

“Mysteries divulged”: Philemon Holland’s Paratexts and the Translation of Pliny’s *Natural History* in Early Modern England

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Article abstract

This paper seeks to situate Philemon Holland’s 1601 translation of Pliny’s *Natural History* in the context of the development of early modern English science. While Holland’s Pliny has traditionally been studied in terms of the early modern reception of the Classics, the establishment of an English rhetoric of translation and the development of English prose, this paper focuses on the discursive and paratextual strategies at work in Holland’s rendering of the botanical and medical books of Pliny’s *Natural History*. Drawing on and broadening Genette’s definition of paratexts as liminary spaces of authorial—or translatorial—control and self-fashioning, the paper explores the complexities of Holland’s self-defined translation project as the “divulging” of Pliny’s medical and botanical knowledge to a broadened readership. Whereas the prefaces to both volumes of the *Natural History* rely on the rhetoric of *utilitas*, or usefulness, to span the spectrum of potential readers, from schoolchildren and “inferior readers” to Humanist scholars and physicians, a closer analysis of the marginal annotations in books XIX to XXVII of the *Natural History* shows Holland integrating the Continental tradition of learned commentary denouncing the factual, interpretive, and methodological errors in Pliny’s treatise. It is argued that the resulting tension between text and paratext, and between Holland’s prefaces and other kinds of liminary material, ultimately reflects changing attitudes towards ancient science, and the very nature of scientific knowledge in early modern England.

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“Mysteries divulged”: Philemon Holland’s Paratexts and the Translation of Pliny’s Natural History in Early Modern England

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RÉSUMÉ

Le présent article vise à replacer la traduction de l'*Histoire Naturelle* de Plinie l'Ancien par Philemon Holland (1601) dans le contexte de l'histoire des sciences en Angleterre. Alors que la critique a traditionnellement abordé la traduction de Holland sous l'angle de la réception des grands classiques antiques, du développement d'une rhétorique de la traduction en Angleterre, ou encore de la « défense et illustration » de la prose vernaculaire anglaise, on se penche ici sur les stratégies discursives et paratextuelles déployées par Holland dans sa traduction des livres de l'*Histoire Naturelle* traitant de botanique et de médecine. En reprenant et élargissant la définition des paratextes offerte par Genette comme des espaces liminaires où l'auteur – ou en l'occurrence le traducteur – cherche à se mettre en scène et à contrôler les modalités de lecture de l'œuvre, on explore ici les différents aspects du projet de traduction de Holland visant à « divulguer les mystères » de la botanique médicinale de Plinie à un lectorat élargi. Alors que les préfaces aux deux volumes de la traduction rassemblent sous un même discours de l'utilitas le lectorat hétéroclite ostensiblement visé par Holland (écoliers, lecteurs profanes, mais aussi érudits et médecins), une lecture plus fine des notes marginales dans les livres XIX à XXVII de la traduction montre aussi le souci du traducteur d'intégrer la tradition européenne de commentaire érudit dénonçant les erreurs factuelles, herméneutiques et méthodologiques entachant le projet encyclopédique de Plinie. On suggère ici que la tension ainsi créée entre texte et paratexte, et entre les préfaces et les autres formes d'inscription paratextuelle à l'œuvre dans la traduction de Holland, reflète les mutations profondes que connaissent les milieux humanistes et scientifiques anglais dans leur rapport à la science antique et leur conception même de la nature du savoir scientifique à l'aube du XVII^e siècle.

ABSTRACT

This paper seeks to situate Philemon Holland's 1601 translation of Pliny's *Natural History* in the context of the development of early modern English science. While Holland's Pliny has traditionally been studied in terms of the early modern reception of the Classics, the establishment of an English rhetoric of translation and the development of English prose, this paper focuses on the discursive and paratextual strategies at work in Holland's rendering of the botanical and medical books of Pliny's *Natural History*. Drawing on and broadening Genette's definition of paratexts as liminary spaces of authorial—or translatatorial—control and self-fashioning, the paper explores the complexities of Holland's self-defined translation project as the “divulging” of Pliny's medical and botanical knowledge to a broadened readership. Whereas the prefaces to both volumes of the *Natural History* rely on the rhetoric of *utilitas*, or usefulness, to span the spectrum of potential readers, from schoolchildren and “inferior readers” to Humanist scholars and physicians, a closer analysis of the marginal annotations in books XIX to XXVII of the *Natural History* shows Holland integrating the Continental tradition of learned commentary denouncing the factual, interpretive, and methodological errors in Pliny's treatise. It is argued that

the resulting tension between text and paratext, and between Holland's prefaces and other kinds of liminary material, ultimately reflects changing attitudes towards ancient science, and the very nature of scientific knowledge in early modern England.

MOTS-CLÉS/KEYWORDS

Pline, histoire naturelle, Philemon Holland, traduction, paratextes

Pliny, natural history, Philemon Holland, translation, paratexts

1. Introduction

In 1601, within a year of publishing a much-celebrated translation of Livy's *Roman History*, Philemon Holland (1552-1637), medical doctor and schoolmaster at the Coventry free grammar school, issued the two volumes of his massive translation of Pliny's *Natural History*, dedicating it to the most powerful man in the realm, Queen Elizabeth's Secretary and Chief Minister Robert Cecil. The expensive folio, over 1,400 pages long, complete with table of contents, glossary and index, was Holland's most popular production, and certainly contributed to his reputation as "translator general" of the Elizabethan age, as he would be famously dubbed by seventeenth-century historian Thomas Fuller (Matthiessen 1931: 170). Holland's Pliny has long been known among literary historians and critics as an important source of inspiration for contemporary poets and writers—most notably Shakespeare, who has been shown to derive many of his animal metaphors from Pliny's ancient bestiary thanks to Holland's translation (see for example Seager 1896; Muir 1953; 1977). The last critical editions of Holland's Pliny, both published in the early 1960s (Turner 1962; Newsome 1964), thus celebrate the translation as a seminal work, whose literary influence was even to be felt in the writings of the English Romantics (Turner 1962: 14). More recently, translation historians have underlined the significance of Holland's work to the development of the Elizabethan culture of translation, not only because of Holland's impressive output and characteristically expansive translation style (see Gillespie and Cummings 2001: 539; Morini 2006: 90ff.), but also because of his repeated and vigorous defence of the importance of translation as a nation-building, if not nationalistic, enterprise. The preface to *Pliny's Natural history* has thus virtually become a *passage obligé* for translation historians, who never fail to quote Holland's vindication that English translators and vernacular writers should "endeavour by all means to triumph now over the Romans in subduing their literature under the dent of the English pen" (Holland 1601a: fol. 2^v; see Amos 1920; Morini 2006; Gillespie 2011; Braden 2010; 2013; Rhodes, Kendal *et al.* 2013).¹

A significant aspect, however, of this important translation has long been overlooked. As early as 1965, medical historian Jerry Stannard regretted that both critical editions of the translation published in the previous years "ignored the importance of Holland's Pliny to the history of English science" (Stannard 1965: 382).² Indeed, translation historians have traditionally studied Holland's work for its contribution to the development of English prose, rather than for its contribution to early modern scientific debates (see Morini 2006: 90ff.; Gillespie and Cummings 2001: 539; Braden 2013: 112). Similarly, histories of English natural science rarely give Holland more than a passing reference (see Raven 1947: 218), when they do not dismiss him altogether (see Hoeniger and Hoeniger 1969, discussed below). Even Jean-Paul Pittion's recent discussion of Holland's work in the context of European editions, commentaries, and trans-

lations of Pliny's *History* presents Holland's scholarship as an "exception," in a political and intellectual context dominated by the fashioning of an English national history and cultural identity under the reign of Elizabeth I (Pittion 2011: 195).

Holland's explicitly patriotic agenda in "subduing" the encyclopaedic knowledge of Ancient times does not, however, exclude an examination of his translation from the perspective of the English history of science. Pliny's geography was perhaps no longer felt to be relevant in light of the new *Histories of the World* that followed the discovery of the Americas, and his bestiary had long proved to be the stuff of mythology rather than zoological science (see Findlen 2006: 448ff.; Ashworth 1996). Yet the botanical books of the *Natural History* certainly were of interest in the naturalist circles that developed in Elizabethan England in the wake of the pioneering botanical treatises published by William Turner and John Gerard in the 1560s–1590s (Hoeniger and Hoeniger 1969). Holland's rendering of the books on medicinal plants also deserves particular consideration, not only because of Holland's own medical training and practice, but also because of their prominence within the published translation. Placed at the very opening of the second tome, with a separate preface and glossary, these books arguably belong within the rapidly increasing corpus of medical publications in English printed through the sixteenth and seventeenth centuries. Finally, and perhaps more crucially, it was precisely around Pliny's books on botany and medicine that the Humanist enterprise of recovering, editing, and translating the *Natural History* had provoked a heated controversy on the authority of Pliny's work, both as a source of information and as a model of scientific enquiry. As early as the 1490s, following the first printed editions and translations of the *Natural History*, Italian scholars such as the Humanist Ermolao Barbaro, and the medically-trained commentator Niccolo Leonicensi, had denounced the many "errors in medicine" contained in Pliny's treatise.³ While these errors were partly recognized as a result of careless copying and other forms of textual corruption, they also stemmed from the second-hand nature of Pliny's knowledge, largely collected from Greek sources, which—as Leonicensi argued—Pliny had sometimes mistranslated, and more often failed to validate through immediate observation. What had started as a Humanist philological debate thus turned into a seminal discussion on the scientific status of Pliny's text and the epistemological validity of his encyclopaedic method (see Nauert 1979; Findlen 2006: 440–442; Ogilvie 2006: 30–32, 122ff.). These questions, and the subsequent shift from authority-based, bookish forms of knowledge to a new emphasis on direct observation and experimentation, would form the basis of the "new science" championed in England by Francis Bacon. His essay on the *Advancement of Learning* was published in 1605, only a few years after the publication of Holland's translation, and Bacon would later eloquently dismiss the kind of knowledge offered by Pliny and other "antiquities" as merely philological (see Ogilvie 2006: 4; Swann 2011: 59).

To what extent did Holland, a schoolmaster, classical translator, and practicing medical doctor, engage in such debates? Do we find them reflected in his version of Pliny's *History*? In order to explore these questions, this paper examines the paratexts of Holland's massive work, from his famous preface and dedication to Lord Cecil, to the indexes, glossaries, commentaries, and marginal notes that punctuate the pages of his *Natural History*. In Gérard Genette's now classical analysis, the main function of liminary materials, as "thresholds" of the printed text, is to frame and control the

intended readers' interpretive experience—firstly, by enticing them, so to speak, into the space of the printed book, and secondly, by establishing the hermeneutic codes governing its reception (Genette 1987: 4-7). Paratexts thus offer crucial information as to translators' intended publics, their use of sources and precedents, and the status they wish to confer both upon their authors, and, of course, upon themselves (see for example Armstrong 2007; Coldiron 2008: 162-169). However, recent inquiries into Renaissance paratexts have also demonstrated that, while liminary materials undoubtedly served the "framing" of textual meaning and authorial identity, they could also escape the author's, translator's, or editor's control, and work as a destabilizing force within the economy of the printed page (see in particular Coldiron 2009: 69ff.; Smith and Wilson 2011: 6ff.). This tension between the "search for order" (McKitterick 2003) traditionally associated with the printed book, and the centrifugal forces that accompany the interpretive process—be it reading, glossing or translating—, has actually been identified as one of the features of Holland's Pliny. In the words of translation historians Stuart Gillespie and Robert Cummings, "the crowded pages of this large folio have the effect almost of a Renaissance phantasmagoria when read at a stretch, with Holland vainly struggling to gloss and correct the hotchpotch of Pliny's information in interpolations and marginal notes" (Gillespie and Cummings 2001: 539). By focusing on the liminary materials of Holland's massive volume—with specific attention to books XIX-XXVII on medicinal plants and remedies—, this paper seeks to interrogate the interpretive, discursive, and epistemic shifts at work in the margins of this celebrated translation, and thus establish its significance in the context of the development of natural science in early modern England.

2. Holland's translation and early modern English "Plinyisms"

In their short monograph, *The Development of Natural History in Tudor England*, David and J. F. Hoeniger start their survey by mentioning Holland's translation, which they however deem hardly relevant to the development of the field. According to them, Holland

knew nothing about natural history, and was obviously unaware that more than a century earlier Pliny had been criticized for literally thousands of errors by two Italian students of flora, Ermolao Barbaro and Niccolo Leonicensi (both published in 1492), and that humanists of the sixteenth century were aware of the entirely derivative character of Pliny's biological survey. (Hoeniger and Hoeniger 1969: 2-3)

They conclude that the success of Holland's translation was mostly due to his established reputation as a translator, as well as Pliny's enduring prestige among "all but the most scientifically minded naturalists" (Hoeniger and Hoeniger 1969: 3).

That Holland "knew nothing about natural history" is most probably inaccurate, given his medical training, and, perhaps more importantly, the fact that he would translate into Latin one of the most popular pharmaceutical treatises of the times, Brice Bauderon's *Pharmacopée*.⁴ It is also highly unlikely that Holland was simply "unaware" of the Humanist debates around the scientific validity of Pliny's *Natural History*. He mentions the work of Humanist commentators twice in his preface, and, as has been long established, his sources when translating included the annotated Latin edition of Pliny's *History* by French naturalist and physician Jacques Daléchamps (1562, reprinted in 1587), as well as Antoine du Pinet's French translation, *L'Histoire*

du Monde de C. Pline Second, first published in 1562, and reprinted in 1584 (see Newsome 1964: xxv-xxvi)—both of which contained copious notes and annotations relaying the Italian tradition of critical commentary started by Barbaro's *Castigationes* and Leonicensio's *De Plinii...erroribus* (Pittion 2011: 186).

The question still remains, however, of ascertaining the prestige of Pliny's text among early modern English readers of the *Natural History*—either in Latin, or in Holland's translation. Hoeniger and Hoeniger's comments seem to imply that there were only two categories of readers: on the one hand, an erudite, "scientifically-minded" readership, who could read Pliny in the original, but for whom the *History* had long lost its authoritative status; and, on the other hand, the majority of readers, who still considered the classical encyclopaedist as a major reference for the use and understanding of the natural world. Such a binary representation of the early modern reception of Pliny's *History* ought, however, to be qualified. In her analysis of Du Pinet's 1562 French version of the *Natural History*, Rowan Tomlinson underlines the diversity of early modern responses to Pliny's text, suggesting a variety of "Plinyisms" running "from learned critique of his methodology to unquestioning acceptance of the authority of Plinian *historia*" (Tomlinson 2012: 148), and among which vernacular translators such as Holland had to position themselves.

One can actually distinguish at least four kinds of 'Plinyism' in Holland's England. A first strand could be said to comprise the popular, sensationalist literature of the "mysteries" of Pliny, often consisting of catalogues of monsters and wonders, as illustrated by John Alder's *Summary of the Antiquities and Wonders of the Worlde* (1566). This translation of Pierre de Changy's 1542 *Sommaire des Singularités de Pline* achieved significant success, running through two additional editions in 1585 and 1587. At the other end of the spectrum lay a second kind of 'Plinyism,' that of the erudite readers of scholarly editions, such as John Dee, who owned no less than four different Latin editions of the *Historia Naturalis* (Pittion 2011: 193). Pittion has also located sixteenth-century scholarly editions and translations of Pliny's *Natural History* among the holdings of Oxford and Cambridge University libraries, and in the private collections of university professors (Pittion 2011: 193). A third category of readers consisted of the growing community of English naturalists. For them, as for their Continental colleagues, the *Natural History*, though not considered authoritative, was deemed a suitable model for vernacular treatises. For example, Turner's and Gerard's *Herbals* are significantly indebted to Pliny, despite Turner's claim of offering the English reader a catalogue of native plants not found in the ancient encyclopaedia (Knight 2009: 40-41, 102-103; Poliquin 2005: 178). In the field of medicinal botany, which emerges through the sixteenth and seventeenth centuries as the dominant strand of natural history (Findlen 2006: 462), Pliny is often quoted as a reference. For example, in the preface to the second tome of his *Histoire Universelle de C. Pline*, Du Pinet half-jokingly presents the chapters on medicinal herbs as the way to end all quarrels among apothecaries (Du Pinet 1562b: sig. a3^r). Pliny also regularly appears among the authors quoted in Bauderon's *Pharmacopée*, which was read in England, as we know from Holland's translation, and although the teaching of medicine in England was largely dominated by the Greek tradition (Pittion 2011: 195; Wear 2000: 35-37), copies of the *Medicina Plinii*, an ancient collection of medical remedies taken out of Pliny's *Natural History*, could still be found in the libraries of Oxford and Cambridge dons (Pittion 2011: 193). Finally, a fourth

kind of "Plinyism" is that which Tomlinson identifies in Du Pinet's French translation, a middle-ground form of Humanist scholarship that takes the learned heritage of the *errores Plinii* into account, but as a way of complementing, rather than challenging the traditional authority of the *Natural History*—thus realigning the wealth of information contained in Pliny's treatise with the vernacular Humanist discourse on the intellectual, moral, and practical benefits to be derived from the reading of Classical authors (Tomlinson 2012: 160-161).

Holland's presentation of his work in the preface to the reader certainly belongs to this last kind of early modern "Plinyism." Sidestepping the learned controversies around Pliny's authority, Holland evokes the ancient and modern traditions of textual commentary in the typical terms of restoration and elucidation of Classical texts: "illustrating the monuments left by former writers" (Holland 1601a: fol. 2^v); "to reform whatsoever by injurie of time was growne out of frame" (Holland 1601a: fol. 3^r). When first discussing the benefits of his translation to English readers, he frames them in terms of the traditional discourse of Humanist scholarship and education:

...by the light of the English (if they be young students) they shall be able more readily to goe away with the darke phrase and obscure construction of the Latine; or (being great schollers and taking themselves for deepe Criticks) by conferring the one with the other ... they shall by that means peruse once again, and consequently gather new profit out of that author... (Holland 1601a: fol. 3^v)

Pliny himself is portrayed as an example of virtue, a model of industrious labour that the modern reader ought to emulate: "But when I look back to the example of Plinie, I must of necessitie condemne both mine own sloth, and also reprove the supine negligence of these daies" (Holland 1601a: fol. 4^r). Holland's fashioning of Pliny as an intellectually and morally suitable author is even guaranteed by religious authorities, in the form of a letter penned by "one grave and learned preacher" (Holland 1601a: fol. 4^v), stating that Pliny's writings are indeed compatible with orthodox Christianity despite his pagan scepticism towards the workings of Providence.

Another characteristic of Holland's preface is his reliance on a major commonplace of early modern translation discourse, that of the suitability of his author—and translation—for all readers. As noted above, both students and established scholars are supposed to benefit from his work. Yet the relevance of Pliny's text is presented in even more universal terms:

not appropriate to the learned only, but accomodat to the rude paisant of the countrey; fitted for the painefull artisan in town and citie; pertinent to the bodily health of man, woman, and child; and in one word, suiting with all sorts of people living in a societie and commonweale. (Holland 1601a: fol. 2^v)

Hence Holland's defence of his translation—again following the generic conventions of the translation preface—against those who would object to seeing "the mysteries couched in [Pliny's] book divulged" to the common people (Holland 1601a: fol. 2^v). Holland's dedication of his translation to the less educated reader is confirmed in the preface of the second volume, where he announces that, his design being to "profit and please the most ignorant," the explanations in his glossary are "delivered as plainly as I could possibly devise for the capacitie of the meanest... so that I may satisfie my countrymen that know no other language but English" (Holland 1601b: sig. Air^r). Such statements could be interpreted as a gesture towards the readership

of sensationalist rewritings of Pliny, for whom Holland's translation could present an alternative to the old wives' tales circulating in the "wonders of the world" literature.⁵ Such a design, supported by Holland's robust defence of his mother tongue in the preface to the first volume, also converges with the growing desire among English naturalists and physicians to offer reliable information in the vernacular (see Wear 2000: 44ff.). With its specific preface and glossary, the second tome of Holland's translation, presented as treating "most of Physicke" (Holland 1601b: sig. Aii'), thus finds its place among the growing English corpus of medical and pharmaceutical treatises in the vernacular.⁶

The discursive strategies displayed in the prefaces of the two volumes of the *Natural History* thus show Holland seeking to straddle the whole spectrum of early modern "Plinyisms," addressing at once the "most ignorant" readers, the "great scholars" versed in the tradition of textual commentary, and the growing community of naturalists and physicians writing in the vernacular. While the appeal to a wide readership is obviously characteristic of early modern translation discourse—Elizabethan translators as diverse as William Golding, John Harington or John Florio make similar claims about the universal relevance of their work—, what is striking in the case of Holland is his systematic reliance on the theme of *utilitas*, or usefulness, as a unifying factor between the various categories of readers targeted by his translation.

3. Profitable Pliny: paratextual strategies and the discourse on *utilitas*

One way of approaching Holland's advertisement of the manifold uses of his translation for students, scholars, vernacular writers, and uneducated readers, is to read it as a self-fashioning strategy, through which Holland stages himself in his various capacities as a scholar and a translator, but also as a schoolmaster and a medical practitioner. Such a strategy would partly explain the constant parallel drawn by Holland between his purpose as a translator and Pliny's own encyclopaedic project. The comparison can indeed be quite explicit: Holland refers his reader to "the precedent given by the author himself, who [...] also translated a good part thereof out of the Greek" (Holland 1601a: fol. 2^v), and further notes: "my purpose especially is to profit and please the most ignorant (for whose sake Plinie also himself, as he professeth, compiled this worke)..." (Holland 1601b: sig. Aii'). Yet the parallel is more often established in subtler, albeit unmistakable terms: while past translators worked "for a general benefit of posteritie" (Holland 1601a: fol. 1^v), Pliny was motivated by "an ardent desire to benefit posterity" (Holland 1601a: fol. 3^v). Holland's efforts are aimed "to win profit unto all," and Pliny's, "for the generall good of mankind" (Holland 1601a: fol. 2^{r-v}). Finally, Holland's praise of Pliny's plain language, "sorting well with the capacitie even of the meanest and most unlettered" (Holland 1601a: fol. 2^v), is closely echoed in the discussion of his own translation style, "delivered as plainly as I could possibly devise for the capacity of the meanest" (Holland 1601b: sig. Aii'). This systematic parallel between Pliny's work and that of his translators can be said to serve two functions. On the one hand, according to the avowed logic of the "precedent," Holland's fashioning of Pliny as an alter ego—"who also translated [...] from the Greek"—contributes to reinforce the translator's self-image as a learned, hard-working, and altruistic contributor to "the general good of mankind." On the other hand, the unrelenting emphasis on the "profit" to be derived from Pliny's and

Holland's labours enables the latter to reclaim the *Natural History* from the exclusive use of philologists—"great scholars, and taking themselves for deepe Criticks" (Holland 1601a: fol. 2^r)—and reassign it to a more general readership as a manual of practical instruction.

Holland's fashioning of Pliny's *History* as a "profitable" text can equally be detected through his use of intermediate sources. As noted above, Holland based his translation on the Latin critical edition by French physician Jacques Daléchamps, as well as the French annotated translation by Antoine Du Pinet, and most of the marginal notes in the English volume can be traced back to these predecessors. One can even hear echoes of their prefaces in Holland's own address to the reader. For instance, Holland evokes his "natural inclination" towards the general good of his fellow countrymen ("to win profit unto all") in a way that recalls Daléchamps's "natural proclivity" (or, to quote the original Latin: "ingenita mentis propensio," see Daléchamps, 1587: fol. 3^r) to focus on the factual, rather than rhetorical and philological aspects of Pliny's text:

My mind had a natural proclivity to give precedence to those things that contribute to the understanding of the material rather than to those [...] concerning the beauty and eloquence of speech... (Daléchamps 1587, translated in Nauert 1979: 85)⁷

The shift from a purely philological approach to Pliny towards the more practical uses of the ancient encyclopaedia is perhaps more visible in Holland's rephrasing of Du Pinet's prefatorial discourse. Holland's response to potential objections against the translation of Pliny's "mysteries" is indeed reminiscent of a passage in Du Pinet's address to the reader, where the French translator addresses the difficulties posed by Pliny's technical language:

Pline a été tant affecté en son style que quelque fois il parle en Astrologue, ou en Cosmographe, et d'autrefois il charge un stile de Medecin ou de Chirurgien, parlant la pluspart du temps en espicier et Apoticaire: et neantmoins quelque fois in trenche du païsan, ou du forgeron; et par fois il s'habille en rechercheur de mines, en Arpailleur, et en Lapidair; servant aucunesfois d'Ingeniaire, de Peintre ou de Masson: et le tout en termes usités de son temps, et si propres que, pour les entendre, faudroit susciter quelques Esprits des Artisans du passé... (Du Pinet 1562a: i-ii)⁸

Du Pinet's catalogue of professions is also present in Holland's preface, although under quite a different guise:

What should Plinie (saith another) be read in English, and the mysteries couched in his books divulged – as if the husbandman, the mason, carpenter, goldsmith, painter, lapidary and engraver, with other artificers, were bound to seek unto great clerks or linguists for instructions in their several arts...? (Holland 1601a: fol. 2^r)

Where Du Pinet commented on the difficulties posed by Pliny's technical style, Holland rephrases the passage in terms of the practical benefits ("instructions in their several arts") that various artisans could derive from Pliny's treatise, and the ghosts of ancient artificers, whom Du Pinet pleasantly wished to conjure in order to clarify Pliny's terminology, are significantly replaced, in Holland's text, by "great clerks or linguists," whose mediation the translation precisely aims to make redundant.

Holland's discourse on the practical utility of Pliny's work—and consequently, his own translation—is matched by the editorial strategies displayed in the work.

Firstly, Holland reproduces Pliny's table of chapters and index, as well as the summaries preceding every chapter, thus highlighting the function of the *Natural History* as a reference manual. Secondly, the layout of the volume is obviously designed for quick reference and consultation: running titles expand in large type over the folio pages, chapters are generously spaced and adorned with beautifully ornamented initials, the back margins offer capital-letter sectional markers, and the wide outside margins leave ample room for annotation.⁹ Thirdly, as noted above, Holland supplements Pliny's paratexts with materials of his own devising. Not only does the glossary of "terms of art" at the beginning of the second volume ease the reader's access to Pliny's discussion of medicinal plants and remedies, but marginal annotations are also inserted to offer early modern English equivalents to the ancient measuring system. For example, the Latin term, *ligula*, is glossed as follows: "*Ligula* may be taken for a [...] spoonful; it containeth three drams and a scruple, somewhat under half an ounce, as a good spoone will do with us" (Holland 1601b: 41). Holland's strategy here differs from those embraced by other translators, in particular his French source Du Pinet, who equally offered a guide to ancient measurements, but as a separate table at the end of the volume. While ancient measures are also explained in Holland's glossary, the systematic inclusion of equivalents as side notes is obviously designed to facilitate the immediate application of Pliny's medicinal recipes. Holland's marginal notes also gloss the name of certain ailments and sicknesses, obviously for the sake of the less educated reader: the "Iliacke passion," is thus defined as "the wringings and torment of the upper small guts" (Holland 1601b: 44). Finally, as Pittion has noted, Holland clarifies some of the annotations taken from his French sources—Daléchamps in particular—through his own medical or pharmaceutical knowledge. For instance, in a passage on the benefits of wine and its counter-indications in case of diseases of the "small gut and hypocondriall parts" (Holland 1601b: 154), Daléchamps's commentary simply indicates a variant reading (*circa illa* vs. *circa ilia*); however, Holland selects and reproduces as a side note the most medically relevant option (*circa ilia*). Similarly, Daléchamps glosses Pliny's depiction of the plant, *parthenium*, by referring his reader to an alternative description by the Greek physician Dioscorides. Holland, in turn, not only replicates and translates Dioscorides' description as found in Daléchamps, but also interprets it and identifies the plant mentioned in the text as the English feverfew (see Pittion 2011: 189-190).

The discursive and paratextual strategies at work in Holland's Pliny converge towards the representation of the ancient treatise, either in the original or in the English translation, as a useful text, with direct, practical applications. In his analysis of the "peritexts and contexts" of Holland's translation of Livy's *History*—which was published only one year before the *Natural History*—, Peter Culhane notes that Holland tends to play down the political and interpretive ambiguities of the Latin text, as well as the variety of contemporary responses to Livy, offering instead a characterization of the classical author as a morally virtuous figure, whose writings could be accepted as historically and politically reliable (Culhane 2004). At first sight, Holland's insistence on the general utility of Pliny's encyclopaedia might appear to serve a similar function, that is to "paper over" (Culhane 2004: 286) interpretive divergences in the early modern reception of the *Natural History*. However, a closer inspection of Holland's marginalia reveals that the tradition of commenting on Pliny's "errors" is also represented through the volumes of his *Natural History*—and

in particular, in the botanical books where notes signalling Pliny's "confusion" or "mistakes" appear at a higher frequency than in other parts of the treatise. How is one to account for such a discrepancy between the discourse developed in the prefaces, and the presence of these annotations in the margins of the translated text?

4. "Here Pliny forgetteth himself again": interpretive divergences, epistemic ambiguities

In his analysis of Holland's translation method and use of sources in the botanical books of the *Natural History*, Pittion signals that Holland most probably translated Pliny's Latin text first, and then composed his marginal notes from the annotations found in Daléchamps's edition and Du Pinet's French translation (Pittion 2011: 188). While guaranteeing the literary quality and fluency of the English text for which Holland's translation has long been noted, this method also implies a separation between Holland's overt agenda as a mediator of Pliny's "mysteries" for the common reader, and the critic's task of signalling Pliny's errors as established by the Italian tradition, and relayed by Continental editions and translations of the *Natural History*. Indeed, while marginal comments such as those examined above do contribute to the general accessibility of Pliny's text, many others reveal a more scholarly, if not erudite, practice of textual annotation.

The contents of Holland's scholarly notes may be said to fall within three categories. Firstly, following the tradition of textual commentary inherited from Barbaro and other Continental Humanists, Holland signals points of philological debate, providing his reader with textual variants and interpretive alternatives. The example quoted above concerning the suitability of wine for diseases affecting the stomach and diaphragm (ilia, vs. illa) would fall in that category of annotations (Holland 1601b: 154). Another such instance of annotation would be Holland's gloss of a passage discussing cucumber seeds as a cure for "those that be lunaticke and franticke [phreniticis]": "Some read *Nephriticis*, and then it signifies those that have the stones or pains in the kidneys" (Holland 1601b: 37). Noticeably enough, the ambiguity is not resolved in the latter case, and the reader is left to wonder if cucumbers are actually good for curing kidney stones or mental disorders. Similar cases of textual indeterminacy occur as Holland identifies passages that may be textually corrupted, yet without necessarily offering interpretive alternatives: "it seemeth that this title is corrupt" (Holland 1601b: 61), or again: "I see no reason of this glose here, but think it superfluous according to some manuscript copies" (Holland 1601b: 150).

A second kind of annotation, which can be traced back to Leonicensio's medical commentary,¹⁰ consists in the recording of alternative opinions, based on other authorities, mainly Greek. Some of the notes obviously aim to explain and contextualize Pliny's positions, as the following gloss, concerning a passage on the flavours and fragrances of garden herbs: "for some philosophers held opinion, that the tast of hearbes consisted of a Terrene substance and a Waterie mixed together: others [...] ascribed it to their formes and figures: which Pliny thinketh ridiculous" (Holland 1601b: 34). The citation of alternative sources also contributes at times to clarifying the text, and establishing an authoritative reading (see above Holland's identification of parthenium as feverfew). Yet in many other cases, Holland's marginalia merely document disagreement among ancient sources, without resolving the conflict of

authorities thus revealed. For instance, as Pliny discusses the adverse effect of pomegranates (“Pomegranates [...] are counted hurtful to the stomach [...], and be offensive to the teeth and the gums” [Holland 1601b: 164]), Holland’s marginal note simply reads: “*Dioscorides* affirmeth the contrarie” (Holland 1601b: 164).

The discrepancy created between the body of the translated text and the annotations in the margins is at its most noticeable as Holland relays the learned literature on Pliny’s “errors.” In this third kind of marginal gloss, Holland clearly documents Pliny’s factual, interpretive, and methodological mistakes. For example, while reproducing Pliny’s distinction between two kinds of wild lettuce, Holland remarks in the margin that his author was wrong to list them separately: “*Plinie* should seeme here to be deceived; for *Isatis* is the same that *Glastum*, i.[e.] Woad, and the wild thereof indeed is leaved like Lettuce. Which was the occasion of his error” (Holland 1601b: 45). Holland also includes side notes indicating Pliny’s misinterpretations of his Greek sources. The marginal comment for Pliny’s discussion of the wild pomegranate thus reads: “I doubt that *Plinie* mistaketh here: and is carried away with the similitude of two Greke names...” (Holland 1601b: 166). Pliny’s misreading of Greek medicinal treatises is equally noted in the case of the poppy, whose leaves, Pliny writes, “resemble sparrows” (see quotation below). Holland vigorously chastises Pliny’s confusion of the plant, struthium, mentioned in *Dioscorides*, with the Greek word for sparrow:

Struthio similibus, ex Dioscor[ides], i.[e.], like to Struthium. Wherein Pliny is foulely overseene to translate it *passerem presentantibus*: because that στρουθιον signifieth the hearbe Struthium, (i.[e.] Fullers weed) and the bird called a Sparrow: upon wich one absurditie, more follow still to maintaine the same, as commonly it is seene. (Holland 1601b: 69)

In another chapter, Pliny’s description of the plant, horminium (or sage), is glossed in similar terms: “He confoundeth (as it should seeme), the vertues of *Horminium*, i.[e.] Clarie the hearbe, with the graine called also *Horminium*” (Holland 1601b: 144). While this mistake could at first glance be explained as a terminological oversight (Holland notes in another instance that Pliny was “deceived with the Homonymie of the word” [Holland 1601a: 313]), what is also at stake is the ancient author’s actual knowledge of the natural world. As noted in the margins of Pliny’s chapter devoted to the liquorice root, “It seemeth that *Plinie* never saw Liquirice...” (Holland 1601b: 120). Implied in Holland’s side comment is the kind of criticism developed by Leoniceno and other medically trained commentators, who dismissed Pliny’s encyclopaedic method because of its reliance on second-hand, bookish knowledge, as opposed to the direct investigation of the natural world. What was needed, Leoniceno argued, was a natural history written “not from words, but from things” (Leoniceno, cited in Findlen 2006: 441-442).

According to Pittion’s analysis (Pittion 2011: 190), Holland’s inclusion of such marginal comments reflects his concern for the extended readership of his English *Natural History*: pointing out obscure passages, correcting factual mistakes, and warning readers against potential misunderstandings are tasks that fall within his overt agenda, as advertised in the preface, of “gaining profit unto all” (Holland 1601a: fol. 2^r). Furthermore, by integrating the various strands of scholarly criticism developed in the last decades within the margins of his translation, Holland produces a vernacular alternative to the learned editions and translations produced

on the Continent. Not only does this converge with his dedication of the translation to "great scholars," but it also supports his apology of the English tongue as a suitable medium for scientific enquiry and knowledge. Significantly enough, Holland's defence of his translation project is staged against French and Italian precedents in rather competitive terms: "Are we the onely nation under earth unworthie to tast of such knowledge?" (Holland 1601a: fol. 2^v). By compiling, translating and, at times, complementing the marginal comments found in his sources, Holland offers the English reader a state-of-the art Pliny, so to speak, fit to compete with contemporary Continental editions and translations of the Latin classic. However, if the inclusion of learned commentaries contributes to staging Holland's volume as an authoritative translation, it does so at the expense of Pliny's own authority. Despite the general praise lavished upon the ancient author in the address to the reader, Holland's tone in denouncing Pliny's errors is often rather shrill, especially when compared with his sources. For example, Du Pinet points at Pliny's misinterpretation of the Greek word, στρουθιον, in rather neutral terms: "Pline s'est abusé au mot strution, qui signifie en grec un passereau et l'herbe aux foulons..." (Du Pinet 1562b: 140). Daléchamps is more severe, calling him "ineptissimus," most inept (Daléchamps 1587: 525). Holland compiles both annotations, translating Daléchamps's "ineptissimus" as "most foulely," before adding yet another comment on the unfortunate consequences of Pliny's "absurdity" (Holland 1601b: 69). Again, where Daléchamps notes that Pliny has mindlessly ("incogitanter") (Daléchamps 1587: 592) or forgetfully ("negligenter") (Daléchamps 1587: 492) mistaken the properties of the pomegranate, or those of the radish, Holland emphatically translates: "Here is Pliny out of the way" (Holland 1601b: 165), or "Here Pliny forgetteth himself again" (Holland 1601b: 17). While such incriminating comments occur at relatively wide intervals (every five to ten pages in books XIX to XXVII), their strident tone cannot but leave a strong impression on the reader's mind. Together with the other notes highlighting the textual and interpretive uncertainties of Pliny's treatise, they create the sense of an unreliable text, thus undermining Holland's own discourse on the usefulness of Pliny's knowledge for the early modern English reader.

Such a discrepancy between Holland's self-fashioning as Pliny's benevolent alter ego, and the distance thus established through his annotation practices could be explained in terms of the ambiguities of the early modern approach to translation, where traditional representations in terms of lineage, inheritance, and transfer vie with more aggressive attitudes towards ancient authors, now to be subdued "under the dent of the English pen" (Holland 1601a: sig. ¶ii^r). Holland's eclectic, if not contradictory, paratextual strategies also reflect the complexity of Humanist reading practices, with their paradoxical combination of scholarly rigour and erudition, and shameless appropriation of classical material to suit various literary, intellectual or ideological purposes (see, among others, Grafton and Jardine 1986; 1990). However, when read in the context of the early modern reception of Pliny's *Natural History*, these inconsistencies appear above all as representative of the uncertain epistemic status of Pliny's text—and of the classical approach to natural history—in the scientific communities developing in seventeenth-century England. Beyond Holland's appeal to a variety of readers, which in itself significantly complicates his interpretive stance, the ambiguous representation of Pliny's text, now as a source of general, applicable knowledge, now as a "hotchpotch" of second-hand information (Gillespie

and Cummings 2001: 539), reflects an increasingly complex attitude towards classical texts as sources and models of scientific enquiry. As the same time as awareness of the factual and methodological shortcomings of Pliny's encyclopaedia increased, a sense remained, as Pliny had himself argued (as reported by his nephew, Pliny the Younger), that "there is no book so bad that some good cannot be got from it" (quoted in Blair 2013: 383). As David Colclough has demonstrated, even Francis Bacon, usually identified with the advent of a "new science" that would finally dispense with ancient authorities, represented a liminal figure in that respect. While attacking classical philosophers, and more generally, authority-based modes of knowledge as "concentrating on words instead of experience" (Colclough 2003: 84), Bacon also stressed the importance of preserving and circulating ancient texts, as critical engagement with their ideas represented an essential methodological tool for the development of modern science. As Colclough notes,

Bacon is convinced that he can refute and supersede the ancients because he is possessed of a particular privileged way of reading that enables him to distil from their texts all that is valuable and latent in them while dispensing with their faulty methodology. (Colclough 2003: 93)

Perhaps this "privileged way of reading" would be the one ultimately required to navigate the intricacies of Pliny's text, as underlined by Holland's complex web of marginal annotations highlighting at once the "valuable" lessons to be derived from the ancient author, and the factual and methodological blemishes revealed by over a century of reading, criticism, and translation.

Beyond Holland's famous defence of the fitness of the English tongue for divulging Pliny's "mysteries" to the expanding readership of classical translations, the complex discursive and interpretive strategies displayed in the margins of his *Natural History* offer a privileged insight into the changing landscape of early modern English natural science. By integrating the various Continental traditions of learned commentary within the margins of his massive volume, Holland undoubtedly contributed to relaying scholarly debates on the textual and scientific value of Pliny's text, while facilitating its circulation among vernacular readers. As had been the case in other European countries, Holland's project of retrieving, editing, and translating Pliny's *Natural History* can be read as a touchstone for the varying attitudes of the times towards the ancient encyclopaedia, either as a schoolroom classic, a source of practical knowledge or a model for the study and classification of the natural world.

The complexities, if not contradictions, in Holland's discourse on the usefulness of Pliny for the English reader can in many ways be attributed to the mixed readership his translation was seeking to address, and to the various forms of "Plinyisms" that marked the early modern English reception of the classic. What a comprehensive analysis of Holland's paratexts reveals, however, is a striking dissonance between the discourse developed in the prefaces on the universal and immediate profit to be derived from Pliny's text, and the destabilizing record, in the margins, of the textual, factual, and methodological flaws of the text thus "divulged" to early seventeenth-century English readers. While perhaps representative of Holland's complex stance as a Humanist scholar, on the one hand, and a practising physician, on the other, this discrepancy also represents an invitation to revisit recent interpretations of early modern Humanist translations. For instance, Tomlinson's analysis of Du Pinet's

French translation, as a "*via media*" between naïve acceptance and scholarly rejection of Pliny's authority, is exclusively based on Du Pinet's prefaces; it would perhaps benefit from a closer attention to the annotation strategies displayed in the margins of the text, as they may perhaps qualify the consensual discourse developed in the prefaces. To return to Holland himself, the tensions revealed by his complex use of side notes and other paratextual devices also contributes to challenge his traditional characterization as mere contributor to the development of the English language through ideologically unproblematic translations (see Culhane 2004). At any rate, the case of Holland's Pliny confirms the pivotal importance of analyzing translation paratexts as highly ambiguous spaces of interpretive tension and negotiation—especially at times of significant historical, ideological or epistemic changes, as was the case in these early years of the English seventeenth century.

NOTES

1. All quotations are from the 1601 edition of Holland's translation, published in 2 tomes by Adam Islip. We have retained Holland's original spelling and punctuation, as well as his use of italics for proper names and Latin terms. It should also be noted that in both tomes, the first pages containing the dedications, prefaces, and index do not carry page numbers. We have followed usual conventions in early modern scholarship by identifying these pages through their signature numbers (A, Aii, etc.), where available, and by indicating whether the text is printed on the *recto* or *verso* of the leaf. Thus, the mention 'sig. Aii' indicates that the text cited is to be found on the *recto* of the second page in the 'A' quire, as revealed by the signature 'Aii' at the bottom of the page. The indication 'fol. 1, 2' etc. is used in a similar fashion for the first few pages of the first tome, which do not carry any signature numbers in the copies we have consulted (British Library, STC 20029 and STC 20029.5, available on EEBO).
2. More generally, the significance of translation to the history of science is an issue that has only very recently attracted attention among historians of both translation and science. See on this point the special issue of *The Translator* edited by Olohan and Salama-Carr (2011), particularly the editors' introduction (Olohan and Salama-Carr 2011: 179-188) and, for the early modern context, Bennet's article (Bennet 2011: 189-210).
3. Barbaro's *Castigationes Pliniana* (1492), denouncing no less than five thousand errors in Pliny's *Natural History*, were followed in the same year by Leonicensio's treatise "on the errors in medicine found in Pliny and others" (*De Plinii et plurium aliorum medicorum in medicina erroribus*).
4. Published posthumously in 1639.
5. Revealingly, the botanical books are very quickly glossed over in Alder's *Summary*.
6. Even the dedication to Lord Cecil, with its obvious social and political motivations, could be reinterpreted in terms of the English development of botanical studies. Robert Cecil's father, William Cecil, had been known for his interest in gardening and agriculture; he had worked with Turner to design one of England's first botanical gardens, and patronized several naturalists, including John Gerard, whom he employed as supervisor of his own gardens (Henderson 2002: 99; Knight 2009: 69). He passed on his passion to his son, Holland's dedicatee, who would in turn develop magnificent gardens at Hadfield House (Henderson 2002: 99; Knight 2009: 69).
7. "ea mihi fuit ingenita mentis propensio, ut qua ad rerum cognitionem faciunt, iis anteponerem quad ad ornatum et copiam orationis quaetuntur..." (Daléchamps, 1587: fol. 3^r).
8. "Pliny is so precise in his style, that sometimes he speaks like an astrologer or a cosmographer; at other times he affects a physician's or a surgeon's style, although most of the time he speaks like a grocer or an apothecary; yet at times he sounds like a labourer or a blacksmith; at others, he dresses like a miner, a gold-digger or a lapidary; and now again he turns into an engineer, a painter, or a mason – all the time using terms so proper and specific to his times that, in order to understand them, one would need to conjure the spirits of some ancient artisans..." (our translation).
9. One of the copies of the 1601 edition held at the Bodleian Library (STC 20029.5) shows, for instance, several reading notes, written in particular in the margins of the preface, by one Robert Monck, who purchased the book in 1632.

10. As Findlen notes, Barbaro's *Castigationes* tends to focus on the textual errors created by centuries of manuscript copying; whereas Leonicensio, approaching Pliny from the perspective of his own medical training, rather denounces factual errors based on Pliny's misinterpretation of his Greek sources, and his lack of a direct knowledge of the material discussed in the *History* (Findlen 2006: 440-442).
11. Considering the many manipulations to Pliny's text operated in early modern translations, we have chosen to list entries under the name of the translator.

REFERENCES

- AMOS, Flora R. (1920): *Early Translation Theory*. New York/London: Columbia University Press/H. Milford.
- ARMSTRONG, Guyda (2007): Paratexts and their Functions in Seventeenth-Century English *Decameron*s. *The Modern Language Review*. 102(1):40-57.
- ASHWORTH, William (1996): Emblematic Natural History of the Renaissance. In: Nicholas JARDINE, James A. SECORD, Emma SPARY, *et al.*, eds. *Cultures of Natural History*. Cambridge/New York: Cambridge University Press.
- BENNET, Karen (2011): The Scientific Revolution and Its Repercussions on the Translation of Technical Discourse. In: Maeve OLOHAN and Myriam SALAMA-CARR, eds. *Science in Translation*. *The Translator*. 17(2):189-210.
- BLAIR, Ann (2013): Revisiting Renaissance Encyclopaedism. In: Jason KÖNIG and Greg WOOLF, eds. *Encyclopaedism from Antiquity to the Renaissance*. Cambridge: Cambridge University Press, 379-397.
- BRADEN, Gordon (2010): An Overview. In: Gordon BRADEN, Robert CUMMINGS, Stuart GILLESPIE, *et al.*, eds. *The Oxford History of Literary Translation into English*. Vol. 2 (1550-1660). Oxford: Oxford University Press.
- BRADEN, Gordon (2013): Classical Translation. In: Andrew HADFIELD, ed. *The Oxford Handbook of English Prose*. Oxford: Oxford University Press.
- COLCLOUGH, David (2003): 'Non Canimus Surdis, Respondent Omniae Sylvae.' Francis Bacon and the Transmission of Knowledge. In: Philippa BERRY and Margaret TUDEAU-CLAYTON, eds. *Textures of Renaissance Knowledge*. Manchester: Manchester University Press, 81-97.
- COLDIRON, Anne E. B. (2008): William Caxton. In: Roger ELLIS, ed. *The Oxford History of Literary Translation in English*. Volume 1: To 1550. Oxford: Oxford University Press, 160-169.
- COLDIRON, Anne E. B. (2009): *English Printing, Verse Translation, and the Battle of the Sexes*. Farnham/Burlington: Ashgate.
- CULHANE, Peter (2004): Philemon Holland's Livy: Peritexts and Contexts. *Translation and Literature*. 13(2): 268-286.
- FINDLEN, Paula (2006): Natural History. In: Katharine PARK and Lorraine DASTON, eds. *The Cambridge History of Science*. Volume 3: *Early Modern Science*. Cambridge: Cambridge University Press, 435-468.
- GENETTE, Gérard (1987): *Seuils*. Paris: Seuil.
- GILLESPIE, Stuart (2011): *English Translation and Classical Reception: Towards a New Literary History*. Chichester: Wiley-Blackwell.
- GILLESPIE, Stuart and CUMMINGS, Robert (2001): Latin Prose Authors. In: Peter FRANCE, ed. *The Oxford Guide to Literature in English Translation*. Oxford: Oxford University Press.
- GRAFTON, Anthony and JARDINE, Lisa (1986): *From Humanism to the Humanities. Education and the Liberal Arts in Fifteenth- and Sixteenth-Century Europe*. Cambridge: Harvard University Press.
- GRAFTON, Anthony and JARDINE, Lisa (1990): 'Studied for Action': How Gabriel Harvey Read his Livy. *Past and Present*. 129(1):30-78.
- HENDERSON, Paula (2002): A Shared Passion: The Cecils and their Gardens. In: Pauline CROFT, ed. *Patronage, Culture and Power: The Early Cecils (1558-1612)*. New Haven/London: Yale University Press.

- HOENIGER, F. David and HOENIGER, Judith F. M. (1969): *The Growth of Natural History in Stuart England: From Gerard to the Royal Society*. Charlottesville: Printed for the Folger Library by the University Press of Virginia.
- KNIGHT, Leah (2009): *Of Books and Botany in Early Modern England: Sixteenth-Century Plants and Print Culture*. Farnham: Ashgate Pub.
- MATTHIESSEN, Francis O. (1931): *Translation: An Elizabethan Art*. Cambridge: Harvard University Press.
- MCKITTERICK, David (2003): *Print, Manuscript and the Search for Order, 1450-1830*. Cambridge: Cambridge University Press.
- MORINI, Massimiliano (2006): *Tudor Translation in Theory And Practice*. Aldershot: Ashgate.
- MUIR, Kenneth (1953): Holland's Pliny and Othello. *Notes and Queries*. 198:513-514.
- MUIR, Kenneth (1977): *The Sources of Shakespeare's Plays*. New Haven: Yale University Press.
- NAUERT, Charles (1979): Humanists, Scientists, and Pliny: Changing Approaches to a Classical Author. *The American Historical Review*. 84(1):72-85.
- OGLIVIE, Brian (2006): *The Science of Describing. Natural History in Renaissance Europe*. Chicago: University of Chicago Press.
- OLOHAN, Maeve and SALAMA-CARR, Myriam (2011): Translating Science. In: Maeve OLOHAN and Myriam SALAMA-CARR, eds. *Science in Translation. The Translator*. 17(2):179-188.
- PITTION Jean-Paul (2011): Pline en Angleterre à la Renaissance: à propos d'une traduction anglaise de l'*Historia Naturalis* par Philemon Holland. *Archives internationales d'histoire des sciences*. 61:185-196.
- POLQUIN, Rachel (2005): Vegetal Prejudice and Healing Territories in Early Modern England. In: Elizabeth Lane FURDELL, ed. *Textual Healing: Essays on Medieval and Early Modern Medicine*. Leiden/Boston: Brill.
- RAVEN, Charles (1947): *English Naturalists from Neckam to Ray: A Study of the Making of the Modern World*. Cambridge: Cambridge University Press.
- RHODES, Neil, KENDAL, Gordon, WILSON, Louise, eds. (2013): *English Renaissance Translation Theory*. London: Modern Humanities Research Association.
- SEAGER, Herbert (1896): *Natural History in Shakespeare's Time: Being Extracts Illustrative of the Subject as He Knew It*. London: E. Stock.
- SMITH, Helen and WILSON, Louise, eds. (2011): *Renaissance Paratexts*. Cambridge: Cambridge University Press.
- STANNARD, Jerry (1965): [Review of] Pliny's Natural History. A Selection from Philemon Holland's Translation. *Isis*. 56:382-383.
- SWANN, Marjorie (2011): *Curiosities and Texts: The Culture of Collecting in Early Modern England*. Philadelphia: University of Pennsylvania Press.
- TOMLINSON, Rowan (2012): Plusieurs choses qu'il n'avoit veües: Antoine du Pinet's Translation of Pliny the Elder (1562). *Translation and Literature*. 21:145-161.
- WEAR, Andrew (2000): *Knowledge and Practice in English Medicine, 1550-1680*. Cambridge: Cambridge University Press.

APPENDIX

Primary sources¹¹

- ALDER, John (1566): *A Summarie of the Antiquities, and Wonders of the Worlde, Abstracted out of the Sixtene First Bookes of the Excellente Historiographer Plinie ..., Translated oute of French into Englishe by J. A.* London: Henry Denham for Thomas Hacket.
- DALÉCHAMPS, Jacques, ed. (1587): *C. Plinii Secundi historiae mundi libri XXXVII*. Lyon: B. Honorat.
- DE CHANGY, Pierre (1542): *Sommaire des singularités de Pline: Extraict des seize premiers livres de sa naturelle histoire, et mis en vulgaire françois*. Paris: Les Angeliers.

- DU PINET, Antoine (1562a): *L'histoire du monde de C. Pline Second... À quoy a esté adjousté un traité des pois et mesures antiques, réduites à la françoise... Le tout fait et mis en françois par Antoine Du Pinet, seigneur de Noroy*. Vol. 1. Lyon: Claude Senneton.
- DU PINET, Antoine (1562b): *L'histoire du monde de C. Pline Second... À quoy a esté adjousté un traité des pois et mesures antiques, réduites à la françoise... Le tout fait et mis en françois par Antoine Du Pinet, seigneur de Noroy*. Vol. 2. Lyon: Claude Senneton.
- HOLLAND, Philemon (1601a): *The Historie of the World, Commonly Called, the Natural Historie of C. Plinius Secundus. Translated into English by Philemon Holland, Doctor of Physicke. The First Tome*. London: Adam Islip.
- HOLLAND, Philemon (1601b): *The Historie of the World, Commonly Called, the Natural Historie of C. Plinius Secundus. Translated into English by Philemon Holland, Doctor of Physicke. The Second Tome*. London: Adam Islip.
- NEWSOME, J., ed. (1964): *Pliny's Natural History: A Selection from Philemon Holland's Translation*. Oxford: Clarendon Press.
- TURNER, Paul, ed. (1962): *Selections from The History of the World, Commonly Called the Natural History of C. Plinius Secundus*. London: Centaur Press.