one hundred pages of continuous prose. Except in books I and part of IV where Bodin argues coherently against the eternity of the world and for the immortal and corporeal nature of the soul, Bodin's questions flow smoothly but often arbitrarily from one topic or theme to the next, dwelling on some sections and barely mentioning others, asking different questions of different topics at will. I have argued elsewhere that the unsystematic structure and the knowledge-laden questions characteristic of the Theatrum can be understood as the result of Bodin's reliance on a book of commonplaces about nature, which he advocated keeping in the Methodus. At the end of a life-long reflection on natural phenomena, Bodin provides his causal explanations to an idiosyncratic array of subjects, motivated more by the abundance of his copia than by the desire to appeal to a specific audience.

Although it is hard to determine Bodin's intended audience, some of his actual readers can be identified through citations of the Theatrum, which are particularly numerous in the works of university professors of natural philosophy in the German-language area. Clemens Timpler, Bartholomäus Keckermann and Rudolph Goclenius, for example, were all quick to cite the Theatrum (as early as 1598) for its unusual positions, particularly on questions standard in the curriculum like Aristotelian meteorology. For example, Goclenius has high praise for Bodin's refutation of the Aristotelian theory of the origin of underground springs; but he ridicules Bodin for thinking that the animals with the finest skin like spiders and worms have the finest sense of touch. Keckermann cites Bodin's theory, advanced against Aristotle's, that earthquakes and storms are caused by demons, but remains non-committal as to its validity. Or Timpler attacks Bodin for his belief in the animate nature of the celestial bodies.^{vi} Whether they were considered praiseworthy or ridiculous, Bodin's positions in the Theatrum were gathered as worthy additions to the learned doxographies of these German writers of natural philosophy. These university

professors and their students had the background to appreciate Bodin's contribution to the voluminous Latin literature on the subjects he treated. It was no doubt the inclusion of Bodin's Theatrum in the reading lists of German university courses which accounted for the two Wechel reeditions of the Latin text in 1597 and 1605.

The nature and fate of the French translation:

It is noticeable that no significant academic citations of Bodin occurred in France, where university teaching of physics was relatively weak and where there was no equivalent to the German academic boom in the early seventeenth century.^{vii} Given this lack of even a French university audience, it is not surprising that Fougerolles experienced difficulties in finding a French vernacular audience for his translation and in some cases in determining appropriate French equivalents for Bodin's technical terms. His diligent efforts to adapt the text to a French audience reveal the different states of the vernacular in the various subdisciplines of natural philosophy.

Exceptional archival evidence and a lengthy translator's preface shed light on the circumstances of the translation. A 37-year old doctor of medicine, employed as preceptor and librarian in a recently ennobled family in Grenoble, Fougerolles was a novice writer full of ambitions who saw his translation as a first step toward literary glory. After dismissing with self-aggrandizing modesty the translation as a minor task, Fougerolles announces his intentions to publish a textbook of physics and a work of mathematics of his own vintage before long--in fact his later publications would include only medical works and translations from the Greek of Diogenes Laertius's Lives and of Porphyry's On not killing animals. Throughout 25 pages of liminary material, including his own dedication, preface and six odes of praise, Fougerolles flaunts his friends and patrons, who range from professors of medicine at the university of Montpellier to local dignitaries in Montpellier and Die, to his dedicatee and primary patron Artus Prunier de Saint André. If liminary material is sometimes dismissed of little weight, it should not be: the archives in Lyon record that, after finishing his translation in six months, in "forty cahiers of four pages each," Fougerolles took his publisher to court in May 1597 seeking not only more payment (beyond the 25 écus in books that he had been promised), but also the right to do what he wished with the "liminary epistle." The presidial court in Lyon denied the first request but gave him control of the liminary matter, enabling Fougerolles to make it a rich display of his social and professional standing. In his deposition the publisher reveals furthermore that he had promised Bodin himself to have the work translated into French.^{viii} It seems likely therefore that the project of translating the Theatrum stemmed from Bodin's own request and that Fougerolles was commissioned for the task through the dedicatee of Bodin's original, a Lyonnais nobleman and political ally of Fougerolles' patron. The French translation was not prompted by market demand, to speak in today's terms.

While Fougerolles no doubt welcomed the opportunity to get into print on the coat-tails of a famous author, he was also aware of the problem of finding an audience for a work which, as we have seen, was not easy of access, and he justifies his translation at length. Fougerolles first invokes national glory and patrimony to explain his translation into French of the work of a Frenchman of international stature: "so that those who already have the rest of his works in the

same language not be deprived of this ... which is no less common to the other nations than to the French who have raised the author, like a plant adorned with such beautiful flowers." Fougerolles easily incorporates natural philosophy into the program of the "défense et illustration," as he concludes that "it seems entirely reasonable that the works of a Frenchman be read in French."^{ix}

As a doctor of medicine, Fougerolles was well aware of the added political implications of translating a work of natural philosophy, a field generally reserved for specialists. Like many of those who argued for the increased use of the vernacular, including Ambroise Paré, Fougerolles first invokes ancient precedent for writing in one's own language "even on subjects that cannot be understood without training." (sig. ++v) But Fougerolles also tries to conjure up a real audience:

Several of my friends, who ... could not satisfy ... their minds with those things which they desired to know in Philosophy because they were not familiar with the languages, but were otherwise very studious in French books and especially in those which treated elevated questions worthy of their minds ... have often begged me in letters as well as in person to give them some book in French to attain knowledge of the secrets of nature. (sig. ++3r)

Beyond these personal friends Fougerolles identifies an audience in surgeons and apothecaries, whose gradual rise to prominence throughout the sixteenth century was a constant sore point with contemporary medical doctors. Fougerolles welcomes them as readers of such a learned work, if only in order to spite some of his colleagues:

I have given great pleasure to some surgeons and apothecaries who would only need to wear the doctor's robe to put some ignorant [doctors] to shame who, because they cannot understand Bodin when they read him nor why I translated him, do not stop speaking evil both of him and of my translation. (sig. ++3r-v)

In fact the Theatrum was not likely to provide apothecaries or surgeons with much of use, but Fougerolles does the best he can to present it as a useful pedagogical work. To complete his program, Fougerolles recommends other philosophical works in the vernacular--Ramus' Dialectic and a summary of Aristotle's Organon in French by Philippe Canaye, sieur du Fresne. (sig. ++4r-v) Fougerolles is conscious nonetheless of the failings of the Theatrum as an introductory textbook when he describes his intention to write a book of his own in which he would "treat methodically and briefly [contrary to Bodin!] of everything that pertains to natural science" and in which he would "dispute against certain of [Bodin's] opinions which do not seem appropriate and in which he quite often attacks Aristotle." (sig. ++4v)

Despite his misgivings about Bodin's original, Fougerolles expounds, as Glyn Norton has pointed out,^x a literalist theory of translation in which "one must change the words from one language into another word for word if possible, or if that is not possible, use a paraphrase." Even if the translator is further submitted to the requirements of elegant language, he must, like an ambassador, "faithfully express the spirit (âme) of the author, without changing anything, without diminishing or adding to the meaning." (sig. ++4v-5r) Fougerolles acquits himself of this

commitment respectably, although his florid sentences at times embellish on Bodin's terse Latin in such a way as to distort the original emphasis. Fougerolles expatiates in particular on the theme of the divine origin of knowledge and reason and on the incontrovertibility of scripture-- themes which Bodin heartily supported too but which Fougerolles occasionally reiterates in passages where Bodin emphasized rather natural reason.^{xi} Heavy emphasis on divine providence was perhaps considered especially salutary for vernacular and philosophically unsophisticated readers.

Fougerolles also departs occasionally from Bodin in emphasizing the marvelous aspects of nature, which Bodin consistently shunned in favor of explaining the regular and "ordinary" in nature. For Fougerolles the metaphor of the theater evokes the marvelous and the rare put on display, as in ancient times by city governors to entertain the people. In the same vein he excitedly flags in the margin the reversus (revers) as an "admirable fish of the Indies" known for hunting other fish. (463, cf. Bodin, 324) Fougerolles taps more than Bodin did the well-known interest of contemporaries for marvels and singularities in nature, which generated a large vernacular literature in the sixteenth century.^{xii}

Fougerolles worked hard at his translation, which is (by contemporary standards especially) remarkably faithful. In some cases Fougerolles did research in order to correct errors in the text and in the marginal references.^{xiii} Fougerolles gives only Latin transliterations for Bodin's Hebrew terms, probably out of his ignorance of Hebrew rather than from a policy of avoiding foreign languages in his translation; indeed he even adds expressions in Greek, a language which he proud to have mastered.

Above all Fougerolles labored to find the appropriate terms to translate Bodin's original: "I taught myself ... to seek, as if by feeling my way, (comme qui dirait à taston) the words of this language most suited to express the Theater of Nature in its simplicity." (sig. ++2v) In practice Fougerolles experienced varying degrees of difficulty in finding French translations depending on the subject matter. It seems that those areas in which university teaching was most developed posed the least problems. Indeed even if formal teaching occurred only in Latin, classroom notes and published treatises show that vernacular equivalents were also given for various technical terms; these crutches for students could thus unwittingly contribute to establishing a technical vernacular vocabulary.^{xiv} Thus when Jean de Champaignac, a barrister at the Parlement of Bordeaux, composed the first French textbook of physics, his Physique françoise (1595, reedited in 1597), he treated only those topics standard in the French university curriculum: the principles (place, time, motion, the infinite and so on), the subjects of Aristotle's meteorology (the elements, metals and stones, earthquakes and the like) and the organic soul. Champaignac was conscious of breaking new ground in his project of publishing a summary (sommaire) in French of the "four parts of philosophy" (as typically taught at the university) that is, logic, physics, ethics and metaphysics, which he successfully completed in 1606.^{xv} Unlike Fougerolles, who coped with a much more complex array of topics, Champaignac does not mention any difficulties in writing in French or make any special appeals to establish an audience. Indeed by keeping close to the university curriculum Champaignac assured himself a readership--whether students who could use a vernacular summary alongside their class notes or those who aspired to attend the university but could not. Among them there may have been some women, as is suggested by Champaignac's dedication of his Physique françoise to a noblewoman from

Guyenne, Dame Jacquete de Mombrom.^{xvi} In standard university subjects French terminology was evidently well established. Neither Champaignac nor Fougerolles have any difficulties themselves or anticipate any from their readers when they use abstruse terms of medieval philosophy concerning for example the location of an immaterial body (like an angel or a soul): whether it should be considered circumscriptive, definitive or effectual, for example.^{xvii}

In astronomy (which Champaignac touches on briefly and which was already less well established in university teaching) Fougerolles has no difficulties himself but provides glosses for his readers. Bodin describes for example the different shapes of the earth's shadow that would be produced by different relative sizes of the earth and the sun: the shadow is conoid if the sun is larger than the earth, and calatoid in the opposite case. Fougerolles adds these explanations: "conoid, that is in the shape of a pyramid or the top of a bell tower" and "calatoid, or in the shape of a basket." (870-1, cf. Bodin, 601-2) He thus casts about for common terms to render the shape, even at the cost of inaccuracy, for example when he describes a conoid as a pyramid. Fougerolles also provides notes in the margin, sometimes distinguished from those of Bodin by an asterisk, in which he defines apogee and perigee, the lunar and synodic months, the divisions of the zodiac circle into degrees and seconds and so on. Astronomy was a discipline in which vernacular terms were already established (an early French textbook of astronomy by Jean Pierre de Mesmes was published in 1557 for example),^{xviii} but evidently not very widespread.

The situation was much more difficult for natural history. Fougerolles finally gives up on finding French equivalents for Bodin's enumeration of Latin names of fish and birds. Invoking the fact that languages inevitably borrow from others, Fougerolles outlines his policy in his preface: "for lack of common expressions one takes as skillfully as possible the words from ... [the languages] in which certain stones, minerals, plants, fish birds and other animals were born since they belong only to those places where those animals were found and where they were first named." (sig. ++2v) In the sections on birds and fish therefore Fougerolles forms unique Gallicized versions of Bodin's Latin names ("orphin" for orphanus, "sargon" for sargus, "abrame" for abramis) and to compensate for his failure to provide meaningful French translations he offers the reader additional bibliography:

See Pierre Belon who will tell you the diversity of the names [of fish] with their description, or the Histoire of Rondelet on the same subject. See also Gesner; otherwise the names will be confused in our language if one changes them from the correct Greek and Latin. ... Belon seems confused in the names of fish as well as of birds, which is why we often retain the Latin and Greek names as better assured and more common. (460, 536)

Fougerolles evidently consulted Belon's Histoire des poissons in an attempt to find accurate translations, but came away disappointed by the problems involved in identifying the fish listed by Bodin. Although Bodin discusses at length the taste of these different fish, most of their names were culled from classical texts written by Mediterranean authors and did not correspond to fish native to the colder waters of France. Fougerolles also shuns the French names provided in Belon which were often taken from the dialects local to Marseille and did not designate anything readily identifiable to Fougerolles or most French readers. Natural history in French was only in formation, despite the succession of vernacular natural histories starting in the

1550s: the problems of identifying exotic animals were particularly difficult and Belon's descriptions, as Fougerolles discovered, often do not permit a clear identification.

Fougerolles the medical doctor is on firm ground finally when Bodin broaches the human body and he forcefully reforms Bodin's unsystematic presentation. Bodin poses a question that any doctor has learned well: "what are the parts of the human body?" his answer is a simple enumeration: "bones, marrow, ligaments, ... nerves, muscles, veins, arteries, kidneys," and so on including fat, the four humors, the triple spirit (natural, vital and animal) and ending with the skin and epidermis. This jumble does not follow the most basic classifications used in medical textbooks. In the margin Fougerolles sets things straight:

The organic parts are confused here with the similar ones, which we will arrange in this way. Firstly, the ten similar parts are the bones, cartilage [...]. The organic parts are like the heart, liver, spleen [...]. The excrements are like the nail, hair. Fat and the humors are not parts of the body. (589)

Fougerolles thus systematizes Bodin's unwieldy original within the bounds of his commitment as translator.

In the same spirit Fougerolles modifies the structure of the Theatrum to make it more systematic: he breaks up Bodin's continuous flow of prose within each book into sections, to which he assigns numbers and titles and which he inserts directly into the text. Bodin's seamless dialogue is thus made to resemble a textbook, with clearly delineated topics. The transitions between sections which Bodin had carefully engineered are blunted, as Fougerolles omits some transitional questions (208-9, cf. Bodin, 155). Fougerolles makes a final attempt at drawing a methodical presentation from Bodin's Theatrum by appending a series of roughly dichotomous tables (of a type often associated with but by no means exclusive to Ramism) which correspond to the various subjects treated in the Theatrum. Fougerolles admits that he has extended the treatment of certain subjects more than the author and has shortened others (917), but does not suggest how drastically the tables differ from Bodin's actual text. Precisely insofar as they attempt a systematic overview of each topic, the tables construct a hierarchy of concepts totally absent from Bodin's organization. For example, in his section on plants, Bodin introduced numerous disparate criteria for distinguishing them, which he simply juxtaposed in successive questions: male and female, wet and dry, useful to man and not, exotic and domestic. Bodin offered no hierarchized classification, no overarching categories. As a result Fougerolles must create from scratch the classification of his 7th table based on the ways of knowing plants: by their substance, quantity, or quality, each of these breaking down into one or two more layers of subcategories (internal, external; subtle, thick or medium and so on). Only after these classifications are established are the actual plants named in the appropriate parts of the table. Fougerolles' remarkable perseverance in this task of entirely restructuring the Theatrum finally gives out after twelve tables, before he even reaches books IV and V.

Fougerolles attempted to make Bodin's Theatrum more appropriate to a vernacular audience which, on his own admission, especially wanted an informative textbook about nature rather than bold critiques of Aristotle or explanations of facts taken from specific passages in classical texts. But Fougerolles' efforts, hampered by his commitment as translator, did not

suffice. Bodin's Theatrum was better suited, as its publishing history indicates, to an international audience of university-trained scholars who could appreciate the novelty of his positions. By contrast the success of the German vulgarization of the Theatrum shows clearly that the material in Bodin's Theatrum could be of great interest to even a very uneducated audience. But the Problemata Bodini required the thoughtful modification of one Damian Siffert of Lindau^{xix}-- someone who understood even the most difficult passages in Bodin's original, but was able and willing to abbreviate them savagely and often omit them entirely in order to focus on concrete issues, which could be resolved swiftly and with some gain of practical information. Rather than asking, as Bodin does, why there are antipathies between plants, like that between cabbage and wine, Siffert asks more specifically: "how can one dispel drunkenness? take cabbage juice at the pharmacy" which information Bodin had also provided, but in the answer to the abstract question.^{xx} Like Fougerolles, Siffert eagerly follows Bodin's theme of divine providence. He takes directly from Bodin the question of why all plants do not grow in all places (which has obvious relevance to agriculture) and answers without Bodin's references to exotic countries and plants, but with the full force of his argument made more concise: "God the wise creator ordered things so that plants would grow that are appropriate to each country according to the nature of the men and what is useful or not useful to them."^{xxi} In this way Siffert targeted and reached a well-defined audience among readers of problemata, like those of Aristotle and Alexander of Aphrodisias with which the Problemata Bodini was soon published, which had been through numerous editions from the early sixteenth century.^{xxii} Capitalizing (quite literally) on Bodin's fame (as Fougerolles had also meant to do) Siffert had the freedom to create a text that would sell, while Fougerolles' translation main success was indeed to contribute to the French national heritage.

Ann Blair, Department of History of Science, Harvard University

NOTES

I am grateful to Jean Céard for many helpful suggestions.

i

For a complete bibliography of this text and of Bodin's works see Roland Crahay, Marie-Thérèse Isaac and Marie-Thérèse Lenger, Bibliographie critique des éditions anciennes de Jean Bodin (Brussels, forthcoming).

ii Ann Blair, "Restaging Jean Bodin: the Universae naturae theatrum in its Cultural Context," Ph.D. dissertation Princeton University 1990, and forthcoming Princeton University Press.

iii Jean Bodin, Les Six Livres de la République, preface (Paris: Fayard, 1986), I, 10.

iv Kenneth McRae tr. and ed., Jean Bodin, Six Books of a Commonweale, (Cambridge, Mass.: Harvard University Press, 1962), introduction section A.

v Jean Bodin, Universae naturae theatrum (Lyon: Jacques Roussin, 1596), 7. All further references to this text will be given in parentheses in the text as "Bodin."

vi Rudolph Goclenius, ed. and annot., Physicae ... institutiones Cornelii Valerii Ultrajectini (Marburg: Paulus Egenolphus, 1598), 85, 130 (see Bodin, 191, 463); Bartholomäus Keckermann, Systema physicum (Danzig: Andreas Hunefeld, 1610), 871-2 (see Bodin, 177); Clemens Timpler, Physicae ... systema (Hanau: Gulielmus Antonius, 1605) as cited in Joseph

Freedman, European Academic Philosophy in the Late Sixteenth and Early Seventeenth Centuries: The Life, Significance and Philosophy of Clemens Timpler, 2 vols. (Hildesheim: Georg Olms, 1988), I, 144.

vii Bodin's Theatrum is cited by Scipion Dupleix, the French royal historiographer, in his Physique (1640) (Paris: Fayard, 1990), 462, 486. I am grateful to Roger Ariew for these references.

viii Arch Dept Rhône, BP 400 (31 May 1597) and 3E3705 (4 June and 23 July 1597).

ix Fougerolles tr., Le théâtre de la nature universelle (Lyon: Pillehotte, 1597), sig. ++4r. All further references to this work will be given in parentheses in the text.

x Glyn Norton, The Ideology and Language of Translation in Renaissance France and their Humanist Antecedents (Geneva: Droz, 1984), 154-8.

xi Compare for example Fougerolles, 261 and Bodin, 190; or Fougerolles, 688 and Bodin, 475, as discussed also by Paul L. Rose, Bodin and the Great God of Nature (Geneva: Droz, 1984), 132-33.

xii See Jean Céard, La nature et les prodiges: l'insolite au XVIe siècle en France (Geneva: Droz, 1977).

xiii For example a reference to Theophrastus' De causis plantarum I, 19 is corrected to V, 19. Fougerolles, 284, cf. Bodin, 205.

xiv For an example of classroom notes which include vernacular translations, see Ann Blair, "Ovidius Methodizatus: the Metamorphoses of Ovid in a Sixteenth-Century Paris College," History of Universities 9 (1990): 73-118. University textbooks of natural philosophy such as the various Systemata by Bartholomäus Keckermann also include vernacular equivalents for technical terms.

xv Jean de Champaignac, Physique Française (Bordeaux: S. Millanges, 1595 and 1597), dedication. He also wrote a Traité de l'immortalité de l'âme (Bordeaux: S. Millanges, 1595) and his Sommaire (Bordeaux: Millanges, 1606). For a brief discussion of his work see Henri Busson, Le rationalisme dans la littérature française de la Renaissance (1533-1601) (Paris: Vrin, 1957), 506-13.

xvi Dame des Vicomtés de Bourdeille et d'Aunay, et des Baronniees d'Archiac et Mathas, et Castellennies de la Tour Blanche et Sertonville.

xvii Although there are some differences in their terms, the meaning is clear. See Fougerolles, "definy," 741 (cf. Bodin, 514); Champaignac, "diffinitivement," 81.

xviii See the work of Isabelle Pantin on "Les Institutions astronomiques de Jean Pierre de Mesmes (1557)," Thèse de troisième cycle, Université de Paris.

xix Unfortunately I have no further information on this author.

xx Damian Siffert tr., Problemata Bodini (Magdeburg: Johan Francken, 1602), [73]. Cf. Bodin, 294.

xxi Siffert, [65]. Cf. Bodin, 274.

xxii I am planning a study of the tradition of the Problemata in the sixteenth and seventeenth centuries.