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Published in:
Intellectual History Review

DOI:
10.1080/17496977.2017.1292020

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2017

Link to publication in University of Groningen/UMCG research database

Citation for published version (APA):

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To cite this article: Doina-Cristina Rusu & Christoph Lüthy (2017) Extracts from a paper laboratory: the nature of Francis Bacon’s Sylva sylvarum, Intellectual History Review, 27:2, 171-202, DOI: 10.1080/17496977.2017.1292020

To link to this article: http://dx.doi.org/10.1080/17496977.2017.1292020

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Published online: 27 Mar 2017.

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Extracts from a paper laboratory: the nature of Francis Bacon’s Sylva sylvarum

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\textbf{ABSTRACT}

Francis Bacon’s \textit{Sylva sylvarum} (1626/7) has puzzled scholars since the seventeenth century. Published in the year of Bacon’s death by his erstwhile chaplain, William Rawley, it looks very different from the natural histories that Bacon published in his lifetime. Above all, its 1000 so-called “experiments,” incongruously grouped into 10 “centuries,” lack coherence. This article argues that \textit{Sylva} was in fact never intended for publication and that Rawley’s prefaced claims to authenticity and authority are insincere. There are several arguments to back up this new interpretation: the book’s late registration, several months after Bacon’s death; the tone and contents of its preface; its disorderliness; the un-Baconian use of the term “experiment”; and finally the book’s very title. The second part of this article traces the fate of Bacon’s papers after his death and offers an analysis of a French variant of \textit{Sylva}, which was published in 1631. Taken together, the available evidence suggests that \textit{Sylva}, far from being the result of a book project, represents Bacon’s manuscript collection of observations, experiments, and theories. Rather than being a mere commonplace book, however, it served him as a “paper laboratory” in which he prepared his actual natural histories by re-elaborating and connecting the collected experiments, recipes and observations. Viewed in this light, \textit{Sylva} offers an important insight into Bacon’s working methodology and incidentally also solves most of the puzzles that have hitherto surrounded this idiosyncratic natural history.

Ever since it was first published, Francis Bacon’s \textit{Sylva sylvarum} has left its readers perplexed. Printed in the year of Bacon’s death, it is strikingly different from his other works. Above all, it looks unstructured and messy. And yet, Bacon’s erstwhile chaplain and amanuensis, Dr William Rawley, who published \textit{Sylva}, insisted in his prefatory epistle “To the Reader” that it was the intention of “his lordship” to publish this work exactly the way it looked. It “may seem an Indigested Heap of Particulars,” he explained, but its disorder was fully intended:

I have heard his Lordship say also, that one great Reason, why he would not put these Particulars into any exact Method, (though he that looketh attentiuely into them, shall finde that

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they haue a secret Order) was, because hee conceiued that other men would now thinke, that they could doe the like; And so goe on with a further Collection: which if the Method had been Exact, many would have despaired to attaine by Imitation.¹

But what was the logic behind this pedagogical hide-and-seek strategy? It is not clear whether anyone ever found one.² Certainly, in the seventeenth century, Sylva was Bacon’s best-selling book, but whether this was due to its own persuasiveness or because it was in all editions combined with the highly popular New Atlantis is difficult to say. While the literary references to New Atlantis are clearly more numerous, it is also true that there were various authors who quoted Sylva or tried to emulate its style.³

Take Robert Boyle, who declared in Certain Physiological Essays that “many of the Particulars which we are now considering, were in my first Design collected in order to a Continuation of the Lord Verulam’s Sylva Sylvarum, or Natural History.”⁴ But whether Boyle’s nod to Bacon is representative of a widespread infatuation with Sylva is unclear. “W. W.,” the editor and translator of A Preparatory to the History Natural and Experimental, which is included in the second part of the Resuscitatio (1670), started his epistle to the reader with the following lamentation:

Having taken notice of the scandal and reproach, which my Author, The Great Master of Nature, his most excellent and incomparable piece, called The Sylva Sylvarum, or Natural History [...] lies daily liable unto, by reason of the Ignorance of the Vulgar, who, not understanding the most rare intention of its Noble Author, are apt to esteem it as a Light and Trivial Work [...].⁵

Although W. W. goes on to argue that Bacon’s A Preparatory to the History Natural and Experimental elucidates Sylva’s otherwise elusive logic, this claim is not substantiated, nor did anyone follow up on it. By the eighteenth century, Sylva had fallen into complete oblivion, and in the nineteenth, it even caused a certain embarrassment. Robert Leslie Ellis, one of the editors of The Works of Francis Bacon, documented in detail that the so-called “experiments” reported in Sylva were mostly passages lifted out of other books, notably by (pseudo-) Aristotle, Pliny, Giovanni Battista Della Porta, George Sandys, Girolamo Cardano and Julius Caesar Scaliger.⁶ As James Spedding suggested in a footnote to Ellis’s “Preface,” the book’s title, Sylva sylvarum, could in fact be literally translated as a “Collection of Collections.”⁷ But if this was indeed the nature of the book, why then should it be regarded as anything other than a typical Renaissance commonplace book, a private album into which Bacon transcribed interesting observations and arguments found while perusing other books? And if this were really the case – but we shall later show why it is not – then the author of the Sylva would in most cases be “simply a transcriber,” as Ellis put it with evident regret. Why, in such a case, should Bacon have wanted to publish this work in the first place?⁸ And what would be left of the “secret Order” to which Rawley had alluded?

The doubts of the nineteenth-century editors led to the possibility that the Sylva could be used as evidence against its author. Notably, the eminent German chemist Justus von Liebig, when seeking to discover the origins of English hostility to his own chemical doctrines, was – through Lord Macaulay’s History of England – eventually led to the figure of Bacon.⁹ In his spare time, von Liebig worked his way through the whole Spedding edition and, prompted by Ellis’s introduction to the Sylva, reached the unfairly damning conclusion
that Bacon conducted all of his investigations into nature in his study, that he takes all the facts that he discusses from books, and that the experiments and their results, which he wishes to use for his proofs, are invented for the most part.\textsuperscript{10}

In the twentieth century, finally, most Bacon scholars simply avoided this work. The few that did not felt, however, that they needed to provide an explanation for the many anomalies that it presents.\textsuperscript{11} It was only in 1981 that the \textit{Sylva} began its renewed ascent to popularity -- an ascent that does not yet seem to have reached its acme. In that year, Graham Rees published a forceful defence of the \textit{Sylva} and its underlying logic. His line of defence has shaped all subsequent engagements with that text. Rees was of course aware that the \textit{Sylva} "is not an approachable work and, at first glance, really could be mistaken for a farrago of bookish credulous and untested particulars unworthy of the name of natural history." In his essay, however, he tried to disabuse the reader of "such primitive conclusions."\textsuperscript{12}

Rees’s defence moved along three lines. First of all, a newly discovered manuscript (British Library, Add. MS, 38,693, fols 29r–52v), which was partly in Bacon’s own hand, partly in Rawley’s and that of an unidentified assistant, showed important overlaps with the \textit{Sylva} and proved, according to Rees, that Bacon was in the last years of his life really engaged in the process of writing the \textit{Sylva}. At the same time, however, Rees himself declared that the manuscript he had discovered in the British Library was just a stack of “miscellaneous working notes – notes clearly never intended for publication.”\textsuperscript{13} Once one doubts that the published \textit{Sylva} is a work that Bacon had intended to publish, this line of defence collapses, of course. For why should an overlap of “working notes” with the \textit{Sylva} prove that the latter was anything else but working notes, too? In other words, given that both the British Library manuscript and the \textit{Sylva} have the appearance of elaborated entries in a commonplace book, it is not evident why one should be taken to be the publishable version of the other.

Rees’s second argument relies on Rawley’s testimony in favour of the authenticity of the \textit{Sylva}. To be sure, Rawley had done his utmost to convince his readers of his devotedness to Bacon as well as of the authenticity of the \textit{Sylva}. At the end of his epistle “To the Reader,” he added a marginal note: “This Epistle is the same, that should have been prefixed to this Booke, if his Lordship had liued.”\textsuperscript{14} Apart from this concluding note, his epistle contained no reference to Bacon’s death, and readers throughout the ages concluded that it had indeed been composed as an introduction to Bacon’s book during the latter’s lifetime, which would imply that Rawley wrote it with the consent of his patron, and probably under his direct supervision. A fortiori, the \textit{Sylva} – its contents as well as its introduction – had to be beyond doubt. In his 1981 article, Graham Rees accepted the veracity of Rawley’s introductory remarks – although later in his life, he grew increasingly sceptical about Rawley’s self-fashioning\textsuperscript{15} and in certain cases even cast doubts on his editorial fidelity.\textsuperscript{16} We wish to suggest that there are, in fact, even stronger reasons for scepticism. All available evidence suggests that Bacon was not at all engaged with the \textit{Sylva} in the last months of his life, but worked on his \textit{New Atlantis} and on the third edition of his \textit{Essays}, while also continuing to plead for his political rehabilitation.\textsuperscript{17} Nevertheless, in his ground-breaking article, Rees insisted that “it is known that Bacon was working on the \textit{Sylva} published posthumously (1626) right up until the end of his life.”\textsuperscript{18} How did Rees “know” that? Because that is what Rawley stated, and
back in 1981, Rees saw “no reason to suppose that Rawley’s memory is unreliable. […] after all, it was he who published the Sylva and other three of these texts.”

The acceptance of the testimony of Rawley, Bacon’s biographer, on behalf of Rawley, Bacon’s editor, is of course circular. Still, Rees was not alone in trusting Rawley’s words. In the entire history from the seventeenth century until now, there has – as far as we know – only been one single person who challenged Rawley’s account. This was Pierre Amboise, the editor of the 1631 French Histoire naturelle, who spoke dismissively of “M. Bacon’s chaplain, who after his Master’s death imprinted in a confused way all the papers he had found in his cabinet.” Somewhat strikingly, no Baconian scholar is known to us who seconded Amboise’s judgement or otherwise doubted Rawley’s character or the accuracy of his account of Bacon’s intentions. We beg to deviate from that consensus. For reasons that will be explained in the rest of this essay, we are convinced that upon Bacon’s death, Rawley grabbed a part of his lordship’s working notes, sprinkled numbers from one to 1000 over their pages, divided them into 10 centuries, penned a preface in which he spoke of an occult order to be found in them, and peddled the whole thing as a work that Bacon had been in the process of publishing when he had unfortunately passed away.

With the inconclusive first argument gone and the circular second argument shooed out of court, we are left with Rees’s third argument, which is directed against Ellis’s influential and oft-repeated claim that the Sylva is “just a collection of snippets lifted from popular sources.” Rees’s counterargument is that both the Sylva and the British Library manuscript provide evidence that Bacon re-arranged the reports he copied from other sources, that he furthermore added some of his own experiments and observations, and that he sought to discern causal patterns behind them. This is almost certainly correct. As subsequent research has shown, Bacon did not simply transcribe other texts, but prepared the material he collected in specific ways. Recent studies have examined the techniques which Bacon used in preparing his materials. Specifically, Doina-Cristina Rusu has documented how materials taken out of Della Porta’s Magia naturalis reappear in the Sylva in a carefully selected, reorganized and thoroughly reworked fashion, with a specific eye to finding underlying causal patterns. Moreover, Rusu has discovered that Bacon checked Della Porta’s alleged experiments against those of the English horticulturalist Hugh Platt, repeatedly dismissing the former’s claims on the basis of the latter’s experimental refutations.

What, then, is the true nature of what was published as the Sylva? Might not its very title give us the strongest indication? The Latin word silva (or sylva) does not only mean “forest,” but – like the Greek hyle – also “wood,” “matter” and finally “building material.” Didier Deleule and David Colclough have for this reason both described the Sylva sylvarum as a kind of “quarry,” where Bacon’s adepts could obtain their materials. According to them, Bacon had realized that he could not erect the entire edifice of the new sciences all by himself, but had at least wished to provide some of the building materials. The reason why there is no clear order or architectural plan to be discerned in the Sylva is, according to this interpretation, because Bacon had provided instructions for constructing solid buildings elsewhere, for example, in the De augmentis scientiarum, in the Parasceve or in the introduction to his Historia naturalis et experimentalis.

However, as we will show in the following, the evidence points in another direction. What Rawley published as the Sylva was indeed a quarry, but one that was to provide Bacon himself with his materials, rather than any imaginary adept. As will be explained
in detail below, there are several reason for assuming that the stack of notes we know as the
*Sylva* functioned as a kind of paper laboratory, that is to say, a place where Bacon himself
collected, examined, combined, and explained ideas, observations, recipes and experi-
ments found in the texts of others, and where he compared them with his own experience
and experiments. Exactly these purposes were served also by the working notes that Rees
unearthed in the British Library, and we suggest that – aside from Rawley’s own testimony
– there are no solid grounds for making any stronger claims with respect to the material
published as the *Sylva*.

### 1. Arguments against the *Sylva* as a Baconian book project

So far, we have seen that the *Sylva* has since its publication been recognized as an oddity
among Bacon’s writings. The attempts to make sense of its uncommon contents and struc-
ture, we have argued, do not add up to a proof that Bacon had ever intended to publish the
*Sylva*. Let us now proceed to offer concrete evidence for what was, according to our recon-
struction, Rawley’s act of peddling a stack of Baconian manuscript notes as an actual book
manuscript.

#### 1.1. The date of inscription into the register of the company of stationers

The first argument has to do with the process of publication. One reason why no one has
lately cast doubt on its status as a legitimate Baconian brainchild is a mistake that David
Colclough made in transcribing the dates of both Bacon’s death and of the entry of the
*Sylva* into the *Register of the Company of Stationers*, giving 19 April 1626 as the date of
death and 9 April as the date when the *Sylva* “was entered in the Stationer’s Register.”

Had these been the correct dates, the book would have been ready for publication 10
days before Bacon’s death, and since “his Lordship” was at the time still up and about,
and even travelling, there would have been no reason to doubt that the publication of
the *Sylva* proceeded according to his intentions. The published work would then also
have had to possess the features of structure and presentation that Bacon himself had
chosen, because publishers registered books on the basis of finished manuscripts, not of
early drafts.

However, the real date of the *Sylva*’s inscription – which, by the way, is correctly
reported in Rees’s introductory study to the Oxford Francis Bacon XIII – is posthumous.
The entry in the *Register* reads as follows:

4 Julij 1626

[…] 

William Lee, Junior, Entered for his Copie vnder the hands of [George Montaigne] the lord.
Bishop. of London and master Islip late warden, A book called *Silua siluarum or a Naturall
History in ten Centuryes* by the right honorable Frances lord Verulam, viscount Saint
Albones …. Vjd

By 4 July, however, Bacon had been dead for three months. So much, then, for the alleged
proof that Bacon himself had prepared the book for publication. But there are stronger
conclusions to be drawn. Let us try to reconstruct the trajectory of the manuscript.
First, we must recall that Francis Bacon’s widow married in great haste and merely 11 days after her husband’s death, and even though Bacon had excluded her from the last version of his will, she and her new husband quickly took possession of Gorhambury Manor, where Bacon had passed the last years of his life.\textsuperscript{28} Rawley and the other secretaries had to remove themselves speedily.

Several other provisions laid down in Bacon’s will fell equally prey to circumstances. For instance, because of the unexpected disproportion between Bacon’s actual debts and the value of his assets, the two planned lectureships in natural philosophy at Cambridge and Oxford were never installed. More importantly for our current purposes, Bacon’s papers fell into different hands than those intended by him. The testament decrees that Bacon’s executors, especially my brother Constable, and also Mr. Bosvile, presently after my decease, to take into their hands all my papers whatsoever, which are either in cabinets, boxes, or presses, and them to seal up until they may at their leisure peruse them.\textsuperscript{29} An apparently earlier version of the will, published by Thomas Tenison in the \textit{Baconiana}, read instead: “I require my servant, Henry Percy, to deliver to my brother Constable all my manuscript-compositions, and the fragments also of such as are not finished; to the end that, if any of them be fit to be published, he may accordingly dispose of them.”\textsuperscript{30} As for Rawley, he was thus not appointed as one of the literary executors. Instead, he signed the will as a witness, and he was also included in the rather lengthy list of employees. After a number of servants, who were to receive 400, 350, 330, 200 and 100 pounds, respectively, plus “provisions of hay,” “my bed with the appurtenances,” “apparel,” and so forth, we encounter Rawley: “I give to my chaplain Dr. Rawleigh one hundred pounds.”\textsuperscript{31} The testament does not, however, dwell on our good chaplain, but rushes on with 24 further servants. In addition, Spedding’s collection of letters indicates that Bacon wrote in August 1625 twice to the Bishop of Lincoln, to recommend Rawley’s services, but there is nothing that would indicate that he was to play any role in keeping, let alone publishing, Bacon’s writings.\textsuperscript{32}

According to Spedding’s reconstruction, Bacon’s executors either refused to carry out their task, or they performed it with extraordinary slowness, for it took 15 months for the will to be executed.\textsuperscript{33} Of the two literary executors, nothing is known about the activities of John Constable, whereas William Boswell may well have been the person to have provided the manuscripts to Isaac Gruter, who in 1653 edited Bacon’s \textit{Scripta in naturali et universali philosophia}.\textsuperscript{34} By the 1630s, however, Rawley seems to have managed to establish himself as Bacon’s chief literary executor. In his personal notebook, for example, Samuel Hartlib wrote in 1639 that Bacon’s papers had been divided among “Chaplain Raleigh, Sir W. Boswell who got the best and Mutis one of his Servants who remained longest with him, whom hee also made Executor,” and that “Sir W. Boswell and Mutis have promised to Raleigh to give him all what they have to publish them.”\textsuperscript{35}

All of this raises of course the question of how Rawley ended up with Bacon’s papers, which should have gone to Constable and Boswell instead. It might of course be suggested that because of the delayed implementation of Bacon’s will, and because it turned out that Bacon’s debts were too large to dispense all the sums promised in the last will, Constable decided to bequeath a good part of Bacon’s manuscripts to Rawley, either in lieu of the promised £100, or because he deemed them worthless.\textsuperscript{36} At any rate, as is well known,
he was to publish various Baconian works in the decades to come. Besides the *Sylva* and the *New Atlantis* of 1626/7, there is a set of political treatises, published in 1629 (*Certaine Miscellany Works*), the *Operum moralium et civilium tomus* of 1638, the *Resuscitatio* of 1657, and *Opuscula varia posthuma* in 1658, of which all but the 1626/7 publication are collections of texts in either English or Latin. Interestingly enough, while the first two are translations or re-editions of already published texts, the last two, which contained new materials, were published only after Boswell’s death. Does this suggest that Rawley took over from Boswell, or else that he dared publish Baconian manuscripts, which had been unlawfully acquired, only once the lawful heir could no longer protest?

For a number of reasons, we do not need to trace the pedigree of the various posthumous Baconiana to make our point regarding the *Sylva*: Bacon’s will does not attribute the ownership of any manuscript to Rawley; and the men appointed to look after Bacon’s unpublished manuscripts only assumed their function in 1627, by which time the *Sylva* had already been published, together with the *New Atlantis*, whereby Rawley pretended, as we have seen, that the *Sylva* had already been in print when “his Lordship” had passed away. If we imagine a scenario in which his ownership of the manuscripts was unlawful, then his alibi looked indeed convincing: a finished book manuscript whose preface had moreover already been written during Bacon’s lifetime would not have been covered by the provisions decreed by Bacon’s will!

These considerations prompt us to question the generally accepted conjecture that “his learning and dedicated work as Bacon’s amanuensis persuaded the executors to make over most of the literary materials to Rawley in the prescient belief that he would diligently preserve and publish them.”

We surmise that it is more reasonable to assume that, as Bacon’s merry widow and her new husband took possession of Gorhambury Mansion, Rawley grabbed a certain number of manuscripts, and quickly published whatever he could make look like a complete natural history, later deciding to add the unfinished *New Atlantis*, which he told his readers Bacon had always intended to publish together with the *Sylva*.

Rawley, as we have seen, had about three months in which to do with Bacon’s experimental notes whatever he wanted. After all, little time was required to have a manuscript licensed and authorized, so Rawley did not lack the necessary time to modify the manuscript pages he found in Bacon’s study. Indeed, only two quick steps had to be taken before a given manuscript was inscribed in the *Register*. First, one needed to find a publisher, and Rawley’s choice fell on William Lee, Jr., who was in that period entering into the business of publishing (but who had the book printed by a man who had previously published various Baconiana, John Haviland). As Bacon’s works sold well, finding an editor cannot have been difficult. The publisher, Lee, in turn, had to make sure that the book was authorized, because since the 1530s, all books needed to be authorized by state or church authorities. The *Register*’s phrase “vnder the hands of […] the lord. Bishop. of London,” refers to the highest authorizing instance. That Bacon’s manuscript had actually been checked by the Bishop of London or one of his clerks prior to the inscription is however quite unlikely. “Books that could offend nobody […] were often published without authority, and no stationer is known to have been punished for failing to have an inoffensive text perused and allowed,” according to Peter Blayney, who adds: “in practice the Company officers could decide when it was or was not required.” Given its politically and theologically uncontroversial nature, the *Sylva sylvarum* would certainly have
been viewed by the stationers as an “inoffensive text,” so that that the invocation of the Bishop of London was here, as in most comparable cases, merely a ritual clause.

The only step that the publisher, Lee, had to take was to bring the manuscript to Stationers’ Hall, to have it licensed, which meant to receive the permission of the Company of Stationers, of which he himself was a member, to publish the manuscript in question. The reference in the entry to “master Islip late warden” refers to the Company’s official who granted this licence, and the final “Vjd” indicates the sixpence that Lee had to pay for the service. While at Stationers’ Hall, Lee could also choose to enter the title into the Register for a little additional fee. As Blayney explains, such an “entry was an insurance policy: paid for, it provided the best possible protection, but the price had to be weighed against the risk.”

The risk against which a Register entry could protect was that someone else would publish the same text, or something very much like it.

What about the possibility that the Sylva had indeed been ready by the time of Bacon’s death, but that the process of having it licensed took several months? Circumstantial evidence allows us to discard that possibility. Just how little time it could take to get a book out is demonstrated by the following, earlier inscription into the Register. Under the date of 7 May 1626, we find the following entry: “A booke Called Memoriæ Honorissimi [sic] Domini Francisci Baronis de Verulamio vice Comitis Sancti Albani sacrum.” This work, in whose making Rawley was also involved, had not only been licensed, but indeed written and put together within less than a month of Bacon’s death! For the licence for the Sylva, though it was allegedly ready for publication, Rawley took three times as long. And that is not the whole story; because before the book actually came out, Rawley decided to add also Bacon’s unfinished New Atlantis, even though this text is not mentioned in the Register’s entry. As some title pages carry the date of 1626, others of 1627, one may conjecture that the actual book, which now contained both the Sylva and the New Atlantis, was published in the spring of 1627, given that according to the old English calendar, the year changed on 25 March. By that time, Bacon had been buried for almost an entire year.

1.2. The epistle “to the reader”

We have already seen that despite its sundry oddities, Bacon scholars have unanimously believed Rawley’s claim, made in the prefatory epistle, that the Sylva had been prepared for publication during Bacon’s lifetime. This credulity is surprising for a number of reasons. To begin with, we recall that at the end of the epistle “To the Reader,” Rawley adds a marginal gloss, to the effect that “This Epistle is the same, that should haue been prefixed to this Booke, if his Lordship had liued,” thereby suggesting that Bacon’s death was so recent an event that he could only add it as a postscript while the book was already in print. As Peter Langman has remarked, “[i]t would, of course, have been impossible for Rawley to include this line in the body-text without contradicting the letter itself,” given that the letter itself suggests that it had been written before Bacon’s death, “but Rawley seems keen to alert the reader to this statement, not least through his unnecessary use of marginalia.” The deliberately misleading appearance of hasty adjustments is further enhanced by the unusual placement of the dedicatory epistle to King Charles, which precedes the title page, instead of being inserted between it and the epistle “To the Reader.” This letter, which is placed as if it had been added at the last moment, starts with a sentence
that speaks of “the late Lo. Viscount S. Alban.” It introduces Rawley “as one that was trusted with his Lorships Writings, euen to the last,” and recommends the book and its preface-writer to “your Maiesties presence.” Once again, Rawley wishes to create the impression that the book had been typeset by the date of Bacon’s death, and that the only changes that could be brought to it were the title page (which states that the book was “Published after the Authors death, By WILLIAM RAWLEY Doctor of Diuinitie, late his Lordships Chaplainne”), Rawley’s letter to King Charles, and the marginal note to the epistle “To the Reader.”

That this is an insincere, theatrical act becomes obvious once one knows of the succession of dates of Bacon’s death, the inscription of the Sylva in the Register, the subsequent decision to add the New Atlantis and the even later date of printing. But even readers unacquainted with this chronology should have become suspicious. They might have noticed, for example, the odd blend of tenses with which Rawley refers to Bacon in his epistle “To the Reader.” From his opening words onwards – “Having had the Honour to be continually with my Lord, in compiling of this Worke” – he repeatedly speaks of Bacon in the past tense: “I have heard his Lordship often say”; “And hee knew well, that ther was no other way open.” But time and again, Rawley gets his act together and returns to his performance, using the present tense: “And therefore he wisheth …”; “the Scope which his Lordship intendeth …”; etc. What speaks clearly from each sentence that he writes, in whatever tense it may be written, is Rawley’s wish to illustrate his proximity to Bacon, both in daily matters as in intellectual pursuits, as well as his faithfulness and trustworthiness, and thereby to establish himself as the “one that was trusted with his Lordships Writings, euen to the last.”

Given our tentative reconstruction of how things went, we might suggest that, while seeking to establish himself publically and in the eye of future patrons as the intellectually legitimate heir to Bacon’s writings, he also had to avoid the impression, on the part of the legal heirs to these writings, that he had withheld manuscripts from them. This, we surmise, is one of the main reasons why Rawley, with apparent success, pretended that the work had already been in print at the moment of Bacon’s death.

But there is a second oddity. New Atlantis, which was published as the second text, carries a separate preface “To the Reader,” also by Rawley, which is extremely short. This time, Rawley leaves no doubt that Bacon was dead by the time the preface was composed; after all, the New Atlantis is unfinished, and we are told that “his Lordship hath proceeded” only to the part that describes Salomon’s House and that he had interrupted working on this “fable” because he wished to complete the Sylva first, “which He preferred many degrees before it.” The preface ends thus: “This Worke of the New Atlantis (as much as concerneth the English Edition) his Lordship designed for this Place; In regard it hath so neare affinity (in one Part of it) with the preceding Naturall History.” This assertion is certainly quite remarkable. After all, the Sylva contains no reference to the New Atlantis, nor do Rawley’s dedicatory epistle to the King and the first letter “To the Reader.” In fact, from the entry of the Register of the Company of Stationers, it appears clearly that Rawley had initially planned to publish the Sylva all by itself.

The decision to put the two together must have been taken somewhere in the second half of 1626 or at the beginning of 1627. As for Rawley’s arguments for why the two works belonged together, they are not convincing. Furthermore, we have already mentioned that there is no biographical evidence to corroborate Rawley’s claim that Bacon interrupted his work on the New Atlantis so as to work on the Sylva. In fact, as far as
can be gathered from the extant letters, Bacon worked in the last months of his life on political treatises, including the *New Atlantis*.50 This is why Howard White once quipped: “One may not be perfectly understood by one’s chaplain.”51 But if our reconstruction is correct, the problem was not that Rawley failed to understand Bacon’s intentions, but that he ignored them. In fact, Pete Langman has pointed out that when Rawley published a Latin version of the *New Atlantis* in 1638 as a part of the *Operum moralium et civilium tomus*, he gave it a quite different status. It was now no longer a “A Worke Unfinished” interrupted by death, as the title page of 1626/7 put it and the prefaced letter explained, but as a *fragmentum*, which Bacon had not only deliberately left unfinished, but which he had personally intended for publication *as a fragment*! “And finally,” Rawley now explained, “he ordered that two fragments be added, the Dialogue of the Holy War, and the New Atlantis.”

In other words, and contrary to what he had declared in 1626/7, Rawley now tells us that Bacon “didn’t abandon those [fragments] by weariness or aversion to his subject, but that he had many other things that he had to put first.”52 The temporal order in which the composition of Bacon’s last writings was characterized in the earlier preface is not only reversed in the later one, but most conspicuously, the *Sylva* no longer plays any role in it. On the basis of this comparison, Langman seems justified in concluding “that the intrinsic relationship between *Sylva sylvarum* and *New Atlantis* he had put forward in 1626/7, and one which has been accepted almost without question ever since,” is severely compromised, and that “the only real reason for the two works to be published together [in 1626/7] seems to have been their use of the vernacular.”53

A possible reason why Bacon scholars, with Langman as the only exception, may have been blind to all these anomalies in trusting Rawley’s earlier testimony is that Rawley had once before prefaced a Baconian work, namely the much reworked Latin version of *On the proficience and advancement of Learning, diuine and humane* from 1605, which appeared in October 1623 under the title *De dignitate et augmentis scientiarum*. This precedent may have made Rawley appear like a regular prefacer of Baconian works. But the two cases are really quite distinct. For the *De augmentis scientiarum*, Bacon had enlisted the aid of quite a number of scholars and secretaries so as to Latinize and enlarge his *The Advancement of Learning* of 1605. Rawley’s function as “editor” was therefore intelligible. In the *Sylva*, the case is obviously quite distinct, as Rawley there mentions no editorial involvement on his part. But more importantly, the first book of *De augmentis scientiarum* is a long inaugural and dedicatory speech to the King on the part of Francis Bacon, who already in his very first sentence – “Rex Optime” – personally addresses King James I.54 Again, the case of the *Sylva* is different: there, the presentation of the book is entirely left to Rawley, with no role left for Bacon, the author, to introduce, present or explain his work. In fact, Rawley must explain away the absence of an authorial dedication, and his stratagem is to argue that this work was merely the sequel to the earlier natural histories, which had already been dedicated to the King, so that a new dedication would have been redundant. “So as there needed no new Dedication of this Worke, but only, in all humblenesse, to let your Maiestie know, it is yours.”55

From these two differences follows the third and last one. Given that Bacon himself directly addressed the King in the first book of *De augmentis scientiarum*, no further dedication was necessary. Rawley’s letter to the reader had therefore the much more humble purpose of explaining the relation between this work and the earlier English version.
Indeed, the first sentence reads: “Since it pleased my lordship to bestow upon me the honour of engaging my help in editing his works, I thought it was not besides the point if I told the reader something about some aspects regarding this first volume.” Subsequently, we are told about the way in which the content of the English *Advancement of Learning* was reformulated into its Latin version. In the preface to the *Sylva*, by contrast, Rawley has to take it upon himself to explain not only his role, but also the purpose of the book – a programmatic task that Bacon had never previously delegated to any member of his auxiliary troops, and which, we cannot help but add, Rawley does not handle at all in a convincing way. After all, more questions are left than answered by his introductory remarks.

From all of this, we may conclude that the letter “To the Reader” prefacing the *Sylva* was not written before Bacon’s death, despite Rawley’s protestations; that its contents should not be taken to represent Bacon’s intentions; and that the assertion from the preface to the *New Atlantis* that Bacon had planned to publish the *Sylva* and the *New Atlantis* together has no credible basis, not least because Rawley himself offers us a very different picture of the situation in his introduction to the Latin edition of 1638. All in all, Rawley appears as a self-interested and unreliable witness to Bacon’s intentions.

Obviously, all of this has implications for our view of Rawley, and *a fortiori* for the weight we give to his words about the history of the texts he edited. Rawley, from the *Sylva* up to the 1650s, posed as Bacon’s faithful secretary. On title pages and even on his tombstone, he introduced himself as “His Lordships First, and Last, Chapleine,” a claim that, as Angus Vine has shown, is not quite accurate, because while he was indeed Bacon’s last chaplain, he was not his first. In the epistle “To the Reader” prefaced to the *Resuscitatio* of 1657, he chose for his self-fashioning the following words:

Having been employed, as an *Amanuensis* or dayly instrument, to this Honourable Author; And acquainted with his Lordships Conceits, in the composing, of his Works, for many years together; Especially, in his writing Time; I conceived, that no Man, could pretend a better Interest, or Claim, to the ordering of them, after his Death, then myself.

Having seen his way of handling the *Sylva*, we must doubt this self-description. In fact, we agree wholeheartedly with Rees, who in his later years became increasingly aware of Rawley’s dominant role in shaping our image of Bacon:

The consequences of Rawley’s activities for the reception of Bacon’s writings and for the judgements of later editors are inestimable. Bacon scholars still seldom appreciate how much they rely on information and texts derived from Rawley. We need a full and nuanced study of him as memorialist and biographer, editor and translator.

Vine’s lament that “Rawley remains poorly served by modern scholarship, and his editing in particular is imperfectly understood,” is true. In fact, extrapolating from his earliest activities, in 1626, we suspect that Bacon scholars investigating Rawley’s role more carefully might find other cases in which the circular structure of Rawley, the biographer and eyewitness, justifying the activities of Rawley, the editor, implodes.

1.3. The apparent completeness of the 1000 “experiments” of the *Sylva*, and its disorderliness

Let us now turn from the preface to the text itself and take a quick glance at the oddities that distinguish the *Sylva* from all other Baconian works. Not only is it Bacon’s only
natural history in English, it is also the only natural history that has no specific or thematic subject-matter. Finally, many of its formal aspects are profoundly puzzling. On the face of it, it looks complete, being structured into precisely 10 centuries of 100 instances each. However, this orderliness is merely apparent: what hides behind these numbers is a vast array of topics, from making gold to grafting trees, from preparing purging medicines to producing sounds, from the phenomenon of fascination to ways of clarifying beer. The diversity in status of the 1000 so-called “experiments” is moreover baffling, as they range from observational reports to experiments and to theoretical considerations, definitions, enumerations, medical recipes, and queries. In other words, though they are all labelled “experiments,” most of them have nothing interventionist about them, and many are not even observational.

Ellis had argued that the motley nature of this work is due to the fact that the Sylva contained collections of reports from a varied selection of sources. But why should these add up to precisely 1000 “experiments”? What should be said about this strikingly precise number, suggestive of completeness? The division into centuries might, of course, be taken to be characteristically Baconian. Had he not in De augmentis scientiarum explicitly pleaded for disposing materials by “centuries,” saying that a Historia literarum should be organized according to “individual centuries of years, or also smaller intervals, successively seriatim”? That Rawley, as the editor of the Latinate De augmentis, would have been aware of this preference is no good counter-argument, although not irrelevant as a possible motive for structuring Bacon’s notes in that way. A more relevant argument is that whereas for historical works, a “centuriate” division suggests itself for want of better divisions – after all, historical time was already divided into centuries long before Bacon – this is clearly not the case with natural historical matters. As we will see below, the French version of the Sylva has an alternative, sixfold division, which may not only be even more Baconian than centuries, but turns out to be a more suitable division for the material presented. The structure of the French edition is also closer to that of the Latin natural histories, where each section is composed of a different number of paragraphs, the numeration of which corresponds not to some present pattern, but to the number of instances belonging to the respective topic under discussion. The principal argument against the idea that the division into 1000 instances could be Bacon’s own is, however, the sheer disorderliness with which the numbering is applied. Not only is there a wild mismatch between the thematic groupings and the centuries, but the numeration is applied to items of the most disparate nature, as we will show in a moment.

We feel, as far as the numeration goes, that only two possibilities are available: either the book was numbered by Bacon, and in that case its 10×100 structure was indeed complete by the time Bacon died – which is the impression Rawley wished to convey. Or else, it was Rawley who put the numbers there – which is the explanation that we would like to offer. The former possibility looks to us unlikely, for the various reasons mentioned before: we hear nothing about its composition in Bacon’s extant letters from his last months. Furthermore, if the work had really been finished, one would have expected a dedication, preface or introduction to this otherwise mysterious work. Nor would the manuscript have been registered so late and prefaced with a letter providing misleading information about the work’s genesis.

A comparison of the published version of the Sylva with the British Library Manuscript (Add. MS, 38,693, fols 29r-52v), unearthed by Rees, reveals in fact that the instances
(or “experiments”) were initially not numbered, but that there are some numbers added in the margins in Rawley’s hand. These numbers differ however from those of the printed version. For example, the “experiments in consort” touching composed fruits and flowers are numbered 466–468 in the manuscript, and 477–479 in the published version; those on sympathy and antipathy between plants carry the numbers 469–471 in the manuscript and numbers 480–482 in the printed version. Curiously, the introductory paragraphs for both groups carry a marginal note, “ante 466” and “ante 469,” respectively. These two numbers are identical to the first experiment of the respective groups, but the introduction, which was to preface them and therefore came “ante,” did not itself carry a number. In other instances, however, introductory paragraphs also carry a number, such as experiments 376, 499 or 518, even though they do not report an “experiment.” It is as if one watched Rawley juggling here with the “instances” so as to arrive at the exact number of 1000.

There is another startling type of insertion to be found in the manuscript. A few paragraphs carry a marginal remark, “I printed N. Hist. p. (…).” These references are to the 1639 edition of the *Sylva*, or to the subsequent ones (1651, 1658, 1664), which have the same pagination. In other words, these page references were inserted only in 1639 or later! Moreover, we also find in the manuscript a recipe published by Rawley only in the edition of 1635 and later, and inserted at the very end of the book. Could it be that Rawley discovered this recipe only in the 1630s? Or why else was it not inserted in the original edition? Should one conclude that the same experiments were recorded in different notebooks and that this particular one was discovered by Rawley only after the publication of the first three editions (1626/7, 1628, 1631)?

The various technical questions just raised still await an answer. However, returning to the published version of the *Sylva*, its inconsistent system of numbering paragraphs affects not only the introductions to the experiments, but also the explanatory paragraphs intercalated in the text. The situation is rendered even more confusing as enumerations of instances are sometimes grouped into one paragraph, carrying a single number, while in others each instance has its own number. Note that no comparable confusion affects the Latin natural histories published by Bacon himself.

A similar chaos reigns in the centuries themselves. Take century III, most of which is devoted to a discussion of sounds – a theme begun in century II. However, at experiment 291, this theme is dropped, as the attention turns to the dissolution of metals, the prolongation of life, the appetite of union, and sundry other themes. Century VII shows the same disorderliness: it continues with plant experiments, which had been discussed in centuries V and VI, but suddenly switches over to questions related to the healing of wounds, fat diffused in flesh, the colour of plumage, and so forth.

Once again, one feels that the numbering must be Rawley’s, who lacked time, or the genius, to turn the centuries into coherent themes. What he seems to have done instead was to limit himself to the introduction of a very small number of cross-references into the otherwise heterogeneous heap of “experiments” so as to suggest an underlying unity. For example, in experiment 920, on the emission of spirits in vapours and exhalations, we read: “Vide the experiment 803, touching the infectious nature of the air, upon the first showers after long drought.”

These few cross-references need not, however, be taken as an indication that Rawley substantially changed the text. To begin with, some of them may have been contained...
in Bacon’s own notes, as we find similar ones in his published natural histories. But even if all of them were Rawley’s, the inconsistencies mentioned before are too numerous, and the signs of ordering and cross-referencing too rare, to allow for the conclusion that he re-wrote the text in any major way.

One might enumerate all the instances where singular “experiments” are spatially separated from their “consort” without any evident explanation or reason. Let us limit ourselves to just two of them. Experiment 35 presents a technique for making vines more fruitful. It is wedged in between an experiment on the contraction of bodies in bulk and another one on purging medicines. There is no obvious way in which the three experiments can be related, nor is there any argument to explain why this experiment was not placed in the section that deals with the melioration of fruits and vegetables, where we encounter in fact several similar experiments. Or take experiment 679, which deals with methods for accelerating the maturation of drinks such as wine or beer. The early parts of century IV contain an extensive discussion of this process of maturation, which includes three different methods for obtaining the desired effect (experiments 312–315). One would have expected experiment 679 in that context; but instead, we find it inserted between an experiment about the diffusion of fat in flesh and one on plumage. In fact, various experiments found in centuries VII, VIII and IX should more reasonably have been included in one of the previous centuries. These particular centuries look in fact more fragmented and disorderly than the others, as the focus there lies on individual cases, and not on common patterns and processes as in the previous centuries and in century X. It is as if whoever put these instances together – Rawley, we suggest – did not take the time to order them according to any transparent criteria.

1.4. The un-Baconian use of the term “experiment”

A further oddity is encountered in the marginal titles of the Sylva as well as in its table of contents, where each instance, or rather, each new paragraph, is labelled “experiment.” While in all other works, and also in the very text of the Sylva, Bacon handles his terminology with precision, here, it would seem as if he had neglected his usual care by identifying commentatio, observatio, monita, mandatum or canon against all his usual convictions with experimenta. The most economical explanation for this anomaly seems to us that Rawley added this label, just like the 1000 numbers, so as to make the text look like a complete and coherent collection of experimental records.

Although the manuscript unearthed by Rees does not yield a direct proof of this conjecture, it is evident that the few instances that do carry titles have them added on later, in the margins, and that the titles are all in Rawley’s hand. However, it is unclear whether these titles were added prior to or after Bacon’s death. Significantly, however, no other natural history uses the term “experiment” in the titles. Whenever experimental instances are invoked, they are all labelled as “historia,” while experiments and other experiential instances are always carefully separated from more theoretical considerations and from suggestions regarding further experimental or observational steps to be taken.

A final feature that seems to point to the unfinished character of the Sylva are its multiple references to future discussions or topics, which are however nowhere to be found. For example, the Sylva announces, in vain, discussion on the preservation of fruit
Admittedly, almost all of Bacon’s writings have an unfinished character, including such published works as the *Novum organum* or the *Historia naturalis et experimentalis*. Moreover, the natural histories are full of queries and suggestions for further experimentation. Still, the case of the *Sylva* is different in the sense that besides the usual type of general queries and suggestions, it routinely announces discussions that the book itself should, but does not, contain.

1.5. Its title

We must now turn to the puzzling issue of the book’s two complementary titles, *Sylva sylvarum*, on the one hand, and *A Natural History*, on the other. Both are atypical for Bacon. As for the second title, *A Natural History*, all of Bacon’s other natural histories carry precise titles, which refer to the specific themes treated in them, while this one is a catch-all, as befits its motley contents. As for the first title, *Sylva sylvarum*, it just means “collection of collections,” as has already been pointed out. In keeping with our conviction that this book is nothing but the illegitimate publication of Bacon’s working notes in the field of natural history, we suggest that *Sylva sylvarum* is the title that Bacon gave to the specific stack of excerpts in that domain. We imagine that when an amanuensis had prepared a set of reading notes on some compendium of natural history or some experimental collection, Bacon might have said: “Please put them in my *Sylva sylvarum*,” meaning by this a box or stack of working notes on experimental natural history. And precisely because “collection of collections” does not sound either convincing or specific enough as a book title, Rawley – still according to our hypothesis – added as a (albeit still vague) specification the alternative title, *A Natural History*. But again, even together, the titles remain uncharacteristic for a Baconian work.

The word *Sylva* occurs in fact almost only on the title page, while most other references are to *Natural History*, also on the separate title pages of the centuries in the first edition. *Natural History* is also the title by which members of the Republic of Letters such as Elia Diodati, Isaac Gruter or Nicolas Fabri de Peiresc referred to it. Even Rawley himself, in the British Library manuscript, referred to the *Sylva* in terms of “L. printed N. Hist.” There are, however, three occurrences of the term *Sylva sylvarum* in the text itself, which at first sight might be taken to provide the strongest remaining evidence for Bacon’s desire to publish this work. The first is found in century I, in “Experiment 93” on producing birds with diversely coloured plumage. There, we are told that an “axiom” offered in a previous experiment will be turned into a “work.” Justifying the existence of axioms and practical rules in a natural history, a genre that had traditionally been a collection of particulars, the text interrupts itself, explaining: “For this writing of our *Sylva Sylvarum* is (to speak properly) not natural history, but a high kind of natural magic. For it is not a description only of nature, but a breaking of nature into great and strange works.” This remarkable statement stands there in great isolation. What it does there, and whether it was added by Rawley or is a genuine Baconian remark, with or without a later addition of the title words *Sylva sylvarum*, is exceptionally hard to decide. It sounds, however, very much like one of the apophthegms – Baconian sayings, witticisms and anecdotes – that Rawley had been collecting and which are now kept at Lambeth Palace Library (MS 2086).
The second occurrence is no less curious. It is found in century VI, in an introductory paragraph on the transmutation of plants, a process that Bacon deems possible, even though the rules and directions he gives are, according to his own words, yet to be tested. In fact, he feels the need to justify the presence of so many untried instances:

Wherefore, wanting instances which do occur, we shall give directions of the most likely trials; and generally, we would not have those that read this our work of *Sylva Sylvarum* account it strange, or think that it is an over-haste, that we have set down particulars untried; for contrariwise, in our own estimation, we account such particulars more worthy than those that are already tried and known; for these latter must be taken as you find them; but the other do level point-blank at the inventing of causes and axioms.\(^78\)

Again, it is remarkable that the title words, *Sylva sylvarum*, occur in an almost apologetic meta-comment about the nature of this book. Particularly striking about this long sentence is its similarity to the equally apologetic terms used by Rawley in the introduction to the *Sylva*.

The third and last occurrence is the most mysterious, because it refers to Bacon’s *Abecedarium novum naturae*, which was for the better part lost when the *Sylva* was published, as the manuscript had been stolen in 1623. The occurrence is found in an introductory paragraph to questions pertaining to the qualities of bodies: “But of these [primary qualities] see principally our *Abecedarium Naturae*; and otherwise *sparsim* in this our *Sylva Sylvarum*: nevertheless, in some good part, we shall handle divers of them now presently.”\(^79\) The reference to the *Abecedarium* is presumably Bacon’s own, for there was no reason why Rawley should have referred to a lost work, and in that case it would have had to be written prior to 1623. The awkwardly phrased reference to the *Sylva* would then, according our hypothetical reconstruction of how things may have gone, have been added by Rawley. But to resolve this issue, like many similar ones, one would really need to know much more about the degree to which sub-parts of what would be assembled into the *Sylva* were nearing some form of separate publication when Bacon died. We cannot rule out the possibility that other, more specific, titles were indicated in the three passages where we now encounter the words *Sylva sylvarum*.

2. Multiple *Sylvae*

We have so far presented our reasons for suggesting that the published *Sylva* was made to look like a completed Baconian treatise, containing precisely 10 × 100 experimental accounts, while in fact it was a heap of notes that were hastily rearranged so as to appear like a rounded-off collection of experimental centuries. The reasons offered so far for our hypothesis had to do with tensions in the text, disorderliness, untypical terminology and Rawley’s subterfuge in trying to hide the fact that the *Sylva* was a posthumous fabrication. But there exists also an altogether different body of evidence suggesting that Rawley’s *Sylva* was not a completed Baconian treatise, namely the existence of rival and very different versions of the *Sylva*.

2.1. Amboise’s edition of the *Histoire Naturelle*

In 1631, Pierre Amboise published in Paris a book entitled *Histoire Naturelle de Mre Françoise Bacon*. The contents of this book, which sailed under *Sylva’s* second title, overlapped
with Rawley’s English text, but was at the same time remarkably different. Like it, however, it was published together with the New Atlantis. In his preface to the reader, Amboise explained that if the English Sylva and his own Histoire Naturelle looked different, this had to be explained by the fact that his own edition, in contrast to Rawley’s, was actually based on an authentic Baconian manuscript!

I should also wish the reader to know that in this translation I did not follow exactly the order observed in the original English, because I found some confusion in the arrangement of the subjects, which seem to have been dispersed in divers places, more by caprice than for a reason. Besides having manuscripts by the author, I also thought it necessary to adjust or shorten many things that had been omitted or added by the chaplain of M. Bacon, who after the death of his master had all the papers he found in his study printed in a confused way. I say this so that those that understand English will not accuse me of being unfaithful, when they encounter in my version many things that they will not find in the original.80

We have cited Amboise’s charge against Rawley before, as the only instance in nearly 400 years that the authenticity of Rawley’s presentation of the Sylva was called into doubt. Amboise’s allegation in fact coincides with the arguments we have presented above.

When, in 1652, Isaac Gruter wanted to publish a second edition of the Sylva in Latin, in his brother’s translation, he inquired with Rawley whether he should also introduce those parts of the Sylva that were contained only in the French edition, and whether he considered the latter to be authentic.81 We do not have Rawley’s answer, but from Gruter’s subsequent letter, which was sent almost three years later, one may infer that Rawley must have been highly critical of Amboise’s edition:

For the French Interpreter, who patch’d together his Things I know not whence, and tack’d that motley piece to him; they shall not have place in this great Collection. But yet I hope, to obtain your leave to publish apart, as an Appendix to the Naturall History, that Exotic Work, gather’d together from this and the other place [of his Lordship’s Writings] and by me translated into Latine. For seeing the genuine Pieces of the Lord Bacon are already Extant, and in many Hands, it is necessary that the Foreign Reader be given to understand, of what Threds the Texture of that Books consists and how much of Truth there is that which that shameless person does in his Preface to the Reader, so stupidly write of you.82

One understands why Rawley had to insist that Amboise was lying. What was at stake was not only his own edition, but more generally his reputation as Bacon’s faithful editor. But leaving aside mutual accusations of infidelity, what does a comparison of the two editions teach us? Is there any way in which we can judge the truth of Amboise’s insistence that he had worked from a different, but genuine manuscript?

A comparison does in fact allow for some conclusions to that effect. The Histoire naturelle is not divided into 10 centuries, but instead into six books, each of which is composed of a variable number of chapters. Moreover, the instances are not numbered, nor are they called “experiments.” Finally, the order in which the instances are presented is completely different. Let us look at each of these differences more closely.

Admittedly, it is a mere conjecture that Bacon himself would have grouped his instances into six books rather than 10 centuries, but then, we should not forget that the Instauratio magna was supposed to have six parts,83 the Historia naturalis et experimentalis was formed of six natural histories,84 and Salomon’s House was called “The college of the six days works.”85 Let us limit ourselves here to the humble suggestion
that the structure of Amboise’s Histoire Naturelle seems to be closer to Bacon’s usual preference than is the Sylva’s thematically unjustified use of centuries.

In the absence of pertinent historical documents, it is difficult to decide whether Amboise really did possess the Baconian manuscript he claimed to have. We are therefore obliged to draw our conclusions on the basis of an analysis of the structure and order of the Histoire naturelle. Let us begin with its overall division. Its first book starts with a number of chapters on the generation of metals, including the production of gold, as well as on air, water and fire, and the qualities of bodies. The second book deals entirely with music and sounds. The third is concerned with medicines and parts of the body. The fourth is about plants and vegetables. The fifth deals with various types of processes such as concoction, putrefaction, liquefaction, and percolation. The last book starts with chapters on animals and ends up with considerations on the transmission of species and the force of imagination.

To what extent does this order differ from that of the Sylva? Interestingly enough, those centuries in the Sylva that are thematically the most coherent and most fully worked out bear a strong similarity to the corresponding parts of the Amboise edition. This is true of centuries II and part of III (experiments 101–290) on music, as well as V and VI on plants. Their counterparts are found in books II and IV of the Amboise edition, which follow, albeit in a condensed fashion, the order of the English version. As for Amboise’s other four books, they contain instances that in the Sylva are reported in diverse centuries in a thematically far less coherent manner. Book III, for example, presents experiments on medicines which in the Sylva are reported in centuries I and III; book V assembles all experiments on processes; and book VI collects all instances that are characteristic of animals and men. Where in the Sylva single instances are spatially separated from the context in which one would have expected them – we have mentioned several such instances above – they appear in their natural context in Amboise’s edition.

Characteristic of the French edition is, however, the near total absence of theoretical considerations: there are no causal explanations such as those found at the end of each individual instance in the Sylva, nor any of the latter’s queries and incentives to further investigations. In this respect, the text differs from other Baconian natural histories, as it lacks features that Bacon generally deemed important for that genre. From a Baconian perspective, the Amboise text does in this respect not look more complete than the Sylva, because it does not suggest ways of developing the theme further, but rather like a draft for a natural history to which causal explanations and queries have not yet been added. All in all, the text is much shorter than the Sylva, even though it contains several instances that are not to be found in the Sylva.

Despite the absence of the usual, typically Baconian suggestions for further research, a close textual comparison yields strong arguments in favour of Amboise’s claim that he had worked on the basis of an authentic Baconian manuscript. A comparison of his book on plants with the Sylva’s three centuries dealing with vegetables produces, for example, a number of interesting results. While Amboise’s structure is almost identical to the first two centuries on plants (V and VI), many of the experiments of the last century (VII) are missing, as are also the theoretical considerations from the beginning of that century about the differences between plants and inanimate bodies, as well as those between plants and beasts. In the Sylva, the instances and considerations of century VII look in fact less compact and coherent than those in the preceding two centuries, which
might suggest that they were added later on. This provides a first indication for the assumption that Amboise relied on an earlier manuscript than that used by Rawley.

This hypothesis receives a strong boost from the fact that the *Histoire naturelle* contains no single experiment taken from the work of the English plant experimentalist Hugh Platt, *Floraes Paradise*. As far as the vegetable world is concerned, the majority of the experiments reported in the Amboise edition are taken from Della Porta, with a few others from pseudo-Aristotle’s *Problemata*, Pliny’s *Historia naturalis*, and George Sandys’s *Travels*. By contrast, for Rawley’s edition of the *Sylva*, Platt constituted a crucial additional source, not only with respect to the number of experiments that are taken from his book, but even more importantly, because Bacon there relied on Platt’s experimental results so as to reject some of Della Porta’s reports as “fantastical.” Unless one wishes to argue that Amboise systematically eliminated all the findings from Platt from the many instances in centuries V and VI into which they are wrought, there is only one other option left: Amboise relied on a version of the *Sylva* that was written before Bacon had become aware of the counterevidence produced in Platt’s work. In fact, this second option is the only viable one, for the simple reason that the Rawley edition indicates no sources, and it would have been impossible for Amboise to know whether any given “experiment” was taken from Della Porta or from Platt. We are therefore left with only one available explanation of why the Amboise edition contains Bacon’s pre-Platt attitude to Della Porta. Let us offer, for the sake of illustration, one example to document what that means. In the Amboise version, and very much in keeping with Della Porta, grafting is still represented as a technique for slowing down the germination of fruit. The English *Sylva*, by contrast, rejects this method. In fact, on the basis of Platt’s counterevidence, Bacon ceased to view grafting as a model of copulation, but instead came to think of it as a type of nourishment. On a number of occasions, the English *Sylva* therefore denounces Della Porta’s theory and his experimental reports as false. No such criticism is found in the *Histoire naturelle*.

We may thus safely conclude that Amboise had not corrupted or rewritten the Rawley edition, but relied on a text that issued from an earlier version of Bacon’s pile of natural historical working papers. Still, a number of questions remain unsolved. How much did Amboise rewrite the manuscript in his possession? For example, is the absence of queries and of causal explanations, of which we have already stated that they constitute an essential ingredient of all of Bacon’s other natural histories, the result of Amboise’s pruning? And what exactly was the contribution of the English *Sylva* to the French edition? After all, Amboise not only acknowledged Rawley’s edition, but also admitted that he had adjusted the Baconian manuscript text he translated.

Up to here, we have posed the question in terms of two texts, but matters are, alas, even more complex. There are good reasons for believing that there was more than one manuscript of Bacon’s natural history circulating in France at that time – a circumstance that obviously renders the question concerning the relationship of the Amboise edition to the English *Sylva* even less easy to solve.

### 2.2. Bacon manuscripts in France

It is well known that Bacon used to keep more than one manuscript version of his various writings. For example, Rawley tells us that he had seen no less than 12 copies of the
Instauratio magna, which were moreover changing each year.\textsuperscript{94} We furthermore know that Bacon would send drafts of his writings to friends to comment on them. There existed, for example, at least three copies of Historia densi et rari: one in Rawley’s hands, one in Gruter’s (probably on the basis of Boswell’s exemplar), and one in the Dupuy Collection.\textsuperscript{95} With respect to the Sylva, we recall from above that Gruter, in his letter to Rawley, spoke of several manuscripts of the Natural History in different hands.\textsuperscript{96} All the copies he mentioned were circulating outside of England, and given his reference to the Amboise edition in the same letter, one is forced to assume that he knew of the existence of copies of Sylva in France.

Although we currently lack evidence as to the origin and whereabouts of these copies, the stories of stolen manuscripts alluded to in the correspondence of Philippe Fontin de La Hoguette and of Nicolas-Claude Fabri de Peiresc may fill in some of the missing detail. As to the former, Graham Rees has provided arguments suggesting that the few pieces of Baconiana found in the Dupuy Collection are probably those stolen by La Hoguette in 1623, when he visited Bacon.\textsuperscript{97} Curiously enough, La Hoguette himself expressed a strange ambivalence about the manuscripts in his hands. When he offered the manuscript to Peiresc in 1627, the latter refused the offer.\textsuperscript{98} Negotiations started again two years later.\textsuperscript{99} In the summer of 1629, Pierre Dupuy planned to have the stolen works published by Auger Granier de Mauléon, an important French publisher. La Hoguette reacted negatively to this idea, arguing that it would bring dishonour to both the author and the editor:

\begin{quote}
I have not written to you at all since I was at Aix where I forgot – that is how good my memory is – the main thing that made me write. And that was to complain to you about what Monsieur de Peiresc told me, namely that you had gone along with Monsieur de Granier’s demands to have the things I stole from the great chancellor printed, things which I wanted to pass on only to the aforesaid Master Peiresc and also to you if that is what you wanted.

It is a piece of work fragmented and disordered which I took from a larger document, and a piece of work which would charge the originator as a thief and whoever had it printed with impertinence. It would not matter if only my reputation were at stake, but so much do I honour the author’s that if it is true that the aforementioned Master Granier has pulled this trick on me, I shall never forgive him. I am greatly shocked that this has come about with your assistance. In question is your superabundant goodness, against which I say nothing seeing that I go nowhere without finding that the very mention of your name always brings me some advantage or other.\textsuperscript{100}
\end{quote}

What stolen text does this correspondence refer to? The Dupuy Collection contains three manuscripts: An Historia et inquisitio de animato et inanimato, an early version of the Historia densi et rari and the Abecedarium novum naturae. But in the letter just cited, La Hoguette seems to speak of only one single work. Which one might this has been? As for the Historia et inquisitio, it was six pages long and is therefore no plausible candidate for an independent publication. The Abecedarium is long enough, but does not fit the description, as it is not “a piece of work fragmented and disordered,” but an autonomous work which is quite finished and well-organized. The same may be said of the Historia densi et rari, despite the minor differences between this version and Rawley’s later version.\textsuperscript{101} Following as it does Bacon’s other natural and experimental histories in style and structure, it would not seem to justify La Hoguette’s worry that its publication should damage Bacon’s reputation with its “fragmented and disordered” appearance.
Should we, then, conclude that the manuscript La Hoguette speaks about is not one of the three that are found in the Dupuy Collection? Yes, we probably should.

How did the story continue? In 1630, Peiresc seems to have been in the possession of the manuscript in question or at least to have been acquainted with it. He still hoped to convince La Hoguette to publish it, with the assistance of Pierre Dupuy. But again, La Hoguette refused to comply with that wish. That seems to have been the end of the story. As far as Graham Rees could ascertain, after 1630, “Bacon’s manuscripts were never mentioned again and a 350-years silence descended upon them” – a silence that was only broken when Peter Beal discovered the manuscripts in the Dupuy Collection. Rees’s reconstruction is not quite complete, however, because in 1634, we find Peiresc mentioning, in a letter to Dupuy, certain writings by Francis Bacon: “I have received in this bundle Bacon’s books of natural history and his considerations and the book on stones, which I communicated to the Cavaliere del Pozzo by boat [mail].” This reference is precious for its precision: Peiresc mentions three manuscripts, including a *Natural History*; a text called *Considération*, which may have been Bacon’s political considerations on the war against Spain, published subsequently in French translation; and finally a text about stones, that is to say, Bacon’s short treatise on minerals, which was published by Rawley in Latin translation as part of the *Opuscula varia posthuma* in 1658. Whether these are the fragments La Hoguette described in his letter, it is impossible to decide. One thing, however, is clear: there were more Baconian manuscripts circulating in France than those found in the Dupuy Collection, and among them, there was at least one manuscript of a book entitled *Natural History*!

Oddly enough, the epistolary exchanges we have examined are inexplicably silent about Amboise’s edition, which prevents us from making any assertions about the relation between the treatise of natural history mentioned by Peiresc and the Amboise edition. Given that the protagonists of this *epistolarium* were all fervent admirers of the Lord Chancellor’s work, this silence is puzzling. The only possible exception dates from 1634, when Peiresc mentions in a letter to Jacques Dupuy an octavo edition, in French, of Bacon’s natural experiences, which he had never seen himself. Nor was the Dupuy circle an exclusively French network. The connections of its members with England were tight, and both Rawley and Boswell were personally involved in it. Peiresc knew Boswell personally, who had been in Paris between 1619 and 1621, while Rawley was corresponding with Elia Diodati, a close friend of La Hoguette, about possible translations of Bacon’s writings.

This network of contacts, this ceaseless trade in stolen manuscripts, legitimate copies as well as earlier and later versions of the very same texts, renders the history of Bacon’s posthumous publications extremely complex and difficult to reconstruct. What the scant evidence presented in our pages suggests, however, is that Rawley’s claim to having published the authoritative and definitive version of the *Sylva* is untenable. As we have shown above, Amboise’s version, for one, was quite different. Although it lacked parts – such as the arguments drawn from Platt – which Rawley’s version contained, it was at the same time much more organized and polished. Recall its structure into six thematically distinct parts, and its more logical progression from simple substances to complex processes. Taken together, the evidence presented here would suggest that the Amboise text was an early, literary product elaborated from that immense collection of “instances” that Bacon may himself have called his *Sylva sylvarum* and which he continued to augment, until his death, by
adding new instances, new observations and reflections, new evidence and counterevidence, such as Hugh Platt’s.

3. What is the nature of the published Sylva sylvarum?

What does this imply for the Rawley edition of the Sylva? And what for the Sylva sylvarum as a Baconian enterprise? By way of conclusion, it is to these questions that we must turn.

Part of the answer is, as we have repeatedly suggested, contained in the Latin title of Bacon’s otherwise English work, Sylva sylvarum, which we presume to have been Bacon’s own name for this stack of observational reports. We recall Spedding’s observation that a literal translation of the book’s title would be “Collection of Collections.”\(^{108}\) We have also mentioned that, like the Greek hylê, the Latin word silva (or sylva) can refer to a forest, to wood, or – by extension – to building materials, in which case it might function somewhat like the English words “matter” or “stuff.” Let us now add that it is in this latter sense that Quintilian and Cicero occasionally used silva, namely as the supply from which orators could gather the material for their speeches.\(^{109}\) In Bacon’s time period, silva could however refer to several different literary products, including poetical collections or miscellanies, but also to something like a collection of materials, storehouse or quarry, from which the ingredients for the construction of something more elaborate could be taken.\(^{110}\) It is in this last meaning that Antoine Mizault (1510–1578) used the term. On several occasions, this avid compiler of mirabilia structured his long lists of “memorable” natural phenomena according to centuriae (centuries), a term that he used to designate a storehouse in which to gather the elements that could be employed for the construction of overarching theories, say, of sympathy and antipathy. But at least on one occasion, he abstained from numbering his instances and described his collection instead as sylvula, using the diminutive form of sylva and in the sense of “little collection” of useful instances.\(^{111}\) As for Rawley, it is exactly this conception of the word silva that he intended, when he wrote, in his “Preface,” that

> the Scope which his Lordship intendeth, is to write such a Naturall History, as may be Fundamentall to the Erecting and Building of a true Philosophy: For the Illumination of the Vnderstanding; the Extracting of Axioms; and the producing of many Noble Works, and Effects.\(^{112}\)

A few lines later, he characterized the “present work” as one in which Bacon had “collected the materials for the building.”\(^{113}\) Now, quite independently of whether or not it was truly his Lordship’s intention to publish the Sylva as a book, both the title and Rawley’s interpretation of it seem to suggest that we are dealing here with a collection of materials to be used for more solid scientific constructions – either by others, as Rawley suggests, or by Bacon himself in the construction of his natural histories, as we propose instead. If providing materials for other literary constructions is what Bacon used his Sylva sylvarum for, then silva (or sylva) must be taken as an equivalent of pandechion, as Fabian Krämer has recently argued, that is to say, as an instrument of inventio.\(^{114}\)

It is important to understand, however, that to the extent that a silva/sylva could indeed be understood as a quarry, its purpose was usually not that of being published, but rather to serve as the place where the ingredients for the real publications could be procured. We know, for example, that Ulisse Aldrovandi had elaborated a gigantic manuscript encyclopaedia of 64 volumes, which in a letter he described as a
universal *silva* of the sciences (*selva universale delle scienze*), by means of which, if one wishes to know or write about any subject whatsoever, natural or artificial, one will find there what poets, theologians, jurists, philosophers, historians […] have written about this subject.\textsuperscript{115}

We would suggest that Bacon’s *Sylva sylvarum* had largely the same purpose as Aldrovandi’s *selva universale*, in that it was a repository of all kinds of insights and reports taken by Bacon and his secretaries from various sources so as to be used in the composition of Bacon’s own natural histories. Is *pandechion* then just another name for a commonplace book? In fact, with respect to many of the topics that are contained in the *Sylva*, it is indeed just that: a compilation of observations taken from earlier authors and grouped thematically, in keeping with the standard rules of commonplacing. But there are three subjects where the *Sylva* clearly goes beyond a mere collection of reports and displays clear traces of advanced thematic elaboration, namely sound, plants, and imagination. In the parts of the *Sylva* that treat of these three topics, we encounter a much more advanced stage of organization. There the experimental or experiential reports of others are placed in a sequential order according to Bacon’s own idea of *experientia literata*, which organizes “experiments” in such a way that common underlying patterns emerge and causal explanations become possible. The part on sound, for example, is so coherent that Rawley could decide, in 1658, to publish it independently as a book, this time in Latin, and now in fact also under a specific title, as *Historia soni et auditus*.\textsuperscript{116} Importantly, however, Rawley’s Latin version has a different structure and partly presents a different content than the parts in the two centuries of the *Sylva sylvarum* to which it is allegedly connected. In fact, it might very well be based on a different manuscript version.\textsuperscript{117}

We would in fact like to propose the idea that an analogous explanation might be offered for the manuscript used by Amboise for his 1631 *Histoire naturelle*. Both the *Historia soni et auditus* and the *Histoire naturelle* might reasonably be understood as products that issued from that immense and thematically all-encompassing paper laboratory that Bacon called his *Sylva sylvarum*. It is exactly for this reason that we attribute to the *Sylva* a status that is neither that of a book manuscript nor that of a mere commonplace book, quarry or *pandechion*. Rather, we call it a “paper laboratory” for the precise reason that it seems to have been the place where instances collected by Bacon from other literary sources as well as obtained by his own experience were collected, thematically ordered, put into series, and adjusted to one another, and where the search for underlying causal patterns, for emerging research questions and for what Bacon called “axioms” could begin. The term “paper laboratory” seems to us appropriate not just because of the *Sylva*’s intellectual work-place character, which is fully confirmed by the related manuscript that Rees has discovered.\textsuperscript{118} This neologism seems to us equally appropriate because, if our reconstruction is correct, the *Sylva* was the literary locus in which, and from which, the actual, thematically coherent natural histories were manufactured. Some of these histories were published during Bacon’s lifetime. Others remained incomplete but could plausibly be published as independent treatises, such as those on sounds or plants. Or they could be regrouped according to an ascending six-fold pattern such as in the manuscript that must have been in the hands of Amboise.

This reconstruction is, we believe, helpful in two ways. On the one hand, it tells us much about Bacon’s actual working procedure. On the other hand, it puts a definite stop to the often desperate ways in which Bacon scholars have for the last 30 years tried to make sense
of Rawley’s claim that the *Sylva* was an authentic Baconian natural history with a hidden structure. Our happy news is that such efforts will no longer be necessary.

**Notes**

2. A possible exception might be Guido Giglioni’s recent suggestion that in the *Sylva sylvarum*, Bacon demonstrates the working of *experientia literata* (“However, we can say that he devoted an entire work to show the procedures of cognitive literacy. This work is the undeservedly neglected *Sylva Sylvarum*, published posthumously in 1626. Here one can observe the process of *experientia literata* in its very making”); Giglioni, “Learning to Read Nature,” 411. For Bacon’s description of the *experientia literata*, also called the “Art of Indication,” see *De augmentis scientiarum*, V.2, in Bacon, *Works*, vol. 4, 473. Authors who characterize the *Sylva sylvarum* as an exercise in *experientia literata* include Dear, *Revolutionizing the Sciences*, 112 and *Discipline and Experience*, 21; Giglioni, “Learning to Read Nature”; Jalobeanu and Georgescu, “The Modes of *Experientia Literata*.” Rusu, *From Natural History to Magic*, 83, rejects Giglioni’s interpretation, arguing that the “experiments in consort” found in *Sylva* do not follow the modus of *experientia literata* at all; what gives the experiments in question unity is merely that they address the same phenomenon.
3. See Rees, “Unpublished Manuscript,” 377–412, at 387 fn. 54 (on the editions of *Sylva*) and fn. 55 (on English authors who emulated Bacon’s *Sylva*); and Jalobeanu, “Bacon’s Brotherhood,” 203, for early modern English *curiosi* interested in replicating, using, or critiquing the experiments contained in Bacon’s *Sylva*.
5. W. W., “The Translator to the Reader,” in Bacon, *A Preparatory*, sig. A2r. The text is included in *The second Part of the Resuscitatio or a Collection of several pieces of the Works of the Right Honourable Francis Bacon […] Collected by William Rawley […].* Though Rawley appears as the collector of the pieces contained in the volume, the book was published three years after his death, by the printer William Lee, with a dedication to the King and an epistle to the reader, which was written by Charles Molloy, a lawyer and writer on maritime law. Just like the *Preparatory to the History Natural and Experimental*, all the works included in this book have their own title pages, though the others lack a separate dedicatory letter.
7. Ibid., 329, footnote 1, inserted by J. Spedding.
8. Ibid., 329.
11. Rees, “Unpublished Manuscript,” 386: “The *Sylva* (1626) has been woefully neglected by modern scholars […].”
12. Ibid., 388.
13. Ibid., 380.
15. In the “Introduction” to the *Oxford Francis Bacon*, vol. 13, Rees writes: “In the same year he edited the work that Bacon had been compiling in the last months of his life, *Sylva sylvarum*, and published it together with the *New Atlantis*, and for both works he supplied letters to the reader – letters which afford invaluable (if sometimes ambiguous) information about what Bacon was up to in these writings.” In a footnote, Rees writes that “Rawley tells us that the letter preceding SS would have been published in its present form if Bacon had lived. All the same, its contents should, for reasons which will be given in vol. 14 of the OFB, be
treated with caution.” (Oxford Francis Bacon, vol. 13, lxxvii). Unfortunately Rees died before editing vol. 14 of the Oxford Francis Bacon, which should have contained the Sylva.

16. Upon comparing the two versions of the Topica inquisitionis de luce, the one published by Gruter in Scripta (1653) and the later one, published by Rawley in Opuscula (1658), Rees concluded that Gruter’s edition, though it seems to have been a later, improved version of the text, had no influence on Rawley’s edition. Even though Rawley could not be expected to behave like a modern editor, Rees still insisted that certain editorial practices were in common usage in the seventeenth century, such as those of collating extant versions and of recording variants, practices that Rawley observed neither in his edition of the Topica nor, indeed, anywhere else in the Opuscula. Nor does he say whether he adopted the Preface of the Historia densi from his manuscript copy or from the printed version of 1622. In fact, he provides us with almost no criteria or any apparatus for judging the reliability of his texts. Rees admits that bad editors do not always produce bad texts; they may merely fail to establish them and, since Rawley did not establish his, we have to do it in his stead (Rees, “Introduction,” in Oxford Francis Bacon, vol. 13, lxxxii–lxxxiii).

19. Ibid., 378 and 279, fn. 16.
22. Renaissance commonplace books were of course not simple collections of fragments indiscriminately copied from sources and randomly organized. They were arranged under topics, and often contrary opinions were placed next to one another. In some cases, the compiler was adding his own opinion on the matter or arguments in favour of an opinion copied from a source. Where the collections were recipes, owners of the commonplace books would oftentimes add their own experience in the margins, as they might also have done in the margins of a printed book. On commonplace books, see Beal, “Notions in Garrison”; Blair, Too Much to Know; Yeo, Notebooks.
23. Rusu, From Natural History to Natural Magic.
28. For Bacon’s will and the eventual exclusion of Bacon’s wife from it, see Spedding, Letters and Life, 539–45. See also Jardine and Stewart, Hostage to Fortune, 512.
32. For Bacon’s letters on behalf of Rawley, see ibid., 546.
33. Ibid., 551.
34. Bacon, Works, vol. 14, 540: “I desire my executors, especially my brother Constable, and also Mr. Bosvile, presently after my decease, to take into their hands all my papers whatsoever, which are either in cabinets, boxes or presses, and them to seal up until they may at their leisure peruse them.” Basing himself on Alan Stewart’s research, Rees takes the presence of Boswell in the will to represent an unsolved problem, because Boswell had not been mentioned in any of the previous versions of the will, was not listed at the end of the will, and was not even cited in the official execution of the will in July 1627 (Rees, “Introduction,” in Oxford Francis Bacon, vol. 6, lxx–lxxi). For an account of Boswell’s life and his relation to Bacon, see ibid., lxx–lxxxv.
35. Samuel Hartlib, Ephemerides, 30/4/4B. Rees suggests that if this testimony is true, Boswell did not honour his promise; probably, after Rawley had corresponded with Gruter, who
published the papers in 1653, he decided to publish his manuscripts, which he had been keeping for 25 years (Rees, "Introduction," in Oxford Francis Bacon, vol. 6, lxxix, fn. 43).

36. This interesting scenario has been suggested by one of this journal’s anonymous referees.


38. On the publisher and the printer(s), see Colclough, “Materialis,” 184, esp. fn. 11.


40. Ibid., 404.


42. See Memoriae, which contains the panegyrics of 32 of Bacon’s friends.

43. Langman, Beyond, Both the Old World, and the New,” 65. Somewhat surprisingly, Langman himself adds: “Whether or not the letter was written before Bacon’s death is debatable, but actually of less importance than the pains Rawley takes in order to establish this fact,” (ibid., 66), although in a footnote (ibid., fn. 114) he inclines to the view that “this letter was written [...] after Bacon’s death.” The importance of Rawley’s final note in the framework of “Rawley’s purpose and rhetoric in this epistle” has also been noted by Vine, His Lordships First, and Last, Chapleine,” 128.


46. Ibid., sig. A1 v.


49. Ibid., sig. a2 r–v.

50. See Bacon’s correspondence, contained in Spedding, Letters and Life, vol. 7, and in particular Bacon’s Epistola ad Fulgentium (Father Fulgenzio Micanzio), written in the autumn of 1625, in which he describes his literary endeavours (ibid., 531–2).

51. White, Peace among the Willows, 15, fn. 5.

52. Langman, Beyond, Both the Old World, and the New,” esp. 67–80, quoting from Rawley’s preface to the Opera moralium, sig. A3v.

53. Langman, Beyond, Both the Old World, and the New,” 79.

54. Bacon, De dignitate et augmentis scientiarum, 1.

55. Bacon, Sylva, “Dedication,” sig. ¶r.

56. Rawley, “Lectori S.,” Bacon, Works, vol. 1, 421: “Cum Domino meo placuerit eo me dignari honore, ut in edendis operibus suis opera mea usus sit; non abs re fore existimavi, si lectorem de aliquibus quae ad hunc primum tomum pertinent breviter meaneam.”

57. Vine, “His Lordships First, and Last, Chapleine.”

58. Rawley, “To the Reader,” sig. a3.


60. Vine, “His Lordships First, and Last, Chapleine,” 124.

61. Both the manuscript discovered by Rees and the Physiological and medical remains published by Tenison in Baconiana are partly in English and partly in Latin and do not seem to have been intended for publication. By contrast, the majority of the unfinished and unpublished drafts of natural histories were from the beginning composed in Latin, such as Inquisitio legitima de motu, Calor et frigus, Inquisitio de magnetis or Topica inquisitionis de luce et lumine.


64. On this, see Rees’s transcription of the manuscript (Rees, Unpublished Manuscript,” 410–12).

65. Take experiments 526–31, which are prefaced by an unnumbered introductory paragraph. The entire series of experiments in consort touching degeneration and transmutation has however another introductory paragraph, which is numbered as 518.

66. Generally, enumerations are made up of numbered items, as, for example, the list of purging medicines (exp. 36–42), of ways of producing cold (exp. 69–75), or of inducing and
accelerating putrefaction (exp. 320–38). But there are cases where enumerations are clustered into one “experiment”; such are exp. 27 on the transformation of air into water, exp. 66 on stopping the flow of blood, exp. 297 on infectious diseases, or exp. 500 on turning plants into medicines.

68. Ibid., 550–62.
69. Ibid., 648. See also experiment 93: “We have spoken before, in the fifth instance, of the cause of orient colours in birds; which is by the fineness of the strainer; we will now endeavour to reduce the same axiom to a work” (ibid., 378); or experiment 771 (ibid., 558–9).
70. This particular example of a single experiment spatially separated from a group of similar ones will be discussed below, in our comparison of Rawley’s Sylva with Amboise’s.
71. Ibid., 546.
72. For an analysis on Bacon’s use of the term “experiment,” see Rusu, From Natural History to Magic, 66–74, who concludes that all the instances named “experiment” in Sylva are indeed part of a natural and experimental history, with the difference that in the published Latin histories, they are placed under the correct headings.
73. It is telling that the two natural histories published by Bacon in his lifetime contain fewer marginalia. The titles and headings are inserted above the texts and few marginalia are added: mandata, connexion or ad artic. (number).
74. For Diodati’s letters to Rawley, see Bacon, Baconiana, 220; for Gruter’s letters to the same, see Bacon, Baconiana, 236–7; for Peiresc’s correspondence with Dupuy brothers, see Peiresc, Lettres, vol. 3, 52.
75. See Add. MS, 38,693, fols 29r-52v; Rees, “Unpublished Manuscript,” 395, 396, and 397.
78. Ibid., 508.
79. Ibid., 615. Abecedarium is also mentioned in the introduction to the Historia naturalis et experimentalis, which was however published in 1622, that is, before the robbery, when Bacon was probably intending to publish his metaphysical treatise. For the story of the stolen manuscripts, see our following section.
80. Amboise, Histoire naturelle, sig. â6v–â7r: “Je seray bien aise aussi que le Lecteur soit auerty qu’en cette traduction ie n’ay pas suiuy punctuellement l’ordre obserué dedans l’original Anglois, pour auoir trouué trop de confusion en la disposition des matieres, qui semblent auoir esté dispersees en plusieurs endroits, plutost par caprice que par raison. Outre qu’ayant des manuscrits de l’Auteur, l’ay iugé necessaire d’y adiouster ou diminuer beaucoup de choses qui auoient esté obmises ou augmentees par l’Aumosnier de Monsier Bacon, qui apres la mort de son Maistre fit imprimer confusement tout les papiers qu’il trouua dans son cabinet. Je dis cecy, afin que ceux qui entendent la langue Anglois, pour auoir trouué trop de confusion en la disposition des matieres, qui semblent auoir esté dispersees en plusieurs endroits, plutost par caprice que par raison. Outre qu’ayant des manuscrits de l’Auteur, l’ay iugé necessaire d’y adiouster ou diminuer beaucoup de choses qui auoient esté obmises ou augmentees par l’Aumosnier de Monsier Bacon, qui apres la mort de son Maistre fit imprimer confusement tout les papiers qu’il trouua dans son cabinet. Je dis cecy, afin que ceux qui entendent la langue Anglois ne m’accusent point d’infidelité, quand ils rencontreron dedans ma version beaucoup de choses qu’il ne trouverons pas dedans l’original.”
81. Gruter, 29 May 1652: “That Edition of my Brother’s, of which you write, that you read it with great deal of Pleasure, shall shortly be set forth with his Amendments, together with some Additions of the Argument to be substituted in the place of the New Atlantis, which shall be there omitted. These Additions will be the same with those in the Version of the formentioned Frenchmen, put into Latine; seeing we could not find the English Originals from which he translates them: Unless you, when you see the Book, shall condemn those Additions as adulterate” (Baconiana, 226).
82. Letter by Gruter, 20 March 1655, in Bacon, Baconiana, 236–7. The discussion between the two editors must have dragged on, and the second Latin edition of Sylva appeared only in 1661.
83. See Bacon, Distributio operis, in Oxford Francis Bacon, vol. 11, 27.
84. Bacon Historia naturalis, in Oxford Francis Bacon, vol. 12, 7.
86. Such is the case with the above-mentioned experiment on planting kernels of grapes next the roots of vine so as to make the latter more fruitful. In Amboise’s edition, this instance is part
of the experiments on the melioration of fruits, where it in fact thematically belongs; see Amboise, *Histoire naturelle*, 217.

87. Jalobeanu considers this lack of theoretical considerations and queries a weakness of the French edition, and takes it as a proof of Amboise’s own scientific agenda, “namely a particular interest in alchemy and matter theory.” According to Jalobeanu, Amboise would indeed have used the English *Sylva* as a quarry from which to take his own “materials for building” (“The French Reception,” 150).


89. See the table of borrowings from Platt, ibid., 275–6.

90. Bacon, *Histoire naturelle*, 210–22. Moreover, the Amboise version mentions only four techniques, while the English version lists eight of them. The manuscript unearthed by Rees also mentions four techniques, but does not define them (British Library, Add. MS, 38,693, transcribed in Rees, “Unpublished Manuscript,” 410).


93. Further examples could be given. In *Sylva*, for example, Bacon is very critical of Della Porta’s proposed methods of inducing medicinal virtues in plants, on the basis of counterevidence taken from Platt (Bacon, *Sylva*, in *Works*, vol. 2, 480). The Amboise edition, by contrast, only voices mild scepticism, and without invoking Platt’s evidence, proposing that more should be done to discover the manner in which medicinal virtues could be introduced into plants (*Histoire naturelle*, 225).

94. Rawley, *The Life*, sig. (c)r–v: “His Book, of Instauratio Magna, which, in his own account, was the chiefest, of his works, was no Slight Imagination, or Fancy, of his Brain; But a Settled, and Concocted, Notion; The Production, of many years, Labour, and Travell. I my Self, have seen, at the least, Twelve Coppies, of the Instauration; Revised, year by year, one after another; and every year altered, and amended, in the Frame thereof; Till, at last, it came to that Modell, in which it was committed to the Presse: As many Living Creatures, do lick their young ones, till they bring them, to their strength of Limms.”

95. Rawley published his version of the *Historia densi et rari* in 1658 as part of the *Opuscula varia posthuma*. Gruter mentions his copy in a letter of May 1652 to Rawley, specifying that it is “imperfect, though carried on to some length” (*Baconiana*, 227). Dupuy’s version corresponds to the manuscript BcF 295.5, ff. 7r–23v.

96. See above, endnote 82; *Baconiana*, 237.


99. As Rees notices, “in the summer of 1629 the manuscripts reappeared, this time at the centre of a first-class row which agitated La Hoguette and the Dupuy–Peiresc circle for some weeks” (Rees, “Introduction,” in *Oxford Francis Bacon*, vol. 13, lv).

100. La Hoguette, *Lettres*, 253–4, trans. by Rees, in *Oxford Francis Bacon*, lvii. Granier never published the works. It is not clear whether he had copies of the manuscripts or not.

101. Rees, who has compared the two versions of the text, concludes that there are no major structural differences, and that the 72 added passages of the Rawley edition are “distributed fairly evenly through the text” (“Introduction,” in *Oxford Francis Bacon*, vol. 13, xxxiii).


103. La Hoguette, *Lettres*, 264: “I am reading attentively my manuscripts of my great chancellor, which are a bottomless pit of knowledge. They are very accurate and I shall bring them to Paris with me to communicate them to our friends alone, without having them printed” (translated in Rees, *Oxford Francis Bacon*, vol. 13, lviii).


106. Peiresc, *Lettres*, vol. 3, 242, 19 December 1634: “Sur quoy attendant vos commandements, je vous diray que le cavalier del Pozzo me demande un assortiment des oeuvres du Milor de Verulan Baccon, dont il me demande deux pièces imprimées à Paris et en veult deux exemplaires de chascune: l’une que vous m’aviez cy devant envoyée in 4° de Cramoisy des considérations politiques pour la guerre contre l’Espagne; l’aultre que je n’ay pas veue que je scaiche, que M’Bourdelot luy a dict estre imprimée in 8° en Françoys pour la traduction de l’oeuvre des experiences naturelles, dont je seray bien aise d’avoir aussy un exemplaire pour moy.”

107. On Elia Diodati, see Rees, “Introduction,” li–lii, for his correspondence with Rawley on translating the *Natural History*, see Bacon, *Baconiana*, 214–20. About La Hoguette’s role in the dissemination of Baconian works, see also Fattori, “Fortin de la Hoguette.”


110. See ibid.

111. Mizault, *Memorabilium aliquot naturae arcanorum Sylvula*. We thank Christoph Sander for drawing our attention to Mizault, whose relevance for the contents of Bacon’s *Sylva* still awaits examination.


113. Ibid., 336.


116. *Historia soni et auditus* was part of the *Opuscula varia posthuma*.

117. Spedding (in Bacon, *Works*, vol. 3, 655) postulated that this was an earlier text by Bacon; but then, one wonders why Rawley would have published an earlier version if he himself had, in *Sylva*, supplied the definitive one. In fact, Claudia Dumitru has argued that in several respects, the *Historia soni* looks more like the later and improved version of the centuries on sounds in *Sylva* (“The Irreducibility of Sound to Motion”).

118. Our term “paper laboratory” is inspired by recent scholarship on “paper tools.” See, for example, Klein, *Experiments, Models, Paper Tools*; for “paper tools” in the early modern period, see the special fascicle of *Early Science and Medicine*, 19.5 (2014).

Acknowledgements

We would like to express our gratitude to this journal’s two anonymous referees, whose precious references and *dubia* helped us improve the argument of this article considerably.

Funding

The research for this paper was financed from the grant [PN-II-ID-PCE-2011-3-0719], “From Natural History to Science.”

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