Reading for Enlightenment in the Beginning of *Philosophical Transactions*

James Phillip Ascher
Indian Harbour Beach, Florida

BA, University of South Florida, 2002
MS, University of Florida, 2005
MLIS, University of South Florida, 2007
MA, University of Virginia, 2017

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Department of English

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Cynthia Wall
David Vander Meulen
Brad Pasanek
Chad Wellmon

To David Whitesell

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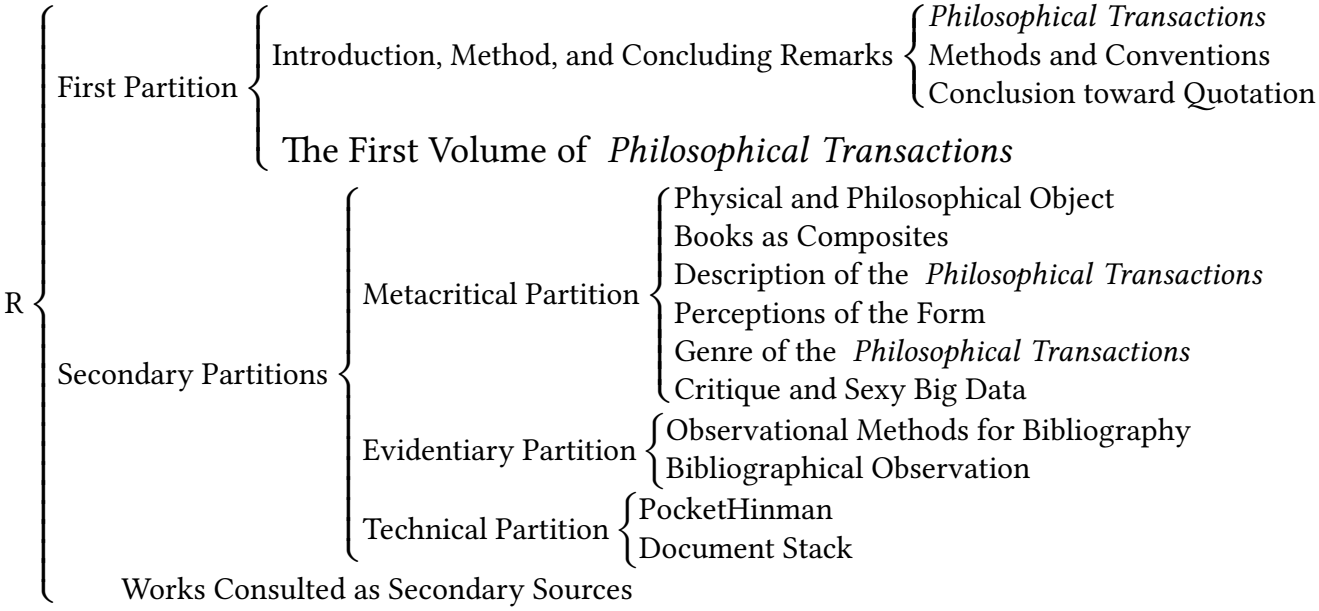

This whole project is also available on GitLab with any additional corrections: https://gitlab.com/cacology/dissertation

Introduction, Method, and Concluding Remarks

This dissertation recounts the history of some widely read texts and develops new ways of writing about the past; it is at once an investigation into the particulars of history and an account of the historiography needed of that investigation. As an historical account, it documents the development during the seventeenth century of the learned journal *The Philosophical Transactions*, which became a model for that most flexible form, the periodical. As historiography, it builds methods for the history of texts, books, and letters, contributing to basic scholarship within bibliography.

The dissertation's treatment of history and method divides into four interrelated partitions, each an independent contribution to different ways of thinking and writing about the past. This first section of the first partition serves as both introduction and as the concluding remarks for a study that can be made as short, or as long, as the reader likes by their reading of what follows. Indeed, I expect that some readers will read all the way through; some will skip some sections; others may read the introductory part of this section, read two partitions, return for the conclusion, and read another partition or two. But the document asks you to first read carefully here, at the beginning, and then pay attention to the first steps—the next section—but at that point you're walking on your own and can decide how to approach the other parts. Such a model of reading out-of-order and what-you-will has comparatively recently been promoted by Ted Nelson,[1] whose idea of hypertext inspired the World Wide Web and electronic non-linear reading. But the basic principles of non-linear, selective reading will be familiar to readers of Jacques Diderot, John Aubrey, or the Pentateuch; or, more recently Vladimir Nabokov, Lucy Ellmann, or Lotte Hellinga's completion of the *British Museum Catalogue of XVth Century Books*. While non-linear reading might smell of innovation, writing this way is like the novelty

[1] Ted Nelson, *Literary Machines: The Report on, and of, Project Xanadu Concerning Word Processing, Electronic Publishing, Hypertext, Thinkertoys, Tomorrow's Intellectual Revolution, and Certain Other Topics Including Knowledge, Education and Freedom*, 5th ed. (Swathmore, PA: Theodor Holm Nelson, 1983); the attentive reader may note that my "recent" and "innovation" here reflect events over the twentieth century, not the last few years. The history of texts happens in decades and centuries, so my usage here is meant as preparative disorientation. Studying texts where "modern" can mean seventy years ago, a century ago is barely the past. Amy Hildreth Chen, *Placing Papers: The American Literary Archives Market*, Studies in Print Culture and the History of the Book (Amherst: University of Massachusetts, 2020) argues that expansion of the modern era results, like many things, from the G.I. Bill that drove servicemen into literature programs, which then acquired the newly available archives for them to study as twentieth-century modernism was just taking off, thus enabling our permanent preoccupation in higher education in the late 1960s.

of Chanel No. 5. It has been innovative so long that it is now a classic innovation. Yet even at its moment of newest newness, that synthetic perfume created a form that repackaged already existing chemical, previously alchemical, methods to serve an existing human need, itself ancient and its origins forgotten. Perhaps ordure predates our language to name it, as non-linearity must predate linearity. Newness is the oldest story in the book. History teaches us little else.

Bibliography has long been associated with innovations in writing. A.W. Pollard explains the word *bibliography* originally referred to the writing of books of any sort, but that Thomas Frognall Dibdin began using it to refer to writing about books in particular. Pollard traces the earliest use of the word referring specifically to writing about books to Guillaume-François de Bure's, *Bibliographie Instructive* (1763–8).[2] Yet I think Pollard's distinction between these kinds of writing might not be as useful as it once was. Consider Samuel Johnson's pre-Dibdin definition of a bibliographer as "a writer of books; a transcriber."[3] To understand this line, or even accurately transcribe or read it, requires historical investigation into texts. While Johnson does not define bibliography, conventional usage suggests that his definition would encompass the activity engaged in by bibliographers. The first part, "a writer of books," appears to describe an author rather than a kind of historian; but an author according to Johnson distinguishes themselves as "the first beginner or mover of anything; he to whom any thing owes its original" or "the first writer of anything; distinct from the *translator* or *compiler*" before the vaguest definition of "a writer in general."[4] The writer here does not just produce books, but all sorts of things including books, and generally produces those other things first. These definitions imply a chain of texts where the writer or author begins, a compiler or translator writes later, and perhaps the bibliographer thus comes last, writing after writing or *transcribing*. The second half of Johnson's definition refers specifically to a bibliographer as "a transcriber," but not exactly. It actually says 'a tranſcriber.'[5] with a long *s* character and a period, not a

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[2] Alfred W. Pollard, "Bibliography and Bibliology," in *The Encyclopædia Britannica: A Dictionary of Arts, Sciences, Literature and General Information*, ed. Encyclopædia Britannica Company, 11th ed. (New York: The Encyclopædia Britannica Company, 1910–1911), 908.

[3] Samuel Johnson, *A Dictionary of the English Language* (London: W. Strahan, 1755; New York: Arno Press, 1979), 3B2v.

[4] Johnson, ibid., 2Mv.

[5] Here I begin following the convention of using doubled quotation marks to indicate conventional quotation and single quotation marks to indicate quasi-facsimile quotations. See Fredson Bowers, *Principles of Bibliographical Description* (1949; repr., New York: Russell & Russell, 1962), 136 ff and G. Thomas Tanselle, "A Sample Bibliographical Description

comma. Yet this too is not quite right. It actually begins with a capital *A* and breaks on a line thus 'A | writer of books; a tranſcriber.' where the pipe character, |, indicates a line break. But still, that's not quite right. A space precedes the semicolon, '~ books ; a ~,'[6] but not the other marks of punctuation. Looking at the rest of the page we see that spaces precede all the semicolons and colons, so perhaps it is not really a space, but the semicolon has extra width. We would have to examine more pages, and since several printers and compositors produced this book. We would have to figure out who produced this particular page. Did that compositor always put in an extra space? Was that extra space merely another place to justify a line? Does it result from Johnson's manuscript or from his amanuenses? Or were the semicolons the compositor used wide? Were wide semicolons common to all printers, or did this printer have a special set of type? Who else had type like this, and where did the compositor learn to do this? Thus, to even transcribe this line correctly, we must enter into questions of the history of printing and into bibliography.[7] The convention of modernizing glyphs and regularizing punctuation obscures the challenging judgments that must be made transcribing this, or any text. I think distinguishing the writing of anything from writing about books is not about the topic, but the expectations of accuracy that readers bring to finished texts. Writers on gardening could be attentive to the structures and nature of texts. We simply do not expect it, so we can be grateful when they are.[8]

This dissertation aligns its thought with this earlier definition of bibliography as transcription, while acknowledging that transcription itself is a kind of history required by a kind of writing. By coming to understand the history of printing better, I learn about writing and design, and then design and write better about the historical topic. Here, bibliography *does*

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with Commentary," in *Descriptive Bibliography*, by G. Thomas Tanselle (Charlottesville: The Bibliographical Society of the University of Virginia, 2020), 523 ff.

[6] A swung dash, ~, is used here and elsewhere to indicate a text is left out that has previously been quoted and should be clear from context. Here it focuses the quotation on the spacing change, not the words which remain the same. Expanded here this would be 'A | writer of books ; a tranſcriber.'

[7] Cynthia Wall, *Grammars of Approach: Landscape, Narrative, and the Linguistic Picturesque* (Chicago: University of Chicago Press, 2019), 96–100 addresses this spacing sensibly from the point of view of both how the page would look and how compositors were told to work, but notes that "compositors were journeymen, not artists" (114). These transcriptions help map the journey between the art and the practice.

[8] Dibdin's use of the word *bibliography* in Pollard's more modern sense coincides with his manically designed books that both pay careful attention to the design of texts and play with those designs. Design seems to become part of his thinking, as it has mine.

mean the writing of books. It is just that the writing of books requires significant attention to what books are, no matter what you do. Rather than promoting bibliography as above mere transcription, scholars of texts should pay more attention to transcription itself as an art that relies on profound historical knowledge. The form of this dissertation therefore attends to writing and is itself a sort of historical argument.[9]

The dissertation's primary partition presents the culmination of the work collected in the three partitions that follow it. As the core and soul of the dissertation, the primary partition narrates the events and evidence of the first volume of *Philosophical Transactions* between 1665 and 1667. As an originating form and originating genre, the beginning of the *Transactions* not only lays out the possibilities for what it would become, but also influences what all other periodicals could become. A.R. Hall's foundational treatment of the *Transactions* in society puts it thus:

> Journals like the *Journal des Savants*, the *Philosophical Transactions* (both begun in 1665) and the German *Acta Eruditorum* (1684) gave the systematic letter, in the form of a scientific article, a wider currency. Some of the most important work of the second half of the seventeenth century was first described in the *Philosophical Transactions*, which was adopted as a vehicle for publication by Malpighi in Italy and Leeuwenhoek in Holland. This development in communication was the most important that had occurred since the invention of printing.[10]

Hall's implicit comparison to incunabula, the books produced in the first fifty years of printing, seems apt. When Hellinga writes about the first printed books, we learn about all the books that are to come because Hellinga's early books set the structures that will be adapted or resisted. In the same way, reading through the first years of the *Transactions* illuminates the forms and structures that all periodicals will take, as they become more prominent in science, news, belles-lettres, mathematics, industry and business, and all other aspects of literate life. Its

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[9] I mean form here in the sense of a custom set of glyphs, typographical engine, layout, document design, and written style. Form here is meant strongly, not just a choice of words, but their graphic representation and use—or absence—of guiding symbols as well.

[10] A.R. Hall, "The Scientific Movement," in *The New Cambridge Modern History: The Ascendancy of France 1648–88*, ed. F. L. Carsten, vol. 5, The New Cambridge Modern History (Cambridge: Cambridge University Press, 1961), 51–52 the *Journal des Sçavans* became *Journal des Savants* when it briefly reappeared after the French Revolution in 1797, but only consistently published under that name after 1816. Hall thus means *Sçavans* was begun in 1665, though he probably called its modern incarnation *Savants*.

financial management can even be found reflected in questions of the free internet. Surveillance capitalism, blogs, news, and advertising all deal with the basic problem that Henry Oldenburg, the first editor of the journal, was trying to solve of providing the world with free and useful information while managing to feed a family. At what cost does that come, and is it worth it?[11] Beginnings deserve thoughtful attention, and the soul of this dissertation lies in merely observing the beginning as prelude.

The second partition, the first of the secondary partitions, comprises linked metacritical essays, by which I mean essays that go past established historical facts and reflect on what they may mean in a larger sense. I take the term "metacritical" from Peter W.M.Blayney's treatment the history of terminology for textual criticism, where he recounts W.W.Greg's term "critical bibliography" as referring to the study of texts within physical objects and restricts bibliography to just the objects. For Blayney, metacritical textual criticism is the "science or art of conjectural emendation."[12] Terms have their history, but what I value in Blayney's report on Greg is the distinction between history and conjecture, or facts and interpretation. Metacritical is that which comes after criticism, the meta- of metacriticism. I conceive of this project as observation, history, and interpretation. Yet the act of recounting history itself is an interpretation. Scholars select to report or quote certain things, so there needs to be a word to distinguish writing which aims to recover the past and writing which aims to conjecture about and interpret that past. These metacritical, interpretive essays that form the second partition, ask questions about genre, close reading, literary style and the like, but separate themselves from the earlier work of history that is the core and soul of this dissertation. The essays comprising the second partition expect different amounts of evidence and evidence used differently. So they can make much bigger claims that interest a wider range of people. If the history of genre interests you—and I think it should since the social category of genre partially influences how texts can appear at all—you should read that section. By putting these into a secondary partition, I mean to signal that they base their results on the more careful study in the first partition. Accompanying that aim is another. I think you ought to read the partition fully to ground yourself in the historical realities

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[11] Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (New York: Public Affairs, 2019).

[12] Peter W. M. Blayney, *The Texts of King Lear and Their Origins* (Cambridge: Cambridge University Press, 1982), 2.

I discuss in these essays before you begin them. Interpretation through Russian formalism, critique, and science studies quickly develop powerful conclusions that can extend beyond the evidence in the materials themselves. In such a way, grounding thought first in particular realities counterbalances some of the risk of overly tendentious thinking.

The third partition, second of the secondary partition's essays, reports the evidence I have collected through observation, while improving methods for transcription and the handling of evidence. Building upon the traditions within the discipline of descriptive bibliography, I expand its notation to not only show my judgment but on what evidence I based my judgment. The spirit is one of John Aubrey's *Brief Lives* (ca. 1697) or Brad Pasanek's *Metaphors of the Mind* (2015), in that it presents a diligent reader with deep and thoroughly sourced research that expands on materials from the earlier partitions, providing more details for research and queries into the interpretations I present.[13] You could use it to check my description of the *Transactions*, disagree with my judgments, or locate contradictory evidence, since any errors or misjudgments derive from that evidence. You can also use it to move into more advanced treatments of the material than I provide in the first partition. In this way, the first partition could be read as the introduction to this later partition, which has a more thorough treatment of the same material and a greater scope. If you are prepared to believe me and do not relish piles of data, then it will add little to your reading. But consider what you may miss out on: manuscript evidence of sales, copies of receipts, the history of a class of a certain kind of professional reader, and how one text tries to represent another over nearly a hundred year period. However, like the previous secondary partition, I do see the soul of this dissertation, the first partition, as a necessary introduction to the more difficult matter there for even the most sophisticated reader.

The last partition, the third secondary, covers technical issues and tools. This project has profound commitments to transparency, accuracy, and the advancement of historiography in sourcing evidence and presenting judgments using the best tools that exist now. I take inspiration from Leopold von Ranke's *History of England*, which comprises four volumes of narrative history and two volumes of related transcribed documents, presented with the best

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[13] John Aubrey, *Brief Lives: With an Apparatus for the Lives of English Mathematical Writers*, ed. Kate Bennett (Oxford: Oxford University Press, 2016); Brad Pasanek, *Metaphors of Mind: An Eighteenth-Century Dictionary* (Baltimore: Johns Hopkins University Press, 2015).

tools of the time, multi-volume, printed reference works.[14] Like Ranke's, my materials spread out across libraries and my consultations of them across time, so I have used the best tool I could find, computerized versioning, to track my progress. Existing computerized typographical systems could not capture my materials with the nuance I needed for my arguments, so I had to develop a digital font, document system, philological word processor, and a portable, optical collation tool.[15] This might be what some call the digital humanities component of this dissertation. Yet I don't know if separating these activities from normal historiography helps us understand it or do it. I simply looked at all the tools I could find and used the best ones that served my purpose. While this partition is certainly "Advanced humanities research that uses … computational methods or digital tools" it does not pay special attention to them as digital tools.[16] If a card file could do what I wanted better, I would use it instead.[17]

When I presented my computerized typographical work at the 2019 American Society of Eighteenth-Century Studies, the moderator asked how someone else could do what I did without a whole digital humanities lab and a team of programmers. I thought I had no such team or lab, until I reflected that I did have a team, whom I had to meet on their own terms. The tools I used—rather than carving out my own digital humanities territory from what people interested in computers are already doing—joins with those developers, particularly those in the Free Software Movement. The problems they solve translate into my problems and vice-versa. For example, I've submitted patches to core Emacs (a text editor) to help with displaying glyphs for my work, but which also helps improve editing in non-Roman texts. In particular, I did not invent any new platforms or grant-winning named systems, but contributed to the best, most stable, existing systems that I could adapt to my purpose. My tools are a sort of

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[14] Leopold von Ranke, *A History of England Principally in the Seventeenth Century*, 6 vols. (Oxford: Clarendon Press, 1875).

[15] On the one hand, as "fount" occurs chiefly in British prose and I discuss chiefly British printing, I use that word to refer to the complete set of type owned by a printer. On the other hand, my type design is American so I refer to digital fonts with "font." This has the added advantage of distinguishing not only a physical object in the past from a digital record in the present, but using two different words for two totally different kinds of things.

[16] Alison Booth and Miriam Posner, "The Materials at Hand," *PMLA* 135, no. 1, Varieties of Digital Humanities (2020): 10 "Advanced humanities research that uses and reflects on computation methods or digital tools." While my research reflects on its tools, it does not consider them as digital tools distinguished from other tools. If a hammer helped me to transcribe better, I'd use it.

[17] In fact, I lost a whole section of initial research in the US Post because of this. This is what initially turned me onto computerized versioning systems.

anti-software, which exist only reluctantly and would rather find a more general tool to fill the niche.[18] This partition explains this approach in more detail and reflects on how to collaborate with thinkers who work in other disciplines. The principal method demands that I learn enough to be interested in their problems too. It is digital, or computational, humanities only because I wanted the help of particular people. However, like the previous two secondary partitions, it will not make much sense without the first partition. It is hard to understand a solution without first understanding the problem.

The structure itself takes inspiration from Robert Burton's *Anatomy of Melancholy* and its graphical synopsis.[19] While shorter and less complicated than Burton's work, this dissertation possesses the same copious and subordinating character. I want you to pay more attention to certain parts and consider other parts optional, depending on what you are hoping to achieve, but at all points the context of what you read frames its form and the shape of its thought. As Geoffrey Hill suggests for Burton, I draw on the "contextual memory" made possible by typesetting and reproduce a map of the topics to navigate through the "Erasmanian *copia*" of the project.[20]

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[18] Lauren F. Klein, "Dimensions of Scale: Invisible Labor, Editorial Work, and the Future of Quantitative Literary Studies," *PMLA* 135, no. 1, Varieties of Digital Humanities (2020): 23–39 talks about invisible labor, but as recoverable using advanced technology. In contrast, I mean the invisible labor hidden in advanced technology. Donald Knuth writes more about typography than many historians of the book's role in society; why is he accounted a computer scientist and they humanists?

[19] Robert Burton, *The Anatomy of Melancholy*, ed. Floyd Dell and Paul Jordan-Smith (1621–1651; repr., New York: Tudor Publishing Company, 1927), 109–12, 377–80, 609–10; David J. Archibald, *Aristotle's Ladder, Darwin's Tree: The Evolution of Visual Metaphors for Biological Order* (New York: Columbia University Press, 2014), 54 calls these hierarchical keys and ties their popularity to Carl Linnaeus's *Systema naturæ*.

[20] Geoffrey Hill, "Keeping to the Middle Way: The 'Accurate Musicke' in Burton's Anatomizing of Worldly Corruptions," *TLS: The Times Literary Supplement*, no. 4786, Christmas issue (December 23, 1994): 3–6.

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  - First Partition
    - Introduction, Method, and Concluding Remarks
      - *Philosophical Transactions*
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The four partitions—one primary, three secondary—form the dissertation's body, and the beginning has the concluding remarks as well. The final list of secondary works could alternatively be titled "Further Reading," but the word bibliography has already taken on too many meanings at this point for it to bear one more. The hierarchy and subordination of this chart explains the context and aims of particular sections, should you find yourself disoriented. The chart also serves as an emblem for structured thought and the possibilities of heteroglossic genres like transactions.

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The Philosophical Transactions

Five years after the Restoration of Charles II, his Royal Society begins to produce the *Philosophical Transactions*. As a project, it *underwrites* the development of English Enlightenment typography and book design, the topics of this dissertation.[21] As literature it

[21] Underwrite means to write below, subscribe to, join with, agree to, and to fund. While the modern associations might be with insurance, the *Transactions* collaborated with the Court in both being funded by and funding the development of writing, and both being subject to and subjecting typography to changes. The entanglement here is not simple, like someone who joins in with some project and then *undertakes* that project. David Alff, *The Wreckage of Intentions: Projects in British Culture, 1660–1730*, Alembics: Penn Studies in Literature and Science (Philadelphia: University of Pennsylvania Press, 2017), 92 explains that "Undertaking is projection's end—its goal and terminus—and

documents the history of writing and reading, both as a physical object and as a text. Like many books, it responded to shifting traditions in English letters, but it also drove innovation in book design and in circulating knowledge that influenced these traditions. Licensed by the Royal Society, produced on spec, and sold to a newly recognized community of readers and writers, it could and did break with previous traditions for books, inaugurating a century of newly enlightened texts.

Well-known to the history of science, the *Philosophical Transactions* additionally belongs to four other kinds of history. As an object it—firstly—evinced new techniques for bookselling, and—secondly—new ways of printing. As a text, its embedded narratives participated in a shift in—thirdly—the history of literature. Lastly, as an intellectual project, it invented new methods for criticism, developing bibliographical methods as well as broader hermeneutic methods applied to secular texts and to tangible objects. Where scholarly writing on the *Philosophical Transactions* has been traditionally restricted to the history of science, this dissertation addresses itself to the *Transactions'* role in the history of bookselling, the history of printing, the history of literature, and the history of criticism. The larger project of the dissertation uses these histories to understand "reading for enlightenment," and how this type of reading drives substantial change in English literature.

The history of bookselling follows the development of technology and economics. From the point of view of seventeenth- and eighteenth-century readers, a single edition or collection of different editions of a work contained many copies that could fulfill a particular reading aspiration. That is, readers of books were accustomed to reading one, or another, version of a text. They knew the copies of a particular edition were largely the same and that abridgments were on the same track. One edition might be better in some way, or a particular copy more premium, but they were more or less interchangeable depending on the reader's aspiration to acquire knowledge, be entertained, seek enlightenment, display cultivation, or something else. It is not that content clearly separates from form, but that for a particular reader's aspiration at

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yet this culminating action is forgettable because it usually takes place outside signification." My term, underwrite, aims to distinguish this project as linguistic rather than non-linguistic. The project of the *Transactions* is to write and then print, thus to underwrite rather than undertake.

a particular time, only certain aspects of a book matter.[22] If several copies of books have these same aspects, then any one of those books will do for that particular reading aspiration. The scope of aspirations has its own history and—I argue—that new book projects create and respond to new reading aspirations.[23]

For example, the *Philosophical Transactions* responded to and created reading aspirations for accumulating facts.[24] The principal projects of accumulation became science and the Enlightenment in retrospect, but the *Transactions* invents an entire periodical mechanism for the assembling facts, binding them up and giving shape to new fields of knowledge, an aspiration which occurs throughout literature and reading afterwards.[25] Each single number (what we might call an "issue"), rather than being topical, builds on an ongoing conversation, demonstrating a mode of reasoning. If earlier reading aspirations sought works, readers of the *Transactions* sought out something bigger than just stand-alone works.[26] In the same way, present-day magazine readers might not be seeking particular texts, but rather the editorial sensibilities of the magazine project. This idea of printing and selling, not a work, but a project

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[22] Leah Price, *The Anthology and the Rise of the Novel* (Cambridge: Cambridge University Press, 2000), 50–51, 68, ff traces the way that readers learned to replace editions with abridgments, extracts, and edited anthologies. Here, I mean aspiration to include the valid replacements rather than to refer to a particular kind of text. An aspiration to know the news can be satisfied by many newspapers, but an aspiration to read *Clarissa* as letters may be only satisfied by the book itself, or an abridgment if after 1868.

[23] Elizabeth Yale, *Sociable Knowledge: Natural History and the Nation in Early Modern Britain* (Philadelphia: University of Pennsylvania Press, 2016), 168 ff my use of "aspirations" is also mean to abstract how scientific correspondence becomes the basis of both politics and natural history through the office of booksellers. Where Yale focus on three projects, knowledge, natural history, and Britain, I want to point out that these particular projects were not foreordained by the mechanisms invented by the *Transactions.*

[24] Mary Poovey, *A History of the Modern Fact: Problems of Knowledge in the Sciences of Wealth and Society* (Chicago: University of Chicago Press, 1998) xi–xx, 96–104 provides my theory of facts, which do not exist outside of their co-creation with texts, but which differentiate themselves nonetheless; both Poovey and Yale draw on Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life* (1985; repr., Princeton: Princeton University Press, 2011), 25 e.g. "…the matter of fact is to be seen as both an epistemological and a social category" which they describe as both "*literary technology*" and "*social technology.*"; Alff, *The Wreckage of Intentions* outlines a concept of a purely linguistic concept of project as projection, which I extend here.

[25] To prove an exclusive invention would take more argument than it is worth, but that it invented it along with, possibly, others can be seen by looking at mechanisms from the past. Ann M. Blair, *Too Much to Know: Managing Scholarly Information Before the Modern Age* (New Haven: Yale University Press, 2010), 236–46 describes copia and the use of an earlier form of collection, not of facts, but of "quotations and exempla" and Richard Yeo, *Notebooks, English Virtuosi, and Early Modern Science* (Chicago: University of Chicago Press, 2014), [224–230] describes the development of "institutional note-taking" which abstracts out the sorts of facts to be noted.

[26] Ann Blair, "The Capacious Bibliographical Practice of Conrad Gessner," *The Papers of the Bibliographical Society of America* 111, no. 4 (2017): 445–68 bridges the natural historical fact and the textual reference with an important missing link; Brad Pasanek and Chad Wellmon, "The Enlightenment Index," *The Eighteenth Century* 56, no. 3 (n.d.): 359–82 goes beyond this to foldout images, citation, and indexes of these.

as a mode—while not unprecedented—had not previously been executed so extensively and successfully before the *Transactions*. Oldenburg's placing himself as author, rather than editor, underlines how *Transactions* project his authority through others in words. In time, the mode of the learned journal becomes familiar, so authorship returns to stand-alone works and articles, but the concept was new here so needed to rely on the older concept of authorship to get off the ground. The project of *Philosophical Transactions* created a sort of "hyper-work" consisting of many different works, none essential to the overall project, but each sufficient as a basic introduction to the aims of the project as a whole. This sort of assemblage created new ways of bookselling, bringing to market smaller exchangeable pieces that reduced the capital that must be invested before a return. To be clear, I understand that the *Transactions* were financial transactions as well as intellectual ones, and that the exchange made possible by issuing in parts supported a Habermasian public sphere centered on the reading of this publishing venture.

The history of printing accompanies the history of bookselling. One may follow the other, or they may develop together. The distinctive ways of selling the *Philosophical Transactions* required distinctive ways of printing and these new techniques resulted in new ways of reading. Building on the tradition of newsbooks and corantos, the sequential numbers were licensed separately, proofed separately, corrected separately, but linked one to another by numbering, a continuing project, and citations to earlier numbers.[27] During disruptions—such as plague or fire—the models for printing the journal moved from London to Oxford, spreading new ways of working and demonstrating that it was a way, not a place, that made the design. Rather than having a conventional title page, the *Philosophical Transactions* begins immediately with contents and the journal's name, along with illustrations in some copies. Achieving this look and form meant the printer had to fill space, or develop quick ways to acquire front and back matter. The need to advertise both the project and the particular content created a new kind of title page that could simultaneously entice a buyer and summarize a mixed set of texts. Indexing required fascicle-style numbering that continued from number to number over years. Exciting antiquarian discoveries and new philosophies of language required wholly new approaches to

[27] Sean Latham and Robert Scholes, "The Rise of Periodical Studies," *PMLA: Publications of the Modern Language Association of America* 121, no. 2 (March 2006): 517 "that periodicals should be read as texts that have a unity different from but comparable with that of individual books."

typography and visual representation. The journal itself often documents these innovations since the Royal Society considered the production of transactions from an office of common address as part of its intellectual work.

As a text, the *Philosophical Transactions* influenced the history of literature and reading. It developed new modes of description, but it also formed popular, but serious and enlightening, reading. Responding to the propaganda and partisan news of the English Civil War, it provided something to read, discuss, collect, and write about that was inoffensive to powerful political factions.[28] One way to describe the innovation would be to say it popularized serious, secular reading. Paying about as much for a number of *Philosophical Transactions* as for a popular broadside or sermon, a reading public could expect fresh and engaging text that would be well-written and reward careful attention. While present-day readers might consider natural history, or philosophy, as distinct from literature, the seventeenth-century distinction would be between works of imagination—mostly poetry—and works of history or works of philosophy, along with theological versions of the same three categories. Some theatrical work might be better classed as history or philosophy, and novels—at least the way we think of them now—would baffle this scheme by being both a history of a culture and a history of an imaginary thing.[29] In any case, seeing the prose of the *Philosophical Transactions* as utterly separate from the rest of the available reading materials—whether entertaining or enlightening—has no real basis in the time. Hence, the *Philosophical Transactions* comprises literature itself within the long eighteenth century, and it inaugurates other literary periodical forms.

Not only does the *Philosophical Transactions* as text relate to the history of literature, but it also documents the history of criticism. The *Philosophical Transactions* draw on the

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[28] Tita Chico, *The Experimental Imagination: Literary Knowledge and Science in the British Enlightenment* (Stanford: Stanford University Press, 2018), 104–33 recently outlined three ways of considering the British Enlightenment's political commitments. In particular, she points out that the solution only works for those political factions in power at the expense of colonial subjects and other marginalized people; Stephen Toulmin, *Cosmopolis: The Hidden Agenda of Modernity* (New York: Free Press, 1990), 13 ff is skeptical of this "standard account or received view of Modernity," this way of looking at the rationalism brought by Newton as a cultural and aesthetic vision for society that the seventeenth century introduced to a global audience.

[29] J. Paul Hunter, *Before Novels: The Cultural Contexts of Eighteenth-Century English Fiction* (New York: W.W. Norton & Company, 1990) and J. Paul Hunter, "Making Books, Generating Genres," in *The Commonwealth of Books: Essays and Studies in Honour of Ian Willison*, ed. Wallace Kirsop and Meredith Sherlock (Centre for the Book, Monash University: Melbourne, Aus., 2007), 18–47 both relate to this and are more thoroughly treated in the "Metacritical Partition" below.

genre of occasional meditations, which asked the author and the reader to consider a text hermeneutically. At first, these mechanisms of hermeneutic reading were theological, but over time the methods were applied to secular subjects. Indeed, as we will see, the induction and analysis of natural philosophy, and later science, inherits from an explicitly theological hermeneutic tradition. Wherein we learn to "close read" experiments and poems by paying close attention to the details and conditions of production—understanding the correct application of evidence and learning to focus attention to proper objects of curiosity. Some of this training is implicit in the nature of what is selected for attention, but other parts are explicitly named as methods or described as part of the editorial process of the text. For example, what are we to make of the Council reviewing Oldenburg's completed packet of letters to send to the printer? What criteria did they use to allow the Royal Society license the individual numbers of the *Philosophical Transactions*? After a controversy in the journal, we learn that the license does not endorse the content, but the process. The author becomes a recognizable function producing and authorizing the text and bears responsibility for the errors. The controversy sits close to contemporary debates of authorial intention, and how much can be intended by whom and under what conditions. Similarly, books and texts themselves were objects for natural history, so considerations of how to read, interpret, understand, and respond belonged to the explicit topics discussed in the *Philosophical Transactions*. The enlightened text created its own conditions for study during the late seventeenth century and looking at what it says as well as how it was made illuminates this history. The making of texts foreshadows this primary partition, which draws on the conventions and methods associated with the study of bibliography as a form of history.

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Methods and Conventions to Read the First Partition

To narrate the history of a physical book, I follow the tradition established by Henry Bradshaw, developed by A.W. Pollard, refined by William Jackson and Katherine F. Pantzer Jr., further refined by Lotte Hellinga and David Vander Meulen, and capaciously summarized by G.T. Tanselle. The most recent integrator, Tanselle, calls the method "descriptive bibliography," which

suits my work describing the physical evidence of multiple copies of a book, finding collateral evidence, and assembling an account of publication into a readable narrative with the precision both necessary for expressing my judgment and also required for the task at hand.[30]

Beyond selecting only the descriptive elements that I judge useful for my particular task from among all the possibilities Tanselle and company study, I deviate in two other major ways. Firstly, I differ in my pursuit of quasi-facsimile transcription. I reproduce the typographical sorts that a compositor, and possibly the pressman for justification and notes, would have selected. Thus I distinguish ligatured combinations—for example ffi—which would be a single piece of type, from non-ligatured combinations—for example fft—which would be three separate pieces of type. Likewise, I strive to distinguish swash from non-swash italics, but also left-going swash from right-going swash, and any other sort that compositors seem to distinguish during reprinting the texts I examine.[31] Secondly, since my evidence is presented in a separate section, I present only the imaginatively recreated historical copy based on my observations and judgment. Following one sense of the degressive principle, I describe the first appearance thoroughly and the later versions as variations on it.[32] Practically, this means the first partition does not list "copies consulted." While such lists help in assessing the quality of bibliographical writing, they mislead us about the situation because copies are not consulted, but parts of copies are consulted based on the judgment of the bibliographer, how much time they have, and how they can handle the materials. The first copy I see is, inevitably, totally described, but as I learn the variants, I check my work against those I have already recorded. In the "Evidentiary Partition," I adapt a notational system to show which parts of which copies were consulted for what part of the description, so the information needed to check my description is both present and more thorough than usual. Practically, this makes it far easier to distinguish variants from my typos—I know the conditions under which I consulted an item—and I recommend this approach

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[30] G. Thomas Tanselle, *Descriptive Bibliography* (Charlottesville: The Bibliographical Society of the University of Virginia, 2020) modifies and summarizes his career-long development of descriptive bibliography, reprinting major works that first appeared in the twentieth century and revisiting them to make them a cohesive, if dialogic, whole.

[31] James P. Ascher, "Compositors' Choices in Eighteenth-Century Typography," in *Forms, Formats and the Circulation of Knowledge: British Printscape's Innovations, 1688–1832*, ed. Louisiane Ferlier and Bénédicte Miyamoto, Library of the Written Word 83 (Boston: Brill, 2020), 187–207 for a more thorough treatment and explanation.

[32] Falconer Madan, "On Method in Bibliography," *Transactions of the Bibliographical Society* 1 (1892–1893): 91–98 introduces this term to explain two related methods. Either treating works of differing importance differently, or describing the first appearance of a work most thoroughly and abbreviating the later descriptions to what varies. It is the second sense I follow here.

to anyone pursuing a serious descriptive bibliographical project because your notes will live longer than an afternoon in the reading room, and the detail can only extend the useful life of the project.

Beyond these outright innovations, I follow Tanselle in trying to read the law within the letter by refining existing approaches. I transcribe not only contents, but text that pertains to the production of the text. Oldenburg tells us in words what he is doing, and I cannot see how those physical marks are not, thus, forms of physical evidence. So I record them.

Like others before me, I lack established and clear words that distinguish an engraved copperplate printing surface from illustrations printed from that surface on a plate, since both the printing surface and the resulting image on paper are both colloquially called "plates." I use "engraved surface" and variants for the printing surface and "illustrations on fold-out plates" and variants for the image printed from these engraved surfaces. In other situations, either could be called a plate or a surface, but for sake of clarity I restrict myself to these usages here.

Generally, I imagine bibliographical description—the writing of judgments based on the evidence of bibliographical observation—as a refinement of the humble list. My bibliographical evidence lists what I saw using the language developed by printers, where it first appeared. But this is evidence refined through tradition and scholarship. I list what each element of the book looked like, according to my judgment, when it was first produced, treating an edition—substantially the same setting of type here, or substantially the same engraved lines on the same surface—as a set of objects meant to be considered as identical. Printing is less useful if I cannot be certain my copy of a book is basically the same as your copy; otherwise, how do we turn to the same page? As such, my bibliographical description is an act of judgment applied to my bibliographical evidence that aims at this "basically the same" copy. Of course, it falls short sometimes, and when the going gets rough, I try to explain the variation in words.

Looking at a typical entry—say Number 2—let us proceed through the elements.[33] First, the headline identifies the work with a short title. Here, work means a particular collection of words in a particular order and my short title approximates how the item describes itself. Each number of the *Philosophical Transactions* is assigned a sequential number and dated. The date has various meanings, never when the number was printed or the date all the papers were

[33] See page 42.

read, but sometimes when the number was licensed by the Council of the Royal Society, and sometimes when it was meant to be available. Importantly, it is self-reported by the item, so the date is proximate to the production of the first edition at best and wholly wrong for later editions. The date, however, is how the numbers distinguish themselves and how contemporary readers refer to them. Here, Number 2, is numbered two and has '*Munday, April 3. 1665*' in the headline. Because both old and new style years were in use, I give both in the headline to help avoid potential confusion.[34]

After the headline, I describe what I can determine of the history of the production of the pieces of the item, their special characteristics, and what this explains in the history of the serial itself. For Number 2, I describe the editions and plates, and speculate on what these contributes to an understanding of the *Transactions*. While I transcribe material in the number that relates to production later on, I also highlight particularly distinctive aspects of these transcribed materials. Lastly, if I found collateral evidence of prices or such, that I judge to be probably accurate, I mention it. In this I follow, and adapt, Tanselle's "Sample Bibliographical Description with Commentary" as best I can for my material.[35]

The next paragraph describes the collation, pagination, and plates. A complete description of the techniques used can be found introduced in Fredson Bowers's *Principles of Bibliographical Description*, which has been brought up-to-date by Tanselle.[36] Here only a few points are needed to understand all. Each number is printed in quarto, thus represented with the numeral four with a superscript *o*. This means four pages were printed together on one side of a sheet of paper, with four more on the other side. Then, the one completed sheet was folded twice. Each of these gatherings of pages are put in order to make a book. Next, the description lists what these folded sheets of paper call themselves—called signatures—typically A, B, C, etc. (Although by convention I is the same as J, U as V, and W is omitted entirely, so only twenty-three letters of the alphabet provide names, with doubling such as "Aa" or "2A" or "AA" naming the first sheet after Z.) The superscript four means there are four leaves to each named gathering made of one sheet. Ranges of letters are compressed with an en-dash. Next, the dollar

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34 In the old style, the new year began on Lady Day, 25 March, whereas in new style, the year begins on 1 January.
35 Tanselle, "A Sample Bibliographical Description with Commentary".
36 Bowers, *Principles of Bibliographical Description*; Tanselle, *Descriptive Bibliography*.

sign, $, stands in for the brevigraph *signum*, meaning signatures. So "$1–2 signed" means every named gathering is signed on the recto of the first and second leaves. Thus,

C-D^4 [$1–2 signed]

means we have two sheets that have named themselves C and D, by putting C1, C2, D1, and D2 on their respective first two leaves. Following Bowers, C1 means "C" or "C1." Next I give the count of leaves followed by a list of page numbers—again what the pages call themselves—and a count of independent inserted material printed by different methods, plates in conventional usage. I numerate them as they numerate themselves, when they do, but here [1] just means one unnumbered plate. The paragraphs that follow, with hanging indents, list a location in bold followed by a description or transcription. Rather than establishing complicated rules, I have tried to be clear when describing plates that *face* certain pages and have transcription in single quotes where they might be confused with description. For Number 2, 'Fig: II' would be absolutely unambiguous, but with the prefixed [**lower:**] and atypical abbreviation, it seemed excessive to add quotation marks. I added quotation marks wherever I thought reasonable ambiguity might arise, so if you are unsure if something is a transcription or not, I have made an error of judgment. Pages, on the other hand, are typographical, so are a direct transcription of the exact spacing and glyphs. Any descriptions are inserted in square brackets and large, drop capital letters have a superscript giving the number of lines, i.e. *T*^{5} is a five-line letter T. A reasonable argument could be made that size ought to be included in the transcription of all the typography, but this study is less interested in tracing type than in the habits of the compositors themselves. A better version would recover the sizes available to those compositors and how they thought of them, as English, pica, filed-down pica, etc., and report them using specific letters correlated with the sizes they use. That is, where they used an English-sized physical fount, I could use 12-point digital font.[37] I simply have not managed to recover enough history of how compositors worked with sizes of founts for me to decide the appropriate divisions with sufficient confidence.

After the corresponding headings for the content, I transcribe portions of the articles that discuss aspects of the history of the production of these books, or the acquisition of texts,

[37] See footnote above, but I distinguish a British "physical fount," the collection of type owned by a printer from a "digital font," a kind of computer file with instructions.

or the management of the journal. I have omitted repetitions after certain formulaic ways of announcing a new article have fully developed, but I think I err more frequently on the side of inclusion. Reading these transcriptions in order provides a history of the production of this journal, and my act of selecting those excerpts is the historiographical method I use to narrate that history.[38]

Special sections may have a special name along with the location in bold, such as **imprint** or **errata**. Those are mine and they intend to help with quick reference.

I provide an enhanced STCN fingerprint that lists the characters falling directly above the signature marks to help identify reprints.[39] The normal procedure looks to the first and last signatures of sections that meet certain criteria, skipping those signatures that do not, and lists the letters directly above and fully within they edges of the signature, or all the letters above it if no letter is fully within the edges of the penumbra. In addition to detecting reset type, the STCN fingerprint provides a check on the collational paragraph as well; the signatures referred to in it ought to occur there in the locations predicted. If they do not, something is either wrong or something is odd about the book. However, I have more capacity for transcription than the inventors of the STCN fingerprint imagined, so when their systematic rules omit certain signatures and glyphs, but I can transcribe them, I transcribe both the potentially omitted element and its prescribed replacement. The STCN fingerprint aims to enable large-scale data comparison, so strict rules control variations across large data sets. For me, however, I have the objects to be compared on hand, so extra data points only help, rather than leading to false identifications. When in doubt, I transcribe more or describe the situation, neither allowable in the STCN standard, but both useful for me.

I follow Tanselle's guidance on tolerances for reporting rules in my description.[40] Within my "Evidentiary Partition," I measure to one significant digit beyond the markings on my tool, a standard rule of thumb in measurement, but in the descriptive measurements of type,

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[38] Alexandra da Costa, "Negligence and Virtue: Errata Notices and Their Evangelical Use," *The Library: The Transactions of the Bibliographical Society*, 7th series, 19, no. 2 (June 2018): 159–73 reminds us that errata demonstrated that a text was worth paying attention to, more than it was necessary, arguing that demonstrating a text's importance was its principal goal.

[39] P. C. A. Vriesema, "The STCN Fingerprint," *Studies in Bibliography* 39 (1986): 93–99.

[40] G. Thomas Tanselle, "Tolerances (1968)," in *Descriptive Bibliography*, by G. Thomas Tanselle (Charlottesville: The Bibliographical Society of the University of Virginia, 2020), 169.

I round to the nearest third of a millimeter, about the size of a point. The illustrated and fold-out plates, however, are reported to the nearest millimeter. One advantage of presenting the actual evidence, as I do later on, is that we can all see that my large-scale measurements in millimeters can be off by a millimeter or two. Sheets and printing surfaces are not square. Bevels to engraved surfaces themselves can be a millimeter or more in width, and may not be fully impressed into the surface. And using a flexible ruler along four-hundred millimeters of delicate paper means some precision is lost to handling materials carefully. Happily, based on my actual evidence, reporting to the millimeter seems sufficient to distinguish variants. For illustrated fold-out plates, I give dimensions of the image, the plate mark where I can, and a typical sheet size if the copies I have seen are not too heavily trimmed. Most copies have relocated and trimmed the illustrated plates, so even achieving this level of detail is not without difficulty.

Lastly, I list selected variations between editions, notable states—that is, variations within an edition—and the printing surfaces and illustrated plates. I have selected these to aid the history I lay out in the opening paragraphs for the item and the history in the transcriptions I select. As in previous sections, I have tried to follow sense when quoting or not. If a transcription includes potentially confusing punctuation, I use single quotation marks, but in cases where I think no potential ambiguity could arise, I omit the quotation marks. In marginal cases, I use the marks.[41] If you want to see all the variants in everything I transcribed, the "Evidentiary Partition" relentlessly reports on them, giving a profoundly interesting insight into the history of compositors' reprinting line-by-line, but it is not for the faint of heart.

The dissertation itself is meant to be readable as well as a reference work. It requires an attention like that paid to reading archives or letters, but I think in transcribing select portions and explaining features of note, I have both written a history of this interesting volume and given my readers a way to have read the whole volume the way I have. Individual readers must make similar decisions when quoting this work, or anything else. Should special marks be included or not? Should typography be mimicked or not? In each case, the decision has to do

[41] This means that if in reading the item you are confused, even momentarily, my judgment has been wrong, but I do not think that proves the principle wrong. Excessive numbers of quote marks can be visually distracting in cases where they are not needed and their inclusion or absence indicates a simple or involved change. See the concluding remarks for more reflections on applying judgment to quotation.

with both the history of the object being examined and the history of the document that will contain the quotation. My claim is that scholars ought to apply judgment more consistently in favor of clarity, rather than falling back on arbitrary rules. Context determines what stands in as a sufficient representative of the past, and the past's contexts determine what they felt they had to say. Only by thinking in terms of multiply transcribed and rewritten texts can we understand how the printed objects that we inherit touch the past. They are not mute witnesses, rather they are unreliable narrators of history. Any reliability relies on ingenuity and judgment.

Thought springs from life and mine has been spent reading and discussing ideas. Thus those I could acknowledge exceed any reasonable form, so I list some alphabetically here who discussed important ideas with me or provided material support: Aaron Colton, Alex Cox, Alex Ricciardi, Alexander Bubb, Alexandra Kennedy, Ali Dashti, Ali Glassie, Alice Schreyer, American Library Association, American Printing History Association, Amie Whittemore, Andie Waterman, Andrew Gaub, Andrew Piper, Andy Stauffer, Angela Nemecek, Angie Hogan, Anna Ferris, Anna Perrault, Annesh Karve, Arvid Nelsen, Ashley Cataldo, Athena Jackson, Barbar Shailor, Barbara Heritage, Ben Wugraft, Beth Merfish, Bibliographical Society of America, Bibliographical Society of the University of Virginia, Bibliographical Society, Bill Reese, Bob McCamant, Bob Stein, Bommae Kim, Bonnie Mak, Bradley Foundation, Brian Cassidy, Brooke Palmieri, Bruce McKittrick, Bruce Montgomery, Bryan Garner, Bryan Shuler, Carly Griffith, Carol Guarnieri, Cathy Baker, Cathy Leab, Chad Wellmon, Chip Tucker, Chris Adams, Christian Dupont, Christian Howard, Christina Libetti, Clare Kinney, Colette Dabney, Colorado Humanities, Cynthia Gibson, Cynthia Siner, Dan Slive, David Gants, David Levy, David Whitesell, DeVan Ard, Debjani Ganguly, Deborah Hollis, Deborah Leslie, Devin Fitzgerald, Diane Tomasso, Donald Krummel, Donna Sy, Donna Thomas, E.C. Schröder, Elizabeth Fowler, Elizabeth Lynch, Elizabeth Ott, Ellen Dunlap, Emelye Keiser, Emily Lape, Eric Harbeson, Eric Holzenburg, Eric Rochester, Eric Sorensen, Erika Dowel, Erin Blake, Erin McGuirl, Ethan King, Ethan Reed, Eva Latterner, Evan Knight, Everett Wilkie, Fernando Peña, Fess, G. Thomas Tanselle, Georgia Wilcoxin, Gerald Cloud, Giovanni Faveritti, Guy Cohen, Haven Hawley, Henry Raine, Hjordis Halvorson, Hope Ascher, Hosie Baskin, Ian Baucom, Ian Bogost, Ian Kahn, Ian MacKaye, Institute of Museum and Library Services, Jack Chen, Jackie Dooley, Jamie Hanson, Janet Swann Hill, Jared Camins-Esakov, Jason Bennett, Jason Kovari, Jeffrey Barr, Jennifer Greeson, Jeremy

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A Conclusion Toward a History of Quotation

Since your author releases his claim on your attention, as you decide what portion to read next and what not to read next, let me bid you adieu here. But I hope you return, as I have, in drafting this introduction and conclusion. It is common knowledge that the introductions

to books are written after the text is complete, but before the reader has begun. Conclusions come after the reader has finished, thus allowing her to reflect on some of the same points at the outset but with new insight. As Oldenburg does at the beginning of his first volume of *Transactions*, I greet you from my work completed, but yours beginning. Let me thus reflect for those who—like me—have completed their journey and have now returned to the beginning to read the conclusion.

This dissertation has uncovered a number of hitherto forgotten facts about the early development of the periodical. The *Transactions* were cheap, like a broadside ballad, and printed in large numbers that were mostly lost, if not bound up in collections, like political pamphlets. The contents aimed to entertain, enlighten, and recruit, not establish authority. Contemporary readers probably saw them as relating to the already established genre of newspaper, but with a narrower scope.[42] The international reputation came almost immediately, and triggered intense trans-national competition for producing new journals. This growing community of competing journals grew into an autonomous form and genre, becoming the basis of a great deal of subsequent literature and writing. The text combines direct and indirect discourse, moving suddenly between voices and points of view, because all is written by the editor who reports on what he receives. The editor printed whatever he wanted and thought would sell, because he was trying to make a living from selling *Transactions*. Until 1753, the Royal Society merely licensed and did not support the *Transactions* in a significant way. Booksellers sought the opportunity to print not to profit on the numbers, but the collected volumes, and works by the authors the editor would refer to the booksellers in return. The contents included all philosophy, which varied in topic from year to year, and the official records of discoveries that established the inventor, rested not in these printed numbers, but the duplicated manuscript transcriptions of original letters held in the Royal Society itself. In short, prior to 1753, the *Transactions* function as like a bake sale and a newsletter, mixing revenue generation and a promotional rhetoric, veering between nationalist chest-thumping and public humanities.

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[42] Arthur der Weduwen, *Dutch and Flemish Newspapers of the Seventeenth Century, 1618–1700*, vol. 43, 2 vols., Library of the Written Word (Leiden: Brill, 2017) XVIII calls these "news serials," which are otherwise like newspapers but lacking exact periodicity or the miscellaneous scope. The *Transactions* lack both.

This dissertation has also developed novel methods and techniques for doing its work. Returning to the basic act of transcription, it takes seriously the truism that the context of texts varies across time. Identifying shortcomings in how computers can represent texts—hence how we are almost forced to think and work with them now—it develops a technological approach for improved transcription. Assembling the evidence, the dissertation commits itself to both volume and transparency, presenting the entirety of the data, publicly, as it develops. Drawing on this evidence, it describes what is probable and demonstrable from the historical objects that survive before moving on to interpretation. While description itself is a form of interpretation, the highly accurate approach here gives a way for the metacritical interpretations to be checked against and situated within more certain facts. This approach might be unusual in that it appears to undermine the larger claims later on, but I think such humility is needed when thinking about big concepts like the Enlightenment and genre. It is too easy to go to far without an anchor in physical reality. The method here weighs that anchor heavily to show how with, even with its gravity, thought can still proceed.

The form of this dissertation invents a distinctive approach to transcription and adapts historical forms for documents. Structuring itself not as stations on the way to some grand truth, foreshadowed at the creation and celebrated at a concluding epiphany, it instead points to the work done, where it was done, how it was done, and leaves you the keys to unravel the insights yourself. Practically, I put the conclusion at the end of the introduction because some scholars (certainly never me or you!) read only the introduction and conclusion when apprehending new thought. Why put us through the fiction of flipping past unread chapters? Here, I exhort the value of the chapters based on my introduction and conclusion, without forcing you to flip through them first. Additionally, I separate the kinds of thought for the different communities that might find certain parts of this dissertation more useful than others. A cultural historian might not find use for my "Evidentiary Partition" without first understanding the results drawn from it. The most analytical of bibliographers might read the "Metacritical Partition" after understanding the details of printing. The form, too, reflects the intellectual play that has always been part of highly educated adults talking to each other about literature and history, but does so explicitly to help people who may not understand that there is a game afoot. While developing

distinctive tools within the present-day dominant textual medium, computers, it however refuses to see those as a fundamental break.

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I did not mean for this project to be the culmination of research begun in the Media Archaeology Lab at the University of Colorado Boulder, but I think it turned out that way. In 2010, I curated an exhibit, "Revolution: Personal Computers as Reading/Writing Machines, 1982 – 1992," which showed a range of games in their original packaging and with the hardware that would have played them. Writing the exhibit catalog, I summarized the challenge of quotation,

> The software is, however, bound to its packaging. The nonce edition of Epyx Action re-issues popular games, each with their own title screen. A checklist of such items is necessarily layered and further confounded by the software's dependence on particular hardware. We transcribed the packaging and the title screen, as moderated by the hardware present, since they often represent two separate entities with different titles. Information readily available is abbreviated to ease scanning the list and to better approximate some sort of ideal issue; however, no claims are made as to the definitive establishment of ideal copy. The promising enterprise to determine ideal copies of software would require much deeper examination of numerous examples.[43]

The argument here is that as texts, these physical objects require certain technological systems even to view them. So when we represent them in a list, we must show those dependencies.[44] Furthermore, the catalog itself is printed silver on matte black as an allusion to the nature of text on screens, with illuminated phosphorescence shinning from a black field. This allusive

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[43] James P. Ascher, *Revolution: Personal Computers as Reading/Writing Machines, 1982 – 1992 [Exhibit Catalog]* (Boulder: Norlin Libraries, 2010), 5.

[44] Matthew G. Kirschenbaum, *Mechanisms: New Media and the Forensic Imagination* (Cambridge, Mass.: MIT Press, 2007) informs a great deal of this thought as does Nick Montfort and Ian Bogost, *Racing the Beam: The Atari Video Computer System* (Cambridge, Mass.: MIT Press, 2009), both books having been workshopped at the Faculty Seminar I was running at the time. Kirschenbaum coins the terms "forensic materiality" and "formal materiality" to distinguish useful levels of abstraction for talking about computers. Formal materiality means the code, files, and digital building blocks of more complicated computer programs. Forensic materiality means the objects, the magnetized plates and wires, that physically encode the formally material objects.

typography, itself achieved with surprising technical acumen using modern letterpress and silver foil, highlights the problem of quotation. Those digital objects contain, in some sense, texts that can only be played back on machines. Without the machine there is no text; and while the machine is not the text, its role is necessary and its capacities frame the text. Separating formal from forensic materiality can solve this quandary, as can studying the capacities of platforms, but neither has been explicitly adapted to pre-computer texts.

This dissertation deals with a similar problem, but where the nature of the machinery is more obscure. The *Philosophical Transactions* can be read with your eyes, apparently without any hardware, but as this dissertation has shown, such reading is an illusion. Individual choices brought a certain text, and not another, to this bookseller who hired this printer, and not another, to print, whose compositor set the text this way with this type. A sequence of choices determines what we see, but in their final form, the finished text looks inevitable.

My point is that these forms are not inevitable. To understand what text we are looking at, we must apprehend a tapestry of agents and influences on that text as it is established. Italics are no less inevitable than the shade and luminescence of the phosphorus on a cathode-ray tube. The texts we see always carry their history with them, although we may have to squint and attend very closely to the page to see it.

I see the this work as contributing to the history of quotation. The activity of repeating which words appear in what order may seem elementary, but in both these studies, I have shown that this apparent simplicity is an achievement of substantial sophistication. The word "quotation" itself comes from Medieval Latin, *quotare*, and Classical Latin, *quotus* and *quot*, which deal with how many, in what order, and which. When we write a collational paragraph, we are doing some of the groundwork of "how many?" on the way to "in what order?" And a quotation itself is merely all three questions: how many, what, and in what order? Thus, I see my work not only as drawing on the tradition of bibliography and contributing to it, but also carving out a realm for the study of the history of quotation.

This discipline matters, as what we read is itself a quote, whose conditions inflect what it says, and also because we always speak in quotes, whether or not we use quotation marks. This very sentence was written on a yellow legal pad, then typed—a form of quotation—printed—another form of quoting electronic texts into print—marked up and retyped

before being edited, reprinted, edited again, presented to my committee, edited again, and finally stored wherever you are reading it.[45] At each of these moments, the quotation can change, the order, number, or words, so what you are experiencing now fundamentally relies on the tradition of quotation. To understand the most fundamental aspects of literature, communication, and human life in words, we must contend with the frequency and impossibility of accurate quotation without establishing the unit within which we will not inquire.[46]

Within the history of quotation, we need more studies and more tools. My work presents a detailed study of a particularly important text and object, the periodical, and looks at how its mechanisms of quotation function. Understanding this one, foundational object gives us insight into a whole range of others. But this is a methodological study, too. The technique I adapted and tools I built show a way to approach the history of quotation. We can be sensitive to the strangeness of history and produce mechanisms in our own time that try to capture the strange features we see. In doing this, both the historical text and the modern systems become foreign to us. Unicode fails to distinguish non-ligatured glyphs, but that shows us Unicode has opinions about how quotation is to be done, which was not obvious before. What had seemed inevitable, the bits of texts we breathe, becomes a historical present in itself, failing to capture its own forefather.

Indeed, issues of quotation relate to current concerns regarding news and communication as well. Recent studies have started to look at how the historical abstraction of text can be computerized into new kinds of abstractions that share the same characteristics as quotations.

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[45] The independence of the quotation mark from quotation itself can be observed here, as otherwise these very words would be nested four, five, or six deeply. Four or five levels come from my writing process, but a sixth level from the thoughtful, but unnamed, reader who pointed out this useful """"“fact”"""" while reading my writing. That those marks are invisible makes the quotation no less real, but hides the fact that I have not told you my source. Perhaps you can guess? Would a mark have helped?

[46] G. Thomas Tanselle, “The Textual Criticism of Visual and Aural Works,” *Studies in Bibliography* 57 (2005–2006): 1–37 argues for such an approach. Landscape gardens can be texts when we choose certain elements as those that get woven together, making the texture of the text. Likewise, football games, music, movies, anything really that links symbolic objects together one way or the other. The problem is that languages for talking about non-verbal texts do not have the millennial maturity of those we have for talking about talking, that is about verbal texts; Willis Goth Regier, *Quotology* (Lincoln: University of Nebraska Press, 2010) presents another approach, taking quote more literally, and examines collections of quotations from the early modern period to the present. Noting the commonplace sort of culture that Erasmus advocates functions as adjunct to the propensity of quotation, his book carries on the tradition of rhetorical taxonomies (pt. 1, ch. 2) and uses his synoptic view to establish a philosophy of what quotations can do in the present day. He thoroughly studies the aphorism, while acknowledging the role of transmission, but focuses more on bon mots than communities of investigation sharing each idea: the grounds of quotation in this dissertation.

For example, Jill Lepore explains the development of the People Machine by the Simulmatics Corporation as leading to deliberate manipulation of people through messaging to elect Kennedy, maintain the Vietnam War, and now sell products.[47] The principal technology consisted of the abstraction of human agency from the activity of communication. That is quotation abstracted from the traditional mechanisms. Once you could think of "Midwestern voters" or "black votes" as abstract categories, developing the data models needed to figure out who needed to say what to whom required only sufficiently powerful computers. The activity of quotation here abstracts an individual's agency from their actions and frames planned action as one of several possibilities. Framing something to convince people to adopt your stance emerges as mass communication and, eventually, data science. I see this as a new vista of quotation, one of whole ideologies and whole people. What is fake news but a quotation whose mechanisms of transmission we have rejected? Propaganda that we like is called mass communication and data science rationalizes its framing.[48] As Lepore shows us, attention to the mechanisms that transmit texts continues to help us understand the power that frames day-to-day life. The facts become occluded by the framing in language and symbols. Facts may ground us in reality, but I think that it is the quote that links us to our humanity. We hear and repeat what people tell us. Even as quotation can be abused to become hearsay, it still touches the past and, through it, the past touches us. Knowing how seventeenth-century periodicals wrestled with quotation shows us both where we came from and how reality fails, in certain ways, to remain in contact with what came before us. The history of quotation begins to help us realize that going to the past changes us, and invites us to think through how these changes operate. The angel of history looks back in vain, but cannot return. In his nostalgia and desperate cry for the words he makes out disappearing, we can find our own souls in contact with humanity. The cry mourns the past, while failing to capture it in a quotation.

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[47] Jill Lepore, *If Then: How the Simulmatics Corporation Invented the Future* (New York: Liveright Publishing Corporation, 2020), 133, 205 ff., 327 ff.

[48] Lepore, ibid., 33–34.

The First Volume of the *Philosophical Transactions*

This primary partition describes the beginning. Prior to 1752, each volume and number of the *Transactions* was produced for the benefit of the Secretary, who sold copy and copies to supplement his income. The earliest plans do not mention whole volumes, which is almost universally how we can encounter these texts now, so the individual numbers of the first volume document the development of the learned journal. As much as examining any other physical clues, carefully reading the transcribed accounts of acquiring the text illuminates its history and, by extension, the Society's history. This partition draws on the extensivly on the material presented in the "Evidentiary Partition" to narrate the history of these first *Transactions*.

Volume 1: Numbers 1–22 (1665–1667)

John Martyn and James Allestry hired T.N. to print the beginning of volume one, well after the rest of the numbers had been printed and ready to assemble into a volume. Each number, below listed as separately issued, one after the other, pre-dates this section, which announces them all together as a single nonce edition.[49] Having persisted through fire and plague, the editor, Henry Oldenburg, presented a copy to the Royal Society on 30 May 1667. This presentation was customary for members of the Society, so the printing must have been completed only a little earlier. The introduction, thus, can be read as reflecting on work begun two years prior and bringing the first twenty-two numbers into an order that established them as the beginning of an ongoing project. Martyn had already printed the twenty-fifth number of the *Transactions*, and by 1669 individual numbers were advertised at a price of six pence.[50]

The printer, T.N., may be Thomas Newcombe of the King's Printing House in the Savoy, who printed for the Commonwealth and the Restoration government, notably the early newspapers

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[49] Bowers is unsatisfied with the term nonce edition, since it is better called "issue for collected works" (94) but the term has been firmly established by Fredson Bowers, *Principles of Bibliographical Description* (1949; repr., New York: Russell & Russell, 1962), 98.

[50] "Oldenburg to Southwell, 27 May 1669" in A. Rupert Hall and Marie Boas Hall, eds., *The Correspondence of Henry Oldenburg* (Madison, Wisc.: University of Wisconsin Press, 1966–1986), 5:564–565; "Oldenburg to Williamson, *c.* 30 May 1669" in Hall and Hall, ibid., 5:575–576; Edward Arber, ed., *The Term Catalogues, 1668-1709 a.d.; With a Number for Easter Term, 1711 a.d.: A Contemporary Bibliography of English Literature in the Reigns of Charles II, James II, William and Mary, and Anne* (London: Professor Edward Arber, 1903; New York: Johnson Reprint Company Limited, 1965), 1:14.

Mercurius Publicus and *Parliamentary Intelligencer*. He would have been a natural choice for a London-based printer to produce a newspaper-like periodical.[51]

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4^{o}: π^{2}; 2 leaves, pp. [*4*]

PHILOSOPHICAL | TRANSACTIONS: | GIVING SOME | ACCOMPT | OF THE PRESENT | Undertakings, Studies, and Labours | OF THE | INGENIOUS | IN MANY | CONSIDERABLE PARTS | OF THE | WORLD· | [*rule 121.0*] | *Vol I.* | For *Anno* 1665, and 1666. | [*rule 121.0*] | In the *SAVOY*, | Printed by *T. N.* for *John Martyn* at the Bell, a little with-|out *Temple-Bar*, and *James Alleſtry* in *Duck-Lane*, | Printers to the *Royal Society*.

$\pi 1^{v}$: [*blank*]

$\pi 2^{r}$–$\pi 2^{v}$: [**Dedication:**]

[*Two lines centered:*] TO THE
Royal Society.
IT will not become me, to adde any
Attributes to a Title,which has a
Fulneſs of Luſtre from his Ma-
jeſties *Denomination.*
In theſe Rude Collections,which
are onely the Gleanings of my private *diverſions*
in broken hours, it may appear, that many
Minds and Hands are in many places induſtri-
ouſly employed, under Your Countenance and by
Your Example, in the purſuit of thoſe Excellent
Ends, which belong to Your Heroical Under-
takings.
Some of theſe are but the Intimations of large
Compilements. And ſome Eminent Members of
Your Society, *have obliged the Learned World*
with Incomparable Volumes, *which are not*

[51] Henry R. Plomer, *A Dictionary of the Booksellers and Printers Who Were at Work in England, Scotland and Ireland from 1641 to 1667* (London: Bibliographical Society, 1907), 136–37 gives "kings printing house" here, but "King's Printing House" elsewhere.

herein mention'd, becauſe they were finiſht, and in great Reputation abroad, before I entred upon this Taske. And no ſmall Number are at preſent engaged for thoſe weighty Productions, which require both *Time and Aſſiſtance, for their due Maturity. So that no man can from theſe Glimpſes of Light take any juſt Meaſure of Your Performances, or of Your Proſecutions; but every man may perhaps receive ſome benefit from theſe Parcels, which I gueſſed to be ſomewhat conformable to Your Deſign.*

This is my Solicitude, That, as I ought not to be unfaithful to thoſe Counſels you have committed to my Truſt, ſo alſo that I may not altogether waſte any minutes of the leaſure you afford me. And thus have I made the beſt uſe of ſome of them,that I could deviſe; To ſpread abroad Encouragements, Inquiries, Directions, and Patterns, that may animate, and draw on Univerſal Aſsiſtances.

The Great God *proſper You in the Noble Engagement of Diſperſing the true Luſtre of his Glorious Works, and the Happy Inventions of obliging Men all over the World, to the General Benefit of Mankind: So wiſhes with real Affections*,

Your humble and obedient Servant
HENRY OLDENBURG.

Number 1 (Monday, March 6. $166\frac{4}{5}$)

Oldenburg established the *Transactions* as an adjunct to his correspondence; he saved time by enclosing copies of the *Transactions* with his letters rather than rewriting the news each time. He also hoped to sell them at a profit, and received payment from the bookseller for his copy.[52] Relying

[52] See Number 6 below for details of the arrangement; Charles Cathcart, "Leonard Becket, Stationer, and *A Help to Discourse*," *The Library: The Transactions of the Bibliographical Society*, 7th series, 19, no. 3 (September 2018): 301–24 suggests that

on the Society's charter to authorize printing, he engaged the Stationers to the Society, John Martyn and James Allestry, whom the Council of the Society had previously hired for jobbing printing. The Council order of 1 March $166\frac{4}{5}$ empowered Oldenburg to work with Martyn and Allestry, but he quickly grew to resent them. Relying on Richard Davies in Oxford during the plague later that year may have been some relief to him.[53] This first number exists in at least two, possibly three[54], editions and the copy at the Library of Congress combines sheets from the two earlier editions.[55] It seems probable that a bookseller would have combined whatever sheets they had on hand for the volume of 1667, or a subsequent volume in 1669,[56] so the first two at least seem most likely to have been printed and issued between 1665 and 1669. While numbered identically, the editions are easily distinguished by changes in spelling, capitalization, spacing, and line breaks, so it appears that these subsequent editions are merely convenient reprints rather than piracies or concealed prints. Since the journal's popularity grew between 1665 an 1667, it makes sense that more copies of the small printing of the first number might be needed to complete volumes. In contrast with the introduction to the volume, Oldenburg would have written this one without yet knowing the challenges to come in the years ahead.

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the genre of the miscellany was particularly valuable for booksellers, so the word *philosophical* here might indicate this sort of popular printing as well. Arthur der Weduwen, *Dutch and Flemish Newspapers of the Seventeenth Century, 1618–1700*, vol. 43, Library of the Written Word (Leiden: Brill, 2017), 8 notes that newspapers, akin to these manuscript newsletters but focusing on politics and commerce, were particularly prominent in the Low Countries in the 1640s. Oldenburg was traveling the Netherlands in 1648, so it seems possible that he adapted this to his work in the similar field of intelligencer: "The first printed newspapers emerged out of this established market for manuscript newsletters. The incentive to turn to print was commercial. A printed newsletter could be produced in hundreds of copies in a day's work. The mechanical production of news drove down the retail price."

[53] "Sir Robert Moray to Oldenburg, 23 July 1665" in Hall and Hall, *The Correspondence of Henry Oldenburg*, 2:446–447; "Oldenburg to Boyle, 19 December 1665" in Hall and Hall, ibid., 2:645–649; "Richard Davies to Oldenburg, 16 December 1665" in Hall and Hall, ibid., 2:643.

[54] Carolyn Nelson and Matthew Seccombe, *British Newspapers and Periodicals 1641-1700: A Short-Title Catalogue of Serials Printed in England, Scotland, Ireland, and British America: With a Checklist of Serials Printed 1701-March 1702, and Chronological, Geographical, Foreign Language, Subject, Publisher, and Editor Indexes 1641-1702* (New York: The Modern Language Association of America, 1987), 460 reports three editions, but I'm not convinced one is not merely a state of the others.

[55] Another possibility is that the type was set twice to speed up printing. Weduwen, *Dutch and Flemish Newspapers of the Seventeenth Century, 1618–1700*, 43:11 notes that for newspapers "there are often significant typographical differences between the two, making clear that many of the more popular papers could only fulfil demand by operating two presses simultaneously." Yet as we see later on, the second editions typically contain corrections, systematic spelling changes, altered dates. Such alterations suggest another occasion for composing the text, rather than the simultaneous setting of two formes.

[56] Arber, *The Term Catalogues, 1668-1709 a.d.; With a Number for Easter Term, 1711 a.d.*, 1:14.

4^{o}: A–B^{4} [$1–2 signed]; 8 leaves, pp. 1–16

PHILOSOPHICAL | *TRANSACTIONS*. | [*broken rule 57.3+0.3+57.3*] | *Munday, March* 6. $166\frac{4}{5}$ | [*broken rule 54.3+0.6+58.3*] | [**in upper-right headline:**] *Numb.* 1.

1 (A1^{r}): The Contents. | *An Introduction to this Tract. An Accompt of the Improvement of* | Optick Glaſſes *at* Rome. *Of the Observations made in* England, | *of a Spot in one of the Belts of the Planet* Jupiter. *Of the mo-*|*tion of the late* Comet *prædicted. The Heads of many New Ob-*|*ſervations and Experiments, in order to an Experimental* Hiſto-|ry of Cold ; *together with ſome* Thermometrical *Diſcourſes and* | *Experiments. A Relation of a very odd Monſtrous* Calf. *Of* | *a peculiar* Lead-Ore *in* Germany, *very uſeful for Eſſays. Of* | *an* Hungarian Bolus, *of the ſame effect with the* Bolus Armenus. | *Of the New* American *Whale-fiſhing about the* Bermudas. *A Nar-*|*rative concerning the ſucceſs of the* Pendulum-watches *at Sea* | *for the* Longitudes ; *and the Grant of a* Patent *thereupon. A* | *Catalogue of the Philosophical Books publiſht by* Monſieur de Fer-|mat, *Counſellour at* Tholouſe, *lately dead.* |

1 (A1^{r})–2 (A2^{v}): *The Introduction.*

WHereas there is nothing more neceſſary for promoting the improvement of Philoſophical Matters, than the communicating to ſuch, as apply their Studies and Endeavours that way, ſuch things as are diſcovered or put in practice by others; It is therefore thought fit to employ the *Preſs*, as the moſt proper way to gratifie thoſe, whoſe engagement in ſuch Studies, and delight in the advancement of Learning and profitable Diſcoveries, doth entitle them to the knowledge of what this Kingdom, or other parts of the World, do, from time to time, afford, as well of the Progreſs of the Studies,Labors, and attempts of the Curious and Learned in things of this kind, as of their complete Diſcoveries and Performances: To the end, that ſuch Productions being clearly and truly communicated, deſires after ſolide and uſeful knowledge may be further entertained, ingenious Endeavors and Undertakings cheriſhed, and thoſe, addicted to and converſant in ſuch Matters,may be invited and encouraged to ſearch, try, and find out new things, impart their knowledge to one another, and contribute what they can to the Grand Deſign of improving Natural knowledge, and per-

fecting all *Philoſophical Arts*, and *Sciences*. All for the Glory of God, the Honor and Advantage of theſe Kingdoms, and the Univerſal Good of Mankind.

2 (A1^{v})–3 (A2^{r}): *An Accompt of the improvement of* Optick Glaſſes.

There came lately from *Paris* a Relation, concerning the Improvement of *Optick Glaſſes*, not long ſince attempted at *Rome* by Signor *Giuſeppe Campani*,and by him diſcourſed of,in a Book, Entituled, *Ragguaglio di nuoue Oſſervationi*, lately printed in the ſaid City,but not yet tranſmitted into theſe parts; wherein theſe following particulars, according to the Intelligence,which was ſent hither, are contained.

[… *account continues*]

3 (A2^{r}): *A Spot in one of the Belts of Jupiter.*

The Ingenious Mr. *Hook* did, ſome moneths ſince, intimate to a friend of his, that he had, with an excellent twelve foot Te-

[… *report continues*]

3 (A2^{r})–8 (A4^{v}): *The Motion of the late Comet prædicted.*

There was lately ſent to one of the *Secretaries* of the *Royal Society* a Packet, containing ſome Copies of a Printed Paper, Intituled, The *Ephemerides* of the *Comet*, made by the ſame Perſon, that ſent it, called *Monſieur Auzout*, a *French* Gentleman of no ordinary Merit and Learning, who deſired, that a couple of them might be recommended to the ſaid *Society*, and one to their *Preſident*, and another to his Highneſs Prince *Rupert*, and the reſt to ſome other Perſons, nominated by him in a Letter that accompanied this preſent, and known abroad for their ſingular abilitys and knowledge in Philoſophical Matters. The end of the Communication of this Paper was, That, the motion of the *Comet*, that hath

[… *prediction contiues*]

8 (A4^{v})–9 (B1^{r}): *An Experimental Hiſtory of Cold.*

There is in the Preſs, a New *Treatiſe*, entituled, *New Obſervations and Experiments in order to an Experimental Hiſtory of Cold*, begun by that Noble Philoſopher,Mr.*Robert Boyle*, and in great part already Printed; He did lately very obligingly preſent ſeveral Copies of ſo much as was Printed, to the *Royal Society*, with

a deſire that ſome of the Members thereof might be engaged to peruſe the Book, and ſelect out of it for trial, the hints of ſuch Experiments, as the *Author* there wiſheth might be either yet made or proſecuted. The Heads thereof are,
[… *headings and account continues*]

10 (B1^{v}): *An Account of a very odd Monſtrous Calf.*

By the ſome Noble perſon was lately communicated to the *Royal Society* an Account of a very Odd Monſtrous Birth, produced at *Limmington* in *Hampſhire*, where a Butcher, having
[… *account continues*]

10 (B1^{v})–11 (B2^{r}): *Of a Peculiar Lead-Ore of Germany, and the Uſe | thereof.*

There was,not long ſince,ſent hither out of *Germany* from an inquiſitive Phyſician,a Liſt of ſeveral *Minerals* and *Earths* of that Country, and of *Hungary*, together with a *Specimen* of each of
[… *account continues*]

11 (B2^{r}): *Of an Hungarian Bolus, of the ſame Effect with the | Bolus Armenus*

The ſame perſon gave notice alſo, that, beſides the *Bolus Ar-*
[… *account continues*] [*us ligatured*]

11 (B2^{r})–13 (B3^{r}): *Of the New* American *Whale-fiſhing about the* Ber-|mudas.

Here follows a Relation, ſomewhat more divertiſing, than the precedent Accounts;which is about the new *Whale fiſhing* in the *Weſt-Indies* about the *Bermudas*, as it was delivered by an underſtanding and hardy Sea-Man, who affirmed he had been at the killing work himſelf. His account,as far as remembred,was this;
[… *account continues*]

13 (B3^{r})–15 (B4^{r}): *A Narrative concerning the ſucceß of Pendulum-Watches | at Sea for the Longitudes.*

The Relation lately made by Major *Holmes*, concerning the ſucceſs of the *Pendulum-Watches* at Sea (two whereof were committed to his Care and Obſervation in his laſt voyage to *Guiny* by ſome of our Eminent *Virtuoſi*, and Grand Promoters of Navigation) is as followeth;
[… *relation continues*]

15 (B4^{r})–16 (B4^{v}): *The Character, lately publiſhed beyond the Seas, of an Eminent | Person, not long ſince dead at* Tholouſe , *where he was a | Councellor of Parliament.*

Imprint, 16 (B4^{v}): [*rule 114.0*] | Printed with Licence, For *John Martin*, and *James Alliſtry*, | Printers to the *Royal Society*.

STCN fingerprint: 000004 - b1 A1 m$: b2 B2 in

Selected variations in second edition: unbroken rules on 1 (A1^{r}); practiſe for -ice on 1 (A1^{r}); performances for P- on 2 (A1^{v}); unligatured double-s in ſucceſs and line break between at and Sea on 13 (B3^{r}); 'By *John Martyn*, and *Alle-|ſtry, … Royal-Society.*' on 16 (B4^{v}); 000004 - b1 A1 fr : b2 B2 Fi

Selected variations in the possible third edition: for *John Martin* on 16 (B4^{v})

Number 2 (Monday, April 3, 1665)

John Martyn and James Allestry produced the second number in three editions, each including illustrations on a fold-out plate. One engraved copperplate surface produced two different states of the illustrations; another subsequently engraved copperplate surface produced a third version. The second state of the impressions from the first engraved surface has visible wear along with textual additions. The impressions from the subsequently engraved surface reproduce the first state of the printings along with the textual additions from the second state. The first plate that references the accompanying number in its initial state illustrates number 26, 3 June 1667, a approximate date for when the decision to number plates was made. Thus the textual addition to this first engraved surface and the creation of the second engraved surface probably date from around that period as well.

The second edition of the letterpress text alters the line breaks and the spacing throughout. Of particular note, it alters the spacing preceding punctuation, suggesting that pre-punctuation spacing relates to justification, rather than to grammatical rules. The first two editions use the same large, five-line ttall, initial woodcut of the letter *I*[57] to begin the text, which suggests that the reprints were done by the same printer and close together in time before the Great Fire, early in September 1666.[57] The third edition of the letterpress text follows the line breaks of the second edition, but also alters spacing, indicating that its copy-text was the second edition. The first two editions usually, but not exclusively, include one of the first two versions of the illustrations.

These three editions and three versions of the fold-out illustration demonstrate how the printers producing the *Philosophical Transactions* reused earlier versions of texts and illustrations to

[57] See Numbers 17 and 18.

produce more copies as demanded. The small size of the number meant that another edition did not make as substantial demands on the printer as a larger book would. The facing illustration, appearing here first in a periodical, would become standard as the *Transactions* continued and would have made for an attractive display at a bookseller's shop.

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4^{o}: C–D^{4} [$1–2 signed]; 8 leaves, pp. 17–32; plate [1]

Facing 17 ($C1^{r}$): Diagram of washing mercury and producing suction through water aspiration, referred to on page 25 ($D1^{r}$): [*in black border with two figures,* **upper:**] Fig: II [**lower:**] Fig: I [*engraved* 184×130 (193x139, sheet at least 222x307)]

Second state of first surface: adds [**upper right**] №.2^{d}; water between A and B worn in both figures.

Second surface: as first plate, second state, with less wear and smaller plate mark 186x129, sheet 194x137.

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PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 57.3+0.3+57.3*] | *Munday, April* 3. 1665. | [*broken rule 54.6+0.6+58.0*] | [**in upper-right headline:**] *Numb.* 2.

17 ($C1^{r}$): The Contents. | *Extract of a Letter written from* Rome, *concerning the late* Co-|met, *and a* New *one. Extract of another Letter from* Paris, | *containing ſome Reflexions on the precedent* Roman *letter.* | *An Obſervation concerning ſome particulars, further conſide-*|*rable in the* Monſter, *that was mention'd in the firſt Papers of* | *theſe* Philoſophical Tranſactions. *Extract of a Letter written* | *from* Venice,*concerning the Mines of* Mercury *in* Friuly. *Some* | *Obſervations , made in the ordering of* Silk-worms. *An Ac-*|*count of Mr.* Hooks Micrographia, *or the Phyſiological deſcri-*|*ptions of* Minute Bodies,*made by* Magnifying Glaſſes. | [*broken rule 50.0+0.3+59.6*] |

17 ($C1^{r}$)–18 ($C1^{v}$): *Extract of a Letter, lately written from* Rome, *touching the* | *late Comet, and a New one.*

18 ($C1^{v}$)–20 ($C2^{v}$): *Extract of a Letter , written from* Paris , *containing ſome* | *Reflections on part of the precedent* Roman *Letter.*

20 (C2^{v})–21 (C3^{r}): *An Obſervation imparted to the Noble Mr.* Boyle , *by* | *Mr.* David Thomas, *touching ſome particulars fur-*|*ther conſiderable in the* Monſter *mentioned in the* | *firſt Papers of theſe* Philosophical Tranſactions.

21 (C3^{r})–26 (D1^{v}): *Extract of a Letter , lately written from* Venice *by the* | *Learned Doctor* Walter Pope, *to the Reverend Dean of* | Rippon, *Doctor* John Wilkins , *concerning the Mines* | *of* Mercury *in* Friuli ; *and a way of producing* Wind | *by the fall of* Water.

26 (D1^{v})–27 (D2^{r}): *An Extract of a Letter , containing ſome Obſervations,* | *made in the ordering of* Silk-worms, *communicated* | *by that known* Vertuoſo, *Mr.* Dudley Palmer,*from* | *the ingenuous Mr.*Edward Digges.

> I herewith offer to your *Society* a ſmall parcel of my *Virginian* ſilk. What I have obſerved in the ordering of Silk-worms,contrary to the received opinion, is : [… *observations continue*]

27 (D2^{r})–32 (D4^{v}): *An Account of* Micrographia,*or the* Phyſiological De-|ſcriptions *of* Minute Bodies,*made by* Magnifying | Glaſſes.

> The Ingenious and knowing Author of this *Treatiſe,* Mr. *Robert Hook*, conſidering with himſelf, of what importance a faithful *Hiſtory of Nature* is to the eſtabliſhing of a ſolid Syſteme of *Natural Philoſophy*, and what advantage *Experimental* and *Mechanical* knowledge hath over the Philoſophy of *diſcourſe* and *diſputation*, and making it, upon that account, his conſtant buſineſs to bring into that vaſt Treaſury what portion he can, hath lately publiſhed a Specimen of his abilities in this kind of ſtudy, which certainly is very welcome to the Learned and Inquiſitive world,both for the *New diſcoveries* in *Nature*, and the *New Inventions* of *Art*.
>
> As to the *former*, the Attentive Reader of this Book will […*account continues*]

Imprint, 32 (D4^{v}): [*rule 100.0*] | London, Printed with Licence for *John Martyn,* and *James* | *Alleſtry*, Printers to the *Royal Society*.

STCN fingerprint: 000004 - b1 C1 t$: b2 D2 nab

Selected variations in the second edition: Num. for Numb. in headline on 17 (C1^{r}); unbroken rules on 17 (C1^{r}); *R*eflections for R-xions on 17 (C1^{r}); firſt for -ſt on 17 (C1^{r}); 'Mr,' for 'Mr.' and Silk for

filk on 26 (D1^{v}); broken rule 33.3+1.0+70.0 for rule 100 on 32 (D4^{v}); 000004 - b1 C1 t (partially under 'th') : b2 D2 na

Selected variations in the third edition: Num. for Numb. in headline on 17 (C1^{r}); line break between An and Obſervation on 17 (C1^{r}); line break between make and in on 26 (D1^{v}); ingenuo*us* for -us on 26 (D1V6); *Robert* for *R-* on 27 (D2^{r}); 000004 - b1 C1 or : b2 D2 be$

Number 3 (Monday, May 8, 1665)

Martyn and Allestry produced two editions, both of which include a half-signed half-sheet. Prior numbers had evenly fit the text into the quarto imposition scheme, yielding eight pages, while the ten pages here need an additional edition half-sheet. The last sheet, G, could have included additional articles, as is sometimes done later on, so the choice to use a half-sheet balances the last article's need for space with efforts to economize on paper and labor. Thus, the last article could be of special note, which would be unsurprising because it reports some of the first fruits of Robert Boyle's history of cold. It is, however, possible that the half-sheet merely indicates there was no coordination between the printing and the editing of the text. It may be that the printer had no way of asking for more material to fill up a sheet, nor asking for the text to be edited down, nor perhaps did they care to do so even if they could. Martyn and Allestry paid Oldenburg for copy by the "sheet," but it is not totally clear how a half-sheet might relate to the terms of how his sheets were counted; sheet may be contributed text, or printed sheets, and a half-sheet might be rounded up or down, or taken at half value.[58]

The same woodcut *T7* appears on page 33 (E1^{r}) of the two editions, suggesting the same printer and proximate dates of production prior to the Great Fire.[59] Several copies of the second edition appear on visibly lower quality paper. The second edition alters the spacing preceding punctuation along with line breaks, hinting at the role of pre-punctuation spacing in justification.

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[58] See Number 6 for the terms of the agreement.
[59] See Numbers 17 and 18.

4°: E-F⁴ G² [$1-2 (-G2) signed]; 10 leaves, pp. 33-52

PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 56.0+0.0+56.0*] | *Munday, May* 8. 1665. [*broken rule 54.3+1.0+58.3*] | [**in upper right:**] *Numb.* 3.

33 (E1ʳ): The Contents. | *Some Obſervations and Experiments upon* May-Dew. *The Motion* | *of the* Second Comet *predicted, by the ſame perſon, who predicted* | *that of the former. A Relation of the Advice, given by a* French | *Gentleman, touching the Conjunction of the* Ocean *and the* Medi-|terranean. *Of the way of killing* Ratle-ſnakes, *uſed in* Virgi-|nia. *A Relation of Perſons kill'd with Subterraneous* Damps. *Of* | *the* Mineral *of* Liege, *yielding both* Brimſtone, *and* Vitriol, *and* | *the way of extracting them out of it, uſed at* Liege. *An Account* | *of Mr.* Boyle's *Experimental* Hiſtory *of* Cold. |

33 (E1ʳ)–36 (E2ᵛ): *Some Obſervations and Experiments upon* | May-Dew.

T7HAT ingenious and inquiſitive Gentleman, Maſter *Thomas Henſhaw*, having had occaſion to make uſe of a great quantity of *May-dew*, did, by ſeveral caſual Eſſayes on that Subject, make the following Obſervations and Tryals, and preſent them to the *Royal Society*.

36 (E2ᵛ)–40 (E4ᵛ): *The Motion of the* Second *Comet predicted ,* | *by the ſame Gentleman , who predicted that* | *of the* former.

Monſieur *Auzout*, the ſame Perſon, that not long ſince communicated to the World his *Ephemerides* touching the courſe of the former *Comet*, and recommended ſeveral Copies of them to the *Royal Society*, to compare their Obſervations with his Account, and thereby, either to verifie his Predictions, or to ſhew, wherein they differ, hath lately ſent another *Ephemerides* concerning the Motion of the Second *Comet*, to the ſame end, that invited him to ſend the other,

In that Tract he obſerves, firſt in *General*, that this ſecond [… *account continues*]

41 (F1ʳ)–43 (F2ʳ): *A Relation of the advice give nby Monſieur* | Petit , *Intendant of the Fortifications of* | Normandy. *touching the Conjunction of the* | Ocean *and* Mediterranean.

This Intelligent Gentleman, Monſieur *Petit*, having been conſulted with, touching the Conjunction of the *Ocean* and

Mediterranean, delivers firſt the Propoſition, and then giveth his thoughts upon it.

[… *relation continues*]

43 (F2^{r}): *Of the Way of killing* Ratle-Snakes.

There being not long ſince occaſion given at a meeting of the *Royal Society* to diſcourſe of *Ratle Snakes*, that worthy and inquiſitive Gentleman, Captain *Silas Taylor*,related the manner, how they were killed in *Virginia* , which he afterwards was pleaſed to give in writing, atteſted by two credible perſons in whoſe preſence it was don; which is, as follows.

[… *account continues*]

44 (F2^{v})–45 (F3^{r}): *A Relation of Perſons killed with ſubterraneous* | Damps.

This Relation was likewiſe made to the *Royal Society*, by that Eminent *Virtuoſo* Sir *R. Moray,* who was pleaſed,upon their deſire, to give it them in writing*;* as followeth,

[… *relation follows*]

45 (F3^{r})–46 (F3^{v}): *Of the* Mineral *of* Liege, *yielding both* Brim-|ſtone *and* Vitriol, *and the way of extracting* | *them out of it, uſed at* Liege.

46 (F3^{v})–52 (G2^{v}): *A further Account of Mr.* Boyle's *Experimen-*|*tal* Hiſtory of Cold.

In the firſt Papers of theſe *Philoſophical Tranſactions*, ſome promiſe was made of a *fuller* account, to be given by the next,of the *Experimental Hiſtory of Cold*, compoſed by the Honourable Mr. *Robert Boyle*; it being then ſuppoſed, that this *Hiſtory* would have been altogether printed off at the time of publiſhing the *Second* Papers of theſe *Tranſactions;* but the Preſs, employed upon this Treatiſe,having been retarded ſomewhat longer than was gheſſed, the ſaid promiſe could not be performed before this time: wherein it now concerns the inquiring World to take notice, that this ſubject,as it hath hitherto bin almoſt totally neglected, ſo it is now, by this Exceellent Author, in ſuch a manner handled,and improved by near *Two hundred* choice *Experiments* and *Obſervations*,that certainly the *Curious* and *Intelligent* Reader will in the peruſal thereof find cauſe to admire both the Fertility of a Subject, ſeemingly ſo barren, and the Author's Abilities of improving the ſame to ſo high a Degree.

> But to take a ſhort view of ſome of the particulars of this *Hiſtory*, and thereby to give occaſion to *Philoſophical* men,to take this Subject more into their conſideration, than hitherto hath been done; the Ingenious Readers will here ſee,
> [… *account continues*]

Imprint, 52 (G2^{v}): [*broken rule 16.0+1.3+91.3+0.3+3.3*] | *LONDON,* | Printed with Licenſe, By *John Martyn*, and *James Al-*|*eſtry,* Printers to the *Royal-Society*. 1665. | [*rule 114.0*]

STCN fingerprint: 166504 - b1 E1 $p : b2 G1 $

Selected variations in the second edition: unbroken rules both 112.0 on 33 (E1^{r}); *R*elation for *R*~ on 33 (E1^{r}); line break Gentle-|man on 33 (E1^{r}); *Royal* for *R*~ on 33 (E1^{r}); typo 'give nby' corrected to 'given by' on 41 (F1^{r}); *Silas* for *~as* on 43 (F2^{r}); typo don corrected to done on 43 (F2^{r}); yeilding for yie~ on 45 (F3^{r}); typo Excellent corrected to Excellent on 47 (F4^{r}); *Curious* for *~us* on 47 (F4^{r}); *Hi=* for *Hi-* on 47 (F4^{r}); 166504 - b1 E1 y : b2 G1 f$

Number 4 (Monday, June 5, 1665)

Martyn and Allestry produced two editions, the second shorter by two pages, and so fitting evenly into three quarto sheets. The second edition matches nearly line by line, but differing in that it features line breaks less frequently within words; possessive *s* in roman following roman words and preceding italic words; the errata corrected and the section omitted; the contents missing a line; and some headings in a smaller face. The smaller type fills fewer pages for the same material. Thus, pagination no longer agrees between the editions past page 56. The same woodcut *I*^{4} appears on 53 (H1^{r}) of both editions, suggesting the same printer working from the first edition as a copy-text to print the second edition at proximate times before the Great Fire and with a sense of thrift rather than an eye on a volume, since this is the only number whose page references change between editions.[60]

The Library of Congress copy includes a disjunct bookseller's catalog facing 76 (K4^{v}) not seen in other copies.

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[60] Alexandra da Costa, "Negligence and Virtue: Errata Notices and Their Evangelical Use," *The Library: The Transactions of the Bibliographical Society*, 7th series, 19, no. 2 (June 2018): 159–73 argues that errata signaled the value of a text more than it served a useful aim, thus these errata are as important as imprints in explaining how this text was marketed.

First edition: 4°: H–K⁴ L1 [$1–2 signed]; 13 leaves, pp. 53–78

Second edition: 4°: H–K⁴ [$1–2 signed; K2=C2]; 12 leaves, pp. 53–76 (58–59=59–58)

PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 57.0+0.3+56.0*] | *Munday, June* 5. 1665. | [*broken rule 54.0+2.0+58.3*] | [**in upper right:**] *Numb.* 4. |

53 (H1ʳ): The Contents. | *A Relation of ſome extraordinary Tydes in the* Weſt-Iſles *of* Scot-|land, *by Sr.* Robert Moray. *The judgment of Monſieur* Au-|zout, *touching the* Apertures *of* Object-glaſſes, *and their* pro-|portions *in reſpect of the ſeveral lengths of* Teleſcopes*; toge-|ther with a* Table *thereof. Conſiderations of the ſame Perſon* | *upon Mr.* Hook's *New Engine for grinding of* Optick-glaſſes. | *Mr.* Hook's *Thoughts thereupon. Of a means to illuminate an* | Object *in what proportion one pleaſeth*; *and of the* diſtances, *that* | *are requiſite to burn Bodies by the* Sun. *A further accompt by* | *Monſieur* Auzout *of Signior* Campani*'s Book, and Performances* | *about* Optick-Glaſſes. Campani*'s Anſwer thereunto*; *and Mr.* | Auzout*'s Animadverſions upon that Anſwer. An accompt of Mr.* | Lower*'s newly publiſhed* Vindication *of Dr.* Willis*'s Diatriba de* | Febribus. |

53 (H1ʳ)–55 (H2ʳ): *A Relation of ſome extraordinary Tydes in the* | *Weſt-Iſles of* Scotland, *as it was commu-|nicated by Sr.* Robert Moray.

55 (H2ʳ)–56 (H2^v): Monſieur Auzout*'s Judgment touching the A-|pertures of* Object-Glaſſes, *and their* Pro-|portions, *in reſpect of the ſeveral* Lengths *of* | Teleſcopes.

> This Author, obſerving in a ſmall *French Tract* lately written
> by him to a Countryman of his, Monſieur *L' Abbe Charles;*
> That great [… *account continues*]

56 (H2ᵛ): [… *account completes*]

> A *TABLE* of the *Apertures* of *Object-Glaſſes.*
> *The Points put to ſome of theſe Numbers denote Fractions.*
> [… *table of values*]

57 (H3ʳ)–63 (I2ʳ), 2nd ed. 56 (H2ᵛ)–63 (I2ʳ): *Conſiderations of Monſieur* Auzout *upon Mr.* | Hook*'s New Inſtrument for Grinding of* | Optick-Glaſſes.

64 (I2ᵛ)–69 (K1ʳ), 2nd ed. 63 (I2ʳ)–68 (I4ᵛ): Mʳ· Hook*'s Anſwer to Monſieur* Auzout*'s* | *Conſiderations, in a Letter to the Publiſher* | *of theſe* | Tranſactions.

> *SIR,*
> Together with my moſt hearty thanks for the favour you
> were pleaſed to do me, in ſending me an *Epitome* of what had
> been by the ingenious Monſieur *Auzout* animadverted on a de-

ſcription, I had made of an *Engine* for *grinding ſpherical Glaſſes*, I thought my ſelf obliged, both for your ſatisfaction, and my own Vindication,to return you my preſent thoughts upon thoſe Objections. The chief of which ſeems to be againſt the very *Propoſition* it ſelf: For it appears, that the *Objector* is ſomewhat unſatisfied, that I ſhould propound a thing in *Theory*, without having firſt tried the *Practicableneſs* of it. But firſt, I could wiſh that this worthy Perſon had rectified my miſtakes, not by ſpeculation, but by experiments. Next, I have this to anſwer,that (though I did not tell the *Reader* ſo much, to the end that he might have the more freedom to examine and judg of the contrivance, yet) it was not meer *Theory* I propounded, but ſomewhat of *Hiſtory* and *matter of Fact*: For, I had made trials, as many as my leiſure would permit, not without ſome good ſucceſs; but not having time and opportunity enough to proſecute them, I thought it would not be unacceptable to ſuch,as enjoyed both, to have a deſcription of a way altogether *New*, and *Geometrically* true, and ſeemingly, not unpracticable, whereof they might make uſe,or not, as they ſhould ſee reaſon. But nothing ſurpriſed me ſo much, as, that he is pleaſed (after he had declared it a fault,to write this *Theory*, without having reduced it to practice)to lay it,as he ſeems to do,in one place of his book,*p.* 22. upon the *Royal Society*. Truly, *Sir*, I ſhould think my ſelf moſt injurious to that *Noble Company*, had I not endeavoured, even in the beginning of my Book, to prevent ſuch a miſconſtruction. And therefore I cannot but make this interpretation of what Monſieur *Auzout* ſaith in this particular,that either he had not ſo much of the Language wherein I have written, as to underſtand all what was ſaid by me, or, that he had not read my *Dedication* to the *Royal Society*, which if he had done, he would have found, how careful I was, that that *Illuſtrious Society* ſhould not be prejudiced by my *Errors*, that could be ſo little advantaged by my *Actions*. And indeed, for any man to look upon the matters publiſhed by their Order or License, as if they were *Their* Senſe, and had *Their* Approbation, as *certain* and *true*, 'tis extremely wide of their intentions,ſeeing they, in giving way to, or encouraging ſuch publications, aim chiefly

> at this, that *ingenious conceptions*, and important *philoſophical matter of Fact* may be communicated to the learned and enquiring World, thereby to excite the minds of men to the examination and improvement thereof. But, to return; As to his *Objections* againſt the *Matter*, I do find that they are no more againſt mine, [… *discussion of grinding glass lenses*]

69 (K1^r)–70 (K1^v), 2nd ed. 68 (I4^v)–69 (K1^r): *Of a means to illuminate an Object in what pro-|portion one pleaſeth ; and of the Diſtances re-|quiſite to burn Bodies by the* Sun.

70 (K1^v)–75 (K4^r), 2nd ed. 69 (K1^r)–74 (K3^v): *A further Account, touching Signor* Campani*'s Book and Per-|formances about* Optick-glaſses.

75 (K4^r)–77 (L1^r), 2nd ed. 74 (K3^v)–75 (K4^r): Signor Campain's *Anſwer: and Monſieur* | Auzout*'s Animad-verſions thereon*.

77 (L1^r)–78 (L1^v), 2nd ed. 75 (K4^r)–76 (K4^v): *An Account of Mr.* Richard Lower*'s newly* | *publiſhed* Vindication *of Doctor* Willis*'s* | Diatriba *de* Febribus.

Errata, 78 (L1^v), 2nd ed. 76 (K4^v): *A Note touching a Relation, inſerted in the laſt* | Tranſactions.

> In the Experiment of killing *Ratle-Snakes*, mentioned in the laſt of the precedent Papers (wherein, by a miſtake, theſe words, *The way*, were put for *A way*, or *An Experiment*) it ſhould have been added, that the Gentleman there mention'd, did affirm, that, in thoſe places, where the Wild *Penny-Royal* or *Dittany* grows, no *Ratle-Snakes* are obſerved to come.

Errata, 78 (L1^v): *Errata.*

> P^{2}Ag. 59. line 11.read, *bigneſſes,* l. 20. r. *endure,* for,reſiſt. l.30. r. *thoſe,* for, theſe. l. 31. r. *Plain,* for, place.

Imprint, 78 (L1^v), 2nd ed. 76 (K4^v): [*rule 111.0*] | *LONDON*, | Printed with Licence, By *John Martyn*, and *James Al-|leſtry*, | Printers to the *Royal-Society*, at the *Bell* in | St. *Pauls Church-Yard*. 1665.

STCN fingerprint: 166504 - b1 H1 m : b2 L1 f

Selected variations in the second edition: unbroken rules 117.3 and 177.0 on 53 (H1^r); *Relation* for *R-* on 53 (H1^r); line break between Scotland and by instead of Scot-|land on 53 (H1^r); seven words '*Book, and Performances about* Optick-Glaſſes. Campani*'s*' omitted 53 (H1^r); *as it was* for *as it was* on 53 (H1^r); grinding on 56 (H2^v) for G- on 57 (H3^r) and, Mr. on 63 (I2^r) for M^r. on 64 (I2^v); *Reader* on 63 (I2^r) for *R-* on 64 (I2^v); corrected typo to judge on 64 (I2^v) for judg on 63 (I2^r);

Glaſſes on 69 (K1^{r}) for glaſses on 70 (K1^{v}); *Rattle* on 76 (K4^{v}) for *-atle* on 78 (L1^{v}); second *Errata* section omitted but corrected; *Aleſtry* on 76 (K4^v6) for *Al-|leſtry* on 78 (L1^{v}); 166504 - b1 H1 I : b2 K2 t$th

Number 5 (Monday, July 3, 1665)

Martyn and Allestry produced two editions and the second is a line-for-line reprint of the first, only changing some spacing around punctuation, moving line breaks, and using the spelling "knowledg" rather than "knowledge." A plate in one of two different states illustrates this number. The second state labels the plate to match the issue, thus the tradition of labeling plates began after the production of the first edition of this number around 3 July 1665. The first plate that references the accompanying number in its initial state illustrates number 26, 3 June 1667, a proximate *terminus post quem* for when the textual addition to this plate.

The text notices the plague and that there may be a delay in producing the next issue. It also begins the series of queries, or inquiries, that the Society wrote to coordinate research across fields. These queries became more frequent as the Society recruited new informants.

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4^{o}: M–N^{4} [$1–2 signed]; 8 leaves, pp. 79–94; plate [*1*]

Facing 79 (M1^{r}): Four figures: '*Fig: 1*' cutaway view of a chimney drawing air from a mine by stack effect described on pp. 81–2 (M2^{r}-M2^{v}), '*Fig: 3*' diagram of a double cylindrical wedge with gunpowder cartridge for breaking rocks described on p. 84 (M3^{v}), '*Fig: 2*' diagram of an iron digging tool for drilling holes in rocks described on p. 83 (M3^{r}), '*Fig: 4*' a monstrous head of a colt described pp. 85–6 (M4^{r}-M4^{v}); [*engraved* 204×254 (210x270, sheet 226x346)]

Second state of first surface: losses in spots on right side of chimney; addition of [**upper right:**] №. 5th.

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PHILOSOPHICAL | *TRANSACTIONS.* | [*rule 106.6*] | *Munday, July* 3. 1665. | [*rule 108.0*] | [**Upper right:**] *Numb.* 5. |

79 (M1^{r}): The Contents. | *An Account, how* Adits *and* Mines *are wrought at* Liege *without* | Air-ſhafts, *communicated by Sir* Robert Moray. *A way to* | *break* eaſily *and* ſpeedily *the hardeſt* Rocks; *imparted by the* | *ſame* Perſon, *as he received it from Monſieur* Du Son *the Inven-*|*tor. Obſervables upon a* Monſtrous Head. *Obſervables in the* | *Body of the Earl of* Belcarres, *ſent out of* Scotland. *A Rela-*|*tion of the deſigned Progreſs to be made in the* Breeding of Silk-|worms, *and the* Making *of* Silk, *in* France. *Enquiries touching* | Agriculture,*for* Arable *and* Meadows. |

79 (M1^{r})–82 (M2^{v}): *An Account, how* Adits *&* Mines *are wrought* | *at* Liege *without* Air-ſhafts, *communicated* | *by Sir* Robert Moray.

82 (M2^{v})–85 (M4^{r}): *A way to break* eaſily *and* ſpeedily *the hardeſt* | Rocks, *communicated by the ſame Perſon,* | *as he received it from Monſieur* Du Son, | *the Inventor.*

85 (M4^{r})–86 (M4^{v}): *Obſervables upon a* Monſtrous Head.

86 (M4^{v})–87 (N1^{r}): *Obſervables in the Body of the* Earl *of* | Balcarres.

87 (N1^{r})–91 (N3^{r}): *Of the deſigned Progreſs to be made in the* | Breeding of Silkworms, *and the* Making *of* | Silk, *in* France.

91 (N3^{r})–94 (N4^{v}): *Enquiries concerning* Agriculture.

> Whereas the *Royal Society*, in proſecuting the *Improvements of Natural knowledge*, have it in deſign, to collect *Hiſtories of Nature and Arts*, and for that purpoſe have already, according to the ſeveral Inclinations and Studies of their Members, divided themſelves into divers *Commitees*, to execute the ſaid deſign: Thoſe Gentlemen, which do conſtitute the *Commitee* for conſidering of *Agriculture*, and the *Hiſtory* and *Improvement* thereof, have begun their work with drawing up certain Heads of *Enquiries*, to be diſtributed to perſons *Experienced in Husbandry* all over *England, Scotland,* and *Ireland*, for the procuring a *faithful* and *ſolid* information of the *knowledge* and *practice* already obtained and uſed in theſe Kingdoms; whereby, beſides the aid which by this means will be given to the general End of collecting the aforementioned *Hiſtory*, every place will be advantaged by the helps, that are found in any, and occaſion miniſtred to conſider, what improvements may be further made in this whole matter. Now to the End, that

> thoſe *Enquiries* may be the more univerſally known, and thoſe who are skilful in Husbandry, publickly invited to impart their knowledge herein, for the *common* benefit of their Countrey, it hath been thought fit to publiſh the *effect* of them in Print, and withal to deſire, that what ſuch perſons ſhall think good from their own *Knowledge* and *Experience* to communicate hereupon, they would be pleaſed to ſend it to the Printers of the *Royal Society*, to be delivered to either of the *Secretaries* of the ſame. The Enquiries follow.
> [… *enquiries*]

94 ($N4^v$): Advertiſement.

> *The* Reader *is hereby advertiſed, that by reaſon of the preſent Contagion in* London, *which may unhappily cauſe an interruption aſwel of* Correſpondencies, *as of* Publick Meetings, *the Printing of theſe* Philoſophical Tranſactions *may poſſibly for a while be intermitted; though endeavours ſhall be uſed to continue them, if it may be.*

Imprint, 94 ($N4^v$): [*rule 108.6*] | *LONDON,* | Printed with Licence, by *John Martyn,* and *James Al-*|*leſtry*, Printers to the *Royal Society,* at the *Bell* in | St. *Pauls Church-Yard*. 1665.

STCN fingerprint: 166504 - b1 M1 a : b2 N2 $by

Selected variations in the second edition: first rule 113.6 and second broken 54.0+0.6+58.0 on 79 ($M1^r$); space added between *Account* and comma on 79 ($M1^r$); 'Son,*the*' for Son *the* on 79 ($M1^r$); space closed up between worms and *and* on 79 ($M1^r$); '*knowledg , have*' for '*~edge, have*' on 91 ($N3^r$); line break accor-|ding for accord-|ing on 91 ($N3^r$); spelling *knowledg* for each *~edge* on 92 ($N3^v$); *Royal-Society* for *R~ Society* on 94 ($N4^v$); 166504 - b1 M1 $: b2 N2 e$en

Number 6 (Monday, November 6, 1665)

Richard Davies hired Leonard Lichfield Jr., along with his mother Anne Lichfield,[61] to print this under the imprimatur of Robert Say, Vice Chancellor of Oxford, for the Society, most members of which had left London due to the ongoing plague and the resulting "great Mortality." (95) The two states of the imprint of the first edition reflect the uncertain applicability of the Society's license to print for an Oxford printer, which was solved by using the University of Oxford's license to print.

[61] Plomer, *A Dictionary of the Booksellers and Printers Who Were at Work in England, Scotland and Ireland from 1641 to 1667*, 117.

The first state conservatively avoided mentioning the printer or bookseller in the imprint, presumably to avoid trouble if their printing turned out to be unauthorized.

Robert Moray had proposed printing in Oxford during a dinner with Robert Boyle and John Wallis, who immediately called for Richard Davies and "in 2. words it was agreed that Mr Davies will print them." Davies felt he could not sell as many as Allestry did in London. Over dinner the three reported the original conditions for printing the *Transactions* and transacted a new agreement:

> Mr Allestree gave 3 lib. for every printed sheet, & you were at half charge of the Copper cutts and that hee printed some 1200. Copies but that the bargain was made upon 1000. … Mr Allestree is content you employ whom you please. So that you may now prepare for the press, and may have for the first time as many sheets printed as you think fit, though I think it will do well to go on with the same number you was at."[62]

From this report it seems that the initial plan was to print editions of 1,000 of the individual numbers, but that the edition size had risen to 1,200. Oldenburg was paid three pounds per sheet of copy by the bookseller, but had to pay half the cost for the copperplate engraved surfaces. In these terms, Oldenburg was expected to keep the number of sheets down so that his payment would not exceed what Allestry could sell, but Davies appears to be willing to print more sheets with a reduced payment for copy.

By 16 December 1665, Richard Davies complained he had not sold more than three-hundred copies and Robert Boyle reports that he has been having trouble distributing the copies; the demand that warranted a second edition must have come later. By 23 December 1665, he already owed Oldenburg four pounds, so perhaps the agreement was for half of Allestry's rate, £1 10s., per sheet for the copy. This is, however, only the third number with more than two sheets. Oldenburg apparently thought in terms of filling sheets when Boyle thanks him for allowing him to remove one of his articles to replace it instead with the one below on white blood,[63] and also when he seeks to fill a gap with the translation on the burning glass included in the number.[64] The second edition reprints the

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[62] "Moray to Oldenburg, 11 October 1665" in Hall and Hall, *The Correspondence of Henry Oldenburg*, 2:563.

[63] Robert Boyle, "Boyle to Oldenburg, 4 November 1665," in *The Correspondence of Robert Boyle*, ed. Michael Hunter, Antonio Clericuzio, and Lawrence M. Principe (1665; repr., London: Pickering & Chatto, 2001), 575 "that there would want a page & some what more to make up three sheets I supplyd him with the Relation of the white Blood"; Robert Boyle, *The Works of Robert Boyle*, ed. Michael Hunter and Edward B. Davis (London: Pickering & Chatto, 1999–2000), 5:xvii.

[64] "Oldenburg to Boyle, 17 October 1665" in Hall and Hall, *The Correspondence of Henry Oldenburg*, 2:571.

first nearly line-by-line, while leaving the Oxford imprint intact, changing some spellings, and using ligatures differently for some words.[65]

The text focuses on book reviews and letters, without reporting the meetings of the Society. While reviews and letters had appeared previously, the primary emphasis on reacting to letters and books, without meeting, prefigures the question-and-answer genre seen in John Dunton's *Athenian Gazette*[66], anticipates the learned journal independent from its parent organization, and inaugurates editorial pages in newspapers. The hardship of the plague required a creative approach to producing the *Transactions*, but the success of this number must have encouraged the inclusion of more reviews in later numbers.

Oldenburg notes the dedication to Kircher's book and suggests that alternative dedications exist, but, I have not been able to find them.

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4°: O–Q⁴ [$1–2 signed]; 12 leaves, pp. 95–118

PHILOSOPHICAL | *TRANSACTIONS.* | [*rule 107.0*] | Monday, *Novemb.* 6. 1665. | [*rule 108.3*] | [**in upper-right headline:**] *Numb.* 6. |

95 (O1ʳ): The Contents. | *An Account of a not ordinary* Burning Concave, *lately made* | *at* Lyons, *and compared with ſeveral others made formerly.* | *Of Monſieur* Hevelius *his promiſe of communicating to the* | *World his Invention of making* Optick Glaſſes; *and of the* | *hopes, given by Monſieur* Chriſtian Hugens *of* Zalichem, | *to perform ſomething of the like nature*; *as also of the Ex-*|*pectations, conceived of ſome Perſons in* England, *to im-*|*prove* Teleſcopes. *An Intimation of a way of making* | *more lively Counterfeits of Nature in* Wax, *then are extant* | *in* Painting; *and of a new kinde of* Maps *in a low* Relievo, | *or Sculpture, both practiſed in* France. *Some* Anatomical | *Obſervations, of*

[65] "Oldenburg to Boyle, 19 December 1665" in Hall and Hall, ibid., 2:645–649; "Richard Davies to Oldenburg, 16 December 1665" in Hall and Hall, ibid., 2:643; "Boyle to Oldenburg, 23 December 1665" in Hall and Hall, ibid., 2:649–652; "Oldenburg to Boyle, 30 December 1665" in Hall and Hall, ibid., 2:652–657; thanks to Devin Fitzgerald at UCLA who helped optically collate with a copy miles away at the Huntington using PocketHinman.

[66] Rachael Scarborough King, *Writing to the World: Letters and the Origins of Modern Print Genres* (Baltimore: Johns Hopkins University Press, 2018), 50 ff; John Bowyer Nichols, "Memoirs of the Author," in *The Life and Errors: With the Lives and Characters of More Than a Thousand Contemporary Divines and Other Persons of Literary Eminence*, by John Dunton, ed. John Bowyer Nichols (1818; repr., New York: Burt Franklin, 1969), v–xxxiixvi; John Dunton, *The Life and Errors: With the Lives and Characters of More Than a Thousand Contemporary Divines and Other Persons of Literary Eminence*, ed. John Bowyer Nichols (1818; repr., New York: Burt Franklin, 1969), 423 ff.

Milk found in Veins inſtead of Blood; | *and of Graſs, found in the Wind-pipes of ſome Animals.* | *Of a place in* England, *where, without petrifying Water,* | *Wood is turn'd into Stone. Of the nature of a certain Stone,* | *found in the* Indies *in the head of a* Serpent. *Of the way,* | *uſed in the* Mogol*'s Dominions, to make* Saltpetre. *An* | *Account of* Hevelius *his* Prodromus Cometicus, *and of* | *ſome Animadverſions made upon it by a* French *Philoſopher*; | *as alſo of the Jeſuit* Kircher*'s* Mundus Subterraneus. |

95 (O1^{r})–98 (O2^{v}): *An Account of a not ordinary* Burning Concave, | *lately made at* Lyons, *and compared with ſeveral* | *others made formerly.* |

A²N opportunity being preſented to revive the publiſhing of theſe Papers, which for ſome Moneths hath been diſcontinued by reaſon of the great Mortality in *London*, where they were begun to be Printed; it hath been thought fit to embrace the ſame, and to make uſe thereof for the gratifying of the Curious, that have been pleaſed to think well of ſuch Communications: To re-enter whereupon, there offers it ſelf firſt of all a Relation of an un-common *Burning Glaſs*, not long ſince made in *France*, in the city of *Lyons*, by one called Monſieur *de Vilette*, as it was ſent to the *Publiſher* of theſe *Tracts,* in two Letters, whereof the one was in *Latine*, the other in *French*, to this effect:

[… *summary translation of a letter*]

98 (O2^{v})–99 (O3^{r}): *Of Monſieur* Hevelius*'s Promiſe of imparting to* | *the World his Invention of making* Optick | Glaſſes; *and of the hopes given by Monſieur* | Hugens *of* Zulichem, *to perform ſomething of* | *the like nature*; *as alſo of the Expectations,* | *conceived of ſome Ingenious Perſons in* England, | *to improve* Teleſcopes.

That eminent Aſtronomer of *Dantzick,* Monſieur *Hevelius*, writes to his Correſpondent in *London*, as followeth:

What hath […] *account continues*]

99 (O3^{r})–100 (O3^{v}): *An Advertiſement of a way of making more lively* | *Counterfaits of Nature in* Wax, *then are ex-*|*tant in* Painting*: And of a new kinde of* Maps | *in a low* Relievo; *both practiſed in* France.

This was communicated by the Ingenious Mr. *John Evelyn*, to whom it was ſent from *Paris* in a Letter, as followeth:

Here is in our Neighbourhood a *French-man*, who makes more lively Counterfeits [… *account continues*]

100 (O3^{v})–101 (O4^{r}): *Some* Anatomical *Obſervations of Milk found in | Veins, inſtead of Blood*; *and of Graſs, found | in the Wind-pipes of ſome* Animals.

A curious Perſon wrote not long ſince from *Paris*, that there they had, in the Houſe of a Phyſician, newly open'd a Mans Vein, wherein they found *Milk*, inſtead of *Blood*. This being imparted to Mr. *Boyle* at *Oxford*, his Anſwer was, That the like Obſervation about *white Blood*, had been made by a Learned Phyſician of his acquaintance, and the thing being by him look'd upon as remarkable, he was deſirous to have it very circumſtantially from the ſaid Phyſitian himſelf, before he would ſay more of it. The next Moneth may bring us in this Account.

The other Particular, mention'd in the Title of this Head, came in a Letter, ſent also by Mr. *Boyle*, in theſe words:

I ſhall acquaint you, That two very Ingenious Men, Dr. *Clark*, and Dr. *Lower*, were pleas'd to give me an account of a pretty odde kinde of Obſervation: One of them aſſuring me, [… *account continues*]

101 (O4^{r})–102 (O4^{v}): *Of a place in* England, *where, without petrifying | Water, Wood is turned into Stone.*

The ſame Searcher of Nature, that was alledged in the immediately precedent Obſervations, did impart alſo the following, in another Letter from *Oxford*, where he ſaith:

I was a while ſince viſited by a Gentleman, who tells me, That he met with a Place [… *account continues*]

102 (O4^{v})–103 (P1^{r}): *Of the nature of a certain Stone, found in the* In-|dies, *in the head of a* Serpent.

103 (P1^{r})–104 (P1^{v}): *Of the way, uſed in the* Mogol's *Dominions, to | make* Saltpetre.

This is delivered in the ſame Book of Monſieur *Thevenot*, and the manner of it having been inquired after, by ſeveral curious Perſons, to compare it with that which is uſed in *Europe*, 'tis preſum'd, they will not be diſpleaſed to finde it inſerted here in *Engliſh*, which is as followeth:

Saltpetre is found […*account continues*]

104 (P1^{v})–108 (P3^{v}): *An Account of* Hevelius *his* Prodromus Cometicus, | *together with ſome Animad-verſions made upon* | *it by a* French *Philoſopher*.

This excellent *Dantiſcan* Aſtronomer, *Hevelius*, in his *Prodromus* (by Him ſo call'd, becauſe it is as a Harbinger to his *Cometography*, which hath already ſo far paſſed the Preſs, that of twelve Books there are but three remaining to be Printed) gives an Account of the Obſervations he hath made of the *Firſt* of the two late Comets; reſerving thoſe he hath made of the *ſecond*, for that great Treatiſe, where he alſo intends to deliver the Matter of this *firſt* more particularly and more fully then he hath done here.

In this Account he repreſents the [… *account continues*]

109 (P4^{r})–117 (Q4^{r}): *Of the* Mundus Subterraneus *of* Athanaſius | Kircher.

This long expected *Subterraneous World*, is now come to light, dedicated (at leaſt the *Exemplar*, that hath been peruſed by the *Publiſher* of theſe *Papers*, who hears, That other *Copies* bear Dedication to other *Great Princes*) both to the preſent *Pope*,as being eſteemed by the Author to have a part of his *Apoſtolical Kingdom* there; and to the *Roman Emperor* now Regnant, who indeed in his Kingdom of *Hungary*, and in ſeveral Provinces of *Germany*, hath very many and very conſiderable things, worthy to be obſerved, under *Ground*.

To give the *Curious* a taſte of the *Contents* of this *Volume*, and thereby to excite them to a farther ſearch into the receſſes of Nature, for the compoſure of a good *Natural Hiſtory*; they may firſt take notice, […*summary continues*]

117 (Q4^{r}): […*contents listing the book*]

This may ſuffice, to give occaſion to the Searchers of Nature, to examine this Book, and the Obſervations and Experiments contained therein, together with the Ratiocinations raiſed thereupon, and to make ſeverer and more minute Inquiries and Diſcuſſions of all.

117 (Q4^{r})–118 (Q4^{v}): *A farther Account of an Obſer-vation abo-ve-men-|tioned, about white Blood.*

Since the Printing of the former Sheet, there is this farther account from the ſame hand. Mr. *Boyle*,

> I have at length, according to your deſire, receiv'd from the Ingenious Dr. *Lower*, an account in Writing of the Obſervation about *Chyle* found in the Blood; which though you may think ſtrange, agrees well with ſome Experiments of his and mine, not now to be mention'd. The Relation, though ſhort, comprizing the main Particulars of what he had more fully told me in Diſcourſe, I ſhall give it you with little or no variation from his own Words.
>
> A Maid, [… *continues the account*]

Errata, 118 (Q4^{v}): Note.

> *The* Reader *of theſe Papers is deſired, that in thoſe of* Numb. 4. pag. 60. lin. 10. *he would pleaſe to read* eight, *inſtead of* hundred; *this latter word having been put in by a great over-ſight, and, without this Correction, injuring that Author, whoſe Conſiderations are there related. This Advertiſement ſhould have been given in* Numb. 5. *but was omitted for haſte.*

Imprint, 118 (Q4^{v}), first state of first edition: *FINIS.*

Imprint, 118 (Q4^{v}), second state of first edition: [*rule 99.6*] | Imprimatur *Rob. Say, Vice-Cancel.* Oxon. | [*rule 101.3*] | Oxford, Printed by *Leonard Lichfield*, | for *Richard Davis*. 1665.

STCN fingerprint: 166504 - b1 O1 0 : b2 Q2 uibs [000004 for first state]

Selected variations in the second edition: *TRANSACTIONS* for *TR~* on 95 (O1^{r}); *November* for '*Novemb*,' on 95 (O1^{r}); Zulichem for Zalichem on 95 (O1^{r}); line break between more and lively on 95 (O1^{r}); *inſtead* for *inſt~* on 95 (O1^{r}); Salt-petre for Saltpetre on 95 (O1^{r}); uncommon for uncommon on 96 (O1^{v}); *Burning-glaſs* for *B~ Glaſs* on 96 (O1^{v}); *kind* for *kinde* on 99 (O3^{r}); *Paris* for *~is* on 99 (O3^{r}); *inſtead* for *inſt~* on 100 (O3^{v}); Phyſitian for Phyſician on 100 (O3^{v}); kind for kinde on 100 (O3^{v}); *ſtone* for Stone on 101 (O4^{r}); place for Place on 101 (O4^{r}); account for Account on 104 (P1^{v}); *Hevelius* for *~ius* on 104 (P1^{r}); *firſt* for *~ſt* on 104 (P1^{v}); White Blood for white ~ on 117 (Q4^{r}); received for ~v'd on 117 (Q4^{r}); writing for Writing 117 (Q4^{r}); mentioned for ~n'd 117 (Q4^{r}); *is* for *is* on 118 (Q4^{v}); *this* for *this* on 118 (Q4^{v}); *This* for *~is* on 118 (Q4^{v}); Number for 'Numb.' on 118 (Q4^{v}); imprint as second state for prior edition with *Lichfield*: for '*~field*,' on 118 (Q4^{v}); 166504 - b1 O1 r : b2 Q2 uibs

Number 7 (Monday, December 4, 1665)

Richard Davies once again hired Anne and Leonard Lichfield to produce the first two editions and William Hall the third edition. The variations between editions follow typical patterns as above, but the third edition also uses roman capitals for italic words and *VV* for *W*, indicating either a shortage of italic type or a stylistic preference. Number 8 (see *infra*) dates Hall's printing to 1669, which may reflect reprints for another collected volume and the actual date of Hall's reprint here too since the Lichfields had ceased operating by 1669.[67]

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A: 4^{o}: R^4 S^2 [$1–2 (+S2) signed]; 6 leaves, pp. 119–130

PHILOSOPHICAL | *TRANSACTIONS.* | [*rule 101.0*] | Monday, *Decemb.* 4. 1665. | [*rule 99.6*] | [**in upper-right headline:**] *Num.* 7 |

The Contents. | *Monſieur de* Sons *progreſs in working* Parabolar *Glaſſes.* | *Some ſpeculations of Monſieur* Auzout *concerning the chan-|ges, likely to be diſco-vered in the Moon. The inſtance of* | *the ſame Perſon to Mr.* Hook, *for communicating his Con-|tri-vance of making with Glaſſes of a few feet Diameter*, |Teleſcopes *drawing ſe-veral hundred feet*; *together with* | *his Offer of recompenſing that ſecret with another, which* | *teaches, How to meaſure with a* Teleſcope *the* Diſtances *of* | Objects *upon the* Earth. *The Experiment of* Kircher, *of* | *preparing a Liquor, that ſhall ſink into, and colour the whole* | *Body of Marble, deli-vered at length. An Intimation of a* | *Way found in* Europe, *to make good* China-Diſhes. *An* | *Account of an odd Spring in* Weſtphalia, *together with an* | *Information touching* Salt-Springs ; *and a way of ſtraining* | Salt-water. *Of the Riſe and Attempts of a way to conveigh* | *Liquors immediately into the Maſs of Blood.* |

119 ($R1^r$)–120 ($R1^v$): *Of Monſieur* de Sons *Progreſs in working* Parabolar | *Glaßes*

> S^2Ince what was mentioned in the immediately precedent
> *Tract*,touching Monſieur *de Son's* noble attempt of grinding
> Glaſſes of a *Parabolical* Figure, the *Publiſher* of theſe *Papers*
> hath himſelf ſeen two *Eye-glaſſes* of that ſhape,about one inch
> [… *description continues*]

[67] Plomer, *A Dictionary of the Booksellers and Printers Who Were at Work in England, Scotland and Ireland from 1641 to 1667*, 89, 117.

120 (R1^{v})–123 (R3^{r}): *Monſieur* Auzout's *Specultions of the Changes,likely | to be diſcovered in the* Earth *and* Moon, *by their | reſpective Inhabitants.*

123 (R3^{r})–125 (R4^{r}): *The Inſtance of the* ſame Perſon *to Mr.* Hook, *for | communicating his Contrivance of making,with a | Glaſs of a Sphere of* 20 *or* 40 *foot* diameter,*a* Te-|leſcope *drawing ſeveral hundred foot;and his of-|fer of recompenſing that Secret with another,teach-|ing To meaſure with a* Teleſcope *the* Diſtances | of Objects *upon the Earth.*

> [… *description of making telescope glass completes*]
> So far M. *Auzout*, who, I truſt, will receive due ſatisfaction to his deſire, as ſoon as the happy end of the preſent Contagion ſhall give a beginning and life again to the Studies and Actions of our retired *Philoſophers.*
>
> I ſhall onely here adde, That the Secret he mentions [*Of meaſuring the diſtance of Places by a Teleſcope (fitted for that purpoſe) and from one ſtation*] is a thing already known (if I am not miſ-informed) to ſome Members of our Society; who have been a good while ſince conſidering of it, and have contrived ways for the doing of it: Whether the ſame with thoſe of Mr. *Auzout*, I know not. Nor have I (at the diſtance that I am now from them) opportunity of particular Information.

125 (R4^{r})–127 (S1^{r}): *An Experiment of a way of preparing a Liquor, that | ſhall ſink into, and colour the whole Body of* Mar-|ble, *cauſing a* Picture, *drawn on a ſurface, to | appear alſo in the* inmoſt *parts of the Stone.*

> This *Experiment*, having been hinted at in the next foregoing *Papers*, out of the *Mundus Subterraneus* of *Athanaſius Kircher*, and ſeveral Curious Perſons, who either have not the leiſure to read Voluminous Authors, or are not readily skilled in that Learned Tongue wherein the ſaid Book is written, being very deſirous to have it transferred hither, it was thought fit to comply with their deſire herein.
> […*summary continues*]

127 (S1^{r}): *An Intimation of a Way, found in* Europe *to make* | China-diſhes.

> Notice was lately given by an inquiſitive *Pariſian* to a friend of his in *London*, that by an Acquaintance he had been informed, that Signor *Septalio*, a Canon in *Millan*, had the

> Secret of making as good *Porcelane* as is made in *China* it ſelf,
> and tranſparent; adding that he had ſeen him make ſome.
> This as it deſerves, ſo it will be further inquired after,
> if God Permit.

127 (S1^{r})–128 (S1^{v}): *An Account of an odd* Spring *in* Weſtphalia, *together* | *with an Information touching* Salt-Springs *and* | *the ſtraining of ſalt-water.*

128 (S1^{v})–130 (S2^{v}): *An Account of the Riſe and Attempts, of a Way to* | *conveigh Liquors immediately into the Maſs of* | *Blood.*

Imprint, 130 (S2^{v}): [*rule 105.6*] | *Publiſhed with Licenſe.* | [*rule 107.3*] | Oxford, Printed by *A*: & *L : Lichfield*, | for *Ric: Davis.* 1665.

STCN fingerprint: 166504 - b1 R1 n : b2 S2 .$A

Selected variations in the second edition: *TRANSACTIONS* for *~R~NS* on 119 (R1^{r}); broken rule 52.0+1.0+55.6 and 110.0 for rules on 119 (R1^{r}); Munday for Mo~ on 119 (R1^{r}); line break between Some and ſpeculations on 119 (R1^{r}); Salt Springs for S~~S~ on 119 (R1^{r}); '*Glaſſes.*' for *Glaßes*$_{\wedge}$ on 119 (R1^{r}); ſatisfaction | to for ſatisfa~|ction to on 125 (R4^{r}); deſires for 'deſire,' on 125 (R4^{r}); typo onely h ere corrected to only here on 125 (R4^{r}); *purpose and* for *purpoſe) and* on 125 (R4^{r}); wayes for ways on 125 (R4^{r}); information for I~ on 125 (R4^{r}); Transferred for t~ on 125 (R4^{r}); 'Salt-ſprings,' for S~~S~$_{\wedge}$ on 127 (S1^{r}); Licence for ~se on 130 (S2^{v}); *A.* and *L.* for *A*: & *L:* on 130 (S2^{v}); '*Richard Davis,*' for '*Ric: Davis.*' on 130 (S2^{v}); 166504 - b1 R1 $: b2 S2 A

Selected variations in the third edition: *TR~NS~CTIONS* for *TRANSACTIONS* on 119 (R1^{r}); broken rules 74.0+1.0+26.0 and 50.0+1.3+51.3 for rules on 119 (R1^{r}); '*Num.*7.' for *~7*$_{\wedge}$ on 119 (R1^{r}); *perſon* for *P~* on 119 (R1^{r}); *experiment* for *E~* on 119 (R1^{r}); China Diſhes for C~~D~ on 119 (R1^{r}); *ſtreaning* for *ſtrain~* on 119 (R1^{r}); *S*alt-water for S~ on 119 (R1^{r}); P*rogreſs* for *P~* on 119 (R1^{r}); '*Glaſſes.*' for *Glaßes*$_{\wedge}$ on 119 (R1^{r}); *inſtance* for *I~* on 123 (R3^r); typo onely h ere corrected to only here on 125 (R4^{r}); 'and for one' for ~ from ~ on 125 (R4^{r}); 'it. VVhether' for 'it: W~' on 125 (R4^{r}); broken rules 57.0+1.0+46.0 and 53.0+1.3+42.6 for rules on 130 (S2^{v}); Printed by '*W. Hall.*' for Pr~ ... *Lichfield* on 130 (S2^{v}); 166505 - b1 R1 t : b2 S2 .$

Number 8 (Monday, January 8, 166$\frac{5}{6}$)

As in the previous number, Richard Davis hired Anne and Leonard Lichfield for the first two editions, and William Hall for the third edition of 1669. The late dating here indicates reprinting

to meet demand, as 1669 was the same year that the Lichfields had ceased printing. Oldenburg was reluctant to forego income from the *Transactions*, which the Stationers sought to curtail when reprinting, but acquiesced to demand and apparently allowed eventual reprints eventually.[68] While Oldenburg did not expect it to be, this Number 8 was the last printed in Oxford instead of London. He thought he would return to printing in London much later.[69] This number includes directions for sailors to make observations. This effort to expand the audience of the journal beyond established intelligencers may be the reason for additional editions of this and the previous numbers, and the reason for the 1669 edition.

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4°: T–V4 [$1–2 signed]; 8 leaves, pp. 131–146 (133='(133,' 138='(138')

PHILOSOPHICAL | *TRANSACTIONS·* | [*rule 101.0*] | Munday, *Januar.*8. 166$\frac{5}{6}$. | [*rule 99.3*] | [**in upper-right headline:**] *Num.* 8. |

131 (T1r): The Contents. | *An Account of the Tryals, made in* Italy *of* Campani's *new* | *Optick Glaſſes. A further Relation of the Whale-fiſhing about* | *the* Bermudas, *and upon the Coaſt of* New England, *and* | New Netherland. *Of a remarkable Spring of* Paderborn | *in* Germany. *Of ſome other uncommon Springs at* Baſel | *and in* Alſatia. *Of the richeſt Salt-ſprings in* Germany. | *Some Obſervations of Strange Swarms of* Inſects, *and the* | *miſchiefs done by them: as alſo of the Brooding of Snakes and* | *Vipers. Obſervations of odd Constitutions of humane Bodies.* | *Of a way, uſed in* Italy,*of preſerving Ice and Snow by* Chaffe. | *Directions for Sea-men bound for far Voyages, drawn up by* | *Maſter* Rook, *late* Geometry *Profeſſour of* Greſham Col-|lege. *Some Obſervations of* Jupiter; *Eclipſed by one of* | *his* Satellites: *and of his Converſion about his* Axis. *Of ſome* | *Philoſophical and Curious Books, that are ſhortly to come a-*|*broad.* |

131 (T1r)–132 (T1v): *An Account of the Tryalls, made in* Italy *of* Cam-|pani's *new* Optick Glaſſes.

A2N Inquiſitive *Pariſian* writes to his Correſpondent in *London*, as follows:

[68] "Beale to Oldenburg, 1 June 1667" in Hall and Hall, *The Correspondence of Henry Oldenburg*, 3:428; "Oldenburg to Boyle, 24 March 1665/6" in Hall and Hall, ibid., 3:69.

[69] "Oldenburg to Boyle, 16 January 1665/6" in Hall and Hall, ibid., 3:17.

We received lately news from *Rome*, from a very Curious
Perſon of our acquaintance,importing,that *Campani* hath had
[… *account continues*]

132 (T1^{v})–133 (T2^{r}): *A Further Relation of the* Whale-fiſhing *about the* | Bermudas, *and on the Coaſt of* New-England *and* | New-Netherland.

The ſame Person, that communicated the particulars a-
bout the new Whale-fiſhing near the *Bermudas*, mentioned
in the firſt of theſe *Tracts*, gives this further Information;
[… *account of whale deaths*]

133 (T2^{r})–134 (T2^{v}): *Of a remarkable Spring, about* Paderborn *in* Ger-|many.

134 (T2^{v})–136 (T3^{v}): *Of ſome other not-common Springs at* Baſel *and in* | Alſatia.

136 (T3^{v})–137 (T4^{r}): *Of the richeſt* Salt-Springs *in* Germany.

137 (T4^{r})–138 (T4^{v}): *Some Obſervations of ſwarms of ſtrange Inſects,* | *and the Miſchiefs done by them.*

A great Obſerver, who hath lived long in *New England,*
did upon occaſion,relate to a Friend of his in *London*, where
he lately was, That ſome few Years ſince there was ſuch a
[… *description of the swarm*]

138 (T4^{v}): *An Obſervation touching the Bodies of Snakes and* | *Vipers.*

138 (T4^{v})–139 (V1^{r}): *Some Obſervations of odde Conſtitutions of Bodies.*

A very curious Perſon, ſtudying Phyſick at *Leyden*, to
whom had been imparted thoſe Relations about a Milky Sub-
ſtance in Veins, heretofore alleged in *Numb*. 6. returns, by
way of gratitude, the following Obſervations.

There was (ſaith he) not many Years ſince, in this Coun-
try a Student, who being much addicted to the ſtudy of *A-*
ſtronomy, and ſpending very many Nights in Star gazing,
[… *account of sweat, etc.*]

139 (V1^{r})–140 (V1^{v}): *A way of preſerving Ice and Snow by Chaffe.*

The Ingenious Mr. *William Ball* did communicate the re-
lation hereof, as he had received it from his Brother, now re-
ſiding at *Livorne*, as follows;
[… *relation continues*]

140 (V1^{v})–143 (V3^{r}): *Directions for Sea-men, bound for far Voyages.*

It being the Deſign of the *R. Society*, for the better attaining the End of their Inſtitutions, to ſtudy *Nature* rather than *Books*, and from the Obſervations, made of the *Phænomena* and Effects ſhe preſents, to compoſe ſuch a Hiſtory of Her, as may hereafter ſerve to build a Solid and Uſeful Philoſophy upon; They have from time to time given order to ſeveral of their Members to draw up both *Inquiries* of things Obſervable in forrain Countries, and *Directions* for the Particulars,they deſire chiefly to be informed about. And conſidering with themſelves, how much they may increaſe their *Philoſophical* ſtock by the advantage, which *England* injoyes of making Voyages into all parts of the World, they formerly appointed that Eminent Mathematician and Philoſopher Maſter *Rooke*, one of their Fellowes, and *Geometry* Profeſſor of *Greſham Colledge* (now deceaſed to the great detriment of the Common-wealth of Learning) to think upon and ſet down ſome *Directions* for *Sea-men* going into the *Eaſt* & *Weſt-Indies*, the better to capacitate them for making ſuch obſervations abroad, as may be pertinent and ſuitable for their purpoſe; of which the ſaid Sea-men ſhould be deſired to keep an exact *Diary*, delivering at their return a fair Copy thereof to the *Lord High Admiral* of *England*, his Royal Highneſs the *Duke* of *York*, and another to *Trinity-houſe* to be peruſed by the *R. Society.* Which *Catalogue* of *Directions* having been drawn up accordingly by the ſaid Mr. *Rook*, and by him preſented to thoſe, who appointed him to expedite ſuch a one, it was thought not to be unſeaſonable at this time to make it publique, the more conveniently to furniſh Navigators with Copies thereof. They are ſuch, as follow;

[… *directions continue*]

143 (V3^{r}): *Some Obſervations concerning* Jupiter. *Of the ſha-|dow of one of his* Satellites *ſeen, by a Teleſcope | paſſing over the Body of* Jupiter.

143 (V3^{r})–145 (V4^{r}): *Of a permanent Spot in* Jupiter*: by which is mani-|feſted the converſion of* Jupiter *about his own Axis.*

145 (V4^{r})–146 (V4^{v}): *Of ſome Philoſophical and curious Books, that are | ſhortly to come abroad.*

Imprint, 146 ($V4^v$): [*rule 105.6*] | [*rule 104.0*] | *Publiſhed with Licenſe,* | [*rule 106.0*] | Oxford, Printed by *A*: & *L: Lichfield*, | for *Ric: Da-vis.* 1666.

STCN fingerprint: 166604 - b1 T1 $e : b2 V2 $the

Selected states in first edition: 'follows;' for 'follows:' on 131 ($T1^r$)

Selected variations in the second edition: pp. 138 and 139 correctly numbered; broken rules 52.0+1.3+55.3 and 38.0+1.6+70.3 for rules on 131 ($T1^r$); *January* for *Januar* on 131 ($T1^r$); New-England for N- E- on 131 ($T1^r$); ſtrange for S- on 131 ($T1^r$); Conſtitutions for Cons- on 131 ($T1^r$); 'Satellites,' for 'S-:' on 131 ($T1^r$); *Tryals* for '*-lls,*' on 131 ($T1^r$); 'follows.' for '-:' on 131 ($T1^r$); New England for N--E- on 132 ($T1^v$); Salt Springs for S--S- on 136 ($T3^v$); *New-England* for *N- E-* on 137 ($T4^r$); years for Years on 137 ($T4^r$); *Num* for *Numb* on 138 ($T4^v$); Star-gazing for S- g- on 138 ($T4^v$); *Voyoges* for *Voyages* on 140 ($V1^v$); *Royal Society* for *R. S-* on 140 ($V1^v$); Inſtitution for I-ns on 140 ($V1^v$); forreign for forrain on 141 ($V2^r$); enjoyes for injoyes on 141 ($V2^r$); *Rook* for *Rooke* on 141 ($V2^r$); and for & on 141 ($V2^r$); *Trinity-Houſe* for *T--h-* on 141 ($V2^r$); *Royal Society* for *R. S-* on 141 ($V2^r$); publick for publique on 141 ($V2^r$); rules 111.6 and broken 70.6+1.0+39.6 and broken 74.6+2.6+34.6 for rules on 146 ($V4^v$); '*Licence.*' for '*Licenſe,*' on 146 ($V4^v$); '*A.* and *L.*' for '*A*: & *L.*' on 146 ($V4^v$); '*Richard Davis,*' for '*Ric: Da-vis.*' on 146 ($V4^v$); 166604 - b1 T1 $: b2 V2 an,

Selected variations in the third edition: pp. 138 and 139 correctly numbered; *TRANSACTIONS* for *TRANSACTIONS* on 131 ($T1^r$); broken rules 74.0+2.3+26.0 and 50.0+1.3+51.6 for rules on 131 ($T1^r$); P*rofeſſour* for *P-* on 131 ($T1^r$); *Tryals* for -lls on 131 ($T1^r$); 'follows;' for 'follows:' on 131 ($T1^r$); *Sea-Men* for *S--m-* on 140 ($V1^v$); and for & on 141 ($V2^r$); *Philoſophical* for *P-* on 145 ($V4^r$); broken rules 50.0+0.3+50.3 and 56.6+1.6+45.6 and 55.0+1.6+43.0 for rules on 146 ($V4^v$); '*Licenſe.*' for '*-,*' on 146 ($V4^v$); 'by *W. Hall* for | *Ric: Davis.* 1669.' for 'by *A*: ... *Da-vis.*' on 146 ($V4^v$); 166904 - b1 T1 e : b2 V2 ey$c

Number 9 (Monday, February 12, $166\frac{5}{6}$)

Martyn and Allestry hired printers for two editions. The second edition corrects some typos and changes line breaks, but is otherwise the same as the previous. A plate printed from one of two engraved copperplate surfaces illustrates the number; the second engraved copperplate surface produced illustrations in two different states, the second adding numeration, but in both cases combining illustrations from this number and number 24. The original version had an error, later

noted, for which the Society was mocked in the *Journal des Sçavans*.[70] The second edition, as is the case with the previous number, may have been printed specifically to give to seamen sometime after 7 November 1666 when the Society discussed the idea.[71] The second surface was probably engraved between approximately 8 April 1667, the date of Number 24, and 3 June 1667, the date of Number 26, which is the first number to include numeration in the first state of its plate.

A light rule above the small comma after the numeration on the title page, 147 ($X1^r$), of the first edition could be the shoulder of a wrong-sized comma used on the headline, which reappears on the next few numbers in the first edition. This number is the first to include inset marginal notes (called indentures by Moxon),[72] to return to London printing after the plague, and to notice similar journals and projects.[73] The number explains that it reprints the knowledge for an English audience.

The copy held in the Special Collections of the University of Pennsylvania's Van Pelt Library has 'Will: Parker pr–0–0–6' on the verso of the plate, which is probably a price of six pence for the single number.

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4^o: X–Y^4 [$1–2 signed]; 8 leaves, pp. 147–162; plate [*1*]

Facing 147 ($X1^r$): Three figures: '*Fig: 1*' diagram of device for finding depths with bent wire (C F) incorrectly over loop (B) p. 148, '*Fig: 2*' diagram of instrument for collecting ocean water p. 149, '*Fig:3.*' view of Saturn p. 153 [*engraved* 196×165 (at least 216×205)]

Second surface: Eight figures, no caption, lacks view of Saturn: '*Fig. 1.*' , '*Fig. 2.*' [=*No. 9, fig. 1*] diagram of device for finding depths with corrected bent wire (C F) under B p. 148, '*Fig. 3.*' , '*Fig. 4.*' , '*Fig. 5.*' , '*Fig. 6.*' , '*Fig. 7.*' , '*Fig. 8.*' [=*No. 9, fig. 2*] diagram of instrument for collecting ocean water p. 147 [*engraved* 191×256 (at least 221×363)]

Second state of second surface: with [**upper right:**] '№. 9 & 24.'

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[70] See next number and Number 13.

[71] Thomas Birch, ed., *The History of the Royal Society of London for Improving of Natural Knowledge from Its First Rise: A Facsimile of the London Edition of 1756–57*, Sources of Science 44 (1756–1757; repr., New York: Johnson Reprint Corporation, 1968), 2:122 transcribes the minutes from the meeting.

[72] Joseph Moxon, *Mechanick Exercises on the Whole Art of Printing, 1683-4*, ed. Herbert Davis and Harry Carter, 2nd ed. (1683–1684; repr., New York: Dover, 1962), 218.

[73] "Oldenburg to Boyle, 24 February 1665/6" in Hall and Hall, *The Correspondence of Henry Oldenburg*, 3:45 places Oldenburg in London on 24 Februrary, but the rest of the Society meeting 14 March.

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PHILOSOPHICAL | *TRANSACTIONS.* | [*rule 114.3*] | *Munday, Feb.* 12. $166\frac{5}{6}$. | [*broken rule 54.3+0.6+58.3*] | [**in upper-right headline:**] *Num.* 9. |

147 (X1r): The Contents. | *An* Apendix *to the* Directions *for Seamen, bound for far voyages.* | *Of the judgment of ſome of the* Engliſh *Aſtronomers, touching* | *the difference between two learned men, about an Obſervation* | *made of the firſt of the two late* Comets. *Of a* Correſpondency, | *to he procured,for the finding out of the* True *diſtance of the* Sun | *and* Moon *from the Earth.Of an Obſervation not long ſince made in* | England *of* Saturn.*An Account of ſome* Mercurial *Obſervations,* | *made with a* Barometer, *and their Reſults. Some Obſervations* | *of* Vipers, *made by an* Italian *Philoſopher.* |

147 (X1r)–149 (X2r): *An* Appendix *to the* Directions *for Seamen,* | *bound for far Voyages.*

W[8]Hereas it may be of good uſe,both *Naval* and *Philoſophical*, to know,both how to found depths of the ſea *without a Line,* and to fetch up water from any depth of the ſame; the following waies have been contrived by Mr. *Hook* to perform both; (which ſhould have been added to the lately printed *Directions for Seamen*,if then it could have been conveniently done.) [… *directions continue*]

150 (X2v)–151 (X3r): *Of the Judgement of ſome of the* Engliſh *Aſtro-*|*nomers, touching the difference between two* | *learned men, about an Obſervation made of* | *the Firſt of the two late* Comets.

Whereas notice has been taken in *Num. 6.* of theſe *Tranſ-actions*, that there was ſome difference between thoſe two deſervedly celebrated Philoſophers, *Monſieur Hevelius* and *Monſieur Auzout*, concerning an Obſervation, made by the former of them, on the $\frac{8}{18}$ of *February* 1665. & that thereupon ſome Eminent *Engliſh* Aſtronomers,conſidering the importance of the diſpute, had undertaken the examination thereof; it will, 'tis conceived, not be unacceptable to ſuch, as ſaw thoſe Papers, to be informed, what has been done and diſcerned by them

in that matter. They having therefore compared the Printed
[… *judgement continues*]

151 (X3^{r})–152 (X3^{v}): *Of a Correſpondency,to be procured,for the Fin-|ding out the* True *diſtance of the* Sun *and* | Moon *from the Earth,by the* Paralax,*obſer-|ved under* (*or neer*) *the ſame* Meridian.

Seeing that the knowledge of this diſtance may prove of important Uſe, for the Perfecting of Aſtronomy, and for the better eſtabliſhing the doctrine of *Refractions*; it is in the thoughts of ſome very curious Perſons in *England*, for the finding out the ſame, to ſettle a Correſpondency with ſome others abroad, that are underſtanding in Aſtronomical matters, and live in places farr diſtant in *Latitude*, and under (or near) the ſame *Meridian*.

To perform which, the following Method is propoſed to be obſerved; *viz.* That at certain times agreed on by two Obſervatours, making uſe of *Teleſcopes*, large, good and well
[… *method continues*]

152 (X3^{v})–153 (X4^{r}): *Of an Obſervation, not long ſince made in* Eng-|land *of* Saturn.

153 (X4^{r})–159 (Y3^{r}): *A Relation of ſome* Mercurial *Obſervations,* | *and their Reſults.*

Modern *Philoſophers*, to avoyd Circumlocutions, call that Inſtrument, wherein a Cylinder of Quickſilver, of between 28. and 31. Inches in Altitude,is kept ſuſpended after the manner of the *Torricellian* Experiment, a *Barometer* or *Baroſcope*, firſt made publick by that Noble Searcher of Nature. Mr. *Boyle*, and imployed by Him and others, to detect all the minut variations in the Preſſure and weight of the Air. For the more
[… *relation continues*]

160 (Y3^{v})–162 (Y4^{v}): *Some Obſervations of* Vipers.

A curious *Italian*, called *Franceſco Redi*, having lately had an opportunity, by the great number of Vipers, brought to the *Grand Duke* of *Toſcany* for the compoſing of *Theriac* or *Treacle*, to examine what is vulgarly delivered and believed concerning the Poyſon of thoſe Creatures, hath, (according to the account, given of it in the French *Iournal des Scavans*, printed *Ianuary* 4. $166\frac{5}{6}$ performed his undertaking with

much exactneſs, and publiſh'd in an Italian tract not yet come into *England*, these Obſervations.

[… *observations continue*]

Errata, 162 ($Y4^v$): *Advertiſement.*

THe *Reader* of theſe *Tranſactions* is deſired to correct theſe *Errata* in *Number* 8. *viz.* page. 132. line penult. read *Wine* for *Lime*; and page 133. line 10. read *Threſher* for *Tre=pher*, as ſome *Copies* have it; and page 136. line ult. read *purifie* for *putrifie*.

Imprint, 162 ($Y4^v$): [*rule 110.0*] | *LONDON,* | Printed for *John Martyn*, and *James Alleſtry,* Printers | to the Royal-Society 1666.

STCN fingerprint: 166604 - b1 X1 $: b2 Y2 owi

Selected variations in the second edition: rules 111.0 and 111.3 on 147 ($X1^r$); Appendix for Apendix on 147 ($X1^r$); *to be procured* for ~ *he* ~ on 147 ($X1^r$); line breaks *Obſerva-|tions* and *Obſerva=|tions* on 147 ($X1^r$); fer for 'for' on 162 ($Y4^r$); *Alleſtry* for *~ſtry* on 162 ($Y4^v$); 166604 - b1 X1 0 : b2 Y2 fol

Number 10 (Monday March 12, $166\frac{5}{6}$)

Martyn and Allestry produced two editions, the second with corrected spellings, changes in line breaks, and altered use of italics. This number, like Number 9, has a mark above the small comma in the headline of the first edition that could be the shoulder of a wrong-sized piece of type. This number includes a translation to English of an article from the *Journal des Sçavans*, which signals a broader audience of the curious who, unlike Oldenburg and most intelligencers, do not read French. Celebrating the *Transactions'* second year in print, Oldenburg writes that he aims not only to record significant facts, but also, "and chiefly," to recruit new contributors and to coordinate with them.[74]

The copy held in the Special Collections of the University of Pennsylvania's Van Pelt Library has manuscript annotations on the title page, 163 ($Z1^r$), suggesting a price of six pence for the single number.

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74 Pascale Casanova, *The World Republic of Letters*, trans. M. B. DeBevoise (Cambridge, Mass.: Harvard University Press, 2004); Elizabeth Yale, *Sociable Knowledge: Natural History and the Nation in Early Modern Britain* (Philadelphia: University of Pennsylvania Press, 2016); Benedict R. Anderson, *Imagined Communities: Reflections on the Origin and Spread of Nationalism* (New York: Verso, 2006) all reflect on this activity.

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4°: Z–2A⁴ [$1–2 signed]; 8 leaves, pp. 163–175 [177–178]

PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 57.0+0.0+57.3*] | *Munday, March* 12. $166\frac{5}{6}$. | [*broken rule 54.6+1.3+58.3*] | [**in upper-right headline:**] *Num*. 10. |

163 (Z1ʳ): The Contents. | *Obſervations continued upon the* Barometer,*or* Ballance of the Air. | *A Relation concerning the* Earth-quake *neer* Oxford; *together* | *with ſome Obſervations of the ſealed* Weatherglaſs *and* Barome-|ter *thereupon by* Dr. Wallis. *A more full and particular Account* | *of thoſe Obſervations about* Jupiter, *that were mention'd in Numb.* | 8. *An Account of ſome Books, lately publiſht,* videl. *Mr.* Boyles | *Hydroſtatical Paradoxes*; Steno *de Muſculis & Gladulis*; De | Graeff *de Natura & Uſu Succi Pancreatici.* |

163 (Z1ʳ)–166 (Z2ʳ): *Obſervations continued upon the* Barometer, *or rather* Ballance of | the Air.

T⁸Heſe *Tranſactions* being intended, *not only* to be (by parcels) brief Records of the Emergent Works and Productions in the Univerſe; Of the Myſteries of Nature of later diſcoveries; And, of the growth of Uſeful Inventions and Arts; *but* alſo, and chiefly, to ſollicite in all parts mutuall Ayds and Collegiate endeavours for the farther advancement thereof: We ſhall begin this *Second* year of our Publications in this kind (in which, for 3. moneths the Printing-preſſes were interrupted by the publick Calamity) with a few more particular Obſervations upon the *Ballance of the Air*, as they are moſt happily invented and directed by Mr. *Boyle*; and deſerve to be proſecuted with care and diligence in all places.

[… *observations continue*]

166 (Z2ʳ)–171 (2A1ʳ): *A Relation concerning the late* Earthquake *neer* Oxford*; together* | *with ſome Obſervations of the ſealed Weatherglaſs, and the Baro-*|*meter .both upon that* Phænomenon,*and in* General.

This Relation was communicated by the excellently learned Dr. *Wallis*, as follows:

[… *relation continues*]

171 (2A1^{r})–173 (2A2^{r}): *A more particular Account of thoſe Obſervations about* Jupiter, *that | were mentioned in* Numb. 8:

> Since the publiſhing of *Numb.* 8. of theſe *Tranſactions*, where, among other particulars, ſome ſhort Obſervations were ſet down touching both the *Shadow* of one of *Jupiter*'s *Satellits*, paſſing over his Body,and that *Permanent Spot*, which manifeſts the Converſion of that Planet about his own *Axis;* there is come to hand an *Extract* of that Letter,which was written from *Rome*, about thoſe Diſcoveries,containing an ample and particular Relation of them, as they were made by the Learned *Caſſini*, Profeſſor of *Aſtronomy* in the Univerſity of *Bononia*. That *Extract*,as it is found in the *French Journal des Scavans* of *Febr*. 22. 1666. we thus *Engliſh*.
> [… *translation continues*]

173 (2A2^{r})–178 (2A4^{v}): *An Account of ſome Books, lately publiſhed*.

Errata, 178 (2A4^{v}): *NOTE,*

> In *Fig.* 1. of *Num.* . 9 of theſe Tracts, the Graver hath placed the bended *end* of the *ſpringing Wire* C F, above the *Wire-ſtaple* B, between it and the *Ring E*, of the *Weight* D; whereas *that* end ſhould have been ſo expreſſed, as to paſs *under the VWire-ſtaple*, betwixt its two Wires,into the ſaid *Ring*.

Imprint, 178 (2A4^{v}): *London*, Printed for *John Martyn*, and *James Alleſtry*, Printers to | the Royal Society. 1666.

STCN fingerprint: 166604 - b1 Z1 e : b2 2A2 ere$b

Selected variations in the second edition: rules 111.6 and 112.0 on 163 (Z1^{r}); small comma after *Num* in headline lacking on 163 (Z1^{r}); months for moneths on 163 (Z1^{r}); '*B*aro-|meter, *both*' for '*Baro-|meter .both*' on 166 (Z2^{r}); *Numb* for '*Num.*' on 178 (2A4^{v}); 166604 - b1 Z1 Be : b2 2A2 ave$h

Number 11 (Monday April 2, 1666)

Martyn and Allestry undertook two editions, the second a line-for-line reprint that has fewer variants than in earlier numbers, but frequent additions of spacing precede punctuation. A rule above small comma suggests a wrong-sized piece of type in the headline on 179 (2B^{r}), which is present in both editions, as in Number 9. The woodcut *T*^{7} on 179 (2B1^{r}) differs between the editions.

Compared with earlier reprints, the second edition has fewer words changed from the first than most of the previous numbers.

This number includes general queries about the sea. As in Number 5, Oldenburg continues to try to coordinate observers, which has been noted in later conceptions of how print from the centers of calculation—places such as London where these reports were gathered to be reprinted—dominated reports of natural history.[75] Around this time, Oldenburg also writes to Robert Boyle about money owed by Richard Davies, the bookseller who undertook the *Transactions* in Oxford, but expresses sympathy for the conditions under which Davies worked.[76] Boyle solves the problem by asking a third party from Oxford to pay Oldenburg and take on the debt owed by Davies.[77] This is early for debt to be transferred between individuals, but such an exchange was not unusual for aristocrats and governments. Unsecured loans from individuals were, however, not normally available to even respected scholars like Oldenburg, who points out that Boyle's friend Hatherton may never have his debt paid by Davies.[78]

The financial exchange underscores an important early function for the Society, facilitated by the *Transactions* and these financial transactions: that of using the capabilities of the aristocracy to help the non-aristocratic virtuosi. Founding the Society as a peri-governmental attachment to the King made such associations prestigious and useful for social advancement. This alliance required careful management of a kind which prefigures government sponsored think tanks.

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[75] Vanessa Smith, "Joseph Banks's Intermediaries: Rethinking Global Cultural Exchange," in *Global Intellectual History*, ed. Samuel Moyn and Andrew Sartori, Columbia Studies in International and Global History (New York: Columbia University Press, 2013), 87–89.

[76] "Oldenburg to Boyle, 24 March 1665/6" in Hall and Hall, *The Correspondence of Henry Oldenburg*, 3:69.

[77] "Boyle to Oldenburg, 23 December 1665" and "Oldenburg to Boyle, 30 December 1665" in Hall and Hall, ibid., 2:651, 653, particularly "On Thurs. Mr Hatherton brought me ye 4. lb, for wch I gave him my receipt, and cannot but give you particular thanks; but am afraid M. Davis will prove backward in repaying ym."

[78] David Graeber, *Debt, Updated and Expanded: The First 5,000 Years*, Updated and expanded ed. (New York: Melville House, 2014), chap. 11 discusses Charles Davenant, Thomas Hobbes, and the foundation of the Bank of England on the King's war debt in 1694. He argues that trading debt itself is somewhat older than money and common in small communities, but the mercantilist policies of Restoration England begin to expand into government-controlled debt. What Boyle does here is akin to a bill of exchange, one person vouching for another payment, which seems not to have been available domestically until 1697. See Mary Poovey, *Genres of the Credit Economy: Mediating Value in Eighteenth- and Nineteenth-Century Britain* (Chicago: University of Chicago, 2008), 36.

4°: 2B–2C⁴ 2D² [$1–2 (-2D2) signed]; 10 leaves, pp. 179–198

PHILOSOPHICAL | *TRANSACTIONS.* | [*rule 115.0*] | *Munday, April* 2. 1666. | [*broken rule 54.6+0.6+58.3*] | [**in upper-right headline:**] *Num.* 11. |

179 (2B1ʳ): The Contents. | *A Confirmation of the former Account,touching the late* Earth-|quake *near* Oxford, *and the Concomitants thereof, by* | *Mr.*Boyle. *Some Obſervations and Directions about the* | Barometer, *communicated by the ſame Hand. General* | *Heads for a* Natural Hiſtory *of a Country, ſmall or* | *great, propoſed by the ſame. An extract of a Letter,* | *written from* Holland,*about* Preſerving Ships from be-|ing Worm-eaten. *An Account of Mr.* Boyle's *lately* | *publiſh't Tract, entituled*, The Origine of Forms and | Qualities, *illuſtrated by Conſiderations and Experiments.* | [*rule 115.0*] |

179 (2B1ʳ)–181 (2B2ʳ): *A Confirmation of the former Account touching the late* Earth-|quake *near* Oxford,*and the Concomitants thereof.*

> T7His Confirmation came from the Noble
> Mr *Boyle* in a Letter,to the *Publiſher*, as fol-
> loweth:
> [… *confirmation continues*]

181 (2B2ʳ)–185 (2B4ʳ): *Some Obſervations and Directions about the* Barometer,*com-*|*municated by the ſame Hand, to the* Author *of this* Tract.

186 (2B4ᵛ)–189 (2C2ʳ): *General Heads for a* Natural Hiſtory of a Countrey,*Great* | *or ſmall, imparted likewiſe by Mr.* Boyle.

> It having been already intimated (*Num.*8. *of Phil. Tranſact.* p. 140. 141.) that divers *Philoſophers* aime,among other things, at the Compoſing of a good Natural Hiſtory, to ſuperſtruct, in time, a *Solid* and *Uſeful* Philoſophy upon; and it being of no ſlight importance, to be furniſht with pertinent Heads, for the direction of Inquirers; that lately named *Benefactour to Experimental Philoſophy*, has been pleaſed to communicate, for the ends abovefaid, the following *Articles*, which (as himſelf did ſignifie) belong to one of his *Eſſays* of the unpubliſht part of the *Uſefulneſs of Nat. and Experimen. Philoſophy*.
>
> But firſt he premiſes, that what follows, is deſign'd only to point at the more *General* heads of Inquiry, which the propoſer ignores not to be Divers of them very comprehenſive, in ſo much, that about ſome of the *Subordinate* ſubjects, perhaps

too, not the moſt fertile, he has drawn up *Articles* of inquiſition about particulars, that take up near as much room, as what is here to be deliver'd of this matter.

[… *headings follow*]

190 (2C2^{v})–191 (2C3^{r}): *An Extract* | *Of a Letter, Written from* Holland, *about* Preſerving of | Ships from being Worm-eaten.

This *Extract* is borrowed from the *French journal des Scavans* of *Febr*. 15. 1666. and is here inſerted, to excite Inventive heads *here*, to overtake the Propoſer in *Holland*. The letter runs thus:

[… *summarized translation*]

191 (2C3^{r})–197 (2D1^{r}): *An Account* | *Of a Book, very lately publiſh't, entituled*, The Origine | of Forms and Qualities, *illuſtrated by Conſidera-*|*tions and Experiments, by the Honourable* Robert | Boyle.

198 (2D2^{v}): *Some New obſervations about the Planet* Mars, *communica-*|*ted ſince the Printing of the former ſheets.*

There was very latelyproduced a Paper, containing ſome obſervations, made by Mr. *Hook*, about the Planet *Mars*;

[… *summary of observations*]

198 (2D2^{v}): [… *summary completes*]

of which a fuller account will be given hereafter, God permitting. This ſhort and haſty intimation of it, is intended onely to invite others, that have opportunity, timely to make Obſervations, (either to confirm, or rectify) before *Mars* gets out of ſight.

Imprint, 198 (2D2^{v}): [*broken rule 79.0+0.6+30.0*] | Printed with Licence for *John Martyn*, and *James Alleſtry*, | Printers to the Royal Society. 1666. | [*rule 110.0*]

STCN fingerprint: 166604 - b1 2B1 ot : b2 2D1 $n

Selected variations in the second edition: rules 112.0 and 111.0 and 112 on 179 (2B1^{r}); ⌣*April* for *A*~ on 179 (2B1^{r}); Late for l~ on 179 (2B1^{r}); woodcut T^{7} differs on 179 (2B1^{r}); *great* for *G*~ on 186 (2B4^{v}); Obſervations for o~ on 198 (2D2^{r}); Of for o~ on 198 (2D2^{v}); only for onely on 198 (2D2^{v}); rules 79.0+0.6+30.0 and 114.0 on 198 (2D2^{v}); 166604 - b1 2B1 $m : b2 2D1 $on

Number 12 (Monday, May 7, 1666)

This number is unusual in that some pages of the first edition appear in different states with some significant variation in ornaments and spacing. It is unclear what this would mean. Perhaps the earlier state was kept in type in anticipation of a second impression? Perhaps proofing took longer than usual, so more unproofed sheets were used? The small comma retains its small rule that's likely a shoulder, and the number continues to include translations from the *Journal des Sçavans*, but brags of English superiority. Oldenburg also declares his independence as the author of the *Transactions*, in which he merely assembles the letters he reads, but, he says, do not represent official views of the Society.

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4^{o}: 2E–2F^{4} [$1–2 signed]; 8 leaves, pp. 199-214

PHILOSOPHICAL | *TRANSACTIONS.* | [*rule 104.0*] | *Munday, May* 7. 1666. | [*rule 103.3*] | [**in upper-right headline:**] *Num.* 12.

199 (2E1^{r}): The Contents. | *A way of Preſerving Birds taken out of the Egge, and other ſmall* | Fetus's; *communicated by* Mr. Boyle. *An Extract of a Letter,* | *lately ſent to* Sr. Robert Moray *out of* Virginia, *concerning an* | *unuſuall way of Propagating Mulberry-trees there, for the better* | *improvement of the* Silk-Work; *together with ſome other particu-*|*lars, tending to the good of that* Royall *Plantation. A Method,* | *by which a Glaß of a ſmall Plano=Convex Sphere may be made to* | *refract the Rayes of Light to a* Focus *of a far greater diſtance,* | *than is uſuall. Obſervations about* Shining Worms *in Oyſters.* | *Obſervations of the Effects of* Touch *and* Friction. *Some par-*|*ticulars, communicated from forrain Parts, concerning the Per-*|*manent* Spott *in* Jupiter; *and a conteſt between two Artiſts about* | Optick-Glaſſes, *&c. An Account of a Book Written by* Dr. | Thomas Sydenham, *entituled,* Methodus Curandi Febres, | propriis Obſervationibus ſuperſtiucta. | [*rule 109.2*] |

199 (2E1^{r})–201 (2E2^{r}): *A way* | *Of preſerving Birds taken out of the Egge, and other ſmall* | Fætus's; *communicated by Mr.* Boyle.

201 (2E2^{r})–202 (2E2^{v}): *An Extract* | *Of a Letter, ſent lately to* Sir Robert Moray *out of* Vir-|ginia, *concerning an* unuſual *way of propagating* Mul-|berry trees *there, for the better improvement of the* Silk-|Work; *together with ſome other particulars, tending to* | *the good of that* Plantation.

202 (2E2^{v})–203 (2E3^{r}): *A Method, by which a Glaſs of a ſmall Plano-convex Sphere | may be made to refract the Rayes of light to a* Focus *of | a far greater diſtance, than is uſual.*

203 (2E3^{r})–206 (2E4^{v}): *Obſervations | About* Shining Worms *in Oyſters.*

> Theſe Obſervations occur in the *French journal* of *April* 12. 1666. in two letters, written by M. *Auzout* to M. *Dela Woye*; whereof the ſubſtance may be reduced to the following particulars.
> [… *enumerated observations*]

206 (2E4^{v}): [… *observations complete*]

> So far the *Journal des Scavans*; which intimates withal,that if the *Obſervers* had had better *Microſcopes*,they could have better examin'd this matter.
>
> But ſince the curious here in *England* are ſo well furniſh with good ones, 'tis hoped, that they will employ ſome of them for further and more minute Obſervations of theſe Worms; it being a matter, which, joyned with other Obſervations, already made by ſome excellent perſons here, (eſpecially Mr.*Boyle*) upon this ſubject of Light, may prove very luciferous to the doctrine of it, ſo much yet in the dark.

206 (2E4^{v})–209 (2F2^{r}): *Some Obſervations | Of the Effects of* Touch *and* Friction.

209 (2F2^{r})–210 (2F2^{v}): *Some particulars, communicated from forraign parts, | concerning the Permanent* Spott *in* Jupiter; *and | a Conteſt between two Artiſts about* Optick Glaſ-|ſes, *&c.*

210 (2F2^{v})–213 (2F4^{r}): *An Account | Of Dr.* Sydenham's *Book, entituled*, Methodus Curandi | Febres, Propriis obſervationibus ſuperſtructa.

213 (2F4^{r})–214 (2F4^{r}): [*rule 106.3*] | Advertiſement.

> *Whereas 'tis taken notice of, that ſeveral perſons perſwade themſelves, that theſe* Philoſophical Tranſactions *are publiſh't by the* Royal Society, *notwithſtanding many circumſtances, to be met with in the already publiſht ones, that import the contrary; The Writer thereof hath thought fit, expreſly here to declare, that that perſwaſion, if there be any ſuch indeed, is a meer miſtake*; *and that he, upon his* Private *account (as a Well-wiſher to the advancement of uſefull knowledge, and a Furtherer thereof by ſuch Communications, as he is capable to fur-*

> *niſh by that Philoſophical Correſpondency, which he entertains, and hopes to enlarge) hath begun and continues both the compoſure and publication thereof : Though he denies not, but that , having the honour and advantage of being a* Fellow *of the ſaid* Society, *he inſerts at times ſome of the Particulars that are preſented to them* ; *to wit,ſuch as he knows he may mention without offending them,or tranſgreſſing their Orders* ; *tending only to adminiſter occaſion to others alſo , to conſider and carry them further , or to Obſerve or Experiment the like, according as the nature of ſuch things may require.*

Imprint, 214 (2F4^{v}): [*broken rule 79.3+0.6+30.0*] | Printed with Licence for *John Martyn,* and *James Alleſtry*, | Printers to the Royal Society. 1666.

STCN fingerprint: 166604 - b1 2E1 he : b2 2F2 ,$th

Selected variations of state from the first edition possibly indicating a separate impression: broken rules 57.0+0.0+57.0 and 54.3+1.0+58.3 on 199 (2E1^{r}); italic ';' after Fetus's on 199 (2E1^{r}); Mr for 'Mr.' on 199 (2E1^{r}); '*Dr.*○Sydenham' on 210 (2F2^{v}); broken rule 42.0+1.3+63.6 on 213 (2F4^{r}).

Number 13 (Monday, June 4, 1666)

While only one edition, two different copperplate printing surfaces produced two different plates. Two states seem to suggest a situation like that of Number 12, which also had two states for the copperplate surfaces. Perhaps both of these were kept in type while new plates were made? The copy at University of California, Berkeley's Bancroft Library has the remnants of a price on the title page 215 (2G1^{r}), but the amount isn't clear.

The text comments on the error in Number 9 and takes umbrage that the *Journal des Sçavans* critiques the error without taking note of the *Transactions'* correction. The rebuttal says that the English language may have been too difficult for the readers of the *Journal* to comprehend, perhaps a bitter rejoinder from polyglot Oldenburg, here "the author."

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4°: 2G–2H⁴ [$1–2 signed]; 8 leaves, pp. 215–230; plate [*1*]

Facing 215 (2G1ʳ): Four figures: '*Fig. I.*' diagram wheel-barometer p. 219 , '*Fig.II.*' illustration of solar phenomenon p. 220 , '*Fig.III.*' another solar phenomenon to compare with previous p. 221, '*Fig.IV.*' illustration of double rainbows crossing p. 221 [*engraved* 210+162 (215x308)]

Second surface: Four figures as above titled in upper-left: '*Transact: N. 13 th*' [*engraved* 220x161 (236x297)]

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PHILOSOPHICAL | *TRANSACTIONS.* | [*rule 115.0*] | *Munday, June* 4. 1666. | [*broken rule 54.4+1.0+58.6*] | [**in upper-right headline:**] *Num.* 13. |

215 (2G1ʳ): The Contents. | *Certain* Problems *touching ſome Points of Navigation. Of a new* | *Contrivance of* Wheel-Barometer,*much eaſier to be prepar'd,than* | *others. An account of* Four Suns *which lately appeared in* France; | *and of two,unuſually poſited*,Rainbows,*ſeen in the ſame Kingdom.* | *A Relation of an Accident,by Thunder and Lightning, in* Oxford. | *An Experiment, to examine what* Figure *or Celerity of Motion* | *begetteth or increaſeth* Light *and* Flame. *Some Conſiderations* | *touching a Letter in the* Journal des Scavans *of* May 24. 1666. | [*rule 109.0*] |

215 (2G1ʳ)–218 (2G2ᵛ): *Certain* Problems | *Touching ſome Points of* Navigation.

218 (2G2ᵛ)–219 (2G3ʳ): *A new Contrivance of* Wheel-Barometer, *much more eaſy to* | *be prepared, than that, which is deſcribed in the* Micrograˉ|phy; *imparted by the Author of that Book.*

219 (2G3ʳ)–222 (2G4ᵛ): *An Account* | *Of* Four Suns, *which very lately appear'd in* France, *and* | *of* two Raine-bows, *unuſually poſited, ſeen in the ſame* | *Kingdom, ſomewhat longer agoe.*

222 (2G4ᵛ)–226 (2H2ᵛ): *A Relation* | *Of an Accident by Thunder and Lightning,at* Oxford.

226 (2H2ᵛ)–228 (2H3ᵛ): *An Experiment* | *To examine, what* Figure, *and* Celerity *of* Motion *begetteth,* | *or encreaſeth* Light *and* Flame.

228 (2H3ᵛ)–230 (2H4ᵛ): *Some Conſiderations* | *Touching a Letter in the* Journal des Scavans *of* May 24 | 1666.

> In *Num.* 9. of theſe *Tranſactions* were publiſh't the *Schemes* and *Deſcriptions* of certain Waies of *Sounding the Depth of the Sea without a Line*; and of *Fetching up Water from the bottom of it;* together with ſome Experiments already made with the former

of theſe two Contrivances. The Author of the French *Journal des Scavans* found good, to inſert them both in his *Journal* of *May* 3; but in another of *May* 24. intimates, that the ſaid *Schemes* and their *Deſcriptions* are not very clear and intelligible (he means,that they were not well underſtood by *French* Readers;) propoſing alſo ſome Difficulties,relating to that Subject, and eſteemed by him neceſſary to be ſatisfied, before any uſe could be made of the ſaid Inſtruments.

Upon this occaſion,the Author of theſe *Tracts* thinks fit,here to repreſent.

Firſt, That *Engliſh*-men and ſuch others, as are well verſed in the *Engliſh* tongue, find no difficulty in underſtanding the deſcriptions of theſe *Engins*, nor in apprehending their ſtructnre, [*stet*] exhibited by the *Figures*, eſpecially if notice be taken of the Emendation, expreſſed at the end of *Num.* 10. about the miſgraving the *Bended end* of the *Springing Wire*;(which it ſeems has not been noted in *France*, though the ſaid *Num.* 10.is known to have been ſeen there a pretty while before their *Journal* of *May* 24. was publiſh't.) And as for the particular of the *Bucket*, fetching water from the bottom of the Sea, both the *Figure* and the annexed *Deſcription* thereof are ſo plain and clear, that 'tis ſome wonder here, that any difficulty of underſtanding them is pretended by any, that hath but ordinary skill in *Cutts* and the *Engliſh* language. Mean while, that way, which the *French* Author

[… *continues with a critique of the article*]

Imprint, 230 (2H4^{v}): [*broken rule 30.0+0.6+79.6*] | Printed with License for *John Martyn*,and *James Alleſtry*, | Printers to the Royal Society. 1666.

STCN fingerprint: 166604 - b1 2G1 re : b2 2H2 snott

Selected variations of state from the first edition possibly indicating a separate impression: broken rule 57.0+1.0+56.6 for first rule on 215 (2G1^{r}); semicolon italic after France on 215 (2G1^{r}); comma after examine on 215 (2G1^{r}); period after 24 in article title on 228 (2H3^{v}).

Number 14 (Monday, July 2, 1666)

One of two plates printed from different intaglio surfaces illustrate this edition. The earlier surface mixes engraving with aquatint, which covers engraved shading in the background, so an earlier

state of this plate may exist, or the earlier version may have been rejected before issuing. A rule above small comma suggests a wrong-sized comma in the headline of 231 (2I1^{r}).

The text reports a series of complementary astronomical observations, each attesting to the reliability of the person who observed the phenomena. Shapin and Schaffer call this a "*literary technology*" for virtual witnessing, but it is worth noting that it starts to appear here after Oldenburg felt the need to defend the *Transactions'* independence, well after Boyle's early work had already been published.[79] It seems more likely that here, at least, these rhetorical flourishes defend against certain accusations, whether or not they establish what Shapin and Schaffer distinguish as a "*social technology*." Most numbers freely move between direct quotation, indirect discourse, reported speech, and transcribed letters with no indication of the change and little ceremony. In this number, however, the attributions have additional prominence—making pronouns exceptionally confusing. Normally, *I* is Oldenburg, but here it is Robert Hooke. The number also includes many more reviews than there been in previous numbers, possibly in response to the review-based *Journal des Sçavans*.

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4^{o}: 2I–2L^{4} [$1–2 signed]; 12 leaves, pp. 231–254 (245=145, 253=153); plate [*1*]

Facing 231 (2I1^{r}): Four compartments: '*The Figures of the Obseruations made in London.*' figures A–I spots on Mars p. 241–2, '*The Figurs of y^{e}. Italian Obseruations.*' figures K–P of Mars confirming the London p. 145 with aquatint background, '*The Obseruation of Iupiter.*' figure Q p. 246 with aquatint background, '*The late Observ. of Saturne.*' figure R p. 247 with aquatint background, [*mixed aquatint and engraving* 206x150 (215x244)]

Second surface: Four compartments as above with punctuation changes titled: '*Tranſact:N.14th*': '*The Figures of the Obseruations made in London*,' figures A–I spots on Mars p. 241–2, '*The Figurs of y^{e}. Italian Obseruations.*' figures K–P of Mars confirming the London p. 145, '*The Obseruation of Iupiter.*' figure Q p. 246, '*The late Observ, of Saturne.*' figure R p. 247 , [*entirely engraved* 210x152 (211x321)]

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[79] Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life* (1985; repr., Princeton: Princeton University Press, 2011), 25 ff.

PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 57.0+1.0+57.0*] | *Munday, July* 2. 1666. | [*broken rule 58.6+1.0+54.3*] | [**in upper-right headline:**] *Num.* 14. |

231 (2I1^{r}): The Contents. | *An Account of a* New *kind of* Baroſcope,*which may be call'd* Stati-|cal; *and of ſome Advantages and Conveniencies it hath above the* | Mercurial; *communicated by Mr.* Boyle. *The Particular Obſerva-|tions of the Planet* Mars,*formerly intimated to have been made by* | *Mr.*Hook *in* February *and* March *laſt. Some Obſervations,made* | *in* Italy,*confirming the former;and withall fixing the* Period *of the* | *ſaid Planet's Revolution. Obſervations, lately made at* London, | *of the Planet* Jupiter: *as alſo of* Saturn. *A Relation of a ſad Ef-|fect of Thunder and Lightning. An Account of ſome Books, lately* | *publiſh't*; videl. *The Relations of divers Curious Voyages,by Monſ.* | Thevenot: *A Diſcourſe about the Cauſe of the Inundation of the* | Nile, *by Monſ.* de la Chambre; *both* French: *De Principiis* | *& Ratiocinatione Geometrarum, Contra Faſtum Profeſſorum Geo-|metriæ, by Mr.* Hobbes: *King* Salomons *Pourtraiture of Old Age,* | *by* J. Smith, M. D. | [*rule 109.0*] |

231 (2I1^{r})–239 (2K1^{r}): *An Account* | *Of a* New *kind of* Baroſcope, *which may be called* Statical; | *and of ſome Advantages and Conveniencies it hath above* | *the* Mercurial: *Communicated, ſome while ſince, by the* | *Honourable* Robert Boyle.

> A^{4}S for the *New* kind of *Baroſcopes*, which, not long
> agoe, * I intimated to you, that my
> haſte would not permit me to give
> you an account off; ſince you Let-
> ters acquaint me, that you ſtill deſign a Communicating to the
> Curious as much Information, as may be, in reference to *Ba-*
> *roſcopes*; I ſhall venture to ſend you ſome Account of what I
> did but name (in my former Letter) to you.
> [… *communication continues*]
> [**note to the right of lines 2–4:**] *See *Num.*11.*p.*
> 185. *Phil. Tranſ-*
> *actions.*

239 (2K1^{r})–242 (2K2^{v}): *The Particulars.* | *Of thoſe Obſervations of the Planet* Mars, *formerly intimated* | *to have been made at* London *in the Months of* February | *and* March *A.* $166\frac{5}{6}$.

> To perform, what was promiſed *Num.* 11. of theſe Papers,
> *pag.* 198; 'tis thought fit now to publiſh the Particular Obſer-
> vations, concerning the ſpots in *Mars*, and their motion,as

they were made with a 36 foot Teleſcope, and produced in
writing before the *Royal Society*, the 28 *March* 1666. by Mr.
Hook, as follows;
[… *observations continue*]

242 (2K2^{v})–245 (2K4^{r}): *Obſervations* | *Made in* Italy, *confirming the former, and withall fixing the* | Period *of the Revolution of* Mars.

Theſe Obſervations we ſhall ſummarily preſent the Curious
in theſe parts with, as they were lately preſented (by Letter
from his Excellency the Ambaſſadour of *Venice*, now reſiding
at the Court of *France*) to the *Royal Society*, in ſome printed
ſheets of Paper, entituled, *MARTIS*, *circa Axem proprium*
Revolubilis, Obſervationes, BONONIÆ à JO. DOMINICO
CASSINO habitæ; come to hand *June* 3. 1666.

In theſe Papers the Excellent *Caſſini affirms*;
[… *summary of observations*]

245 (2K4^{r}): *The Figures of the* Principal *Obſervations, repreſented in* | *the Book here diſcourſed of, may be ſeen in the annexed* | Scheme ; videl.

245 (2K4^{r})–246 (2K4^{v}): *Some Obſervations* | *Lately made at* London *concerning the* | *Planet* Jupiter.

Theſe, as they were made, ſo they were imparted, by Mr.
Hook, as follows:
[… *observations continue*]

246 (2K4^{v})–247 (2L1^{r}): *A late Obſervation about* Saturn *made by the ſame.*

June 29 1666. between 11. and 12. at night I obſerved the
*B*ody of *Saturn* through a 60. foot Teleſcope, and found it ex-
[… *observations by Hooke continue*]

247 (2L1^{r})–248 (2L1^{v}): *A Relation* | *Of a ſad effect of Thunder and Lightning:*

This Relation was written by that worthy Gentleman, *Tho-*
mas Neale Eſquire, (the then *High Sheriff* of the County of
Hampſhire, when this diſaſter hapned) to a Friend of his in
London, as follows;
[… *relation continues*]

248 (2L1^{v})–254 (2L4^{v}): *Of ſome Books lately publiſh't.*

Imprint, 254 (2L4^{v}): [*rule 110.0*] | Printed with License for *John Martyn*, and *James Alleſtry*, | Printers to the Royal Society. 1666.

STCN fingerprint: 166604 - b1 2I1 g : b2 2L2 ince

Number 15 (Monday, July 18, 1666)

This number playfully presents one of Robert Boyle's results as a seasonal distraction for the hot summer months. Reminding readers that the *Transactions* are published whenever Oldenburg wants, he presents these reflections for the season in particular. Like the numbers printed during the plague, this number responds to the events of the day; but unlike in the plague-year issues, Oldenburg selects special content fit for the season, rather than merely commenting on the event and proceeding with what he has ready for the press. Generally, he had a sufficient backlog of letters from his contacts to fill an issue, but occasional requests to Boyle to fill sheets seems to suggest that the amount of material available fluctuated. Produced on a single quarto sheet—so shorter than a typical issue—the lack of a second edition could indicate a large print run for what was likely marketed as a popular, timely pamphlet on staying cool during the summer.

As in previous numbers, the rule above small comma suggests a wrong-sized piece of type in the headline. Additionally, the physical fount used from 258 (2M2^{v}) forward is smaller than the one featured in the preceding number, presumably to fit the entire text on one sheet. That this change in fount begins four pages into Number 15 implies either an aesthetic choice or a change in the situation while setting the type. The aesthetic choice could have been made by Oldenburg, Martyn and Allestry, or the printer. Oldenburg may have requested the number on a single sheet to keep costs down for what was intended to be a popular issue, but also to make the first three pages the same to maintain the look of the journal. Martyn and Allestry may have made a similar request to keep costs down and to maintain the look. Or, the printer may have decided to so without guidance, but it is not clear how the additional work of setting in a second physical fount would have been desirable. It is also possible that Robert Boyle added to the text after it had been cast-off and the first three pages set. This last case, however, we can exclude because Boyle had already completed the whole piece.

Boyle had been working with *sal armoniack* since the 1650s and would have known its cooling properties well.[80] So when he read the paper of this new "frigorific experiment" on 11 July 1666, he was following his typical pattern of giving short talks on material he had already published—in

[80] Samuel Hartlib, "Hartlib to Boyle, 28 February 1654," in *The Correspondence of Robert Boyle*, ed. Michael Hunter, Antonio Clericuzio, and Lawrence M. Principe (1654; repr., London: Pickering & Chatto, 2001), 155 and subsequent correspondence.

this case, his history of cold from 1665. This number of the *Transactions* was licensed during the Society's next Council meeting, 18 July 1666, where the experiment was tried unsuccessfully and the Society subsequently lost interest.[81] The text in the *Transactions* has only a small addition of the first paragraph, presumably by Oldenburg, so the manuscript must have been given complete to the booksellers and printer.

So the full manuscript promoting Boyle's recent work was presented and accepted without explicit trial in the meeting. Additionally, the date on the headline reflects the date of the licensing for this number, not the date when the paper was read, nor when printing was completed.

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4°: 2M⁴ [$1–2 signed]; 4 leaves, pp. 255–262

PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 57.3+0.6+57.0*] | *Wedneſday , July* 18. 1666. | [*broken rule 58.3+0.3+54.6*] | [**in upper-right headline:**] *Num.* 15. |

255 (2M1ʳ): The Contents. | *A new Experiment, ſhewing,How a conſiderable degree of Cold may be* | *ſuddently produced without the help of* Snow, Ice, Haile, Wind, *or* | Niter, *and that at any time of the year. An Account of two Books,* | *lately printed in* London; *whereof the one is entituled*, EU-|CLIDIS ELEMENTA GEOMETRICA,novo | ordine ac Methodo demonſtrata; *the Author* Anonymus. | *The other*, THE ENGLISH VINE-YARD VIN-|DICATED, *by* JOHN ROSE. | [*rule 115.0*] |

255 (2M1ʳ)–261 (2M4ʳ): *A new Frigorifick Experiment ſhewing, how a conſiderable* | *degree of* Cold *may be ſuddenly produced without the help* | *of* Snow, Ice, Haile, Wind, *or* Niter, *and that at any* | *time of the year*.

> TᵀHis ſubject will it ſelf, 'tis preſumed, without any other *Preamble*, ſpeak the Cauſe, why this preſent Paper is publiſh't at this (unuſual) time of the Month: though, by the by, it may not be amiſs to add on this occaſion, that the Publiſher of theſe *Tracts* never meant ſo to confine himſelf to a *Set* time, as not to retain the Liberty of taking any other, when there is occa-

[81] Birch, *The History of the Royal Society of London for Improving of Natural Knowledge from Its First Rise*, 103–5; Boyle, *The Works of Robert Boyle*, 5:xxxix, 520.

ſion. And there being one given him, before another Month is come in, he does without any ſcruple or delay comply therewith, preſenting the Curious with an Experiment which he thinks is both ſeaſonable,and will not be unwellcome to them; furniſh't out of the Ample Magazin of that Philoſophical *B*enefactor, the Noble Mr. *Boyle*; Concerning which, thus much is further thought requiſite to intimate on this occaſion, that it, and ſome others of the ſame Gentlemans, that have been, and may be, mentioned in the *Tranſactions*, belong to certain Treatiſes,the Author hath lying by him;but that yet he denys not to communicate them to his Friends, and to allow them to diſpoſe thereof, upon a hope, that equitable Readers will be ready to excuſe,if hereafter they ſhould appear alſo in the Treatiſes they belong to, ſince he conſents to this Anticipation, but to comply with thoſe,that think the imparting of real and practical Experiments, may do the Publick ſome Service, by exciteing and aſſiſting mens Curioſity in the interim.

As for the Experiment, you ſaw the other day at my Lodgings, though it belongs to ſome Papers about *Cold*, that (you know) could not be Publiſh't, when the reſt of the *Hiſtory* came forth, and therefore was reſerved for the next *Edition* of that Book; yet the Weather having been of lave very hot, and threatning to continue ſo, I preſume, that to give you here in compliance with your Curioſity an Account of the Main and Practical part of the Experiment, may enable you to gratify not onely the Curious among your Friends,but thoſe of the Delicate, that are content to purchaſe a Coolneſs of Drinks at a ſomewhat chargeable rate.

You may remember, that the Spring before the laſt, I ſhew'd

[… *continues to discuss a method using Sal Armoniack for cooling*]

261 (2M4^{r})–262 (2M4^{v}): *An Account of two Books lately printed in London.*

Imprint, 262 (2M4^{v}): [*rule 110.3*] | Printed with License for *John Martyn*,and *James Alleſtry*, | Printers to the Royal Society. 1666.

STCN fingerprint: 166604 - b1 2M1 him; : b2 2M2 newly$

Number 16 (Monday, August 6, 1666)

This number appears in two editions, principally different in punctuation spacing and some use of italics for punctuation. Both use a smaller face from p. 293 ($2Q4^r$) onward, presumably to fit the sheet. Two different engraved copperplate surfaces produced two different plates that illustrate these editions. The second surface is not fully square, but shears at an angle, so measurements across one edge differ by two millimeters. As in the previous numbers, a rule above the small comma suggests a wrong-sized comma.

John Wallis contributes most of the content in this number, but Oldenburg provides a brief introductory paragraph explaining the context and value of Wallis's observations. Wallis's review of Thomas Hobbes's *De Principiis & Ratiocinatione Geometrarum* attacks it point by point, bitingly calling it "*Contra Geometras*" (289) of a "*Repetiton* of what he had before told us more than once; and which hath been Answered long agoe. In which, though there be Faults enough to offer ample matter for a large Confutation: yet I am scarce inclined to believe, that any will bestow so much pains upon it" (289-90) as a *Specimen* of Mr. *Hob's* Candour, in Falsifications." (292) Shapin and Schaffer remind us:

> Hobbes's philosophical standing on the Continent was substantial, just as his political reputation and influence were feared to be in England. "Baiting the bear" was, therefore, an important tactic in policing the boundaries of the new experimental philosophy and in displaying publicly what counted as proper scientific activity and what did not. As de Beer remarks, "It may be said that Hobbes did influence the early policy of the Royal Society, for he set for all time the standard of the sort of man who must not be elected into the Fellowship."[82]

Wallis's response rewards rereading. Within a veritable lexicon of opprobrium, he explains how he reads and references particular passages in the book, what he expects of translation, what he expects of pursuing knowledge, and how Hobbes fails.

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[82] Shapin and Schaffer, *Leviathan and the Air-Pump*, 134–35.

4°: 2N–2Q⁴ [$1–2 signed]; 16 leaves, pp. 263–294; plate [*1*]

Facing 263 (2N1ʳ): Five figures in a black border: 'Figure 1.' A–G diagram of the orbit and rotation of the earth around the sun p. 269 , 'Figure 2.' A–E illustrating the orbit of the moon around the earth p. 273, 'Figure 3.' E–I illustrating the continuation p. 273, 'Figure 4.' L–O illustrating the center of gravity between the earth and moon p. 274, 'Figure 5.' A–E,S,T,a–e,ε,♌,γ,β,α,♍,♂ illustrating parallax supporting considering the earth and moon as one unit p. 288 [*engraved* 201×186 (215×281)]

Second surface: Five figures as above, without border, titled '*Tranſact:N.16 th*': 'Figure 5.' printing M for ♍ above [*engraved* 191x178 (at least 205x335)]

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PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 57.3+1.0+57.0*] | *Munday, Auguſt* 6. 1666. | [*broken rule 58.3+0.3+54.6*] | [**in upper-right headline:**] *Num.* 16.

263 (2N1ʳ): The Contents. | *An Eſſay of Dr.* John Wallis, *exhibiting his* Hypotheſis *about the* | Flux and Reflux of the Sea, *taken from the Conſideration of the* | Common Center of Gravity of the Earth and Moon*; toge-*|*ther with an* Appendix *of the ſame, containing an* Anſwer *to* | *ſome* Objections, *made by ſeverall Perſons againſt that* Hypo-|theſis. *Some Animadverſions of the ſame* Author *upon Maſter* | Hobs's *late Book,* De Principiis & Rationcinatione Geome-|trarum. | [*rule 115.0*]

263 (2N1ʳ)–281 (2P2ʳ): *An Eſſay* | *Of Dr.* John Wallis, *exhibiting his* Hypotheſis *about the* | Flux and Reflux of the Sea.

> H7Ow abſtruſe a ſubject in Philoſophy, the *Flux and Reflux of the Sea* hath proved hitherto, and how much the ſame hath in all Ages perplexed the Minds even of the beſt of *Naturaliſts*, when they have attempted to render an Account of the Cauſe thereof, is needleſs here to repreſent. It may perhaps be to more purpoſe, to take notice, that all the deficiencies, found in the *Theories* or *Hypotheſes*, formerly invented for that End, have not been able to deterre the Ingenious of

this Age from making farther ſearch into that Matter: Among whom that Eminent Mathematician Dr. *John Wallis*, following his happy *Genius* for advancing reall Philoſophy, hath made it a part of his later Inquiries and Studies, to contrive and deduce a certain Hypotheſis concerning that *Phænomenon*, taken from the Conſideration of the *Common Center of Gravity of the Earth and Moon,* This being by ſeveral Learned Men lookt upon, as a very rational Notion, it was thought fit to offer it by the Preſs to the Publick, that other Intelligent Perſons alſo might the more conveniently and at their leiſure examine the *Conjecture* (the Author, ſuch is his Modeſty, preſenting it no otherwiſe) and thereupon give in their ſense, and what Difficulties may occur to them about it, that ſo it may be either confirm'd or laid aſide accordingly; As the *Propoſer* himſelf expreſly deſires in the Diſcourſe, we now, without any more *Preamble,* are going to ſubjoyn, as it was by him addreſſed, by way of Letter, from *Oxford* to Mr. *Boyle April* 25.1666. and afterwards communicated to the *R. Society*, as follows:

Y²Ou were earneſt with me, when you laſt went from hence, that I would put in writing ſomewhat of that,which at divers

[… *theory of tides continues*]

281 (2P2ʳ)–289 (2Q2ʳ): *An* APPENDIX, *written by way of Letter to the* Publiſher; | *Being an Anſwer to ſome Objections, made by ſeveral Perſons, to* | *the precedent Diſcourſe.*

I² Received yours*;* and am very well contented, that *objections* be made againſt my *Hypotheſis* concerning *Tydes*: being propoſed but as a conjecture to be examined; and, upon that Examination, rectified, if there be occaſion*;* or rejected, if it will not hold water.

[… *five objections addressed one after the other*]

289 (2Q2ʳ)–294 (2Q4ᵛ): *ANIMADVERSIONS* | *Of Dr.* Wallis, *upon Mr.* Hobs's *late Book*, De Principiis & | Ratiocinatione Geometrarum.

Imprint, 294 (2Q4ᵛ): [*rule 110.6*] | Printed with Licenſe for *John Martyn*, and *James Alleſtry*, | Printers to the Royal Society.

STCN fingerprint: 000004 - b1 2N1 rni : b2 2Q2 $enou

Selected variations in the second edition: rules 112.6 and 111.3 and 112.3 on 263 (2N1^{r}); ⌣*Auguſt* for *A~* on 263 (2N1^{r}); ⌣*An* for *An* on 263 (2N1^{r}); '*Dr.* Wallis,' for '*Dr.* John Wallis,' on 263 (2N1^{r}); *conſideration* for *C~* on 263 (2N1^{r}); '*Moon:*' for '*M~,*' on 264 (2N1^{r}); it for in on 264 (2N1^{r}); ⌣*April* for *A~* on 264 (2N1^{r}); *Way* for *w~* on 281 (2P2^{r}); ⌣*An* for *An* on 281 (2P2^{r}); 'liſher;' for 'liſher,' on 281 (2P2^{r}); ⌣*ANIMADVERSIONS* for *A~* on 289 (2Q2^{r}); rule 114.3 on 294 (2Q4^{v}); 000004 - b1 2N1 hat$: b2 2Q2 ults$e

Number 17 (Monday, September 9, 1666)

Two states within the edition of this number result in differing STCN fingerprints, but are otherwise the same edition. These variations demonstrate a shortcoming of the STCN fingerprint, that states can give different fingerprints if they occur in critical places.[83] As before, the rule above small comma suggests a wrong-sized piece of type used in the headline.

Other than the *Errata*, this edition has little describing the conditions of printing or sources in the text itself. It reads like a much later number that does not acknowledge the obligation to comment on the aims of observations or the conditions in which they were made. At this point, most of the kinds of article had been established, so perhaps readers needed less editorial guidance.

The date of this number occurs after the Great Fire, from 2 September to 6 September, and while Martyn and Allestry appear in the imprint, they had been "undone" by the fire, as Oldenburg reports them to have said. The fire and the copy was given to the Stationers gratis to help them recover; Oldenburg believes that the gift of the month's copy helped prevent the Stationers from giving up entirely.[84] One wonders if the shoulder of the small comma that appears for the last time on this number indicates that Martyn and Allestry had already produced some sheets with headline they had kept standing until they lost it in the fire.

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[83] The editions were optically collated with PocketHinman between copies at the Royal Society, who—otherwise—do not possess an optical collator.

[84] "Oldenburg to Boyle, 10 September 1666" in Hall and Hall, *The Correspondence of Henry Oldenburg*, 2:226 "Martyn and Allestry being undone wth the rest of ye Stationers at Pauls Churchyard, and all their books burnt, they had carried for safety into St Faiths Church, as they call it, besides, yt ye Citty lying desolate now, it will be very hard to vend them at ye present … and ye Transactions like to be interrupted."; "Oldenburg to Boyle, 18 September 1666" in Hall and Hall, ibid., 3:230 "The Stationers of Pauls insist, to give them the Transactions for a while, till they can somewhat recover their losse, wch indeed is very great, all their books, carried by ym into St Faith's-Church under Pauls, being burnt, and amongst ym the hitherto printed Transactions. I tell ym, yt I should not want generosity to doe so, if I had ability to bear yt retrenchment; Mean while, I have given them the Transactions of this month freely, if yt will doe them any kindnes, or, at least, be any encouragements to ym to continue; wch they say it will, and make ym stretch as far as they can thereafter. … that made me venture the continuation wth them, leaving the issue to Providence"; see also Number 20 below.

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4°: R–S4 [$1–2 (+S3) signed, R1=2R1]; 8 leaves, pp. 295–310

PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 57.0+0.6+57.0*] | *Munday Septemb.* 9. 1666. | [*broken rule 58.0+0.6+54.3*] | [**in upper-right headline:**] *Num.* 17 |

295 (2R^r6): The Contents. | *Obſervations made in ſeveral places (at* London, Madrid *and* | Paris,) *of the late* Eclipſe of the Sun, *which hapned* June 22. | 1666. *Some Enquiries and Directions, concerning* Tides, *pro-*|*poſed by Dr.* Wallis. *Conſiderations and Enquiries touching the* | *ſame Argument, ſuggeſted by Sir* Robert Moray. *An Account* | *of ſeveral Books lately publiſh't: Vid.* 1. Johannis Hevelii De-|ſcriptio Cometæ,*A.* 1665. *exorti*; *una cum* Mantiſſa Prodro-|mi Cometici. 2. Iſaacus Voſſius de Nili & aliorum Flumi-|num Origine. 3. Le Diſcernement du Corps & de l'Ame,| *par Monſieur de* Cordemoy. | [*rule 114.6*] |

295 (2R1^r)–297 (2R2^r): Obſervations made in ſeveral places, Of the late *Eclipſe of* | *the Sun,* which hapned on the 22 of *June*, 1666.

T²He Obſervations that were made at *London* by Mr. *Willughby*, Dr. *Pope*, Mr. *Hook*, and Mr. *Philips*, are theſe:

[… *table of their observation, followed by observations reported in prose*]

297 (2R2^r)–298 (2R2^v): *Some Inquiries and Directions concerning* Tides, *propoſed by Dr.* | Wallis, *for the proving of diſproving of his lately publiſh't* | Diſcourſe *concerning them.*

The Inquiſitive Dr. *Wallis*, having in his lately printed *Hypotheſis* of Tides

[… *request for observations for Wallis*]

298 (2R2^v)–301 (2R4^r): *Conſiderations and Enquiries concerning* Tides, *by Sir* Robert | Moray; *likewiſe for a further ſearch into* Dr. Wallis's *newly* | *publiſh't* Hypotheſis.

301 (2R4^r)–310 (S4^v): *An Account* | *Of ſeveral Books lately publiſhed.*

Errata, 310 (S4^v): [*broken rule 58.0+2.0+49.3*] | *Advertiſement.*

The following *Errata,* left by the *Preſs* in *Num.*16, the *Reader* is de-ſired thus to correct.

P²Age 269. lin. 27. read, *motion of B. above the Center*; *G. is alſo*, vvith a *Semi-colon* after the vvord *Center*. p. 274. l. 13, r. *it to do to the*. p. 277. l.24 r. *natural days*. p.281. l. 16. r. *of his*. ib.l.27.r. *a notion*. p.293. l. 4. r *enough without*. ib. l. 43. r. *to the Sine of*. p.294 l. 1. r. *to the Sine of*.

Imprint, 310 ($S4^r$): [*rule 108.3*] | *LONDON,* | Printed for *John Martin* and *James Alestry*, | Printers to the Royal Society. 1666.

STCN fingerprint: 166604 - b1 R1 re$: b2 S3 $al

Second state of first edition: R1 signed R1 consequently the STCN fingerprint is 166604 - b1 R1 e : b2 S3 $al

Number 18 (Monday, October 22, 1666)

Two editions both have a table printed in relief inserted as a plate; the presence of a blank X2 suggests that the table was printed in the same imposition as X^2. The New York Public Library, Stephen A. Schwarman Building, Offsite copy confirms this by preserving the conjugacy. In the second edition, the page numbers 315–319, 322, and 324–327 are bracketed rather than in parentheses, as in the first edition. In the second edition, all the page numbers are in parentheses. The second edition lacks the numeration in the headline, but returns to John Martyn, without James Allestry, who hires T.R.—likely Thomas Ratcliffe, or (less likely) Thomas Roycroft—to print this number.[85]

The text includes an illustration composed of letters and quads, which is the first such in the *Transactions*, but is not unlike similar illustrations of stars appearing as early as Galileo's *Sidereus Nuncius* (1610), or the illustration in Number 21 below. The shoulder note on page 323 refers to the flavor of a sample of loathsome water delivered with the original letter. Presumably, the tasting notes stand in for the water itself.

John Crook produced the first edition printed after the Great Fire. He was Boyle's printer,[86] and agreed to print these *Transactions* because Oldenburg promised to "procure for him ye printing some good vendible books"—an offer that highlights the complicated negotiations around the value of publishing for the Society.[87] Oldenburg had access to virtuosi, whom he could advise, and so printing the *Transactions* for him had economic value if he sent vendible books in exchange.

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[85] Plomer, *A Dictionary of the Booksellers and Printers Who Were at Work in England, Scotland and Ireland from 1641 to 1667*, 151, 158.

[86] "Oldenburg to Boyle, 16 January 1665/6" in Hall and Hall, *The Correspondence of Henry Oldenburg*, 3:17; "Oldenburg to Boyle, 27 January 1665/6" in Hall and Hall, ibid., 3:31; "Oldenburg to Boyle, 8 October 1667" in Hall and Hall, ibid., 3:509; and others.

[87] "Oldenburg to Boyle, 23 October 1666" in Hall and Hall, ibid., 3:272.

Additionally, this must be one of the earliest books printed by Crook at Duck Lane, since Plomer still has him at St. Paul's in 1666.[88]

The copy at University of California, Berkeley, Bancroft Library has the remnants of a price on the title page, 311 (T1^{r}), but the amount is not visible. The copy held by the University of Pennsylvania, Van Pelt Library, Special Collections has a manuscript price on the title page '6^{d},' six pence.

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4^{o}: T–V^{4} X^{2} [$1–2 (-X2 +V3) signed]; 10 leaves, pp. 311–313 [314] 315–328; table [*relief, 1*]

PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 81.0+0.3+31.6*] | *Munday October* 22. 1666. | [*broken rule 67.6+0.3+43.9*] | [**in upper-right headline:**] Num. 18 |

311 (T1^{r}): The Contents. | Patternes *of the* Tables *propoſed to be made for* Obſerving of | Tides, *promiſed in the next foregoing* Tranſactions. *Other* | Inquiries *touching the Sea. Some Conſiderations touching the* | Parenchymous *parts of the Body. Obſervables concerning* Petri-|fication. *A Relation from* Paris, *of a kind of* Worms, *that* | *eat out Stones.Some promiſcuous Obſervations made in* Somerſet-|ſhire. *A Problem for finding the Year of the* Julian Period, *by* | *a new and very eaſie Method. An Account of ſome Books, not* | *long ſince publiſh't: which are,*1. Tentamina Phyſico-The-|ologica de Deo, *authore* Samuele Parkero. 2. Honorati Fa-|bri Tractatus duo; Prior, de Plantis & de Generatione Ani-|malium; Poſterios, de Homine. 3. Relation du Voyage* | *de l' Eueſque de Beryte, par la Turquie, la Perſe, les Indes,* | *&c.* par Monſieur de* Bourges. | [*broken rule 70.0+1.3+41.3*] |

311 (T1^{r})–313 (T2^{r}): Patternes | *Of the* Tables *propoſed to be made for* Obſerving of Tides, *pro-|miſed in the next foregoing* Tranſactions; *by Sr.* Rob. Moray.

314 (T1^{v}): [*Blank*]

Two-sided plate facing 314 (T2^{v}): recto: example table for '1666. | *Sept.*' (i.e. 'The *Firſt Table*' p. 312 l. 10), **verso:** '*A Perpendicular Line divided into* Signes,*ſuppoſed to be the* Periods | *of the Riſings and Fallings of the Tides, as is in the other Table* | *repreſented.*' (i.e. 'The *other* Table p. 312 l. 24) [*two-sided letterpress*, sheet at least 209x313]

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[88] Plomer, *A Dictionary of the Booksellers and Printers Who Were at Work in England, Scotland and Ireland from 1641 to 1667*, 57.

315 (T3^{r})–316 (T3^{v}): *Other Inquiries Concerning the Sea.*

The *Publiſher* of theſe *Tracts* knowing, that the Honorable *Robert Boyle* had not left unconſidered the Natural Hiſtory of the *Sea*, of which Subject the late, and theſe preſent Papers, have entertained the *Reader* as to the Obſervables of its *Flux and Reflux*; He was, on this occaſion, inſtant with that Gentleman to impart to him, for publication, theſe Heads of Inquiries, he had drawn up, touching that Subject: Which having obtained (though the *Author* deſires, they may be lookt upon as unfiniſht) he thus ſubjoynes.

[… *queries about the sea*]

316 (T3^{v})–320 (V1^{v}): *Some Conſiderations | Concerning the* Parenchymous *parts of the Body.*

320 (V1^{v})–321 (V2^{r}): *Obſervables | Touching* Petrification.

321 (V2^{r})–323 (V3^{r}): *A Relation | Of a kind of* Worms, *that eat out Stones.*

This is taken out of a Letter, written by one *M. de la Voye* to M. *Auzeut,* to be found in the 32. *Journal des Scavans*; as follows.

I^{2}N a great and very ancient Wall of Free-Stone in the *Benedictins Abby* at *Caen* in *Normandy*, facing Southward, there are to be found many Stones

[… *description continues*]

322 (V2^{v}): [… *typographical illustration of the continuation*]

that point to range them, and to form their Shells of them. They have Ten Eyes, very black and round, which appear to be bigger than a Pins-head. There are five of them on each ſide of the head, ſtanding after this manner

o o
o o o o
o o
o o

But beſides theſe Worms, I have found; that *Mortar* is eaten by an infinit

[… *description continues*]

323 (V3^{r}): *Some promiſcuous Obſervations, made in* Somerſet-ſhire *, and | imparted by the above-mention'd Dr.* Beale.

His words are theſe, in a Letter to the *Publiſher*, of the 23. *Septemb.* 1666. at *Yeovill* in *Somerſetſhire*;

[… *continues observations*]

whenced I ſcumm'd half a ſcore Spoonfulls; of which the incloſed is a part,

* Sufferingthe water to be boyl'd all away, […] *account of loathsome tasting water completes*]

323 (V3^{r}): [*shoulder note for asterisk*]

** This had ſomewhat of a Vitriolate*
taſte. But the Experiments being made
with greater quantities of this water, which queſtionleſs will be done, the
nature and kind of it may be better
known.

324 (V3^{v}): *A Problem* | *For finding the Year of the* Julian Period *by a new and very eaſie* | *Method.*

324 (V3^{v})–328 (X1^{v}): *An Account* | *Of ſome Books, not long ſince publiſhed.*

Imprint, 328 (X1^{v}): [*rule 111.2*] | LONDON, | Printed for *John Crook* in *Duck-Lane* neer | *Little-Britain*. 1666. [*broken rule 66.3+1.0+46.0*]

329–330 (X2^{r}–X2^{v}): [*Blank*]

STCN fingerprint: 166604 - b1 T1 w : b2 X1 $

Selected variations in the second edition: all page numbers in parentheses; rules 73.3+0.6+35.3 and 72.3+1.0+36.3 and 61.0+1.0+48.6 on 311 (T1^{r}); numeration in headline lacking on 311 (T1^{r}); Patterns for ~ernes twice on 311 (T1^{r}); 'Tides ;' for 'T~,' on 311 (T1^{r}); Eveſque for Eu~ on 311 (T1^{r}); *Sir* for '*Sr.*' on 311 (T1^{r}); Worms for '~,' on 321 (V2^{r}); infinite for ~nit on 322 (V2^{v}); Somerſet ſhire for ~-ſhire on 323 (V3^{r}); *'Books,'* for '*Books ,*' on 324 (V3^{v}); 000004 - b1 T1 r : b2 X1 a

Imprint of second edition, 328 (X1^{v}): [*broken rule 73.0+1.6+38.0*] *London,* Printed by *T. R.* for *John Martin,* Printer to | the *Royal Society,* and are to be ſold at the *Bell* a little | without *Temple-Bar* [*no rule*]

Number 19 (Monday, November 19, 1666)

John Crook and Moses Pitt undertook the first edition. It is unclear why Pitt is involved with this and the subsequent number, since neither Boyle nor Oldenburg work with him until much later.[89] Pages 350, 344, and 336 are enclosed in brackets rather than parentheses. As in the previous number, Martyn produces the second edition and hires Thomas Ratcliffe, or less likely Thomas Roycroft, to print this number.[90] They consistently spell Johannes Hevelius's name "Huelius" rather than "Heuelius." Hevelius and Oldenburg, who corresponded in Latin, spelled his name as we do. Crook and Pitt's spelling may derive from seeing "HEVELIUS" on Latin title pages, the minuscule

[89] Henry Oldenburg, "Oldenburg to Boyle, 10 July 1674," in *The Correspondence of Robert Boyle*, ed. Michael Hunter, Antonio Clericuzio, and Lawrence M. Principe (1674; repr., London: Pickering & Chatto, 2001), 4:385; Plomer, *A Dictionary of the Booksellers and Printers Who Were at Work in England, Scotland and Ireland from 1641 to 1667*, p.147.

[90] Plomer, *A Dictionary of the Booksellers and Printers Who Were at Work in England, Scotland and Ireland from 1641 to 1667*, 151, 158.

V could be either *u* or *v*. T.R.'s spelling would sound like the first misspelling, but would not make much sense for anyone who had seen Hevelius's name spelled conventionally in print or manuscript.

The text includes new queries, but—unusually—the last article notes an experiment to transfuse blood from one animal to another, but merely stating that it was successful at the Society and would be reported in more depth in the next number. The type is somewhat smaller than the rest, suggesting that the printer had intended to include more, but perhaps changed their mind. This hints at the possibility that the contents on the first page were set along with the first article, forcing the printer to squeeze in a brief report rather than omit the report entirely.[91]

The copy held by the University of Pennsylvania, Van Pelt Library, Special Collections has a manuscript price on the title page 'pr: 6^{d},' six pence.

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4^{o}: 2Y–2Z^{4} 2Z*^{4} [$1–2 signed]; 12 leaves, pp. 329–352

PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 57.0+56.0*] | *Munday November* 19. 1666. | [*broken rule 61.0+1.0+50.0*] | [**in upper-right headline:**] *Numb.* 19. |

329 (2Y1^{r}): The Contents. | *An Addition to the Inſtances of* Petrification,*formerly enumerated.* | *Articles of* Inquiries *concerning* Mines; *as, to the neighbouring* | *Countrey about them*; *the Soyl where they are*; *the Signs of them;* | *the Structure and other particulars belonging to the Mines them-*|*ſelves*; *the Nature and Circumſtances of* Ore; *and the Redu-*|*ction of* Ore *into* Metal. *Promiſcuous* Inquiries *formerly re-*|*commended to Mounſieur* Heuelius, *particularly about* Cold; | *together with his own, and his Correſpondents* Anſwer *to ſome of* | *them. The ſucceſs of the Experiments of Trasfuſing the Blood* | *of one Animal into another.* |

329 (2Y1^{r})–330 (2Y1^{v}): *An Additon to the* Inſtances *of* Petrification, | *enumerated in the laſt of theſe* Papers.

> *This* Inſtance *was ſome while ſince communicated*
> *to the* Royal Society *by that Ingenious Gentleman*
> *Mr.* Philip Packer, *a worthy Member of that*
> *Body*; *in theſe words*;

[91] Birch, *The History of the Royal Society of London for Improving of Natural Knowledge from Its First Rise*, 2:118 orders the experiment on "the Tuesday following" 31 October 1666, which must be what is refered to here. See Number 20 below for more details on the transfusion experiments.

OſN a Bank in a Cloſe of Mr. *Purefoy*, neer his houſe,
[… *description continues*]

330 (2Y1^{v})–342 (2Z3^{v}): *Articles of Inquiries touching* Mines.

What the Honourable *Robert Boyle* gave the Reader cauſe to hope for, in *Numb.* 11. when he was pleaſed to impart thoſe *General* Heads for a Natural Hiſtory of a Country, *there* publiſh'd; He is not un-mindful to perform, by enlarging them as occaſion ſerves,with *Particular* and *Subordinate* Inquiries. Here he gratifies the Curious with a conſiderable Set of Inquiries about *Mines:* which though unfiniſh'd, yet the *Publiſher*, was inſtant to obtain their preſent publication,to the end, that he might the more conveniently recommend them to ſeveralForreigners of his Acquaintance, now ready to return to their ſeveral Countryes, which he underſtands to abound in Mines; and from the Curious Inhabitants whereof, he expects to receive a good Accompt upon ſome at leaſt of theſe Inquiries; which alſo by ſeveral of them have been earneſtly deſired, as Inſtructions, to direct them, what Particulars to inquire after upon this Subject.

Theſe Quæries are reduced by the *Author* to ſix Heads:
[… *queries outlined and given*]

342 (2Z3^{v})–343 (2Z4^{r}): *Promiſcuous Inquiries about Mines, from the | ſame Author.*

344 (2Z4^{v})–352 (2Z*4^{v}): Promiſcuous Inquiries, *chiefly about* Cold, *for-|merly ſent and recommended to Monſieur |* Heuelius ; *together with has Anſwer return'd | to ſome of them.*

A conſiderable piece of the grand Deſign of the Modern *Experimental* Philoſophers being, to procure and accumulate Materials for a good Natural Hiſtory, whence to raiſe in progreſs of time a ſolid Structure of Philoſophy; all poſſible Endevours are uſed in *England*, to ſend abroad and recommend to as many of Forreign parts, as there is opportunity, *Directions* for ſearching into the Operations of Nature, and for obſerving what occurs therein, aſwell as in Mechanical operations and practiſes.

Several Heads of that kind have been already publiſh'd for this purpoſe in ſeveral of the former Tracts; to which, as we have added, in this, the *Quæries* about *Mines*, ſo we ſhall ſubjoyn thoſe, that were not long ſince committeed to the care of that Excellent Promoter of Aſtronomy and Philoſophy,

Monſieur *Heuelius*, Conſul of *Dantzick*; who demonſtrates ſo much zeal for the advancement of real knowledge, that he not only improves and promotes it by his own Studies, but labours alſo to incite others to do the like; having already warmed many of the Northern Climate, particularly *Poland, Pruſſe, Livonia, Sweden* and *Denmark*, into a diſpoſition to be ſtudious and active in inquiring after ſuch particulars concerning Philoſophy, as are recommended from hence, and rendred them, very willing to employ themſelves in things of that nature.

The Inquiries ſent to Dantzick, *are theſe*;

1. What Signior *Burattini (*an *Italian* Gentleman, Maſter of

[… *queries continue*]

352 (2Z*4^{v}): *The Succeſs of the Experiment of Transfuſing the Bloud of one | Animal into another.*

T²His Experiment, hitherto look'd upon to be of an almoſt unſurmountable difficulty, hath been of late very ſucceſsfully perform'd not onely at *Oxford*, by the directions of that expert Anatomiſt Dr. *Lower*, but alſo in *London*, by order of the *R. Society*, at their publick meeting in *Greſham-Colledge:* the Deſcription of the particulars whereof, and the *Method* of Operation, is referred to the next Opportunity.

Errata, 352 (2Z*4^{v}): *Errata* to be corrected in Number 18.

Pag. 311. line 18. read *marked*. p. 312. l. 35. r. *Sines*. 16. l. penult. *Sines*. p. 113.l. 13 r. *Sines*. p. 316. l 26. 1. *that* for *if*.

Imprint, 352 (2Z*4^{v}): [*broken rule 55.6+0.3+57.0*] | *London*, Printed for *John Crook* neer the *Blew-Anchor* | in *Ducklane*; and *Moſe Pits* at the *White-Hart* | in *Little-Britain*.

STCN fingerprint: 000004 - b1 2Y1 ,$a : b2 2Z*2 ′.9″.to$1

Selected variations in the second edition: all page numbers in parentheses; rules 52.0+0.6+57.6 and 55.6+0.6+54.3 on 329 (2Y1^{r}); Mines for *Mines* on 329 (2Y1^{r}); Huelius for Heuelius on 329 (2Y1^{r}); *Purefor* for *-foy* on 329 (2Y1^{r}); unmindful for un-m- on 330 (2Y1^{v}); *particular* and *ſubordinate* for *P-* and *S-* on 330 (2Y1^{v}); forreigners for F- on 330 (2Y1^{v}); Huelius for Heuelius twice on 344 (2Z4^{v}); *Secceß* for *-ſs* on 352 (2Z*^{v}); Blood for Bloud on 352 (2Z*^{v}); Page for 'Pag.' on 352 (2Z*4^{v}); 000004 - b1 2Y1 nd$: b2 2Z*2 0$16′.$22″

Imprint of the second edition, 352 (2Z*4^{v}): [*broken rule 61.6+1.0+49.0*] | *London*, by *T. R.* for *John Martyn*. Printer to | the *Royal Society*,and are to be ſold at the *Bell* a little | without *Temple-Bar*.

Number 20 (Monday, December 17, 1666)

That the first edition was undertaken by Moses Pitt alone might be explained if Oldenburg continued to give his copy gratis to the Stationers and printers. The principal evidence of how Oldenburg deals with booksellers comes from his letters discussing financial arrangements, typically with Boyle—so if booksellers were not paying, there's nothing to write. The dog that did not bark, which provides the clue, might be Oldenburg's contrasting his sympathy for the booksellers' financial need against his own financial need, and writing nothing about his profits until 24 September 1667, when he complains about Martyn reducing his payment "yet lower."[92]

Richard Lower and Boyle's article on transfusion was read 19 September 1666 at the regular meeting of the Society and a committee of Daniel Coxe, Thomas one Mr. King (possibly Andrew King), and Robert Hooke were to perform the experiment in relative privacy observed only by five other members.[93] It is unclear if they didn't get around to it, because on 31 October, the Society ordered them to attempt the experiment on the "Tuesday following"—2 November 1666—which was not a regular meeting of the Society.[94] The experiment itself was conducted before the Society on 14 November "upon a little mastiff and a spaniel with very good success, the former bleeding to death, and the latter receiving the blood of the other, and emitting so much of his own, as to make him capable of receiving that of the other."[95] On 5 December, Boyle promised to discuss the technique at the next meeting and then, on 12 December, a sheep was bled into a dog, after which Boyle suggested weighing the animals. Boyle lectured on technique on 19 December.[96] Lower had conducted the

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[92] "Oldenburg to Boyle, 24 September 1667" in Hall and Hall, *The Correspondence of Henry Oldenburg*, 3:480 "Mr Martyn deals very mercenarily wth me;for knowing, that others will hardly undertake the printing of those papers, now so many of ym have been printed by severall, wch renders it difficult for me to compleat them, wthout redeeming the interest of others; he knowing this, I say, hath constrain'd me to abate him the rate yet lower, so that, after ye proportion, he allows now, I shall hardly bring it to 30 lb. a year."; "Oldenburg to Boyle, 16 October 1666" in Hall and Hall, ibid., 3:244 "And the Stationers and Printers having sustain'd great losses in ye late fire, and not knowing as yet, how to setle and to reassume their Trade, so as to make gaine thereby; doe very much scruple to print anything, except it concerne ye present affaires of ye warre, and of ye Citty: in regard whereoff, it will be very difficult to persuade ym to continue ye printing of ye Transactions, unlesse I let ym be printed wthout consideration for the changes and pains, I am att in ye digesting of yim; as I did ye last: wch my condition will not beare, however my soule be free enough to consent to it, if I could."; "Oldenburg to Boyle, 23 October 1666" in Hall and Hall, ibid., 3:272 "however they write to me from Paris, that they are very glad to find, our Transactions goe on, notwthstanding the spoyle made by ye late fire, (wch they take occasion to say upon the sight of Numb. 17. wch was printed after the fire, gratis.)";

[93] Birch, *The History of the Royal Society of London for Improving of Natural Knowledge from Its First Rise*, [2:115].

[94] Birch, ibid, [2:118].

[95] Birch, ibid, [2:123].

[96] Birch, ibid, [2:132–4].

experiment in February 1666, and the long delay between that experiment and this number's report caused confusion about who did what first.[97]

The "Vitriolate *Water*" mentioned in Number 18 occurs in a shoulder note for item two of "Some promiscuous observations made in Somersetshire" by Dr. Beale. Beale sends a description, and a sample, of boiled-down water from a foul-tasting pond on his cousin's property. The sample does not accompany the print number, but is replaced by an asterisk that references a tasting note.

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4°: 3A–3B⁴ [$1–2 signed]; 8 leaves, pp. 353–367 [368]

PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 49.3+0.8+60.6*] | *Munday December* 17. 1666. | [*rule 111.6*] | [**in upper-right headline:**] *Numb.* 20. |

353 (3A1ʳ): The Contents. | *The Method obſerved in* Transfuſing the Bloud out of one live | Animal into another: *And how this Experiment is like to be im-|proved. Some Conſiderations concerning the ſame. An Accompt | of ſome Sanative Waters in* Herefordſhire. *A farther Accompt | of the* Vitriolate *Water mention'd* Numb. 18. *together with | ſome other particulars touching Waters. Inquiries for* Tur-|ky. *An Obſervation about OptickGlaſſes made of RockCry-|ſtal, communicated from* Italy. *A Relation of the Uſe of the | Grain of* Kermes *for* Coloration, *from* France. *An Accompt | of ſome Books lately publiſht*, vid.1. *PINAX Rerum Naturalium | BRITANNICARUM, continens VEGETABILIA, ANIMALIA | & Foſſilia ANGLIÆ, inchoatus*; *Auth.* Chriſtophoro Mer-|ret, *M. D.* 2. *PLACITA PHILOSOPHICA* Guarini. | 3. *GUSTUS ORGANUM per* Laurentium Bellini *deprehen-|ſum.* |

353 (3A1ʳ)–358 (3A3ᵛ): The Method obſerved in *Transfuſing the | Bloud out of one Animal into another*.

> T⁴His Method was promiſed in the laſt of theſe Papers. It was firſt practiſed by Doctor *Lower* in *Oxford*, and by him communicated to the Honourable *Robert Boyle,* who imparted it to the *Royal Society*, as follows;
>
> Firſt, Take up the *Carotidal* Artery of the Dog or other
>
> [… *description continues*]

[97] Boyle, *The Works of Robert Boyle*, 5:xl, 540.

358 (3A3^{v}): Note.

In the laſt Tranſactions *was alſo promiſed an Accompt by the next, of Monſieur* Hevelius *has accurate Calcul. of the late* Solar Eclipſes,*Duration, Quantity, &c. But this being to be accompanyed with a* Scheme, *the* Graving *whereof met with a diſappointment, it muſt be ſtill referred to another Opportunity.*

358 (3A3^{v})–359 (3A4^{r}): *An account of ſome Sanative Waters in* | Herefordſhire.

This account was communicated by Dr. *B.* in theſe words. [… *account continues*]

359 (3A4^{r})–360 (3A4^{v}): *A farther Accompt of the* Vitriolate-water, | *mention'd* Num. 18 p. 323. *Together with* | *ſome other Particulars touching Waters.*

This comes from the ſame hand as follows; [… *account continues*]

360 (3A4^{v})–362 (3B1^{v}): *Inquiries for* Turky.

Though many Relations and Deſcriptions of *Turkey* be extant in Print, yet they leave in many a deſire of fuller information in the following particulars, lately drawn up, for the moſt part by Mr. *H.* and recommended to an Ingenious Gentleman, bound for that Country; and deſired alſo to be taken notice off by others, that may have occaſion to viſit the ſame.

[… *queries continue*]

362 (3B1^{v}): *An Obſervation of Optick Glaſſes, made of* | Rock-Cryſtal.

This is contained in a Letter, of *Euſtachio Divini,* Printed in *Italian* at *Rome*, as the 39. *Journal des Scavans* extracts it; *vid.*

Though it be commonly believed, that *RockCryſtal* is not fit

[… *extract continues*]

362 (3B1^{v})–363 (3B2^{r}): *An accompt of the Uſe of the Grain of* Kermes | *for Coloration.*

This was communicated by the Ingenious Dr. *Croon*, as he received it from one, Monſieur *Verny*, a *French* Apothecary at *Montpelier*; who having deſcribed the Grain of *Kermes,* to be

[… *description continues*]

364 (3B2^{v})–367 (3B4^{r}): *An Account of ſome Books lately publiſhed.*

Errata, 367 (3B4^{r}): Correct in Numb. 19.

Pag. 342. lin. 33. read *mixt Ores* in ſtead of, *mixt with Ores.*

Second errata, 367 (3B4^{r}): Correct in this preſent Numb. 20.

Page 359. line 13. Read *Marle* for *Pearle.*

Imprint, 367 (3B4^{r}): [*rule 113.3*] | *London*, Printed for *Moſes Pitt* at the *White-*|*Hart* in *Little-Britain*.

368 (3B4^{v}): [*blank*]

STCN fingerprint: 000004 - b1 3A1 $be : b2 3B2 e$hole,

Selected variations in the second edition: Second errata corrected and section omitted on 367 (3B4^{r}); rules 109.6 and 74.3+1.0+37.3 on 353 (3A1^{r}); S*anati-ve* for *S-* on 353 (3A1^{r}); line break *ANIMA-*|*LIA* on 353 (3A1^{r}); *PHYLOSOPHICA* for *PHI-* on 353 (3A1^{r}); laſt with ligature for unligatured laſt on 353 (3A1^{r}); 'Dr.' for Doctor on 353 (3A1^{r}); *Boyl* for *Boyle* on 353 (3A1^{r}); '*Calcul.*' for *C-* on 358 (3A3^{v}); *Accompt* for *a-* on 358 (3A3^{v}); *Sanati-ve-waters* for *S- W-* on 358 (3A3^{v}); *particulars* for *P-* on 359 (3A4^{r}); Rock-Chryſtal for R--Cry- on 362 (3B1^{v}); *RockChriſtal* for *R-Cry-* on 362 (3B1^{v}); *Accompt* for *accompt* on 362 (3B1^{v}); '*Number.*' for '*Numb.*' on 367 (3B4^{r}); 'line,' for 'lin.' on 367 (3B4^{r}); 000004 - b1 3A1 sfu : b2 3B2 e,$whe

Imprint of the second edition, 367 (3B4^{r}): [*rule 110.0*] | *John Martin*, Printer to the *Royal* | *Society*, and are to be fold at the *Bell* a little without | *Temple-Bar*.

Number 21 (Monday, January 21, $166\frac{6}{7}$)

Martyn produced the only edition, illustrated by a plate in one of two states, printed from the same copperplate engraved surface. The second one adds numeration, but transposes the digits, printing 12 instead of 21. Some printed copies correct this error with a manuscript annotation. The date on the cover, 1666, and imprint, 1667, probably refer to the same year in old style and new style respectively. It is possible that this number is for January 1666, old style, and printed after 25 March 1667—old style, too.[98] But Henri Justel writes to Oldenburg in the middle of June 1667 about what must be Number 25 of the *Transactions*, so it seems unlikely that the imprint for Number 21 is old style because then Number 25 would precede it.[99]

Given Oldenburg's trouble with the Stationers (see Number 20 above), it seems possible that the "Note on Printing" on page 384 was necessary to assure Martyn of his right to the copy. If

[98] The start of the new year in the old-style calendar was Lady Day, 25 March, so while three months would be exceptionally long to wait to print material, it is not outside of the realm of possibility. That is to say, material prepared by 21 January $166\frac{6}{7}$ (21 January 1666 in the old style, 1667 in the new) could have been printed after 24 March $166\frac{6}{7}$ which both the new- and old-style calendar report as 1667.

[99] "Justel to Oldenburg, Mid-June 1667" in Hall and Hall, *The Correspondence of Henry Oldenburg*, 3:436–439.

Martyn's objection is to be taken at face value, the *Transactions* were less valuable to him because he could not reprint the whole volume. With the *terminus ante quem* from Number 5 above, we might guess that Martyn reprinted the London editions that Oldenburg had given gratis sometime between late January 1667 and the beginning of June 1667. Other evidence would be needed to confirm such a guess, but that Martyn did not reprint Davies's copy suggests that those rights were somehow inviolable, whereas Pitt's and Crook's could be transferred. This presents a number of questions: if the right to copy was transferred, was Oldenburg involved? Did Martyn or Oldenburg have to pay for the copy, since it was freely given? When Oldenburg just gave the copy to the Stationers of London, did the first person to print thus own it?[100]

The copy held by the University of Pennsylvania, Van Pelt Library, Special Collections has a manuscript price on the title page 'pr: 6^{d},' six pence.

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4^{o}: 3C–3D^{4} [$1–2 signed]; 8 leaves, pp. 369–384; plate [*1*]

Facing, 369 (3C1^{r}): Diagrams of solar and lunar eclipses labeled with six 'A's, two 'B's and a 'C': '*Eclipsis Solaris* GEDANI. | *Anno 1666 Die 2 Iulii. S.n. ante m. obſervata*. | *à Johanne Hevelio*. | A A' , '*Phaſes Creſcentes* | *A A* | *Phases Decrescentes* | *A A*' , '*Eclipsis Lunæ obſeruata* | GEDANI . | *Anno 1666, Die ☿ 16 Iunii. St. n.* | *à Johanne Hevelio.* | B' , 'C' iron pot for melting Swedish stone p. 376 , [*engraved* 253×284 (at least 306x317)]

Second state of first surface: diagrams of solar and lunar eclipses as above captioned in upper-right: '№. 12'

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[100] John Murray Archive, ed., "Assignment of a Sixtieth Share in Tobias Smollett's Don Quixote from Thomas Longman, George Robinson and Thomas Cadell to John Murray, 29 Nov 1781 – 1 Jan 1782" ([Online; accessed 13-May-2021], http://www.nineteenthcenturyliterarysociety.amdigital.co.uk.proxy01.its.virginia.edu/Documents/Details/JMA_TempRef_06; Adam Matthew, Marlborough, Nineteenth Century Literary Society, 1781–1782) shows one of these copy assignments in the late eighteenth century as agreements enacted between two parties without a central record. If this form prevails earlier, records of the exact arrangement may be hard to find as it would have been held by the parties involved. Thanks to Michael Vanhoose who followed up on my question and spotted this during his own research.

PHILOSOPHICAL | TRANSACTIONS. | [*broken rule 53.3+0.6+58.0*] | *Munday, January* 21. 1666. | [*broken rule 62.6+0.6+48.3*] | [**in upper-right headline:**] *Numb.* 21. |

368 (3C1^{r}): The Contents. | *An Account, formerly promiſed, of Monſieur* Hevelius's *Calculation* | *of the late* Solar Eclipſe's *Quantity, Duration, &c. The Figure* | *of the Star in the Conſtellation of* Cygnus, *together with the New* | *Star in it, diſcovered ſome years ago, and very lately ſeen again by* | *the ſame Mr.* Hevelius. *An Extract of a Letter, written by Mr.* | Auzout, *concerning a way of his, for taking the* Diameters *of the* | *Planets, and for knowing the* Parallax *of the* Moon: *Giving alſo* | *a Reaſon, why in the* Solar Eclipſe *above-mentioned, the* Diameter | *of the* Moon *did increaſe about the end. A Relation of the loſs of* | *the Way to prepare the* Bononian Stone *for ſhining. A Deſcription* | *of a* Swediſh Stone, *affording* Sulphur, Vitriol, Allum, *and* Mi-|nium. *A Relation of the Raining of Aſhes. An Extract of a Let-*|*ter from* Rome, *rectifying the Relation of* Salamanders *living in* | *Fire.An Account of ſeveral Engagements for* Obſerving of Tydes. | *Some Suggeſtions for Remedies againſt Cold. A Relation of an un-*|*common Accident in two Aged Perſons. An Account of Two Books*, | I. ISMAELIS BULLIALDI ad Aſtronomos Monita | duo: Primum, de Stella Nova, in *Collo Ceti* ante aliquot annos | viſa. Alterum, de Nebuloſa Stella in *Andromedæ* Cinguli parte | *Borea*, ante biennium iterum ortâ. II. ENTRETIENS | ſur les vies & ſur les Ouvrages des plus excellens Peintres, | antients & moderns, par M. FELIBIEN. | [*rule 110.0*] |

368 (3C1^{r})–372 (3C2^{v}): Monſieur *Hevelius*'s Calculation of the late *Solar* | *Eclipſe's* Quantity, Duration, *&c.*

T^{2}His *Calculus* was not long ſince communicated by Monſieur *Hevelius* in a Letter to the *Publiſher*, as follows,

Eclipſis Solaris.

Obſervata An. 1666. *D.* 2. *Julii, St. N. Mane, à Johanne Hevelio.*

[… *table follows*]

371 (3C^{r}): [… *table continues*]

This Obſervation is by the ſame *Aſtronomer,* repreſented alſo by the *Figures AAAAAA*; as that of the *Horizontal Eclipſe* of the *Moon*, is, by the *Figures BB.*

372 (3C2^{v}): *The Figure of the Stars in the Conſtellation of* Cygnus; *together* | *with the* New Star *in it, diſcover'd ſome years ſince, and very* | *lately ſen by M.* Hevelius *again.*

T^{1}He Relation concerning this *New Star* in the *Breſt of Cygnus*, very lately diſcover'd again at *Dantzick*, by M. *Hevelius*, was publiſh't *Numb.* 19. *p.* 349. The *Figure* of that *Conſtellation*,

with the *New Star* in it, was thus, haſtily drawn, ſent over by
that Obſerver.
[*labeled diagram of stars*]

373 (3C3^{r})–375 (3C4^{r}): *An Extract* | *Of a Letter written* Decemb. 28. 1666. *by M.* Auzout *to the* | *Publiſher, concerning a way of his, for taking the* Diameters | *of the* Planets, *and for knowing the* Parallax *of the* Moon; | *as alſo the Reaſon, why in the* Solar Eclipſe *above calculated,* | *the* Diameter *of the* Moon *did increaſe about the end.*

375 (3C4^{r}): *A Relation* | *Of the loſs of the Way to prepare the* Bononian Stone | *for ſhining.*

375 (3C4^{r})–376 (3C4^{v}): *A Deſcription* | *Of a* Swediſh *Stone, which affords* Sulphur, Vitriol, | Allum, *and* Minium.

This was communicated to the *R. Society* by Sir *Gilbert Talbot*
Knight, a Worthy Member of that Body, as he had received it
in *Denmark*, being his Majeſties Extraordinary Envoy there; as
follows,
T²Here is a Stone in *Sweden* of a Yellow Colour, intermixed
with ſtreaks of white (as if compoſed of Gold and Silver)
[… *description continues*]

377 (3D1^{r}): *A Relation* | *Of the* Raining *of* Aſhes, *in the* Archipelago, *upon the Eruption* | *of Mount* Veſuvius, *ſome years ago.*

This came but lately to hand from that knowing perſon,
Mr. *Henry Robinſon*; and was thought fit to be now inſerted here,
that it might not be loſt, though it hath hapned above 30 years
ago. It was contained in a Letter, (ſubſcribed by Capt. *Will. Ba-*
dily) in theſe words:

377 (3D1^{r})–378 (3D1^{v}): *An Extract* | *Of a Letter not long ſince written from* Rome, *rectifying the* | *Relation of* Salamanders *living in Fire.*

This came from that Expert Anatomiſt M. *Steno,* to Dr. *Croon*;
Videl. […*extract continues*]

378 (3D1^{v})–379 (3D2^{r}): *An Account* | *Of ſeveral Engagements for Obſerving of Tydes.*

Since nothing is more important for diſcovering the Cauſe of
that Grand *Phænomenon* of Nature, the *Flux* and *Reflux of the*
Sea, than a true and full *Hiſtory of the Tydes*, the *Virtuoſi* of
England have of late (eſpecially ſince the Publication of Dr. *Wallis*
his *Theory* touching that *Apparence*) taken care, to direct and re-

commend in ſeveral parts of the World, and particularly in the moſt proper places of theſe *Ilands*, ſuch Obſervations, as may contribute to the elucidating of that Subject.
[… *account continues*]

379 (3D2^{r})–380 (3D2^{v}): *Some Suggeſtions | For Remedies againſt* Cold.

380 (3D2^{v})–381 (3D3^{r}): *A Relation | Of an uncommon Accident in two Aged Perſons.*

This was imparted by the above-mentioned Mr. *Colepreſſe*, who aſſures in his Letter, containing this Account, That the matter of fact was thorowly examined by himſelf, and that he was fully, and in all reſpects, ſatisfied of the truth thereof.

The Relation of the one, is in theſe words.

Joſeph Shute Clerk, Parſon of […*relation continues*]

381 (3D3^{r}): *An Account of two Books.*

Note on printing, 384 (3D4^{v}):

The Printing of theſe Tracts is now return'd to the firſt Printer thereof, as being ſomewhat re-ſetled after the late ſad Fire of *London*.

Imprint, 384 (3D4^{v}): *FINIS.* | [*rule 109.0*] | In the *SAVOY*, | Printed by *T. N.* for *John Martyn*, Printer to the | *Royal Society*, and are to be ſold at his Shop a little | without Temple-Bar, 1667.

STCN fingerprint: 166704 - b1 3C1 $Publ : b2 3D2 g$a$clo

Number 22 (Monday, February 11, 166$\frac{6}{7}$)

Martyn produced this number along with an index, which suggests he had acquired the right to the copy of the London editions and was selling completed volumes. That Davies reprinted it too suggests some degree of coordination between the two because Martyn could hardly sell a nearly complete volume lacking certain numbers. Additionally, this number has far fewer ligatures than previous numbers—lacking ct, ff, and italic *as*—using a smaller physical fount of type.

The more natural method of the index relates to the widespread resistance to alphabetic order as arbitarry; it is ordered by the progression of knowledge, but this method of organization looks quite strange to us.[101] It is additionally worth noting that this number advertises for additions to a

[101] Judith Flanders, *A Place for Everything: The Curious History of Alphabetical Order* (London: Picador, 2021); Angus Vine, *Miscellaneous Order: Manuscript Culture and the Early Modern Organization of Knowledge* (Oxford: Oxford University Press, 2019).

projected reprint of John Evelyn's *Sylva* (presumably to help Martyn as much as Evelyn), and that it advertises an unanticipated, but henceforth expected, topic of the *Transactions*, the presentation of instruments and apparatuses. This aspect becomes part of the Society's project with Joseph Moxon's *Mechanick Exercises, or The Doctrine of Handy-Works* and also John Harris's *Lexicon Technicum*.[102]

The copy held by the University of Pennsylvania, Van Pelt Library, Special Collections has a manuscript price on the title page, 'Pr: 6^{d},' six pence, as does the copy at University of California, Berkeley, Bancroft Library, 'pr 1: 6^{d}.'

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4^{o}: 3E–3G^{4} [$1–2 signed]; 12 leaves, pp. 385–407 [408]

PHILOSOPHICAL | TRANSACTIONS. | [*broken rule 58.0+1.0+54.0*] | *Monday, February* 11. 1666. | [*broken rule 63.6+0.3+48.6*] | [**in upper-right headline:**] *Numb.* 22. |

385 (3E1^{r}): The Contents. | [*rule 110.0*]| *Trials propoſed to be made for the Improvement of the Experiment of* | Transfuſing Blood out of one live Animal into another. *A* | *Method for* Obſerving the Eclipſes of the Moon, *free from the* | *Common Inconveniences. An Account of ſome Celeſtial Obſerva-*|*tions lately made at* Madrid. *Extract of a Letter, lately written* | *to the Publiſher, containing ſome Obſervations about* Inſects *and* | *their Inoxiouſneſs, &c. An Account of ſome Books*, vid. | I. TOME TROISIEME DES LETTRES DE | M. DESCARTES. II. ASTRONOMIA RE-|FORMATA P. RICCIOLI. III. ANATOME | MEDULLÆ SPINALIS ET NERVORUM, | *inde provenientium*, GERARDI BLASII, *M.D. An* | *Advertiſement about the re-printing of M.* Evelyns *Sylva and* | *Pomona. A* Table *of the* Tranſactions, *printed theſe two years.* | [*rule 106.6*]

385 (3E1^{r})–388 (3E2^{v}): *Tryals propoſed by Mr.* Boyle *to Dr.* Lower, *to be made by him,* | *for the Improvement of Transfuſing Blood out of one live Ani-*|*mal into another*; *promiſed* Numb. 20. p. 357.

> T^{2}He following *Queries* and *Tryals* were written long ſince, and read about a Moneth ago in the *R Society*, and do now come

[102] Lisa Maruca, *The Work of Print: Authorship and the English Text Trades, 1660-1760* (Seattle: University of Washington Press, 2007), 34–39 states Moxon's avoidance of Stationers, but doesn't anticipate that the Society controlled their own license to print, which I think was used to produce Moxon's; John Harris, *Lexicon Technicum, or an Universal English Dictionary of Arts and Sciences: A Facsimile of the London Edition of 1704 [1710]*, 2 vols. (1704–1710; repr., Mansfield Centre, CT: Martino Publishing, 2006).

forth againſt the Authors int ntion, at the earneſt deſire of ſome Learned Perſons, and particularly of the worth *Doctor*, to whom they were addreſſed; who thinks, they may excite and aſſiſt others in a matter, which, to be well proſecuted, will require many hands. At the reading of them, the *Author* declared, that of divers of them he thought he could fore-ſee the Events, but yet judged it fit, not to omit them, becauſe the Importance of the *Theories*, they may give light to, may make the Tryals recompence the pains, whether the ſucceſs favour the *Affirmative* or the *Negative* of the Queſtion, by enabling us to determine the one or the other upon ſurer grounds, than we could otherwiſe do. And this Advertiſement he deſires may be applied to thoſe other Papers of his, that conſiſt of *Quæries* or propoſed *Tryals*.

388 (3E2^{v})–390 (3E3^{v}): *A Method* | *For Obſerving the* Eclipſes of the Moon, *free from the Common* | *Inconveniencies, as it was left by the Learned Mr.* Rook, *late* | Greſham-*Profeſſor of Geometry*.

390 (3E3^{v})–391 (3E4^{r}): *An Account* | *Of ſome Obſervations, lately made in* Spain, *by* | *His Excellency the* Earl of Sandwich.

THe Right Honourable the *Earl of Sandwich*, as he appears eminent in diſcharging the Truſt, his Majeſty hath repoſed in him, of Ambaſſador Extraordinary to the King of *Spain*; ſo he forgets not in the midſt of that Employment, that he is a Member of the *Royal Society*; but does from time to time, when his weighty State-Negotiations do permit, imploy himſelf in making conſiderable Obſervations of divers kinds, both *Aſtronomical* and *Phyſiological*; and communicateth the ſame to the ſaid *Society*; as for inſtance, lately, what he has obſerv'd concerning the *Solar Eclipſe* in *June* laſt, the Suns height in the Solſtice, and alſo the Latitude of *Madrid*, eſteeming by the Suns Altitude in the *Solſtice*, and by other Meridian [… *account continues*]

391 (3E4^{r})–392 (3E4^{v}): *Extract* | *Of a Letter, lately written by Mr.* Nathaniel Fairfax *to the* | Publiſher, *containing Obſervations about ſome* Inſects, *and* | *their Inoxiouſneſs, &c.*

The Ingenious Author of this Letter, as he expreſſes an extraordinary deſire to ſee the *Store-houſe* of *Natural Philoſophy*, more richly fraughted (a Work begun by the ſingle care and conduct of the Excellent Lord *Verulam*, and proſecuted by the Joynt-undertakings of the *R. Society*) ſo he very frankly offers his Ser-

vice in contributing ſome of his Obſervations, and begins in this very Letter to perform his Offer. For, Having taken notice of [… *extract continues*]

392 (3E4ᵛ)–397 (3F3ʳ): *An Account | Of Some Books.*

398 (3F3ᵛ): *Advertiſement.*

It was thought fit to publiſh here the following *Advertiſement* of *John Evelyn* Eſquire, and that, as himſelf propoſed it. *Viz.*

B³Eing much ſolicited by many worthy Perſons, to publiſh a *Second Edition* of my Diſcourſe and Directions concerning *Timber, &c.* which was printed at the Command and by the Encouragement of the *R. Society*, I do humbly requeſt, that if any Perſon have any Material Additions or Reformations, which he thinks neceſſary either to the Part, which concerns the Improvement of *Forreſt-Trees*, or that of *Cider*, he would be pleaſed to communicate his Notes and Directions to Mr. *H. Oldenburgh*, one of the Secretaries of the ſaid Society, at his Houſe in the *Palmal* of *St. James*'s *Fields ſt Weſtminſter*, with what ſpeed they conveniently can, before our *Lady-day* next, to be inſerted into this intended *Edition*.

Errata, 398 (3F3ᵛ): NOTE,

What was obſerved, Numb. 20. *p.* 364. *l.* 18 *of the Number of* Vegetables, (*vid.* That they are about 410.) *found in* England; *and catalogued by Dr.* Merret *in his* Pinax, *&c. is to be underſtood only of the* different Kinds *of Plants, not of the ſeveral ſorts of ſeveral Plants*; *for, theſe being compriſed, the Number will amount to about* 1400.

399 (3F4ʳ)–404 (3G2ᵛ): THE | *PHILOSOPHICAL TRANSACTIONS* | OF | Two Years, 1665 and 1666. beginning *March* 6. 1665. | and ending with *February* 1666; abbreviated in an | Alphabetical Table: | And alſo afterwards Digeſted into a more | *NATURAL METHOD.* | [*rule 105.6*]

In the Table, the firſt *Figure* ſignifies the *Number* of the *Tracts:* the ſecond, the *Page,* as it is re-

marked in the ſame.

405 (3G3^{r})–406 (3G3^{v}): The more | *NATURAL METHOD*

[… *table finishes*]

Note,

That though in this laſt Head there is repeated the *Tranſfuſion* of Blood, becauſe the Operation is an Art requiring diligence, and a practiſed hand to perform it for all advantagious Diſcoveries, and ſo to be diſtinguiſh'd from the *Anatomical* Account; yet that there is not affected noiſe and number, may well appear by reviewing and comparing the partiulars of *Artificial Inſtruments* in the *Table*, where ſometimes one Engin or Inſtrument may miniſter Aid to diſcover a large branch of Philoſophy, as the *Baroſcope*, an *Optick Glaſs*, &c.

And very particularly M.*Rook*'s directions for Seamen,which ſpecifies Inſtruments, may hereunto belong.

And ſometimes in one of the Diſcourſes herein mention'd, and abbreviated, there are almoſt as many Artificial Inventions, as Experiments; as in Mr. *Boyle*'s Hydtoſtatical Experiments: Beſides all the Chymical Operations, recited in the *Treatiſe* of the *Origine of Forms*, &c.

407 (3G4^{r}): [*line of Greek*]

Errata, 407 (3G4^{r}): ERRATA

Pag. 392. lin. 23. blot out,*as*. ibid. lin. 24 read *of the Soul*.

407 (3G4^{r}): [*rule 111.6*] | FINIS. | [*rule 109.0*]

Imprint, 408 (3G4^{v}): [*broken rule 60.3+0.6+48.0*] | In the *SAVOY* | Printed by *T N* for *John Martyn*, and | *James Alleſtry*, Printers to the *Royal Socie-*|*ty*: And are to be ſold at their Shop with-|out *Temple-Bar*, and in *Ducklane*, 1667. | [*rule 109.6*]

STCN fingerprint: 166704 - b1 3E1 ld$fo : b2 3G2 n.$18.$32 (or b2 3G2 .$18.$3)

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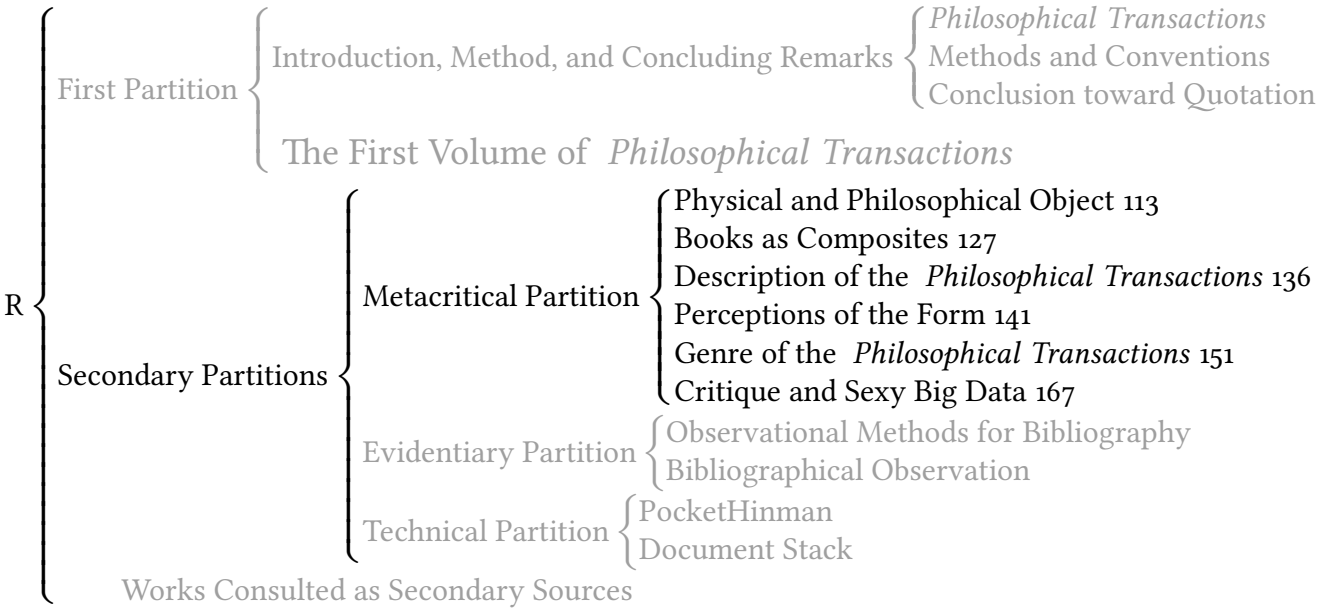
Thus, the first volume ends, but the next part printed to make the volume begins this partition: Oldenburg's introduction. As a preamble, its dedication to the King could be imagined as being delivered with faux humility. But having survived plague, fire, controversy, and financial

trouble, and yet still persisting in his endeavor, Oldenburg's "Glimpses of Light," "weighty Productions," and "private diversions in broken hours" underscore his hope "that I may not altogether waste any minutes of the leisure you afford me." While it dedicates the volume to the King, the introduction ends with a prayer for the "Dispersing the true Lustre of his Glorious Works." This prayer aligns the King's support of "the Happy Inventions of obliging Men all over the World" with "the General Benefit of Mankind"—naming the King's and the Royal Society's task as divinely inspired. Looking back at the miracle of the journal continuing through such hardship, how else could Oldenburg see it? Chaucer may have famously said "go litel boke," but Oldenburg simply prays that his book will help people flourish.

Metacritical Partition

In this dissertation thus far, we have reviewed the beginning of a learned journal that continues to the present day. Beginnings matter. They establish the theme on which variations are made, but the variations realize the potential of a theme. A theme is best played clearly, simply, and directly, but the variations necessarily reorder, extend, and play, reflecting the theme and stretching it beyond its boundaries. Insofar as the primary partition establishes the theme, this metacritical partition comprises variations, different interpretations that interest several different scholarly communities. It includes discussions familiar to those interested in close reading, critique, the history of books in society, genre theory, and the history of science. It aims to supplement an understanding of the first partition, which aims to show rather than tell, but it may make perfect sense to those willing to take my word for it. It also pushes the tone and mode of writing, sometimes playfully as a fugue might. It falls within the overall structure as the first of the secondary partitions thus,



The Transactions as Physical (and Philosophical) Object

I have been considering *Philosophical Transactions* in two ways: as objects and as the texts of works. As objects, I investigate their role in the history of bookselling and in the history

of printing. As works, I investigate their role in the history of literature and the history of literary methods.[103] Following a variation of Bacon's method for induction, but adapted to these new techniques, I begin with observations, proceed to inquire into why things look the way they do, then analyze what this shows in these four historical traditions, bookselling, printing, literature, and methods. The result comes in the reverse of the order of investigation. In this partition, I present narrative analytical results around these four histories.

The appearance of English-language books changes between 1660 and 1750. Richard Wendorf calls the earlier look old-style typography and the later new-style.[104] The old style packs a page densely with letters that have thick strokes and varying shapes, uneven lines, heavy punctuation, frequent capital letters, and is distinctly English; the new style fills a page with more even distances between vertical strokes, has much more space between characters, and fewer capital letters. This new style resembles French printing and regularizes and refines by adding more white space, evening out lines, and removing the dense embellishment of the earlier period.[105] Wendorf thinks the transition to more regular printing was gradual, that Bertrand Bronson's "Great Divide"—an abrupt shift in typographical style—overstates the suddenness of the transition. While most books followed the new style by the mid eighteenth century, the process didn't happen all at once. The conservative routines of compositors slowly adapted to market and aesthetic pressures while founts of types were slowly replaced and updated, together which eventually changed how compositors arranged type to lay out a page.

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[103] My term, "literary methods," here is deliberate. I think of the watershed moment of the 1990s that led to the publication of Michael Groden and Martin Kreiswirth, eds., *The Johns Hopkins Guide to Literary Theory & Criticism* (Johns Hopkins University Press: Baltimore, 1994) which presciently put it, "modern criticism like that of antecedent periods has seemed to flourish in a climate of continuing crisis (real or staged)" (vi) because theory deals with questions and interpretations, which often come up during crises like those we have found ourself in since the beginning of the twenty-first century. While "theory" continues to mean areas of study, contrasted with practice, more practically it means the philosophy of asking certain questions, and more frequently it stands in for the broad definition deriving from the narrow Frankfurt School of Critical Theory. (James Bohman, "Critical Theory," in *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta, Spring 2021 (`https://plato.stanford.edu/archives/spr2021/entries/critical-theory/`; Metaphysics Research Lab, Stanford University, 2021)) How to think has great value, but how to *do* can get us through thinking into action. For me, method points to grounding thinking in action. Literary methods thus are ways of doing things with words, including critique, philosophy, theory, writing, cataloging, library keeping, bookselling, and reading. I resist carving out a special space for the thinkers of literature from the mere doers of words; setting type can engage your mind and critique can be done thoughtlessly. The difference seems to be the person and the methods.

[104] Richard Wendorf, "Abandoning the Capital in Eighteenth-Century London," in *Reading, Society, and Politics in Early Modern England*, ed. Kevin Sharp and Steven N. Zwicker (Cambridge: Cambridge University Press, 2003), [93].

[105] Ibid., [72] "such a fundamental shift in printing conventions was closely tied to a pervasive interest in refinement, regularity and even cultural conformity at mid-century."

For the history of the physical object, both in terms bookselling of and printing, Margaret Nickson, John Goldfinch, and Lotte Hellinga describe the tradition I draw on, in their "Introduction" to the last volume of the *British Museum Catalogue of XVth Century Books (BMC)*, itself an application and refinement of Henry Bradshaw's techniques of enumerating and describing.[106] Picking up on the seriality of Victorian science in the 1840s, Henry Bradshaw adapted techniques from entomology: careful observation and classification.[107] Robert Proctor organized the collection of fifteenth-century books at the British Museum using Bradshaw's methods, a collection first built for the Royal Society. After Proctor organized the books based on typography, A. W. Pollard began to apply these methods in the first volume of the *BMC* where he gave a comment-free account of the knowable features of the books prefixed by an analysis of what these features demonstrated.[108] Konrad Haebler codifies the techniques for fifteenth-century books and W. W. Greg demonstrates their applicability to pre-Restoration drama. Particularly important to this dissertation, David Foxon applies the techniques to eighteenth-century poetry, which was often circulated in small quarto pamphlets for popular and enlightening reading as the *Transactions* were. Fredson Bowers, among many others, adapts these techniques to the New Bibliography for English literary texts which itself is applied to Shakespeare and was refined by the Virginia School.[109] These techniques come back to the final volume of the *BMC*. Nicholson, Goldfinch, and Hellinga adapt Foxon's "bibliographical notabilia" of curiosities and refine it by focusing on evidence among many other things. While the *BMC* draws on the Virginia School, I think few studies draw on some of their innovations, which include fuller transcription of printing information—necessitated by the lack of an imprint in fifteenth-century books, but which I adopt because of the nature of the material in the *Philosophical Transactions*; I also follow their higher level of care in distinguishing types for Law French, but across my materials. It seems fitting that their study builds on the library of Sir Hans Sloan, who was the President of the Royal Society and published John Bagford's attempt at

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[106] Lotte Hellinga, ed., *Catalogue of Books Printed in the XVth Century Now in the British Library: BMC Part XI, England* (London: British Museum, 2007), [1].

[107] Resulting in his note on the "De Meyer Collection Sold at Ghent," but he's certainly not the first to apply natural history to books–as we'll see later, both Konrad Gesner and Francis Bacon saw the same connection.

[108] Alfred W. Pollard et al., eds., *Catalogue of the Books Printed in the XVth Century Now in the British Museum*, 15 vols. (London: British Museum, 1908–2007).

[109] Gabriel Egan, *The Struggle for Shakespeare's Text: Twentieth-Century Editorial Theory and Practice* (Cambridge: Cambridge University Press, 2010) [37 ff.].

printing history in the *Philosophical Transactions*. Additionally, I draw on D.F. McKenzie's work on the Cambridge University Press and Congreve, where he extends the range of features used for bibliographical history by including both archival materials and typographical analysis along with thorough descriptive bibliography.

The history of literature naturally includes the *Philosophical Transactions*. The accomplished prose was generally read as literature, which at the time meant letters, and the *Philosophical Transactions* was certainly provided entertainment and edification. Yet even if we don't accept the *Philosophical Transactions* as literature today, it still participated in the same mentalities that influence the reading and writing of literature. Tita Chico[110] and Helen Thompson[111] both draw on the tradition of these influences altering how we read other texts, early on studied by Marjorie Hope Nicholson.[112] However, both Chico and Thompson reject Nicholson's simpler argument that science passed, as Chico puts it, "belatedly" into literary forms after it was already underway.[113] Thompson suggests knowledge of chymistry explains some literary forms in the novel and must be better understood. Chico argues that figurative language constructs what we come to think of as scientific prose, while it possesses formal and epistemological differences, it draws on the same tools of language. In these cases, scientific prose somehow stands apart, radiating to or radiated by other prose. I prefer expanding literature to include traditionally non-literary texts as in Paul Hunter's *Before Novels*, where he looks to devotional forms that influence reading along with forms of natural history and news.[114] As I discuss later, the separation of kinds of prose read for entertainment from those read for enlightenment has an anachronistic history that begins in the early nineteenth century. I read Cynthia Wall as building on this expansion by looking at the prose of description, shared between natural history and novels and sees how the history of description inhabits many forms

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[110] Tita Chico, *The Experimental Imagination: Literary Knowledge and Science in the British Enlightenment* (Stanford: Stanford University Press, 2018).

[111] Helen Thompson, *Fictional Matter: Empiricism, Corpuscles, and the Novel* (Philadelphia: University of Pennsylvania Press, 2017).

[112] Marjorie Hope Nicholson, *Newton Demands the Muse: Newton's Opticks and the Eighteenth Century Poets* (Princeton: Princeton University Press, 1966).

[113] Chico, *The Experimental Imagination*, 9, 12, 134 "The quality of literariness that inheres to natural philosophy as a practice, theme, and metaphor authorizes writers to imagine new definitions of evidence and new modes of authority."

[114] J. Paul Hunter, *Before Novels: The Cultural Contexts of Eighteenth-Century English Fiction* (New York: W.W. Norton & Company, 1990).

of writing, along with art.[115] While there may not be a meaningful historical distinction between what we want to call scientific prose now and the rest, there may be textual categories across both. Rachael Scarborough King looks to letters—such as those printed in the *Philosophical Transactions*—as a "bridge genre," one which makes new and unfamiliar media recognizable by making them look like an older form.[116] The letter, however, may be sometimes merely a form for a genre, not a genre in itself. The genre in that form could be news, within which Andrew Pettegree includes the *Philosophical Transactions*, and which he sees serving a global audience whose demands explain the development of this particular genre.[117] In concord with these studies, I see textual features as shared among different forms of writing. I attend to what Wall calls "textual praxis," to King's "bridge genres," and to Chico's "literary knowledge." I adopt this way of seeing the work of the *Philosophical Transactions* as inhabiting the same world as more traditionally literary works. Because of these studies, I treat the *Philosophical Transactions* as belonging to the same sense of reading as everything else, both published contemporaneously and later on.[118]

Finally, as a philosophical work, the *Philosophical Transactions* begins to propose techniques for literary criticism and methods that inform its own study. As such, I see it as part of the history of literary criticism and literature. Many scholars have drawn critical techniques from the material being criticized. Brad Pasanek's commonplacing methods, or "dictionary or desultory reading"[119] argues for something similar, that the techniques documented in the literary objects under investigation describe methods that can be applied to them. I relate this way of reading literature theoretically and on its own terms to Rita Felski's *Uses of Literature*, which claims common sense responses to literature should form the basis of more nuanced understanding.[120] In both cases, the distinction between the scholar's method and the text

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[115] Cynthia Wall, *The Prose of Things: Transformations of Description in the Eighteenth Century* (Chicago: University of Chicago Press, 2006).

[116] Rachael Scarborough King, *Writing to the World: Letters and the Origins of Modern Print Genres* (Baltimore: Johns Hopkins University Press, 2018).

[117] Andrew Pettegree, *The Invention of News: How the World Came to Know about Itself* (New Haven: Yale University Press, 2014).

[118] I read them, so I know at least some contemporary readers can read them alongside literature.

[119] Brad Pasanek, *Metaphors of Mind: An Eighteenth-Century Dictionary* (Baltimore: Johns Hopkins University Press, 2015), [9].

[120] Rita Felski, *Uses of Literature* (Malden, Mass.: Blackwell Publishing, 2008).

collapse. They both require more honesty and more proximity to the text or material under study. Maggie Nelson's frequently read experiment in autotheory pursues the same approach of using the experience of life to develop critical methods for thinking about gender.[121] Another case where a text assists with its own methods of reading can be found in the *Oxford Handbook of Cognitive Literary Studies*. Mary Thomas Crane's reading of Spenser's allegory of temperance simultaneously draws on and supports the division of manifest and occult signs.[122] Wall's praxis makes the same argument, that these works teach us in their text how to begin to criticize them. In the same way, the *Philosophical Transactions* concerns itself with literary history: How do we read and derive meaning from symbols? And drawing on Francis Bacon, it explicitly takes up the natural history of texts that develop into the bibliographical methods I described at first.[123]

Contexts of Art, Canon, and Reading after the Restoration

Reading builds a canon, but draws on the physical letters in books. Typography itself, which pertains to both the design of and the practice of laying out text for a page, changes slowly. The first printed books looked like earlier forms of writing, not wildly different, because their purpose was pragmatic, in that they served to communicate the words that were written not to demonstrate an innovative new technology. Subsequent printed books continued to mimic their predecessors for the same reason, so the habits of compositors changed slowly. Thus typography changed slowly. So books changed slowly. And then readers changed slowly. A new compositor would study under an established master in a long apprenticeship, seeing new books printed with the same look and layout as old books. What else would a new book look like but the book before it? Observing the same pattern, Robert Bringhurst classifies the history of typography as "natural history" because it traces gradual changes in the secondary characteristics of living creatures, letterforms,

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[121] Maggie Nelson, *The Argonauts* (Minneapolis, Minn.: Graywolf Press, 2015).

[122] Mary Thomas Crane, "Cognitive Historicism: Intuition in Early Modern Thought," in *The Oxford Handbook of Cognitive Literary Studies*, ed. Liza Zunshine (Oxford: Oxford University Press, 2015), 15–33.

[123] Adam J. Miller, "Criticism and Philosophy," ed. Gary Day and Jack Lynch, *The Encyclopedia of British Literature: 1660–1789*, Wiley-Blackwell Encyclopedia of Literature 7 (West Sussex: John Wiley & Sons, 2015).

> The real interrelation of life and letterforms is deeper. They are in fact, not in fiction, natural byproducts of a species of living creatures: as organic in their secondary way as seashells, hoofprints, fossils.[124]

The letters might seem separate from natural history, which typically thinks about animals and plants, but only if we consider people as unnatural or outside of history.

The idea of letterforms as natural history echos Henry Bradshaw's foundational work on bibliography.[125] Richard Beadle relates Henry Bradshaw's method with Victorian "seriality," the systematic recording of sequences of things, such as the nettle specimens of G.R. Crotch. This seriality found itself too in "serial forms of publications—dailies, weeklies, monthlies, quarterlies, annuals and so forth."[126] Writing about *Transactions* in a natural historical mode adopts the method from the object, but Bradshaw himself also explicitly aligns his broader work with natural history, admonishing his contemporary bibliographers,

> If you would treat your subject as a branch of natural history, all the productions of each press as a *genus*, and each book in particular as a *species*, there would be some chance of arriving at some satisfactory results.[127]

He wants us to observe family resemblances between books from the same place, press, and time period. These books are to be organized under subsequently narrower headings based on the patterns present in the materials and the practical purpose for the list. Bradshaw demonstrates this method in his "Classified Index" of the De Meyer Collection, which practically aims to further his study into the fifteenth-century typography of Holland and Belgium, but which draws on a particular book auction in Ghent. He arranges the books "strictly according to their respective countries, towns, and presses; and the year of the earliest dated production of each country town or press being affixed, it is hoped that the arrangement will at once afford its own explanation."[128]

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[124] Robert Bringhurst, *Palatino: The Natural History of a Typeface* (Boston: David R. Godine, 2016), [8] hoof-prints spelled thus.

[125] Richard Beadle, *Henry Bradshaw and the Foundations of Codicology: The Sandars Lectures 2015* (Cambridge: Richard Beadle, 2017), [12].

[126] Ibid., [13].

[127] Henry Bradshaw, "Henry Bradshaw to J. W. Holtrop," in *Henry Bradshaw's Correspondence on Incunabula with J. W. Holtrop and M. F. A. G. Campbell*, ed. Wytze Hellinga and Lotte Hellinga, 2 vols. (Amsterdam, 1866), 86–89.

[128] Henry Bradshaw, "A Classified Index of the Fifteenth Century Books in the De Meyer Collection Sold at Ghent, November, 1869," in *Collected Papers*, by Henry Bradshaw (Cambridge: Cambridge UP, 1870), [207].

These categories litter history like seashells on the beach. Letterforms form by the hand of living creatures, but we do not necessarily see the creatures and only apprehend some of their shells. Thus we can study them with techniques used to study forms of life such as classification and accounting for variation. While Bringhurst restricts his book to the shape of individual letters in the face Palatino, and Bradshaw restricts his note to the De Meyer Collection, both use similar methods. I think their approaches apply equally well to studying the rules and capacities for laying those letters out on a page. We can identify the typical arrangements, understand the capacities of the printers of the time, and determine which arrangements relate to limitations in tools and which relate to aesthetic decisions made by people. After we identify these decisions, we can see when they first develop, where they were used, and when they disappeared, if they disappeared.

Typographical design and layout were not the only change related to books. The changes in the physical characteristics of typography occurred alongside social changes in reading. The period saw the development of what would become the novel[129] as well as news,[130] science,[131] and cheap reprints.[132] More people read more works[133] and the English-language book became an internationally recognized means of communicating, alongside English developing into a global language.[134]

Many readers, overwhelmed by this expansion, seek a core set of works, or canon. Each canon differs depending on the aims of the proposer, but they all select a smaller portion of an increasingly large—and thus increasingly unreadable during a lifetime—mass of texts. For his canon, Harold Bloom argues that aesthetics foregrounded certain styles and artists,[135] echoing

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[129] Hunter, *Before Novels*; Ian Watt, *The Rise of the Novel: Studies in Defoe, Richardson and Fielding*, 2nd American (Berkeley: University of California Press, 2001).

[130] Bob Clarke, *From Grub Street to Fleet Street: An Illustrated History of English Newspapers to 1899* (Aldershot: Ashgate, 2004).

[131] Adrian Johns, *The Nature of the Book: Print and Knowledge in the Making* (Chicago: The University of Chicago Press, 1998).

[132] William St Clair, *The Reading Nation in the Romantic Period* (Cambridge University Press, 2007).

[133] Leah Price, *How to Do Things with Books in Victorian Britain* (Princeton: Princeton University Press, 2012); James Raven, *Publishing Business in Eighteenth-Century England*, People, Markets, Goods: Economies and Societies in History (Woodbridge: Economic History Society; Boydell Press, 2014).

[134] Pascale Casanova, *The World Republic of Letters*, trans. M. B. DeBevoise (Cambridge, Mass.: Harvard University Press, 2004).

[135] Harold Bloom, *The Western Canon: The Books and School of Ages* (New York: Harcourt Brace, 1994).

Goldsmith's identification of "Augustan prose"[136] which–while it represents a different set of books–shares a commitment to aesthetic selection. This approach has been productively enriched by Margaret J.M. Ezell[137] who argues that female authors played a greater role in producing reading matter and that the traditional categories of canon should be replaced by a better canon. Yet in each of these arguments about canon, the process of thinking about literature deduces from an established, broader sense of the purpose of culture rather than inducing from the facts of the books that still exist. Todorov links this sort of definition of literature to his first type within functional definitions and ultimately argues that "society chooses and codifies the acts that correspond most closely to its ideology; that is why the existence of certain [literary] genres in one society, their absence in another, are revelatory of that ideology."[138] Thus, if we believe this, then the selection of canon outlines an ideology and a debate about canon reduces to deciding which way of thinking is best. Since a way of thinking valorizes itself, there's no meaningful stance to decide between the two ways of thinking. If you believe the ideology behind one canon then you'll think that canon is right; if you believe the ideology behind another canon then you'll think that canon is right. Surely there should be a way to think about the books that survive inductively rather than deductively from a particular ideology?

Reading provides another avenue to think about which books mark the age. Leah Price argues that when we focus too closely on literature, we miss the materials of everyday reading pointing out that "…most printed paper is made to be thrown away."[139] Her approach attends to the actual history of readership, but ultimately her arguments are social rather than based on objects. That is, we know how people read now and the social world conjured by their actions, and thus what the printed world must have looked like. This "must have looked like" method corrects errors created the accidents of survival. The books that actually survived don't reflect

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[136] Oliver Goldsmith, "An Account of the Augustan Age of England," in *The Works of Oliver Goldsmith: With an Account of His Life and Writings*, new ed., vol. 4 (London, 1759; from *The Bee*, London: J. Johnson, etc., 1806), 283–92.

[137] Claude Rawson, "Sex and Writing: A Very Modern Approach to a Work of Reference. Review of *the Oxford English Literary History, Volume 5: 1645–1714 the Later Seventeenth Century*, by Margaret J. M. Ezell," *TLS: The Times Literary Supplement*, no. 6059 (May 17, 2019): 15–16.

[138] Tzvetan Todorov, *Genres in Discourse*, trans. Catherine Porter (Editions du Seuil, 1978; Cambridge: Cambridge University Press, 1990), 4–6, 19.

[139] Leah Price, *What We Talk about When We Talk about Books* (New York: Basic Books, 2019), [57].

the social world reflected in history, but "must have looked like" can distort our sense of books that do survive. Handled responsibly, the method helps us to know where to look for even more scarce survivals to confirm the theories we can develop while reading history.

William St Clair's 2004 study of reading also concerns itself with the problems created by errors of survival. He argues that the only way to study reading is to proceed in the spirit of Baconian induction, via "bottom-up from empirical data",[140] and that "in reasonably open markets, there is a strong correlation between the price at which a particular book was offered for sale and the number of copies sold."[141] Thus he examines all the market data he can find to explain how the laws of nations pressure markets, which influence reading, which alters the mentalities of the people. He investigates the process of "tranching down" literature. In it, expensive texts would be reprinted in successively cheaper tranches, widening their reading audience.[142] Ultimately, the most popular "old canon," cheaper ballad, and popular work would be sold by trade publishers to mercuries, who distributed it to hawkers, who shouted in the city; or to itinerant chapmen walking through the countryside, selling their wares.[143] All of this leads him to conclude that "Price, the record suggest, is a good indicator of access."[144] While this dissertation takes the same stance towards empirical data and resists the "parade of texts,"[145] I'm skeptical of the hydraulic model that sees state control driving flows of capital which drive markets, which drive people.[146] For me the parts of literature worth studying are those which make it literary, the texts, themselves persisting outside of markets, resisting commodification in libraries and through piracy, shareable without loss, intangible, and priceless except in particular bodies. But St Clair's data hints at what I suspect, that periodical publication had a greater impact than we have hitherto acknowledged.[147]

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[140] St Clair, *The Reading Nation in the Romantic Period*, [17].

[141] Ibid., [19].

[142] Ibid., [32].

[143] Ibid., [37]; St Clair's terminology is slightly off and I alter it slightly with Michael Treadwell, "London Trade Publishers 1675–1750," *The Library*, 6th series, 4, no. 2 (June 1982): [123].

[144] St Clair, *The Reading Nation in the Romantic Period*, [40].

[145] Ibid., [444].

[146] "A monograph would be necessary to take into account the special situation of these savants whom State science used only after restraining or disciplining them," but I can use their term "hydraulic" as a nod to their monograph, Félix Guattari and Dilles Deleuze, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. Brian Massumi (Paris: Les Editions de Minuit, 1980; Minneapolis: University of Minnesota Press, 1987), 363.

[147] See St Clair, *The Reading Nation in the Romantic Period* [572 ff., 698 ff.] *The Spectator* was produced in 3,000 copies daily, so after five days we're beyond even the largest edition sizes of Shakespeare into the 19th century.

Of course not everyone accepts St Clair's model without reservation. Thomas F. Bonnell writes "the effects of the copyright case are exaggerated by William St Clair, who states that the 'old canon' was 'a direct result of the legal judgment of 1774, and only made possible by 1774.'"[148] He continues to argue that much of what St Clair writes misleads and overemphasizes his focus on laws. Bonnell, instead, adopts an inductive approach on the objects where "the books themselves offer tangible primary evidence of what the publishers thought would sell:" Our object of study should be the development of designs in a complicated marketplace that includes nationalism, the "cultural construction of an aesthetic realm" and a great deal of consumerism.[149] His work describes the objects that survive and how their physical forms indicate their marketing and use. Compared with St Clair, this approach induces its facts from the primary objects of history rather than deducing what those objects mean from models induced from economic data. While the only fair critique of such a study is that it ought to be longer, include more data, and examine more books, it remains restricted to multi-volume collections of poetry. It is not clear if multi-volume collections of poetry represent broader reading habits or if most people were even reading poetry. But if we believe Bonnell and St Clair represent the larger book trade, people were mostly reading canonical poetry and tastes were informed by that.

Leah Orr takes still another approach to understanding the works available from 1690–1730. She reads every single piece of fiction and develops patterns based on what she observes. One of the reasons she can do this is that digital databases have made most of the known fiction available for her to review, and she notes that "By using newly available technology to study all printed texts from a certain time period (not just those in modern editions), we can achieve an understanding of the literature of the past that is more historically sensitive and comprehensive."[150] The method proposes looking at *all* texts, but that takes more than what a single monograph can explain and Orr focuses on fiction in particular.[151] She

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[148] Thomas F. Bonnell, *The Most Disreputable Trade: Publishing the Classics of English Poetry, 1765-1810* (Oxford University Press, 2008), [33].

[149] Bonnell, *The Most Disreputable Trade* [4, 9].

[150] Leah Orr, *Novel Ventures: Fiction and Print Culture in England, 1690–1730* (Charlottesville: University of Virginia Press, 2017), [4].

[151] She's aware of this critique and addresses it explicitly, noting that fiction only composes 0.15% to 2% of works in the period and thus a small part of the works that might be read (ibid., [34–5]).

includes the established opinions of previous scholars on novels and fictions and tests them against the numbers she gets. One technique that I find particularly useful is in her section "Are Satire and Allegory Fiction?"[152] The question comes up because she is classifying texts as "fiction with a purpose" or for "entertainment." It is not clear if a satire and allegory should be purpose or entertainment, but that begs the question—are they even fiction? While she proceeds by numbers and classification for much of the study, here she needs to examine particular works carefully because satire and allegory exist locally. She identifies two "key novels" which straddle "purpose" and "entertainment," along with "satire" and "fiction" and analyzes them, *The New Atalantis* and *John Bull*.[153] Placing them into the larger analytical framework of her quantitative method, she can explain how they relate to the changing expectations associated with fiction. I think this overcomes some of the limitations in the kinds of questions that quantitative data can ask by targeting the descriptive effort to particular works, in way similar what Leo Spitzer proposes in philology as the initial moment in the "hermeneutic cycle."[154] In this dissertation, I have tried to build on this concept of key novels to key works, or projects, or texts that can be attended to within the period of the study.

Talking one way or another about the canon and reading invites wide participation from both specialists and non-specialists, because the shared appreciation of art remains a value found in old and new literature.[155] But, while literary criticism appeals to us all, it is difficult to do precisely because of the complexity of a literary work. The works are instantiated in some physical objects, a few of which still exist, based on the technical capabilities of particular printers. The produced objects circulate in society on the way to being read, and preserved, based on conventional methods and means. This all happens before the printed works enter into the intellectual, literary, or aesthetic thoughts of the people reading the printed work, although the pre-print versions have already been circulating at least among the members of the print shop. To work on literary effects and aesthetics requires careful accounting of the various technological and social activities that happen before, after, and during these effects.

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[152] Ibid., [191].

[153] Orr, ibid., 198.

[154] Leo Spitzer, "Linguistics and Literary History (1948)," in *Representative Essays*, ed. Herbert Lindenberger Alban K. Forcione and Madeline Sutherland (Stanford, Calif.: Stanford University Press, 1988), [17].

[155] Todorov, *Genres in Discourse*, 4 describes how in the late eighteenth century, these expectations shifted from an earlier mimetic model to a enthusiastic Romantic model.

Price, Bonnell, Orr, and St Clair approach accounting in different ways. In each case, the apparent literary work is influenced by technical and social aspects of the time. St Clair argues that changing laws changed what was considered important poetry. Bonnell argues that it was merely improvements in design. Price observes that locations and habits change what people read, and that there is a great deal of reading that remains unrecorded. Orr builds on substantial research into marketing and bibliographical compilations that attempt to separate out the technical and social aspects of the works. The method in each of these cases generalizes from the data that exists and corroborates it with external evidence. I use a similar inductive approach to reason from my evidence explicitly, without relying on unstated, external ideologies to preform my selection. Of course being fully explicit, in the end, is impossible and my position exists within an ideology and system of training, but I try to push against that inherited belief and challenge the system of citation and commonplace I am working within.[156] The designed form of the dissertation aims to defamiliarize the reader so that they question its construction and turn to the technical appendix wherein I describe my assumptions.

The inductive[157] approach I adapt here aims to address these literary effects, but first accounts for technical and social aspects. While these three features of a text are not entirely separate, in figuring out what could and could not be done by printers and what did and did not happen to books in society, we clear the way to understand the intellectual and aesthetic aspects of a literary work. Obviously any literary phenomenon has technical, social, and intellectual components, which I address in turn. By technical, I mean what can be printed, but also how information can be collected and managed. (Commonplace books, for example, are

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[156] Johanna Drucker, *Data as Capta*, Druckwerk Graphical Pamphlet Series 4 (Los Angeles: Druckwerk, 2010) pursues a similar approach, arguing that *capta* describes the captured nature of data as collected in a certain circumstance, for a certain purpose.

[157] I'm deliberately sidestepping the problem of induction outlined by Hume here. My approach is to draw on the pragmatic example of the eighteenth-century Epicurean school of Lucretius, which influenced the basis of the Royal Society, but to update the approach in terms of Bradshaw and Bringhurst pragmatically approaching the text. Francis Bacon inaugurates and inspires this particular type of inductive study, which he explicitly ties to literature and bibliography in his ("Parasceve Ad Historiam Naturalem Et Experimentalem," in *Works*, by Francis Bacon, ed. James Spedding, Robert Leslie Ellis, and Douglas Denon Heath, vol. 1 (London, 1620; From *Novum Organum*, London: Longman and Co.; Simpkin and Co.; others, 1857–1874), 410), item 110; for a general treatment Leah Henderson, "The Problem of Induction," *The Stanford Encyclopedia of Philosophy*, 2019, `https://plato.stanford.edu/archives/win2019/entries/induction-problem/`.

a technology to manage information.)[158] By social, I mean how people marketed, sold, bought, and read books.[159] These two aspects overlap with technical aspects, but I distinguish aspects that either relate mostly to people closely interacting with people, even informally through conversation, as social; or people interacting with objects that may, or may not, interact with people as technical.[160] Siegfried Giedion would call the technical aspects and more obscure social aspects "anonymous history," which examines how "tools and objects are outgrowths of fundamental attitudes to the world."[161] In this sense, the social is not entirely separate from the technical, but different in terms of the evidence available to us now. Social aspects have named evidence, whereas anonymous technical history lives in tradition and craft practices.[162] Having distinguished these first two effects, and enumerated which ones are in play for a particular work, by process of elimination, what remains must be due to the intellectual components arising from thoughts resulting from the aesthetic experience, understanding, and the influence of the work on minds. That is, if external social inducements haven't produced an effect nor have external technical inducements, then the effect must come from the work itself. This method mimics the process of falsification, where we identify possible answers and then prove

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[158] Richard Yeo, *Encyclopaedic Visions : Scientific Dictionaries and Enlightenment Culture* (Cambridge Univ. Press, 2001), chap. 1 overviews the movement from commonplace books through various other forms.

[159] Raven, *Publishing Business in Eighteenth-Century England* gives a thorough treatment of the markets.

[160] This separation between social and technical builds on the distinction between the *episteme* and *techne* as well as Friedrich A. Kittler's growing sense of "technical media," which evolves over his work. In Friedrich A. Kittler, *Discourse Networks: 1800 / 1900*, trans. Michael Metteer and Chris Cullens (Wilhelm Fink Verlag, 1985; Stanford: Stanford University Press, 1990), "technological media" (229) lives like the occult media in the unconscious, which cannot be believed on its own, but can be stored. Yet, the "technologically possible manipulations" determine how these media "become a discourse"—become part of human life (232). This distinction becomes equivalent to hermeneutic availability (247)—being able to understand or mean something. In Friedrich A. Kittler, "The History of Communication Media," ed. Arthur Kroker and Marilouise Kroker, *CTHEORY*, July 30, 1996, `http://www.ctheory.net/articles.aspx?id=45`, the "technical concept of information … avoids any reference to ideas or meanings and thus to people." He continues that "technical media" avoid the "code of a workaday language" and operate "faster than human perception," thus relate to code and mathematics. While referring mostly to audio recording, telephones, computers, and such he also mentions "there must always have been technical media." This stance is clarified in Friedrich A. Kittler, "Towards an Ontology of Media," *Theory, Culture & Society* 26, no. 2–3 (2009): 23–31, doi:10.1177/0263276409103106 which explains that writing is the "technical medium" of philosophy. Building on the speeding-up, he cites printing and codices as the unconscious part of writing (27). In this arc, the technical aspects of media, like books, are those which do not immediately present themselves to knowledge, reading, and thought. They can be too fast or below note in other ways, like aspects of typography for the non-professional.

[161] Siegfried Giedion, *Mechanization Takes Command* (Oxford: Oxford University Press, 1948; Minneapolis: University of Minnesota Press, 2013), [3].

[162] Another way to distinguish these kinds of evidence would be in the categories put forth by G. Thomas Tanselle in his *Syllabus*. What I call the "social" he might place under "Printing and Publishing History" or "Books in Society," whereas what I mean by the "technical" he might place under "Analytical Bibliography" G. Thomas Tanselle, *Introduction to Bibliography: Seminar Syllabus* (Charlottesville: Book Arts Press, University of Virginia, 2002).

one wrong after another.[163] My approach here is to chart the first two to form a solid ground on which to do the latter.

Since technical and social aspects which concern us deal with literary works broadly, it is a step forward to understand these clearly in at least one context first. The main effects shared by all literature will be present in a good example and we can later understand which effects were special. To find and isolate as many of these main effects as possible, it is worthwhile to start with a widely read, frequently cited, often studied, yet apparently uniform project that extends over the whole period we're considering, *Philosophical Transactions of the Royal Society*.

Books as Composites

With the complexity of the production of the *Philosophical Transactions* and our present distance from first-hand accounts, I needed to settle on a historiographical method. Trained as a bibliographer, I am used to the sorts of critiques presented by Shef Rogers about interpreting beyond the evidence. He outlines a frequent situation where a literary critic can imagine deliberate expression where a simple physical limitation explains the situation.[164] Trained also as an archivist, I am used to the—often misunderstood—critiques of D. F. McKenzie that at the other extreme we may over interpret because we have restricted the evidence we will look at. He points out that the archival record of Cambridge University Press contradicts the assumptions that some bibliographers had adopted to support their methods.[165] Those critiques have in common that they point out the book as a composite of actions and choices by actors that we cannot always correctly reconstruct. Yet, as a composite of these actions and choices by actors, the books are the primary evidence for these activities. Hence, I seek first to understand the primary records, the composites which are commonly called books.

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[163] D. F. McKenzie, "Printers of the Mind: Some Notes on Bibliographical Theories and Printing-House Practices," in *Making Meaning: "Printers of the Mind" and Other Essays*, by D. F. McKenzie, ed. Peter D. McDonald and S. J. Michael F. Suarez (Amherst: University of Massachusetts Press, 2002), 18–21 calls this the "hypothetico-deductive method" and proposes it as a way of getting around the biases we all have. Of course, truly doing that is impossible, but it seems worthwhile to try.

[164] Shef Rogers, "How Many t's Had Ezra Pound's Printer?" *Studies in Bibliography* 49 (1996): 277–83.

[165] D. F. McKenzie, "Printers of the Mind: Some Notes on Bibliographical Theories and Printing-House Practices," in *Making Meaning: "Printers of the Mind" and Other Essays*, by D. F. McKenzie, ed. Peter D. McDonald and S. J. Michael F. Suarez (Amherst: University of Massachusetts Press, 2002), 13–85.

My method, then, is to look at the *Philosophical Transactions* first and to collect any evidence that I see about their history as books. I went to as many collections as I could and looked at as many copies as I could, noting their collation, bibliographical fingerprint, and any other evidence—including what the text said—that was about how they were written or produced. You can see this material at the end of this section along with the details of how I collected that information. Using the primary source of the book itself, I read other treatments of the same materials and considered the accuracy and sufficiency of those treatments based on what I had seen. My approach mimics the mathematical constructivists, who only admit proofs that construct all the facts they aim to prove, an approach I see advocated by Francis Bacon, past bibliographers, and the Royal Society itself. Rather than "intervening in a conversation," I imagine my contribution in positive terms, of adding to and supplementing all the valuable work that has already occurred. In particular, a great deal of energy has been spent digitizing runs of the *Philosophical Transactions* as evidence of Restoration and eighteenth-century life, so I see a substantial portion of my work as collecting the information needed for other scholars to accurately and effectively use those digital copies. Plenty of thinkers continue to find helpful examples in the *Philosophical Transactions*, of ideas, of literary methods, of eighteenth-century life and culture, and of the history of science. I'd like to help their use of digital resources be more accurate and responsible.

Given the promise of new digital technologies, many thinkers have returned to a fundamental question, what is a book? The French *Annales* School has inspired several meingful approaches. Lucien Febvre and Henri-Jean Martin look at the economics of early printing and how practices repeat and become more efficient due to the intervention of culture and economics.[166] Building on Marshall McLuhan's *Gutenberg Galaxy*, Elizabeth Eisenstein takes the analysis of culture a step further and considers the printing press as an agent of change—a shift in the media that changes the ratio of thought and therefore *how* people thought.[167] Her approach has inspired studies of books including William St. Clair's study, which examines

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[166] Lucien Febvre and Henri-Jean Martin, *The Coming of the Book: The Impact of Printing 1450-1800*, ed. Geoffrey Nowell-Smith and David Wootton, trans. David Gerard (London: Verso, 2010).

[167] Marshall McLuhan, *The Gutenberg Galaxy: The Making of Typographic Man* (New York: Signet Books, 1962); Elizabeth L. Eisenstein, *The Printing Press as an Agent of Change: Communications and Cultural Transformation in Early-Modern Europe* (Cambridge: Cambridge University Press, 1979).

the restrictions on production that created a canon of central poetic texts.[168] Thomas Bonnell responds to St. Clair's argument by studying the role of the creation of series by publishers, arguing that these series deliberately fabricate culture rather than merely respond to market forces and copyright issues.[169] This approach of examining books within their cultural influences is carried forward in Andrew Piper's work by examining the romantic idea of reading, and romantic texts, along with how they create expectations for readers, linking the literary understanding of works of art to the construction of bibliographical objects that reflect the expectations of readers.[170] While there are naysayers such as Joseph Dane—who argues that the actual practices are too varied to be brought into a uniform model—the idea that a book is a collaboration between technological capabilities and cultural expectations that creates a socially constructed object has proven insightful.[171] That a book is socially constructed as an object of different forces seems profoundly uncontroversial.

Social construction, however, is a bit vague. Ian Hacking reminds us that calling something "socially constructed" seems like an end—his examples are things like anorexia and science—while it actually tells us very little.[172] Pointing out that something socially constructed makes it seem somehow less real than other things, a troubling implication he brings out in his review of the DSM-5.[173] Mental illness is almost certainly socially constructed and varies with culture and time, but a classification of these socially constructed attributes allows us to help relieve real people of real discomfort. Were one to argue that mental illness is socially constructed (which Hacking thinks it is, for the most part) and therefore not real, we would be

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168 William St Clair, *The Reading Nation in the Romantic Period* (Cambridge University Press, 2007); William St Clair, *The Political Economy of Reading*, Revised edition, October 2012, John Coffin Memorial Lecture in the History of the Book (http://www.ies.sas.ac.uk/sites/default-files/files/Publications/Coffin%20lectures/stclair.pdf; School of Advanced Study, University of London, 2012) provides an excellent summary of his method.

169 Thomas F. Bonnell, *The Most Disreputable Trade: Publishing the Classics of English Poetry, 1765-1810* (Oxford University Press, 2008).

170 Andrew Piper, *Dreaming in Books: The Making of the Bibliographic Imagination in the Romantic Age* (Chicago: University of Chicago Press, 2009) begins this line of inquiry, but specifically for the Romantic period; Andrew Piper, *Book Was There: Reading in Electronic Times* (Chicago: University of Chicago Press, 2012) generalizes the same approach to digital technologies.

171 Joseph A. Danes, *The Myth of Print Culture: Essays on Evidence, Textuality, and Bibliographical Method* (Toronto: University of Toronto Press, 2003).

172 Ian Hacking, *The Social Construction of What?* (Cambridge: Harvard University Press, 1999).

173 Ian Hacking, "Lost in the Forest," *London Review of Books*, August 8, 2013, 7–8.

unable to help real people. He argues that faced with a social construction we ought to not ask "for the meaning, ask what's the point."[174]

What, then, is the point of the social construction of the book? Or put into a phrase I like better, what is the point of looking at bibliography from the point of view of books in society? I turn to two figures to think about this: G. Thomas Tanselle and Alfred Pollard. In his article on "The Description of Non-Letterpress Material in Books" Tanselle argues that a description of a book incorporates non-letterpress material in a complete description of the "composite entity," where portions produced by wholly incomparable methods—intaglio and letterpress—are combined into one *issue*.[175] That is, the publisher or bookseller creates a composite entity that is the book by issuing the results of various planned production systems and this entity—as it is received—participates in certain social and cultural forms. The systems of production are tied to economics, since you must buy the presses, paper, leather, tools and resources, but scholars like Dane and Bonnell are right that it is not solely economic. Pollard's introduction to the *British Museum Catalogue* explains that in his study of fifteenth-century books, building on the previous work of Robert Proctor, he found two principles that let him classify books by their producers, habits and efficiency.[176] All other things being equal, he found that printers and associated book-workers would do things in the same way. As these book-workers were participating in an international apprenticeship system, particular habits might be mobile and these habits can be traced with the people carrying them around in the fifteenth century. After those early years, the sharing of habits created a more uniform system that changed slowly. The main driving force for change, he found, was efficiency because book-workers would generally adopt the more efficient approach over time. Usually, this was efficient production; efficient transmission of meaning was secondary. Habit essentially retards improvements in efficiency both in production and in transmitting meaning.

A refinement of this argument about habit and composites can be made for the production of English books from 1650 to 1750, a period of remarkable improvement for English typography. From pamphlets and plays printed on imported paper, with imported type, set

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[174] Hacking, *The Social Construction of What?*, 5.
[175] G. Thomas Tanselle, "The Description of Non-Letterpress Material in Books," *Studies in Bibliography* 35 (1982): 23.
[176] Alfred W. Pollard, "Introduction," in *Catalogue of the Books Printed in the XVth Century Now in the British Museum*, vol. I (London: Trustees of the British Museum, 1908).

by imported workers, the English book develops into a vibrant Grub Street and later an even more vibrant London trade in shared printing and large novels. Habit still held back gains made by efficiency, but we can see another significant influence on British books—continental books, particularly French ones. Mimicking the regularized look of French books may have reduced some efficiency, but as Richard Wendorf has demonstrated over and over again, French influences become substantial in their own right for this time period.[177]

In his series of studies, Wendorf notes that typography of this time period moves from an old style to a new style, from dense, asymmetric pages to more spaced, symmetric pages. The English book becomes more French. Yet this description is somewhat imprecise because "England" and "France" are hardly actors in this change; it is the book-worker whose habits retard efficiency and enable us to see mimicry of national styles. Rather than just looking at social forces and nation-states in the change, I propose adopting Tanselle's concept of composite entities to uncover each production process and how the products of these processes were joined into a composite entity. Each unit has a separate biography and the composite as a whole has its own biography. Indeed, we must remember that an "edition"—all the copies of a book set from substantially the same type—is actually just a finite number of different objects that publishers and bibliographers imagine unified. Charlton Hinman, for example, uncovers an "enormous body of bibliographical evidence" in the wild variation of the text of the First Folio of Shakespeare.[178] Each sheet was altered as it was printed, produced by a different team and followed different copy; Hinman discovered that treating each sheet as a separate entity that was knit together allowed him to uncover something about the history of Jaggard's shop. The First Folio comprises a series of easily distinguished objects and no two are quite alike. Furthermore, a book itself, even the letterpress part, is brought together following a plan by a producer and—as in the case of a nonce edition—each portion may have a separate life outside of the composite entity. Indeed, each piece of paper with whatever distinctive ink marks it may have, has a separate history and is only integrated into a socially accepted object by the act

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[177] Richard Wendorf, "The Secret Life of Type," in *The Scholar Librarian: Books, Libraries, and the Visual Arts* (Boston: Athenaeum, 2005), 182–201; Richard Wendorf, "Abandoning the Capital in Eighteenth-Century London," in *Reading, Society, and Politics in Early Modern England*, ed. Kevin Sharp and Steven N. Zwicker (Cambridge: Cambridge University Press, 2003), 72–100.

[178] Charlton Hinman, *The Printing and Proof-Reading of the First Folio of Shakespeare* (Oxford: Clarendon Press, 1963), 9.

of issuing. Steve Tabor has recently demonstrated just how complicated the bibliographical history of each page can be, each with a separate bibliographical history in just this way. In examining the *Triumph of Peace* page by page, he recovers the starts and stops of printing which affects each surviving copy, but for which no one copy is a sufficient witness.[179] Because of this, I think we must look to the producers of the books, insofar as we can know things about them, to understand the book'ss nature as composite entities.

Harry Carter's forward to Percy Simpson's study of proof-reading helpfully outlines the argument Simpson sets out in his book and corrects a few mistakes.[180] Following Joseph Moxon and John Smith closely, Simpson provides rich primary documents and evidence to outline the production of books during his time period.[181] I'll summarize: an author, or writer, or compiler, produces a *copy* in manuscript. This copy may be "fair"—that is copied out with revisions made—or may be "foul"—that is full of revisions throughout—or may be something in between. The fairer was preferred by printers since it was easy to set type from, but certainly not what they always got. The copy might indicate certain features—Alexander Pope, for example, indicated type, layout, punctuation, notes and page breaks[182]—or might leave even punctuation out. Having acquired a copy, a bookseller sometime employed one of two types of correctors: a house corrector or a learned corrector. The difference was primarily in their attainment of learned languages—a printer producing an edition of Virgil wanted a scholar of Latin to check the text.[183] This corrector could also be hired on an *ad hoc* basis or provided by the author; he could also *be* the author or the master printer. He mainly worked with printed sheets, to correct them to match the copy, but might mark-up the author's copy to save himself time later. This practices seems to have shifted dramatically around 1737 when authors were excluded from the printing-house.[184] Prior to this, an author might "attend the press"[185] and

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[179] Steve Tabor, "James Shirley's Triumph of Peace: Analyzing Greg's Nightmare," *Studies in Bibliography* 60 (2018): 107–211.

[180] Harry Carter, "Forward to the Reprint," in *Proof-Reading in the Sixteenth, Seventeenth and Eighteenth Centuries*, by Percy Simpson (Oxford: Oxford University Press, 1970), v–xii; Percy Simpson, *Proof-Reading in the Sixteenth, Seventeenth and Eighteenth Centuries* (Oxford: Oxford University Press, 1935).

[181] Joseph Moxon, *Mechanick Exercises on the Whole Art of Printing, 1683-4*, ed. Herbert Davis and Harry Carter, 2nd ed. (1683–1684; repr., New York: Dover, 1962); John Smith, *The Printer's Grammar: 1755* (London: Gregg Press, 1965).

[182] Simpson, *Proof-Reading in the Sixteenth, Seventeenth and Eighteenth Centuries*, 100–101.

[183] Ibid., 110, 123 ff.

[184] Ibid., 43–44.

[185] Ibid., 49.

provide both proof corrections and revisions to their text while it was printing, but after this time printers generally excluded them from the printing-house. Thus, the role of corrector after this must have been more formalized and predictable. Without proof correction, printed pages had turned type, raised spaces, wrong letters and a host of other problems; if the author could be relied upon to review these, a printing-house might not need to employ a corrector, but if the author was not doing this, they must have employed someone. After sometime around 1680, the master printer—or another skilled printer—would cast-off the text, indicating page breaks before setting occurred and also possibly correcting, punctuating or providing other instructions to the compositors who set the type.[186] From this we can see that the author's copy was often altered prior to printing and often not by the author. A compositor—paradoxically—was to follow the copy **exactly** but also fix obvious errors. Moxon explains,

> Nor (as afore was hinted) as a *Compositer* bound to all these Circumstances and Punctilio's, because, in a strict sense, the Author is to discharge him of them in his *Copy*: Yet it is necessary the *Compositers* Judgment should know where the Author has been deficient, that so his care may not suffer such Work to go out of his Hands as may bring Scandal upon himself, and Scandal and prejudice upon the *Master Printer.*[187]

Smith has similar expectations with regards to pointing,

> Since, therefore, we have a sufficiency of Points whereby to express the construction of a subsect [i.e. subject], Pointing ought to be consider'd as a very material article with Authors, whose business it is to give in their Copy for the Press, not only clear and legible, but also Pointed to their own liking: for since Pointing is become a mere humor, which is sometimes deaf to rule and reason, it is impossible for a Compositor to guess at an Author's manner of expressing himself, unless he shews it in pointing his Copy: and if he would have the Reader imitate him in his emphatical delivery, how can a writer intimate it better than by Point his Copy himself?

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[186] Moxon, *Mechanick Exercises on the Whole Art of Printing, 1683-4* provides a cumbersome but workable way to cast-off; Smith, *The Printer's Grammar* provides a much simplified method.

[187] Moxon, *Mechanick Exercises on the Whole Art of Printing, 1683-4*, 219, (cf. 192).

> But notwithstanding this essential duty, incumbent upon Authors, not all have regard to it, but point their Matter either very loosely, or not at all: of which two evils, however, the last is the least; for in that case a Compositor has room left to point the Copy his own way; which, though it cannot be done without loss of him; yet is not altogether of so much hinderance as being troubled with Copy which is pointed at random, and which stops the Compositor in the career of his business more than if not pointed at all.[188]

So, in both cases a printer wanted an author to give complete instructions for the printing-house to follow, but authors didn't do this. The compositor, along with the corrector, is expected to make-up for this shortcoming, while not meddling with the text. The preliminary correction seems to accomplish this obligation for authors when they have not done it.

Having set a galley of type, the compositor would break the letters up into pages and impose them—putting them in the right arrangement for printing. A proof would be taken—often on a press in shabbier shape or possibly by rolling ink on the type without a press—and the proof would be brought to the person functioning as corrector. This step wasn't really optional, as we will see, so in a shop without a dedicated corrector, the master printer might serve. The aim of this proof was to fix the literal errors where the printed sheet differed from the copy.[189] A reader, often a boy, would read the text aloud from the copy and the person functioning as corrector would mark wrong words, but more importantly, wrong type: turned letters, raised spacing, and other materials that would mar the page. It seems that throughout this period, this proofing for literal errors always occurred since it's discussed extensively in both Moxon and Smith. Before 1739, the author himself might attend the press to assist, but after that printers excluded them from their shop most of the time. A second set of prints might be made after this first proofing. Moxon calls the second set "revises." These revises would be checked by a corrector, or sent to the author to check, or not, depending on the balance of the desire for correctness against the costs of leaving type standing and unused capital in purchased

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[188] Smith, *The Printer's Grammar*, 86–87, (cf. 199–200 and 273–4).

[189] Carter, "Forward to the Reprint" bemoans the fact that Simpson doesn't quite understand the difference between *proof* and *revise*; the former is concerned with these literal errors and the latter revision.

paper that would be held-up by more revision.[190] The calculation of cost and benefit must change after 1739 when these revises would be sent out of the shop. Thomas Jefferson, for example, revised sheets of his *Notes* dozens of times and annoyed the printer. Furthermore, the unrevised (and sometimes unproofed) sheets might be mixed in with the corrected sheets. Hinman finds these throughout the First Folio. Simpson argues that the presence of uncorrected sheets in issued books may have something to do with the fee copies given to compositors and correctors as part of their payment. These sheets would be assembled and gathered into the kits necessary to make a book as they were needed.[191]

At this point, a book is issued in a planned unit. Fredson Bowers's sense of "ideal copy" refers to the version with all the possible changes at their correct state.[192] This historical fact can be recovered by looking at all existing copies and the changes that were made, the "examinatio" from Paul Maas's study.[193] Late changes to a text might be the occasion for reprinting leaves or whole sheets, or pasting a slip over the already-printed text. These processes are integrated into the plan of an issue. A book being issued hardly ends the story and authors might continue to revise afterward, for presentation copies to friends—where manuscript corrections are common[194]—or for a planned reprinting with revisions.

This outline suggests an interpretation of evidence immediately. The presence of errata means the author was not revising as the sheets came from the press. Thus, generally, errata tell us that the author did not attend the press. Perhaps he received an "advance" copy, nearly completed, and sent revisions to be included in the last part printed. Or, in the case of the *Philosophical Transactions*, he might send revisions to be included in the next—or even later—number of the series. Furthermore, we cannot be certain who is responsible for particular visual features in typography and text. It may be that the author put something in his copy, which was ignored or followed, which may be corrected or not, which may be set in one way or another, which might be corrected or not, which might be revised or not, that might be presented in an advance copy to the author to revise or not, which might appear in errata or not.

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[190] Indeed, an author might be revising too slowly for a printer as in Simpson, *Proof-Reading in the Sixteenth, Seventeenth and Eighteenth Centuries* 44

[191] Ibid., 18–19 (cf. fee copies on 150–152).

[192] Fredson Bowers, *Principles of Bibliographical Description* (1949; repr., New York: Russell & Russell, 1962), 113–15.

[193] Paul Maas, *Textual Criticism*, trans. Barbara Flowers (Oxford: Clarendon Press, 1958), 10 ff.

[194] Simpson, *Proof-Reading in the Sixteenth, Seventeenth and Eighteenth Centuries*, 25.

We cannot even be certain that authors acquiesced to changes, since they might not have seen an advance copy at all. The book, rather than a collaboration, is a composite entity of different productions, each of which can be explored separately and documented separately. The apparent uniformity of the book cannot be defended in general as the result of any particular agents. Yet, the composite book is the best, and often only, evidence we have. Like the words chosen for a text, which may be altered along the way, the visual features of a book were intended by some person in the production chain, acquiesced to by others, and unnoticed by the rest.

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Description of the *Philosophical Transactions*

Before attempting to understand the influences of a text on peoples' minds and the subsequent influence this might have on their writing or reading, we must first determine the form in which they encountered the text and the context in which they came across it. Since we cannot know a text that is not manifested to us in some form. Whether printed, written, spoken aloud, engraved on stone, or otherwise, we cannot experience a text without a form. It is possible that a text is presented in a form so routine and expected that the form is not noted by a reader—but even this is an effect of the form, a form that meets expectations. In the same way that a text is made manifest in a form, an encounter with the form must occur in a place and time, that is a context. In a way similar to form, the context can be so routine and expected as to be unworthy of note, but this too is a result of the context. Thus a fundamental aspect a text in history, no matter its significance later on, is its forms and contexts through time.

For a printed work, the form is the result of its production and subsequent alteration, and its context, the result of its initial distribution and subsequent circulation. So, when presented with a text, manifested in a form, in a particular context, its history begins with production and distribution, which set the stage for the subsequent influence, alteration, and circulation. The first aspect to investigate, then, is the initial production and distribution which defines the situation which is altered and modified by subsequent actions.

That the *Philosophical Transactions* of the Royal Society impacted the minds and letters of the literate world is generally accepted. Indeed, J. Paul Hunter argues that it, along with

other text from the Royal Society and the savants who were in it, prepared the way for the novel through

> two converging cultural movements … One is the empiricist that had, for a century, been changing the grounds of authority in the whole Western world through its claims that meaning derived only from the observation of data. The second involves the validation of individuals, not necessarily trained individuals, as observers and interpreters.[195]

Hunter is speaking more broadly about all forms of journalism in which he includes the *Transactions*, arguing that focusing on the observed details of experiments and trusting not only those elected to the Society and present at the meetings, but anyone who gets their hands on a copy of the *Transactions* to be able to interpret the results reported there or participate in making further observations. This turns out to be linked to a necessary condition—that of believing in the empirical project implied by the existence of natural history texts in public circulation—of the emergence of the novel.

Furthermore, the concept of literature was far broader for the early modern period. In the early part of the seventeenth century, Francis Bacon explains, in his dedication of his *Advancement of Learning* (1605) to King James I, the cultural value of literature and learning that both the king and Bacon's approach represents, meaning made through reading materials both sacred and profane:

> I shall say is no amplification at all, but a positiue and measured truth: which is, that there hath not beene since Christs time any King or temporall Monarch which hath ben so learned in all literature & erudition, diuine & humane. … And the more, because there is mer [*i.e.* met] in your Maiesty a rare Coniunction, aswell of diuine and sacred literature, as of prophane and humane; So as your Maiestie standeth inuested of that triplicitie, which in great veneration, was ascribed to the ancient *Hermes*; the power and fortune of a King; the knowledge and illumination of a Priest; and the learning and vniursalitie of a Philosopher.[196]

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[195] J. Paul Hunter, *Before Novels: The Cultural Contexts of Eighteenth-Century English Fiction* (New York: W.W. Norton & Company, 1990), 197.

[196] Francis Bacon, *The Tvvo Bookes of Francis Bacon: Of the Proficience and Aduancement of Learning, Diuine and Humane* (London: printed for Henrie Tomes, 1605), f. 2^{v}.

Since Bacon is arguing for the creation of an institute to record and publish human learning, he flatters James I's sense of himself as a learned king. Alluding to Hermes, he argues that the king knows sacred and secular literature, and contains three types of expertise: the authority of kings, knowledge of priests, and capacities of philosophers. But, the scope of "literature" here means written matter as contrasted from the other sort of knowledge "erudition." Bacon's empirical project suggests that this is a knowledge of the reading matter of the era tempered by experience and understanding. The ability of the priest is his faith and spiritual enlightenment and the ability of the philosopher is the application of learning to universal properties. It is not sufficient for the king to know the popular reading material of the time, or the mere poetry, but he knows all forms of literature and is able to apply the ideas in literature to a wide range of problems and experiences. Literature is not *belle lettres*, but a broad range of human knowledge in written form. This concept of literature beyond what we would typically call literature is amplified as the century continues.

Thomas Browne explains in his mid-seventeenth-century encyclopedia of vulgar errors that poets and poetical writers have value but that when we read them we are reading only a portion of literature this is concerned with fiction,

> Lastly, Poets and Poetical Writers have in this point exceeded others, trimly advancing the Ægyptian notions of *Harpies, Phœnix, Gryphis,* and many more. Now however to make use of fictions, Apologues, and fables be not unwarrantable, and the intent of these inventions might point at laudable ends: Yet do they afford our junior capacities a frequent accasion of error, setling impressions in our tender memories, which our advanced judgements generally neglect to expunge. This way the vain and idle fictions of the Gentiles did first insinuate into the heads of Christians; and thus are they continued even unto our daies.[197]

Browne's book is concerned with the source and nature of error in popular thought and this section of the introduction concerns how error might have come to be. Arguing that the serpent first introduced error to Adam and Eve, he explores why error continues to exist and argues that these "Poetical Writers" continue to repeat inaccurate stories that we read as young and

[197] Thomas Browne, *Pseudodoxia Epidemica; or, Enquiries into Very Many Received Tenents, and Commonly Presumed Truths*, 3rd ed. corr. and enlg. by the Author (London: R.W. for Nath. Ekins, 1658), 27.

impressionable people, so that the idea of false creatures continues to remain foremost in our minds. It is, importantly, not that we read only poetical writers, but that our exposure to less error-prone writers does not manage to remove the original taint of error that these early reading materials contain. He continues,

> Our first and literary apprehensions being commonly instructed in Authors which handle nothing else; wherewith our memories being stuffed, our inventions become pedantick, and cannot avoid their allusions; driving at these as at the highest elegancies, which are but the frigidities of wit, and become not the genius of manly ingenuities. It were therefore no loss like that of *Galens* study, if these had found the same fate; and would in some way requite the neglect of solid Authors, if they were less pursued. For were a pregnant wit educated in ignorance hereof, receiving only impressions from realities; upon such solid foundations, it must surely raise more substantial superstructions, and fall upon very many excellent strains, which have been jusled off by their intrusions.[198]

Having signaled its potential flaws, Browne comes back to the topos of education. He argues that exposing the young to false ideas in imaginative literature causes them to have false ideas later in life. That is, reading only poems and fiction means that a reader has an incomplete view of literature and of reality and may easily fall into error. Rather than understanding what something means, people are distracted by rhapsodies of wit and allusions that become the subject of interest rather than the meaning and purpose of texts. He argues that exposing young people to natural history will better prepare students to the right intuition of the world. Citing Galen, whose work was largely destroyed in a fire at the Temple of Peace in 192 AD,[199] he implies that if more poetical literature had been lost we would not have as much confusion. He alludes to Galen throughout his work, not just here, initially citing six sources of verbal errors which he reduces to two: equivocation, "ambiguity of some one word" and amphibologie, "ambiguous syntax of many [words] put together."[200] The six sources of error come initially from Aristotle, but the simplification comes from Galen's *De Captionibus* which seeks to find

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[198] Ibid.

[199] R. J. Hankinson, "The Man and His Work," in *The Cambridge Companion to Galen*, ed. R. J. Hankinson (Cambridge: Cambridge University Press, 2008), 21–22.

[200] Browne, *Pseudodoxia Epidemica; or, Enquiries into Very Many Received Tenents, and Commonly Presumed Truths*, 10.

the principles underlying Aristotle's classification.[201] Browne's relationship to Galen has been a topic of interest, but generally comes because "Galen not only gets things right, he can explain how it is that he does so, at least in general terms and at least to the logically literate."[202] Rather than relying on authority from the past, Browne wants thinkers to assess for themselves and he sees Galen as epitomizing the sort of thinking that moves in two circles, one that finds new knowledge and one that corrects the old knowledge.[203] Browne argues for a larger project of reading and experience which relies on authorities but checks them against experience. While he dives deeply into the inherited classical path, it is to recover thoughts not to recover facts. His concern with poetry is that its beauty, while it can be useful, distracts us from confirming the assertions that it leads us to make about reality.

Before dismissing Browne as a eccentric voice in the seventeenth-century, it's worth remembering that his work went through five editions and became the standard encyclopedia of his age. It is also worth noting that his ideas were not at all isolated to Britain. In the same time period, Etienne Pascal was educating his son Blaise Pascal in the new light of natural philosophy that was overtaking the darkness of previous scholastic thought.[204] In a sense, the literature of the seventeenth century included all matter of reading material and, along with it, experience. So, saying that the *Transactions* influenced literature is a vacuous statement. The *Transactions* is the literature of the period, which continued to influence other forms of literature including the novel. Moving into the eighteenth century, this same conception of literature remains.

Daniel Defoe is credited with *An Essay Upon Literature, or, An Enquiry into the Antiquity and Original of Letters* (1726), perhaps incorrectly, but nonetheless it represents a view of

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[201] Robert Blair Edlow, *Galen on Language and Ambiguity: An English Translation of Galen's 'De Captionibus (On Fallacies)' with Introduction, Text, and Commentary*, Philosophia Antiqua: A Series of Monographs on Ancient Philosophy (Leiden: E. J. Brill, 1977), 40 ff., 89, *90.*

[202] Hankinson, "The Man and His Work," 9.

[203] Browne, *Pseudodoxia Epidemica; or, Enquiries into Very Many Received Tenents, and Commonly Presumed Truths*, A2v.

[204] "Cette époque est remarquable dans les annales de l'espirt humain et dans l'histoire des sciences en particulier. Les ténèbres de la philosophie scholastique se dissipaient peu-à-peu aux approches de la lumière que commençait à répandre l'étude des sciences naturelles. (L. G. Michaud, ed., *Biographie Universelle, Ancienne Et Moderne, Ou Histoire, Par Ordre Alphabétique, de La Vie Publicque Et Privée de Tous Les Hommes Qui Se Sont Fait Remarquer Par Leur écrits, Leurs Actions, Leurs Talents, Leurs Vertus Ou Leurs Crimes*, 1811–1828, 33:46)

literature emerging in the eighteenth century.[205] In it is argued that "had the World known Letters, and could thereby have written down a true History of the Lives of the Great Men of the first Ages of the World, as well the Post Deluvian Heros … they wouldn't have made them Gods and Stars."[206] Echoing Browne, this points out that literature's job is to record what happens and that the perversions of oral transmission and folk stories obscure this past. Defoe, or whoever wrote this essay, sees the Christian tradition as indisputable, yet still twisted from the original aims of describing the events of life. For his essay, literature consists of accounts of happenings and that poetical works and fictions are debased versions of true accounts. Like Browne, the attractiveness of poetic forms distract from the important histories and meaning described in reading material of the time period. This responds to the earlier sense of error by proposing a solution, drawing on the chronology established by theological authorities. In both cases, we have an acceptance of the texts inherited from the past, but with a sort of check. In Browne's case, one should extract the reasoning implied by the text itself and check the results against a list of known errors. In Defoe, or whoever, this check is the factual truth of the old testament and its implications. In either case, the scope of literature and reading material is much larger than just published fictions and includes a wide range of reading materials.

Having outlined how the *Transactions* not only influence later novels but themselves are a form of literature, we now examine the form and context that the texts appeared in. Yet, like Browne, Bacon, and Defoe we consider the authorities of the past through the evidence that we can muster.

Perceptions of the Form

The world does not lack for descriptions of the *Philosophical Transactions.* Quoting the Royal Society's own blog, Wikipedia tells us that the *Transactions* was established in 1665 as the first journal devoted entirely to science and, as it continues to the present day, it is also the oldest scientific journal. Wikipedia helpfully lets us know that the word "philosophical" in the title means "natural philosophy" which means "science." Surely, the good-natured editors at the

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[205] Geoffrey Sill, "Daniel Defoe. *An Essay on the Original of Literature* [Review]," *The Scriblerian and the Kit-Cats* 42, no. 1 (2009): 72–73; James Kennedy, W. A. Smith, and A. F. Johnson, *Dictionary of Anonymous and Pseudonymous English Literature (Samuel Halkett and John Laing)* (Edinburgh: Oliver; Boyd, 1926), 2:206.

[206] Daniel Defoe, *An Essay on the Original of Literature (1726)* (Baltimore: Owlworks, 2007), 11.

Royal Society's blog and Wikipedia are telling us something true about the form, something that would have even been true in Francis Bacon's vision that the members of the Royal Society continue to follow, that experiments must modify written knowledge and correct it:

> Thus we must seek to acquire a greater stock of experiments, and experiments of a different kind than we have yet done; and we must also introduce a quite different method, order and process of connecting and advancing experience. … when experience shall proceed by sure rules, serially and continuously, something better may be expected from the sciences. … no *written experience* has yet been developed, though we should not approve any discovery unless it is in writing.[207]

Bacon argues that we must link writing and experience. Providing the charge for Browne and others, not only must we have experiences to check our writing against (these "experiments"), but we must develop a method of writing these experiences so that they link together in a total whole. That the *Transactions* is seen as one thing is a testament to the success of this project. Each separate article represents a separate event or letter, collected in separate numbers, collected in separate volumes, yet, the view of the composite whole as one project is in keeping with the aims that Bacon sets out that the Royal Society follows. The challenge of making multiple observations cohere in a whole can be met with intellectual structures developed through the Renaissance and present in natural history. That is,

> we should not expect much from its [our understanding's] casual and undirected motions and cursory movements unless we introduce arrangement and coordination by appropriate, well-organised and living (so to speak) tables of discovery of things relevant to the subject of the investigation … For after all the experiments of all the arts have been collected and digested and have been brought before the notice and judgement of one man … many new things may be found which will be useful for human life and its condition, by means of the experience which we call *written experience.*[208]

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[207] Francis Bacon, *The New Organon*, ed. Lisa Jardine and Michael Silverthorne, Cambridge Texts in the History of Philosophy (Cambridge: Cambridge University Press, 2000), 81–82.

[208] Ibid., 82–83.

So Bacon's Great Renewal aims to systematically observe nature, record those observations and experiments in writing, organize those experiments serially and continuously, organize them into tables, and then discover new things. These tables create a sort of composite knowledge that can both be seen as minute particles, or atoms, and as a whole object. It's easy to see this as harmonizing with Wikipedia's description of the goals of the project. Thomas Kuhn, William Whewell, and granting agencies everywhere support this accumulative vision of "science." So, do I propose, simply, to investigate "how science influences literature?" No, every word of that topic is wrong. The word "science" comes into the present day use from William Whewell around 1840 after the publication of his *Philosophy of the Inductive Sciences.*[209] Because of the publishing history around that text, science seems to have taken on an inevitable, stable, meaning, but this meaning comes about because of the deliberate linkage between Whewell and Francis Bacon and through some clever promotion. Let me outline how *Philosophy* alludes to a much larger publishing project.

Prior to publishing *Philosophy*, Whewell had completed a *History of Inductive Sciences* that described the history–that is events and methods used in western cultures–of what he was defining as "inductive sciences" and his concept of inductive science becomes what we think of as science, but must have been relatively new to require two multi-volume sets to explain it.[210] Science had meant something much broader in the form of "knowledge," "certainty grounded on demonstration," "art attained by precepts, or built on principles," "any art or species of knowledge" or "one of the seven liberal arts, grammar, rhetorick, logick, arithmetick, musick, geometry, astronomy."[211] Whewell needed the word "inductive" to distinguish his newer sense of science from an older one. As one of the last polymaths who would have been able to understand the older natural philosophical modes of reasoning in the context of the diversity of thought, he dreamed of scientific discovery following the same as morality, both were application of reason, but to different subjects.[212] The history of inductive sciences provided

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[209] William Whewell, *The Philosophy of the Inductive Sciences, Founded Upon Their History* (London: John W. Parker, 1840).

[210] William Whewell, *History of the Inductive Sciences from the Earliest to the Present Time*, New ed., rev. and cont. (London: John W. Parker, 1847).

[211] Samuel Johnson, *A Dictionary of the English Language* (London: W. Strahan, 1755; New York: Arno Press, 1979), 23G1r–23G1v.

[212] Laura J. Snyder, "William Whewell," 2012, sec. 6, `https://plato.stanford.edu/archives/win2012/entries/whewell/`.

the evidence that a keen mind could reason with to figure out where inductive sciences were going. Thus, in his dedication to *Philosophy*, he explains that it provides the "Moral to the story"[213] of the *History*. The two texts go together as a pair. The first, *History*, tells what had happened and the second, *Philosophy*, tells the deeper truths implied by what happened. In *Philosophy* he summarizes the techniques of research and thinking that exist within each field of the so-called inductive sciences and attempts to generalize them. Beginning with a sequence of aphorisms—the higher-level generalizations—that provide the headings for longer essays—his specific examples, which are still generalizations based on what came before in *History*—the work intends to be an "application of the Plan of Bacon's *Novum Organum*."[214]

Whewell's admiration of Bacon's work explains the multi-volume inductive approach, as Bacon's was planned in six parts of which Bacon only wrote the first two and began work on the third.[215] Roughly, the first part of Bacon's work is a classification of knowledge, the second part is the method of inducing–written in aphorisms, a form which Whewell mimics in what must be an homage. The third part of Bacon's work was unfinished but would have listed the results of all experiments systematically conducted within all branches of knowledge. After Bacon's death, William Rawley published this third part in "ten centuries"–that is ten arrangements of one-hundred–of observations clustered around various topics and a short, allegorical, novel that suggested the advantages of a state run by natural philosophers.[216] Whewell must have considered this, along with the substantial natural history work available in print since the seventeenth century, sufficient to generate a general philosophy. The fourth part of Bacon's work was to be the best examples that demonstrated the underlying principles of natural philosophy, perhaps provided by textbooks, but outlined in Whewell's *Philosophy* in the longer chapters that give examples in each field.[217] The fifth part was to be all the discoveries made "from the same intellectual habits as other people generally employ in investigation and

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213 Whewell, *The Philosophy of the Inductive Sciences, Founded Upon Their History*, [iii].

214 Ibid., [ix].

215 Bacon, *The New Organon*, 14.

216 Francis Bacon, *Sylva Sylvarum: Or a Naturall Historie in Ten Centuries*, ed. William Rawley, 3rd ed. (HathiTrust http://hdl.handle.net/2027/dul1.ark:/13960/t8v991c13, London: Printed by J. H. for William Lee at the Turkes Head in Fleet-Street, next to the Miter, 1631); Francis Bacon, "New Atlantis: A Work Unfinished," in *Sylva Sylvarum*, by Francis Bacon, ed. William Rawley, 3rd ed. (HathiTrust http://hdl.handle.net/2027/dul1.ark:/13960/t8v991c13, London: Printed by J. H. for William Lee at the Turkes Head in Fleet-Street, next to the Miter, 1631).

217 Bacon, *The New Organon*, 22–23.

discovery"[218] but from the previous books only, a sort of collection of theory implied by theory. And, the sixth book "reveals and expounds the philosophy which is derived and formed from the kind of correct, pure, strict inquiry which we have already framed and explained."[219] That is, it provides the philosophy that all the rest of the work implies–it is the crowning achievement of induction. In the context of Bacon's plan, Whewell's contribution is Book Six with citations to Book Four and Five in textbooks and journals. On the seventh day, and in the seventh book, Bacon rested.

Yet, to return to Whewell, he presents his work as achieving the aims Bacon set-out to accomplish in the sixteenth century–the invention of a philosophy of science. That people believed he accomplished the project, I think, is due to the fact that he cites Bacon, writes well, and provides several volumes of preliminary work before providing several volumes of his final work. If we consider this publication a strategy, as Steven Shapin would, then it is a powerful bid for authority.[220] It should be no surprise that his concept of inductive science, although different than the natural philosophical traditions he worked in, began to dominate. It is worth dwelling briefly on what he would have meant by inductive science.

Definitions, to him, must capture the "special character"[221] of a phenomenon while allowing that "the student must understand the terms, *directly* according to the conventions not through the medium of explanation."[222] Said another way, he says that his definitions made in words must be understandable to a competent reader and fit the phenomenon exactly. This idea implies an incredible faith in the power of language to express the external world that we see in the recovery of Adamic language or suggested by the naming in *Genesis*.[223] So, it's no surprise that he includes "glossology"—the "history of languages"—among his inductive sciences.[224] Given that he values language so highly, it seems fair to seek his definition of induction, "the *process*

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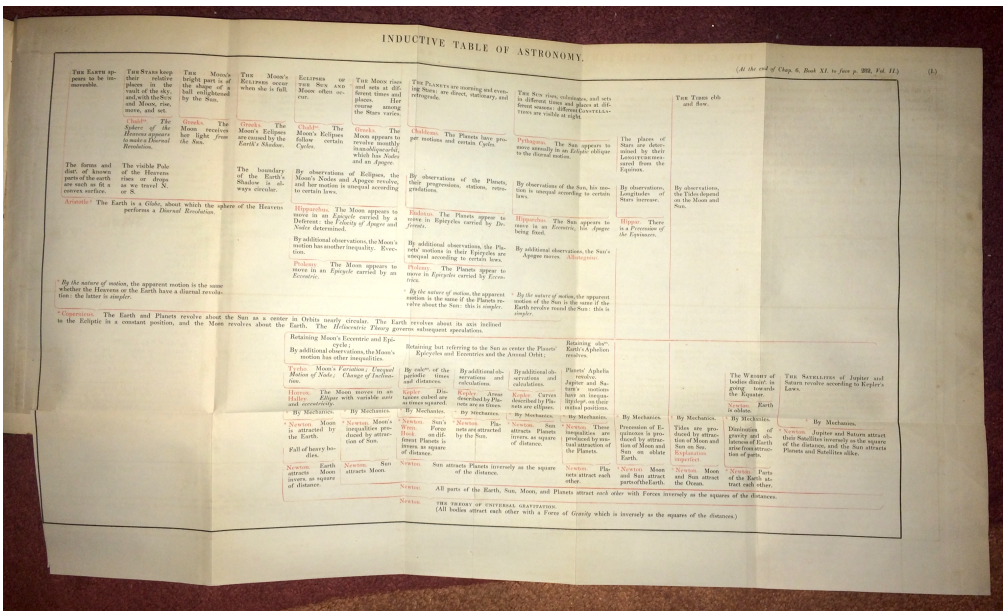
[218] Ibid., 23.
[219] Ibid.
[220] Steven Shapin, *Never Pure: Historical Studies of Science as If It Was Produced by People with Bodies, Situated in Time, Space, Culture, and Society, and Struggling for Credibility and Authority* (Baltimore: Johns Hopkins University Press, 2010).
[221] Whewell, *The Philosophy of the Inductive Sciences, Founded Upon Their History*, xxxi.
[222] Ibid., xxxii.
[223] Hans Aarsleff, *From Locke to Saussure: Essays on the Study of Language and Intellectual History* (London: Athlone Press, 1982), 281.
[224] Whewell, *The Philosophy of the Inductive Sciences, Founded Upon Their History*, 2:280.

of a true Colligation of Facts by means of an exact and appropriate Conception."[225] We can get a sense of what Whewell imagines happening from his inductive table, he explains,

> XXI. The relation of the successive steps of Induction may be exhibited by means of an *Inductive Table*, in which the several Facts are indicated, and tied together by a Bracket, and the Inductive Inference placed on the other side of the Bracket; and this arrangement repeated, so as to form a genealogical Table of each Induction, from the lowest to the highest[226]

And, he illustrates with this table in the first volume with the single, double-sided, fold-out illustration in the work.



Inductive Table for Astronomy

The brackets contain historical moments of scholarship which are interpreted by a human reviewing their evidence into a new understanding. That new understanding is written in papers and definitions, but the process of achieving the new understanding is induction itself. Whewell's innovation is to see this process as one that leads to progress—induction necessarily takes us from a mass of undigested knowledge over time to smaller and smaller expressions of things closer and closer to the truth. What I note about this is that there's nothing that excludes literature or works of art made of words. The process of poetic explication could very well be

[225] Whewell, *The Philosophy of the Inductive Sciences, Founded Upon Their History*, xxxix.
[226] Ibid., xli.

an "inductive science" as Whewell imagines them, so they must be excluded for some particular reason:

> XXV. Art and Science differ. The object of Sciences is Knowledge; the object of Art, are Works. In Art, truth is a means to an end; Science it is the only end. Hence the Practical Arts are not to be classed among the Sciences.[227]

This aphorism deviates from Whewell's normally careful language and uses several different senses of "art." The division "Art and Science," while probably not current to Whewell, reminds us of any College of Arts & Sciences, where science means labs and arts means everything else. When he first talks about Art, it is to contrast the production of "Works" with the production of "Knowledge," as one would between our modern fine arts—painting, sculpture, creative writing, etc.—and research disciplines—chemistry, history, literature, physics, etc. This meaning changes slightly when he imagines truth coming into play as a means. Aesthetics aside, I think truth here means techniques that can be used in creative arts—truth are those facts about the world that helps his "Art" to produce his "Works," things like pigments and the properties of oils. Science becomes an end in itself, which contradicts the idea that science may provide useful truth to aid art. If science is the end, then it cannot provide a truth to art to make new work. The sense here seems to be that his "Art" aims to duplicate truth using whatever techniques, but his "Science" only serves knowledge. The next sentence, where Art becomes "Practical Arts" has the most clever shift; now, finally distinguishing what he must have meant by "art" and "works" we see that he means craftspeople reproducing objects without any concern for truth or knowledge. The implied class connotations aside, this sense of "art" is much smaller than most definitions. What one might call literature, fine art, or even art history would fit better in to this aphorism as a Science. Yet, because we begin with the generalization "Art and Science differ," we have an implication that the world divides into arts and sciences and they differ. A fairer way to phrase this, to my sense, would be "Unthinking practical production and the pursuit of knowledge differ," a statement so obvious as to hardly warrant a note. Whewell's science includes our art.

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[227] Ibid., xli.

Whewell's mistaken definition of "art" certainly pervades the modern academy. Our word "science" comes off as hard, serious, and about truth while "art" must be about pretty things and silly ideas. When I write that I cannot use the word "science" to describe the sort of influence I'm exploring in literature, it is in the context of Whewell's difficult-to-read definition that forever removes literature from the domain of knowledge, unless you read carefully enough.

Furthermore, since this concept came about after the time period I'm considering, it can not possibly be his science that I'm after. Those forefathers were natural historians, natural philosophers, linguists, sinologists, geographers, astronomers, mathematicians, alchemists, and sometimes just curious gentlemen.

But, let us follow another example suggest that there might be something lost in never returning to examine the originals.

Paul Henry Maty, the "Under Librarian" to the British Museum, undertook indexing all the articles of the *Transactions* late in the eighteenth century, writing *A General Index to the Philosophical Transactions* for 1665 to 1780.[228] Comparing the individual numbers as issued to the abridgements by John Lowthorp, Henry Jones, B. Motte, John Eames and John Martyn, Maty gives the names of the articles, the topics, and where they might be found. See the figure below.

The first column is topic divided by author and article, the second column states the volume and page number of the *Philosophical Transactions* where that article appeared, and the third column gives the citation to one of the several different abridgments. It seems that Maty agrees with Bacon's concept that the materials should be digested and that the original may need only exist for historical purposes. His presentation seems to suggest, on the right, that volume thirty-one, page 209, is equivalent to the abridgment by Lowthorp in volume six, page 170. Yet, if the abridgment is equivalent to the original, why bother listing the original? The image on the left seems to give a reason. None of these articles past muster with the editors so were omitted entirely from the annuals of science. On the right, you can see that one longer article in the *Transactions* has been abridged into three smaller articles. It begins to seem that these articles aren't quite equivalent after all. Henry Bohn provides us with a much needed

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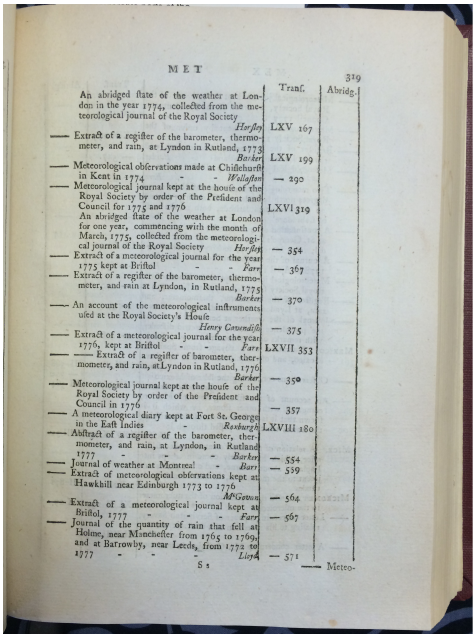
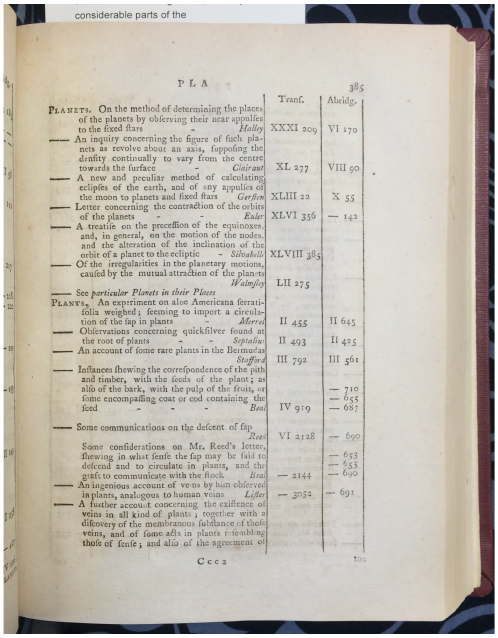
[228] William Thomas Lowndes and Henry George Bohn, *The Bibliographer's Manual of English Literature*, new ed. rev. (London: Bohn, 1857–1864) 2145; Paul Henry Maty, *A General Index to the Philosophical Transactions, from the First to the End of the Seventieth Volume* (London: Printed for Lockyer Davis; Peter Elmsly, Printers to the Royal Society, 1787).





Pages 319 and 385 from Maty, *General Index*, UI-C Q. 506 RO

explanation with "the following early Series of Abridgments of the Philosophical Transactions forming 12 vols., is often substituted for the first 46 vols. of the Transactions at large, which are very scarce."[229] Even in the seventeenth-century, Henry Oldenburg's correspondent complains about missing copies.[230] And, present day librarians seem to be confused about the usefulness of the abridgments as replacements for the full run. Perhaps Maty was merely making the best with a bad situation. Most people wouldn't have the full run of the *Transactions*, even when he was writing, so he might merely have been trying to give people useful references to copies he knew about, not attempting to anticipate the invention of science.

However, our understanding of this text is based on scholars like Maty who, living in another time, could not imagine what sort of questions we might pose to their texts. They took the work of their predecessors and modified it, perhaps not considering that their predecessors may have been engaged in a different task than theirs. If–like Maty–our task is to provide useful information for the savants in the Royal Society, perhaps every aspect of the text *isn't* actually useful. They may only want the facts of the experiment, or the "written experience" suggested by Bacon. If we base our estimation of the genre and the history of a text on our

[229] Lowndes and Bohn, *The Bibliographer's Manual of English Literature* 2145

[230] A. Rupert Hall and Marie Boas Hall, eds., *The Correspondence of Henry Oldenburg*, 13 vols. (Madison, Wisc.: University of Wisconsin Press, 1966–1986), 3:69

later re-interpretations of it, we are estimating something other than the original work. We are estimating a sort of imagined text created at two later moments: when the source we consult turns the text to its own purpose and our own moment that turns that turning to our purpose. When we ask about genre we may be seeming to imply that our predecessors did their work shabbily; they didn't figure out an essential fact and thus we have to recover it. But—in fact—what we imply is that our work is different than theirs. We need to ask about the genre of the *Philosophical Transactions* if we are to understand it as a read literary-text rather than as a faded influence that no longer has a history of its own. This matters even if the original reception doesn't interest us. If the work continues to have influence, it begins with its history and genre helps us place it in a complicated tapestry of written works.

When I ask the genre of a text that seems to be firmly established as the "written experience" organized into "tables" that we now call science, I do not suggest that, that genre isn't important. After all, the style of reading that made the *Transactions* science gave us the evidence we needed to eradicate small pox, discover the speed of light, and uncover anthropogenic climate change. It's not even that this all seems to have been anticipated by Bacon's initially unfunded pitch. It's that the readers of the transactions in the seventeenth and eighteenth centuries could not have known this; they could not have known that the irregularities of the eclipses of the moons of Jupiter were happening because of Einstein's relativity and not error; they could not have known that their curiosity about the similarity of cow pox and small pox would uncover vaccines; they could not have known that systematic observations of temperature and weather would show global climate-change and its slow violence to the third-world. They must have been reading it for another reason.

This is the historical form that I hope to uncover. I'm particularly interested in how the physical form and conditions of production signal genre, so let us consider the literary analogue of form next, genre.

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The Genre of the *Philosophical Transactions*

Modern theories of genre got underway with the rediscovery of that critic of Russian Formalism, Mikhail Bakhtin, who Tzvetan Todorov helpfully extended, Ralph Cohen brought to Anglophone literary criticism, and J. Paul Hunter connected to the physical features of title pages. Bakhtin introduces a distinction between "primary speech genres" that are simple utterances and "secondary speech genres" which digest the primary, and are fundamentally ideological for him and the scholars inheriting his interests. A speech genre itself is merely a "relatively stable" type or kind of utterance.[231] What we would think of as a poem or prose, for him, is a secondary speech genre that has digested the everyday primary speech genres into something serving specific ideological needs. Todorov goes further, rejecting the Romantic notion of literature and adopting a functional approach, what the text does.[232] He helpfully explains that genres come from the mixing of other genres and form abstract empirical classes where "society chooses and codifies the acts that correspond most closely to its ideology."[233] Thus, a genre changes over time and it is less about specific features as it is about uses. Ralph Cohen clarifies,

> Classifications are empirical, not logical. They are historical assumptions constructed by authors, audiences, and critics in order to serve communicative and aesthetic purposes.[234]

These open systems of genre help us to interpret literature, which Alastair Fowler calls an associative field.[235] In dialog with Cohen, Fowler explains Renaissance "originary genres" and credits Richardson and Smollett for originating the novel.[236]

Most important to my work is J. Paul Hunter's reframing of genre as moving "from hint to habit, to a negotiation of categories that eases and accelerates the reader's acclimatization

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[231] M. M. Bakhtin, *Speech Genres and Other Late Essays*, ed. Caryl Emerson and Michael Holquist, trans. Vern W. McGee, University of Texas Press Slavic Series 8 (Austin: University of Texas Press, 1986), 61–3

[232] Tzvetan Todorov, *Genres in Discourse*, trans. Catherine Porter (Editions du Seuil, 1978; Cambridge: Cambridge University Press, 1990), 2; indeed, any text can be made literary through how it is read (3) so our emphasis changes to what society wants in his model

[233] Todorov, ibid, 19

[234] Ralph Cohen, "History and Genre," *New Literary History* 17, no. 2 (1986): 203–18, 210

[235] Ralph Cohen, "Introduction," *New Literary History* 34, no. 2 (2003): v–xiv, p. vii; Alastair Fowler, "The Formation of Genres in the Renaissance and After," *New Literary History* 34, no. 2 (2003): 185–200.

[236] Cohen, "Introduction", p. v; Fowler, "The Formation of Genres in the Renaissance and After", 197

to any text"[237] and that the title page signals genre[238] by functioning as "triggers of desire."[239] A reader sees a title as a signal which indicates how a genres is to be read, a functional approach that admits the role not only of the text, but the form of a book. Hunter notes that makers beyond the author collaborate on the title page and thus they collaborate on genre.[240] That is, the features of a physical book signal genre and a thorough understanding of a generic history must contend with how these features work. One of the most obvious features of the *Philosophical Transactions* is that it is published periodically, not all at once. I agree with Latham and Scholes that,

> the periodical format generates new forms of scientific discourse aimed at a nonspecialist audience and influenced by the other materials in the periodicals in which they appear.[241]

I further argue that the *Philosophical Transactions* is the originating genre for all of periodical studies, so understanding its features understands the caterpillar that becomes the butterflies of periodicals, but also serial question and answer genres, letters as narrative, and—ultimately—eighteenth-century fiction. These concepts of how genres originate, but are never totally new and how they combine, explain what thinking about the *Philosophical Transactions* allows us to understand about literary history.

This outlines a sense of genre, the historical one, that I hope to uncover. Numerous aspects would be worth considering, but I'm particularly interested in how the physical form and conditions of production signal genre, so I'll consider three aspects that aren't present in the abridgments and collections: issuing in numbers, summarizing letters, and the concerns of the articles.

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[237] J. Paul Hunter, "Making Books, Generating Genres," in *The Commonwealth of Books: Essays and Studies in Honour of Ian Willison*, ed. Wallace Kirsop and Meredith Sherlock (Centre for the Book, Monash University: Melbourne, Aus., 2007), 18–47, 20

[238] Hunter, ibid, 22 ff.

[239] Hunter, ibid, 24

[240] Hunter, ibid, 34–35

[241] Sean Latham and Robert Scholes, "The Rise of Periodical Studies," *PMLA: Publications of the Modern Language Association of America* 121, no. 2 (March 2006): 517–30, 518

Issuing in Numbers

When the *Transactions* began publication in 1665, it was neither the first text issued in several connected parts nor the first smaller unit that would be bound-up with a collective title page. By 1622, corantos had gradually shifted to become newsbooks which were numbered with an expectation of continued publication.[242] Because publishing domestic news was strictly regulated, corantos were translations of collections of letters, often originally in Dutch but not exclusively, that were translated to English and printed domestically.[243] From October 1622 onward, a syndicate of booksellers—Nathaniel Butter, Nicholas Bourne, Bartholomew Downes, William Sheffard, Thomas Archer and perhaps others not yet known—shared the rights, printing and publishing of these newsbooks. Very few corantos survive, but those that do are numbered and continue the matter in the previous number. Their series stops in 1641, but the form of collected letters and observations from around the world would have been familiar to readers by that point.[244]

The newsbooks themselves were small, stand-alone, publications and didn't have a collective title page for several, like the *Transactions* does, but binding up smaller units into one larger unit would have been familiar from play publication. Joad Raymond details the history of the newsbook as developing from the corantos like those of 1622 to 1641. The earliest newsbooks "were not numbered: this was introduced in January 1642. Yet the London Bills of Mortality were consistently numbered throughout this period."[245] But, extending to bibliographical features Raymond describes a number of important features beyond the title page:

> Newsbook publishers invented consecutive pagination and signatures, which had never been employed in corantos. Newsbooks introduced regularity in length, exact periodicity, and the brief, unchanging title. … [along with] the use of section headings to indicate the date and place of origin of letters.[246]

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[242] Arthur der Weduwen, *Dutch and Flemish Newspapers of the Seventeenth Century, 1618–1700*, vol. 43, 2 vols., Library of the Written Word (Leiden: Brill, 2017), 6 points out that newspapers, however, were not always numbered, though they often were.

[243] Folke Dahl, *A Bibliography of English Corantos and Periodical Newsbooks, 1620-1642* (London: Bibliographical Society, 1952).

[244] George Watson, ed., *The New Cambridge Bibliography of English Literature: 600-1660*, vol. 1 (Cambridge: Cambridge University Press, 1974) cols. 2079–2082

[245] Joad Raymond, *The Invention of the Newspaper: English Newsbooks 1641–1649* (Oxford: Clarendon Press, 1996), 9

[246] Ibid., 9.

These features move into the expectations for readers of the *Philosophical Transactions*, which mimicked the newsbook in form. In addition to the physical features, the *Philosophical Transactions* also mimic the plain style with "plain narratives of fact, and, increasingly, the reproduction of documents."[247] The *Philosophical Transactions* commitment to facts mirrors the factitious style of newsbooks even in arguing against alternative facts. Not seeing the lenses through which the observations were made and clarifying the facts that others might—in their partisan politics—get wrong, is itself a particular approach to politics. Developing this mode for the project of the Restoration would have made sense to Charles II's court and aims.

The *Philosophical Transactions* originates the genre of the "transactions," but as all genres do, it is a combination. In this case it combines newsbooks, topical pamphlets, and "intelligence" in manuscript letters. As the letters influence the text as much as the form, I treat this issue later. A particular number of the *Philosophical Transactions* would be issued like a pamphlet or a newsbook, "stabbed" or "stitched."[248] I know of only two copies of the *Philosophical Transactions* still in original numbers as issues: one at the Albert and Shirley Small Special Collections Library at the University of Virginia[249] and one in my own collection. Both are stabbed and a fold-out engraving faces the first page, which consists of the title and the beginning of the table of contents. See the figures below.

These stitched books could only be so large, since the stitching would break if the paper was too thick, and there were legal and traditional limits on the size too.[250] Note that here the original sewing is intact, which shows that the engraved illustration was planned as a throw-out facing the contents. This might indicate that these were advertised in shops spread open with an appealing picture and the first part of the contents.[251] It also signals the subgenres of

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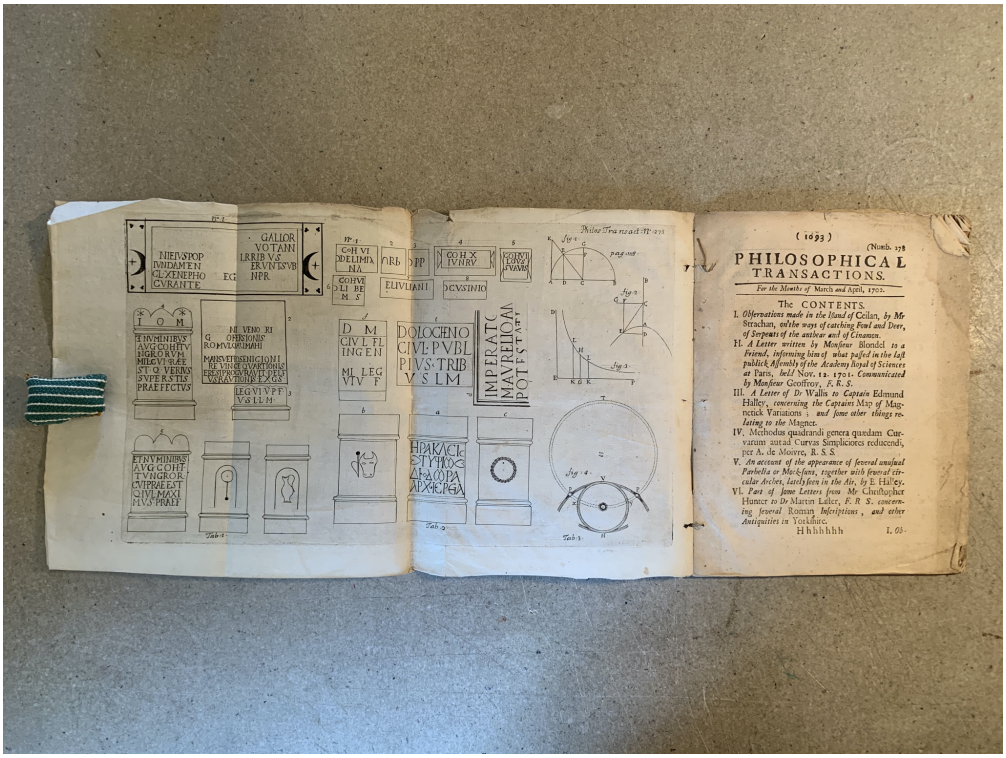
[247] Raymond, *The Invention of the Newspaper*, 9

[248] "In sixteenth-, seventeenth- and eighteenth-century Eingland it was common practice for small books to be sold to the public in blue or brown paper wrappers, or often in no case at all, and stab-stitched through the side with three or five holes. The books were neither trimmed nor lettered." Bernard C. Middleton, *A History of English Craft Bookbinding Technique*, 3rd supl. (London: Holland Press, 1988), 11; "This technique is commonly called stab-stitching, and the phrase 'stitiched book' was used historically to refer to constructions of this sort." David Pearson, *English Bookbinding Styles 1450–1800: A Handbook* (New Castle, Dela.: Oak Knoll, 2014), 148

[249] ViU Q41.L8 no.472 1744 Jan./Apr.

[250] David F. Foxon, "Stitched Books," *The Book Collector*, 1975, 111–24 notes that there's both a practical limit to stitched books as well as a legal and traditional limit.

[251] In comparison, cheap books from the Continent would be in paper wrappers usually including a blank or something printed Giles Barber, "Continental Paper Wrappers and Publishers' Bindings in the 18th Century," *The Book Collector*, 1975, 37–49.



Fold-out engraving and title page of *Philosophical Transactions* No. 278, author's collection

this issue: here antiquarianism, mathematics, and astronomy. The *Term Catalogues* class the *Philosophical Transactions* under "Miscellanies" along with other collections, mathematical and theological works, and price them at 6 d a number[252] and around 8 s[253] for a whole volume. Their classification as Miscellanies demonstrates the encompassing nature of the transactions genre, but also its newness. Moxon falls in the same category as do many other one-off topics

Even more solid evidence comes from the engraved plate facing number 13 of volume 1 of the *Philosophical Transactions* in the Special Collections at the University of Pennsylvania libraries. Look at the range of holes on the engraved plate facing number 13.

These are what John Carter's *ABCs* call "stab-holes," which are when the gatherings are "sewn through side-ways."[254] These typically occur in books that are thin and often issued in temporary bindings. These particular stab-holes line up with the same ones in the text

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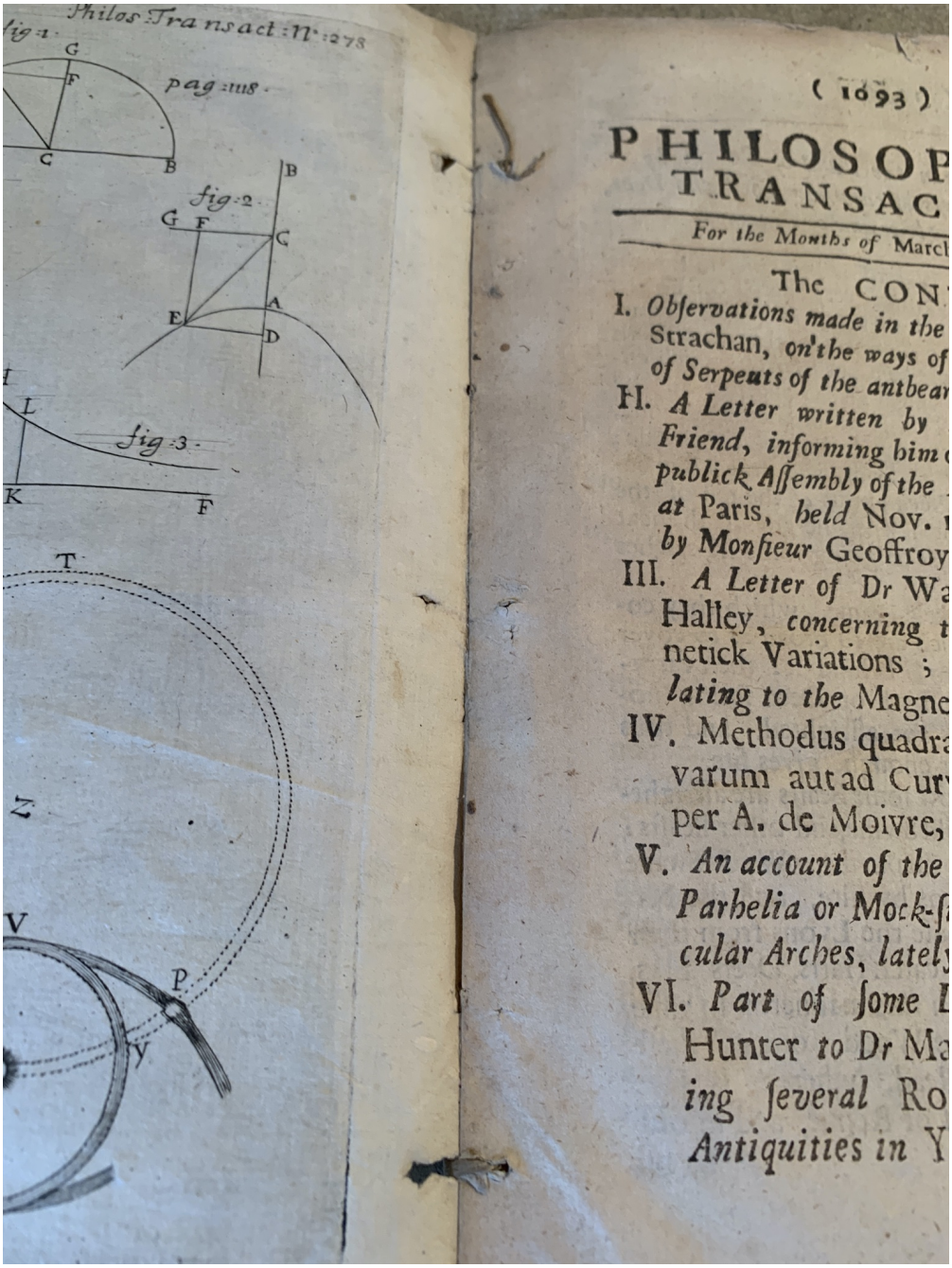
[252] Edward Arber, ed., *The Term Catalogues, 1668-1709 a.d.; With a Number for Easter Term, 1711 a.d.: A Contemporary Bibliography of English Literature in the Reigns of Charles II, James II, William and Mary, and Anne*, 3 vols. (London: Professor Edward Arber, 1903; New York: Johnson Reprint Company Limited, 1965), 1:14

[253] Arber, ibid, 1:31, 28, 97, etc.

[254] John Carter and Nicholas Barker, *ABC for Book Collectors*, 8th ed. (London: British Library, 2004), 209.



Close-up of stitching of *Philosophical Transactions* No. 278, author's collection

gatherings for the number. The soiling is on the outside of the text and the image would have faced the first page of text and the whole packet would have been sewn up as one unit. This explains a number of anomalies in the size of engravings which range from twice as big as the leaf of the text to the same size. The original form of this one and many others would have been folded with the engraving wrapped around it. This is confirmed by prices written on the

Engraved plate facing *Transactions*
v.1, no.13, PU-Sp Q41 .L81 v.1–2

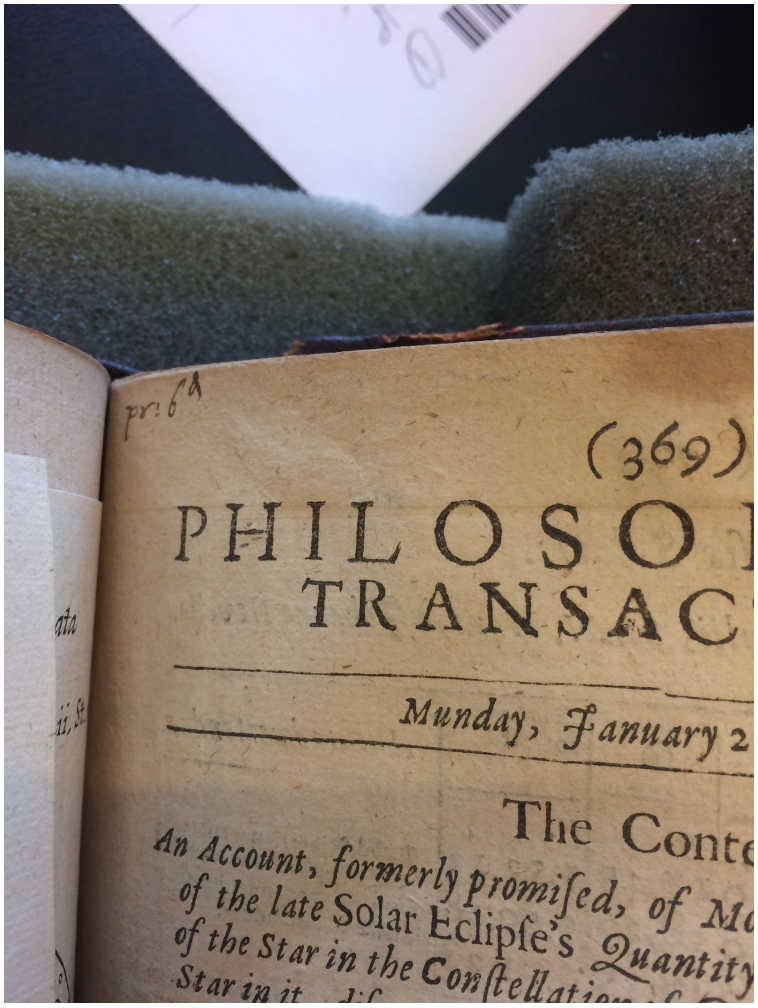
same University of Pennsylvania copy for 6 pence, and in one case 4 pence. Where there is an engraved illustration, it's on the back of that illustration which would have originally been the upper part of the leaf. In cases where there is no illustration, it's in the upper-corner of the printed page like the illustration of number 21.

From these pieces of evidence, we can see that when the *Transactions* was produced by number, each single number would have circulated separately. The printer would have sold individual numbers to interested people and they would be priced accordingly. It was only after the completion of a volume that a collective title page was printed and the whole mess of numbers brought together. This is obscured by the current library bindings which focus on the whole volumes and, indeed, individual numbers are hard to come by.

Whole Volumes

Even in the seventeenth-century, readers frequently saw the *Philosophical Transactions* in collected volumes, in which they're found almost exclusively now. However, evidence of the original form remains. Consider volume twenty-nine held at the University of Illinois Urbana Champaign.[255]

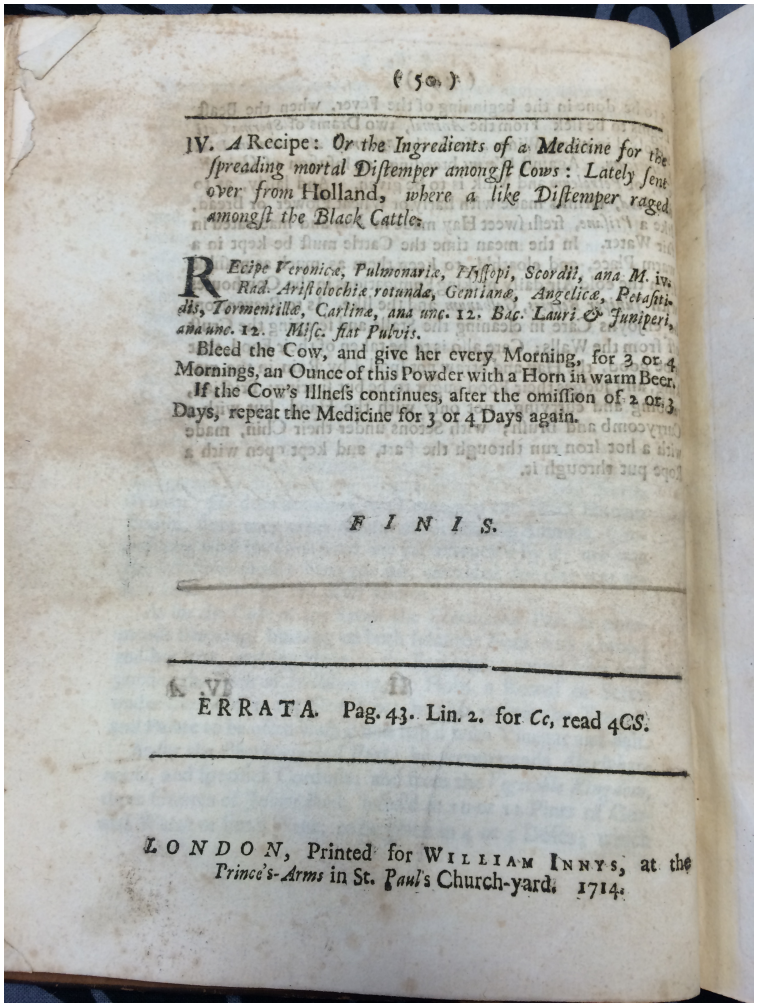
[255] UI-R 506 RO 29



Price written on cover of *Transactions* v.1 no. 21, PU-Sp Q41 .L81 v.1–2

The volume as a whole has separate disjunct pair of leaves that contain the collective title and the dedication, both somewhat ceremonial and formal, but each individual number has its own title page. Each number of the volume has distinct signing, suggesting a separate printing operation, yet the pagination is continuous. The engravings face each new number and the soiling suggests that at least some of the items in the bound volume at the University of Illinois had a life earlier than being bound in the volume as a whole. Examine the vertical soiling in the illustration of page 50 from volume 29 in the figure below.

The verso of the last leaf of number 338 has the full imprint for the number dated 1714, not 1717, as the collective title page states. The collation of each individual issue suggests that the imposition in quarto was changed to half-sheet for the last gathering and the first gathering



(50)

IV. *A* Recipe: *Or the Ingredients of a Medicine for the spreading mortal Diſtemper amongſt Cows: Lately ſent over from* Holland, *where a like Diſtemper raged amongſt the Black Cattle.*

R Recipe Veronicæ, Pulmonariæ, Hyſſopi, Scordii, ana M. iv. Rad. Ariſtolochiæ rotundæ, Gentianæ, Angelicæ, Petaſitidis, Tormentillæ, Carlinæ, ana unc. 12. Bac. Lauri & Juniperi, ana une. 12. Miſc. fiat Pulvis.

Bleed the Cow, and give her every Morning, for 3 or 4 Mornings, an Ounce of this Powder with a Horn in warm Beer. If the Cow's Illneſs continues, after the omiſſion of 2 or 3 Days, repeat the Medicine for 3 or 4 Days again.

F I N I S.

ERRATA. Pag. 43. Lin. 2. for *Cc*, read 4CS.

LONDON, Printed for WILLIAM INNYS, at the *Prince's-Arms* in St. *Paul's* Church-yard. 1714.

Soiling on page 50 from
Transactions v.29, UIUC 506 RO v.29

made up from the other half. This all makes sense as the table of contents would be produced after the publisher had decided what to put into the transactions itself. This approach—of having separately issued parts that could be bound together with a collective title-page—would have been unsurprising to readers even in the seventeenth century. So unsurprising that it has a term, first collected, nonce edition.[256] But collected issues were not invented for the *Philosophical Transactions* and can be found as early as the 1611 Spenser folios and in collections of drama somewhat earlier.[257]

[256] Bowers is unsatisfied with the term nonce edition, since it is better called "issue for collected works" (94) but the term has been firmly established by Fredson Bowers, *Principles of Bibliographical Description* (1949; repr., New York: Russell & Russell, 1962), 98

[257] Bowers, ibid, 94

In his *Bibliography of the English Printed Drama to the Restoration* W. W. Greg treats several collections of plays that had separately issued parts. The earliest collection of William Shakespeare's plays that he cites, *The Whole Contention Between the Two Famous Houses, Lancaster and York* (London: T.P. 1619), is comprised of newly published materials some of which were also separately issued. It collates: "4^{o}: A-Q^{4} χ1 R-2A^{4} 2B1 [&c.]" where the &c. section "were printed at the same time as part of the collection but are bibliographically independent and have been described elsewhere."[258] The collection differs slightly from the *Transactions* in that "in spite of the different dates on their title-pages the ten plays in question were all printed within a few weeks or at most monthly probably in the first half of 1619 and as part of a single undertaking."[259] Although the signing of the &c. section could suggest that they were collected together under one head, Greg explains that it might have been the intention of the printer to merely have extra copies of some plays available for sale separately. The same collecting occurs with *The Poeticall Essayes of Sam. Danyel* (London: P. Short for Simon Waterson, 1599) that includes "the sheets of the original separate edition of 'The Ciuill Wars' except for the preliminary half-sheet."[260] In both of these cases, however, the issuing bookseller would have collected them rather than having a purchaser bind their materials together.

R. M. Wiles explains that publishers could sell smaller units, giving them more ready cash on hand and making materials available to customers with less money. His interest is in fascicle books, such as Joseph Moxon's *Mechanick Exercises* that was published only a portion at a time starting in 1678.[261] For readers to accept numbers issued in this way, it must have already been familiar, perhaps because it bore some resemblance to the newsbooks issued in numbers but making a cohesive whole. Thus, when we look to the generic moves made by the *Transactions,* they make more sense compared with the proto-newspaper and inexpensive fascicles of incomplete knowledge. That this was a strategy is clear because in 1752, the pattern changes.

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[258] W. W. Greg, *A Bibliography of the English Printed Drama to the Restoration: Collections, Appendix, Reference Lists*, vol. 3 (London: Printed for the Bibliographical Society, 1957) 1107

[259] Greg, ibid 1107

[260] Greg, ibid 1050

[261] R. M. Wiles, *Serial Publication in England Before 1750* (Cambridge: Cambridge University Press, 1957) 79

The *Transactions* issued in 1752, Volume 47, rather than breaking into numbers, was issued in *toto*: 4^{o}: $\pi 1$ a-b^{4} $\chi 1$ A-3H^{4} 3I^{4} (3I3 + 2$\chi 1$) 3K-4D^{4} 4E^{2} [$2 (-3IZ 4E2 +3Z4 signed; 3Z4 as 3Z2)]; 305 leaves, pp. [*20*] 1-438 *438-*439 439-571 [*17*] (546-7 as 550-1, 550-1 as 546-6). Here, after a committee took over publications following the death of the Secretary, Mortimer Cromwell, we have the book issued as one solid block. The form of the publication changes from periodic updates to a yearbook of discoveries. This would have matched the increasing professionalization of the Royal Society and how they viewed their publication being consumed, primarily in large volumes. While the physical form demonstrates one coordinated action by a printer and undertaker, the Society itself does not exactly take credit. It is worth reading the "Advertisement" to this volume as a whole, because careful attention to what they say explains how this book had been, and will be, produced after 1752.[262] Starting at the beginning

> The Committee appointed … to direct publication of the *Philosophical Transactions*, take this opportunity to acquaint the public that it fully appears … from the council-books and journals … as from the repeated declarations, … made in several former *Transactions* that the printing of them was always … the single act of the … Secretaries, till this present … volume.[263]

The statement carefully distances the textual object being read from the people involved. The Royal Society appointed a committee which directed the Secretary to produce the Transactions. Yet even the Committee refuses direct responsibility as a body by saying "the Committee … take." Normally, a committee is singular, acting as a body, but here the Committee is plural implying multiple viewpoints. Later, this advertisement calls the group "a Committee" so we have a singular entity, but here acting by the plural composing its membership. The advertisement, thus, distances itself twice from the Royal Society. First as "appointed by" and, second, acting under the authority of the plural members, not as a singular body. Rather than the Committee acting with authority, they observe the "council-books and journals"—both kinds of records from official meetings—and "repeated declarations" to explain the authority of publishing the

[262] A full transcription is at the end of this section as part of the bibliographical description.

[263] Thomas Birch, ed., *Philosophical Transactions, Vol. XLVII for the Years 1751 and 1752*, vol. 47 (London: Printed for C. Davis, Printer to the Royal Society, 1752), p. [a1^{r}]; also below

Transactions has always been with the Secretary. Thus, the Committee positions itself very far from the content, the publishing of which seems to be merely a matter of tradition.

The Advertisement continues to explain that its explanation is needed because "it has been the common opinion, that they were published by the authority, and under the direction of the Society itself." Readers take the *Transactions* as representing the Society, "both at home and abrod," and this not only is an error, it has been all along. The authority comes from the in-person meetings, recorded in council-books, and the argument here is that the *Transactions* merely serve to "satisfy the public, that their usual meetings were continued for the improvement of knowledge and benefit of mankind." The political model here is essentially aristocratic and person-to-person. Those who attend meetings—apparently—have merely to act to benefit mankind, act on what they hear verbally reported. The *Transactions* are positioned as merely evidence that this process continues. The Advertisement explains that since the Society has grown and communicates more, the *Transactions* will select from papers read at the meetings from 26 March 1752 onward. These papers are selected not for their benefit, but because of their "importance," "significance of … subjects" or "manner of treating them."[264] That is, important or singular subjects, as well as accomplished methods and explanations. The Advertisement explains that the Society does not credit the judgment, accuracy, or correctness of the papers, they merely must deal with something important or do so well. This stance applies to the Society as a whole, who reminds the reader that they will "never … give Their opinions, as a body, upon any subject, either of nature or art." The thanks given correspond to civility in return for the "respect shown to the Society by those communications." The Society, even in the more authoritative in-person sessions, still refuses to endorse. The Society's intent seems to focus on keeping itself central to the discussion. It rewards those who present findings, but merely for expanding its own scope. The goals implied and achieved in this introduction consist of merely in office of common address for a certain group of thinkers and writers. As a genre, the *Transactions*, thus matures into reporting what happened, a survey of important work done, like a bibliography or abstracts of the real work which has already happened and has already influenced the betterment of mankind. The *Transactions*'s Advertisement marks the beginning of a new approach, that deviates only a little from the older approach where they center work

[264] Birch, ibid, p. [a1^{v}]

going on elsewhere now by committee, rather than by the Secretary. While the language of the Advertisement suggests something new beginning here, it is more a continuation of the old than a new beginning.

Previous Genres of Wonder and Health

Corantos and newsbooks both predate the *Philosophical Transactions* as genres. They both summarize happenings in the world as reported by various informants, drawing on what Pascale Casanova—along with contemporary sources—calls republic of letters.[265] This republic includes both political information and mysterious events. Nadine Akkerman describes the providers of political information as a sort of spy or "intelligencer," uncovering the role of women—particularly noble women—in these communication networks.[266] These intelligencers might be placed in a court or with close access to the political activity of the day. Akkerman argues that women were especially not suspicious and so provided much more useful information, Aphra Behn being one of the most well-known in literature.[267] Yet, intelligencers might also trade information with each other rather than getting it first hand. Henry Oldenburg first accepted diplomatic posts where he learned the trade of the intelligencer, but later adapted his communication pattern to "scientific communication," eventually becoming the Secretary of the Royal Society where he began publishing his scientific intelligence in the *Philosophical Transactions.*[268]

Oldenburg, however, didn't invent reporting on wonders and interesting phenomena. That genre is much older and Lorraine Daston and Katharine Park trace it back to Aristotle and through the middle ages.[269] Early on, these strange facts were studied as portents of God's hand and reported as a sort of devotional exercise. These would have been more familiar to the readers of the *Philosophical Transactions* than what that genre became, especially early on. An early example is the unique extant copy of *Strange News* held by the Huntington Library

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[265] Pascale Casanova, *The World Republic of Letters*, trans. M. B. DeBevoise (Cambridge, Mass.: Harvard University Press, 2004).

[266] Nadine Akkermann, *Invisible Agents: Women and Espionage in Seventeenth-Century Britain* (Oxford: Oxford University Press, 2018), 4 ff.

[267] Akkermann, ibid, 204 ff.

[268] Marie Boas Hall, *Henry Oldenburg: Shaping the Royal Society* (Oxford: Oxford University Press, 2002), 20 ff.

[269] Lorraine Daston and Katharine Park, *Wonders and the Order of Nature: 1150–1750* (New York: Zone Books, 2001).

(ESTC S110146) that reports a strange fire in the air in Germany.[270] Entered into the Stationers' Register in 1561, this is the earliest newsbook reported in the ESTC and concerns itself mostly with the theological implications of the fire in the sky. It begins with a plain account of a "very red fyre" and light in the sky that looked like "bundles of spears."[271] It proceeds to credit further observations to "a certain credible man" and account for how the people were "amazed."[272] This form is repeated in other such accounts: a mysterious event is described, the quality of the observer—named or not—is attested to, and people's reactions are noted. The book next analyzes the event for "The signification of this wonder"[273] which comprises the rest of the book. Beginning with how people were perplexed it argues that the fire signifies God's power and that people were being called to repent. The remainder of the fifty-two pages continue to defend this analysis with observations drawn from the reports. After that defense it describes and defends other significations and signs from other sources. What this has in common with the *Philosophical Transactions* reporting is the basic model: give the facts, identify the competence of observers, analyze what it means, and describe known, related phenomena. Readers of these works would have been prepared for the basic form of the intelligence letter or letters in the *Philosophical Transactions.* Wonder in newsbooks developed the reading appetite needed to consume the genre of transactions, but a different method of analysis still had to be developed.

The development of a new mode of analysis can be seen in a exchange between Robert Boyle, his sister Lady Ranelagh, Samuel Hartlib, and his wife. In the mid-twentieth century, the earliest published writing by Boyle was rediscovered, "An Invitation to a free and generous communication of Secrets and Receits in Physick," as part of Hartlib's edited *Chymical, Medicinal, and Chyrurgical Addresses: Made to Samuel Hartlib.* (London: G. Dawson for Giles Calvert, 1655. ESTC R209495)[274] The letter addresses Empericus, presumably Hartlib, and is signed Philaretus, a pseudonym used by Boyle. It argues that Christian charity requires the communication of those medicines that could end suffering, rhetorically asking why it should

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[270] Roulande Hall, ed., *[The History of Strange Wonders.] (ESTC S110146)* (Digital images of University Microfilms International, 1953: Early English books, London: Roulande Hall, 1561).

[271] Hall, ibid, [A2^{r}-A2^{v}]

[272] Hall, ibid, [A3^{r}]

[273] Hall, ibid, [A3^{v}]

[274] Robert Boyle, "An Invitation to a Free and Generous Communication of Secrets and Receits in Physick (1655)," in *The Works of Robert Boyle*, by Robert Boyle, ed. Michael Hunter and Edward B. Davis, vol. 1, 14 vols. (London: Pickering & Chatto, 1999–2000), 1–12.

be a greater charity to help the distressed than heal the sick.[275] Arguing against keeping those medicines secret, even if their inventor needs to live off the profit and even if their transmission might discourage other inventors, he writes "… it is better to please some few drones, than venture the perishing of whole swarms of Bees."[276] He means that those "drones"—physicians who ought to be finding out their own remedies through research—may not feel obliged to continue doing research—a negative outcome for Boyle—because they have someone else's methods to hand. While this isn't a good outcome for Boyle, who wants to encourage more research, it is better than the "whole swarm perishing." Alleviating suffering and preventing death by open sharing is worth the loss of original research.

This opposes the alchemical and spiritual readings previously applied to these receipts, in which the elixir of life is transcendence and which see the work of recovering these receipts as spiritual progress.[277] Boyle's argument draws on spiritual aims because the aims of the solitary retreat of the virtuoso were often spiritual. They sought their enlightenment by withdrawing from society. So, to convince them to share the argument needed to be about greater spiritual gains since they followed the older, scholastic mode of research that sought individual spiritual gain, arguing that this was the best for man's enlightenment.[278] What Boyle proposes here is a new science that involves the studious and curious communicating their discoveries so they can discuss cures and remedies. This community, he argues, has values in charity that override the value of keeping such information private. Said simply, share for personal spiritual growth and to encourage other people, rather than keeping things secret. The idea partially comes from his experiences with intelligencers, but also from something more personal.

In 1647, Boyle was ill. He suffered from kidney stones, which remain a remarkably unpleasant affliction. Somehow, Samuel Hartlib's wife found out, possibly through correspondence with Boyle's sister Lady Ranelagh, the only person to whom Boyle talks in his correspondence about his health. Hartlib's wife sent a receipt for treating his stones, for which Boyle sends his thanks and a promise to write a letter for Hartlib's volume.

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[275] Boyle, ibid, 4
[276] Boyle, ibid, 6
[277] Arthur M. Melzer, *Philosophy Between the Lines: The Lost History of Esoteric Writing* (Chicago: University of Chicago, 2014).
[278] Ivan Illich, *In the Vineyard of the Text: A Commentary to Hugh's* Didascalicon** (Chicago: University of Chicago, 1993), 10

> For your bedfellow's receipt for the stone (which certainly wants a parallel, if it be not more easy than effectual) I beseech to return her (together with the present of my humble service) most humble thanks, which i mean very shortly, God willing, to pay you in an epistle I have drawn up to persuade men to communicate all those successful receipts, that relate either to the preservation, or recovery of our health; to which (if you will pardon me a clinch) I shall add, as to the disease last named (so cruel in its tortures, and so fatal in its catastrophe) that they must have their hearts more hard than a very stone, that can refuse a sanative remedy for the stone.[279]

The only known publication that this might refer to is his "Invitation." So when we read this early Boyle publication, the context is one where Boyle has discovered a hitherto untapped resource for medicine: the advice of women socially connected to his correspondents. In thanks he proposes a system that would provide such remedies for everyone. Writing to his sister in 1649, he seems to be completing this "promised Discourse of Publick-Spiritedness,"[280] which became his "Invitation." With the knowledge of the spiritual aims of this so-called public-spiritedness, the double-meaning seems purposeful. Rather than an individual spiritual journey, his experience of relief helps him to see the value of the charity of Hartlib's wife and the value of correspondence around health, even if those recipes had been secret.

Within this we see the private letters that originate the public letter of the *Philosophical Transactions*, overseen at the beginning with Boyle's help. Rather than being a secularization of natural history, for Boyle these were an expansion of charity and larger spiritual values. Private curiosity can serve public goods and in doing so benefit humankind both by relieving suffering and by underlining a message of shared suffering and relief. Setting up Oldenburg in an office of common address—a role that Hartlib tried to achieve first—is the realization of a practical and spiritual goal: alleviating human suffering and recognizing the ways of nature. The range of materials expand beyond health in the *Philosophical Transactions*, but that too is an expansion of the broader aims Boyle sketches out. One of the originating genres for the *Philosophical Transactions* consists of helpful letters sent for both the curious and the suffering.[281]

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[279] Michael Hunter, Antonio Clericuzio, and Lawrence M. Principe, eds., *The Correspondence of Robert Boyle*, 6 vols. (London: Pickering & Chatto, 2001), 1:60

[280] Hunter, Clericuzio, and Principe, ibid, 1:80

[281] Charles Cathcart, "Leonard Becket, Stationer, and *A Help to Discourse*," *The Library: The Transactions of the Bibliographical*

Critique and John Arbuthnot's Sexy Big Data and Reexamining *An Argument for Divine Providence*

This section presents a traditional close reading, but in a non-traditional form. I am concerned by the dominance of critique within literary criticism, so deliberately present my work in that mode in a form that undermines its centrality. The concern about critique is not mine alone, but I develop it based on other scholarship that address the issue differently.

Reading, like data, can enchant or mislead. As creatures of stories, we listen for resonance and judge based on our own experiences. Within close reading, resonance can pull us beyond the common sense of shared reality into specialized, scholastic, or esoteric communities of thought. Rita Felski explains the tendency toward uncommon consensus within critique as symptomatic reading that validates itself within itself, tautologically "as critical thinkers, we value literature because it engages in critique!"[282] As Felski argues, written critique often adopts a critical mood of detachment and disinterested investigation into hidden parts of texts, but that critical mood obscures a deliberate rhetoric where "Critical detachment is not an absence of mood, but one manifestation of it, casting a certain shadow over its object."[283] When reading in the critically detached mood, we can forget that its styles do not present truth transparently. This mood and its mode of writing has many uses, but its default as the "dominant metalanguage," by which I take her to mean the dominant style of writing, reading, speaking, and assessing, leaves out other possibilities for thinking. I join with her in not wishing to demolish the mood of critical detachment, but to decenter it and acknowledge it when in use.

This dominant mode of critique relies on a style of writing that refuses to acknowledge its own style, so displacing it from the center of thinking around texts must overcome the absence of style as style because within critique, this style speaks to all and is not spoken of because "Critique, I have argued, is not especially well attuned to the specifics of its own makeup, presenting itself as an austere, even ascetic, intellectual exercise."[284] Yet those who

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Society, 7th series, 19, no. 3 (September 2018): 301–24 discusses another generic connection, more likely the motivation for the bookseller, as the miscellany or "portmanteau print" (308). His author, W. B., wrote *The philosopher's banquet* in 1609, which became a best seller, where the word *philosopher* seems to signal thoughtful conversation about natural history. The *Philosophical Transactions* may have sounded similar to an ambitious bookseller.

[282] Rita Felski, *The Limits of Critique* (Chicago: University of Chicago Press, 2015), 5

[283] Felski, ibid, 21

[284] Felski, ibid, 118

read critique most uncritically read other texts most critically as matter of course. Hidden meanings can be untangled in novels, but not everyone asks if Foucault, even as an author function, was closeted and if that influenced his objects of study, nor do we ask if Marx felt lonely and alienated as a refugee, and if that influenced his revolutionary analyses. Should we ask these questions, we could apply the mature techniques developed in their shadows to their writing, but the conventional critical mood prohibits that.

My own work includes critique as a matter of course. It has its uses, but I invite my reader to see its difference from my historical work, traditionally called criticism, but in the sense of establishing this or that historical fact based on evidence.[285] I try to reserve the powerful mode of critical detachment for writing about history which I hold to a more significant evidentiary burden. Each line of my description has the equivalent of two to seven invisible footnotes relegated to the "Evidentiary Partition." For me, that first portion of my work deserves the mood of critical detachment as it aspires to a level of accuracy and clarity preceding interpretation, clearing the ground of history for more speculative thought. My critique, however, would suffer and lose its zest with that obligation to evidence and critique anchored to the amount of evidence I provide has not—to my knowledge—been written, nor is it helpful; as a dear friend told me when I tried to do critique with a high level of evidence, "I was prepared to believe you fifteen minutes ago."

So to invite my critique-favoring readers to apply their critique to mine, I present it embodied and narratively as thought conducted by a person with a body, happening in a place, among people with varying interests and ambitions. Most of my readers will recognize such a place in a conference, where people present research in progress, more or less formally, to people more or less interested. Thus I present this section as an edited talk, but that embraces a style of *cute* that invites my reader to understand that critique is a form of play for highly literate adults.[286] This experiments with forms of quotation and the varied voices in the *Transactions* as

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[285] Peter W. M. Blayney, *The Texts of King Lear and Their Origins* (Cambridge: Cambridge University Press, 1982) describes the traditional definition well.

[286] Sianne Ngai, *Our Aesthetic Categories: Zany, Cute, Interesting* (Cambridge, Mass.: Harvard University Press, 2015) addresses "cute" as a way of saying that a work of art is not serious, sublime, mature, and not up to our standards of taste. This mode interests me for ostensibly serious critique because the contradiction invites both the displacement of a useful, but too dominant, mode and suggests that other cute things might deserve more serious consideration. This is delibaretly too cute.

modes of presentation. Rather than merely reporting on the different styles, I mimic some of the variety here.

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Scene: *Interior, bright fluorescent lights buzz above the garish red and purple confetti-patterned carpet, coarse gray fabric stretched over acoustic foam made into modular walls that narrow the room into a sort of hallway, chairs are laid out in rows facing a small table crowded with three speakers wearing what would be business casual but for their colorful sneakers, the room smells of coffee, two other people sit attentively with legal pads, two chatter, two appear to be asleep.*

*
**

J. P. Ascher: It's a pleasure to present on such a varied panel and I'm particularly eager for your feedback. This talk represents some, very little bit, of the content of my dissertation but–largely–an experiment in a way of talking about reading matter in the early part of the eighteenth century. I'm going to try to tell you a three-century-old joke based on mathematics. Let's have at it.[287]

It's a commonplace that the supposed 'age of reason' might be better characterized as an aspiration, rather than an accomplishment. Bonamy Dobrée, rightly, calls the period beginning roughly with the Glorious Revolution and ending in the 1740s with the rise of the bourgeoisie, an "age of attempted clarity."[288] This clarity finds its way into poetry, a faltering of drama, and by the mid-century–novels. We know that everyone was appreciating the clarity of Locke because everyone *talks* about reading Locke, but along with his empirical project, I think there were other important sources of reading material influencing how writing, literary and otherwise, came to be done and read.

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[287] This section is a revision of a paper presented at ASECS, 2017: `https://cacology.github.io/ASECS-2017-Arbuthnot-talk/`

[288] Bonamy Dobrée, *English Literature in the Early Eighteenth Century 1700–1740*, The Oxford History of English Literature (Oxford: Clarendon Press, 1959), 16

Indeed, I think many writers of the epoch worried about clearly visualizing and representing data in terms of tables, engravings, charts, apparatuses, and especially language. Numbers, after all, means numbers as well as poetic measure.

I'm trying to understand how one might read the longest-running natural philosophy journal, *The Philosophical Transactions*. Begun in 1665, it published, with some breaks, the undertakings of the curious for Britain and the world to see. Too often seen primarily as a precursor to the heroic accomplishments of science under William Whewell and the present day, I think there is value in returning to the old texts not as early benighted attempts to achieve modern science, but examples of thinkers deploying Augustan prose and language that draw on an international tradition of "classic prose" discussed by Francis-Noël Thomas and Mark Turner.[289] If we want to understand how the clarity of Blaise Pascal still resides in the writing of Thomas Jefferson, we need to trace the journal that introduced this mode of writing and thinking to an English audience. Let us examine,

Philosophical Transactions Vol. 27 Num. 328, which collates as,

4^{o}: π^{2} Z–2D^{4} [$1–2 signed]; 22 leaves, pp. 169–211 [212]; plate [*1*], and whose,

Plate of figures 1–4 appears in the figure below.

In the process of working towards a descriptive bibliography of the *Philosophical Transactions*, I'm proceeding systematically through roughly a century of issues, which has yielded a number of interesting articles. Here is the collation from volume twenty-seven, number three-hundred twenty-eight, for the end of 1710. It's useful to note here that the journal has taken a break from it's usual half-sheet beginning and ending, where a shorter article is tacked onto the back of the table of contents to fill out the issue. Here pi-one verso begins the real star of this issue "An Anatomical Description of the Heart of Land Tortoises from America. By Mr. Paul Bussiere" which also gets double-star treatment by getting an engraving.

Typically, the second article of the number is the longer one and I think they're breaking the pattern because this issue for October, November, and December 1710 came out around April 1711: four months late. After the star article, these numbers often turn to a little bit of math or data and this one doesn't disappoint.

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[289] Francis-Noël Thomas and Mark Turner, *Clear and Simple as the Truth: Writing Classic Prose*, 2nd ed. (Princeton: Princeton University Press, 2010).

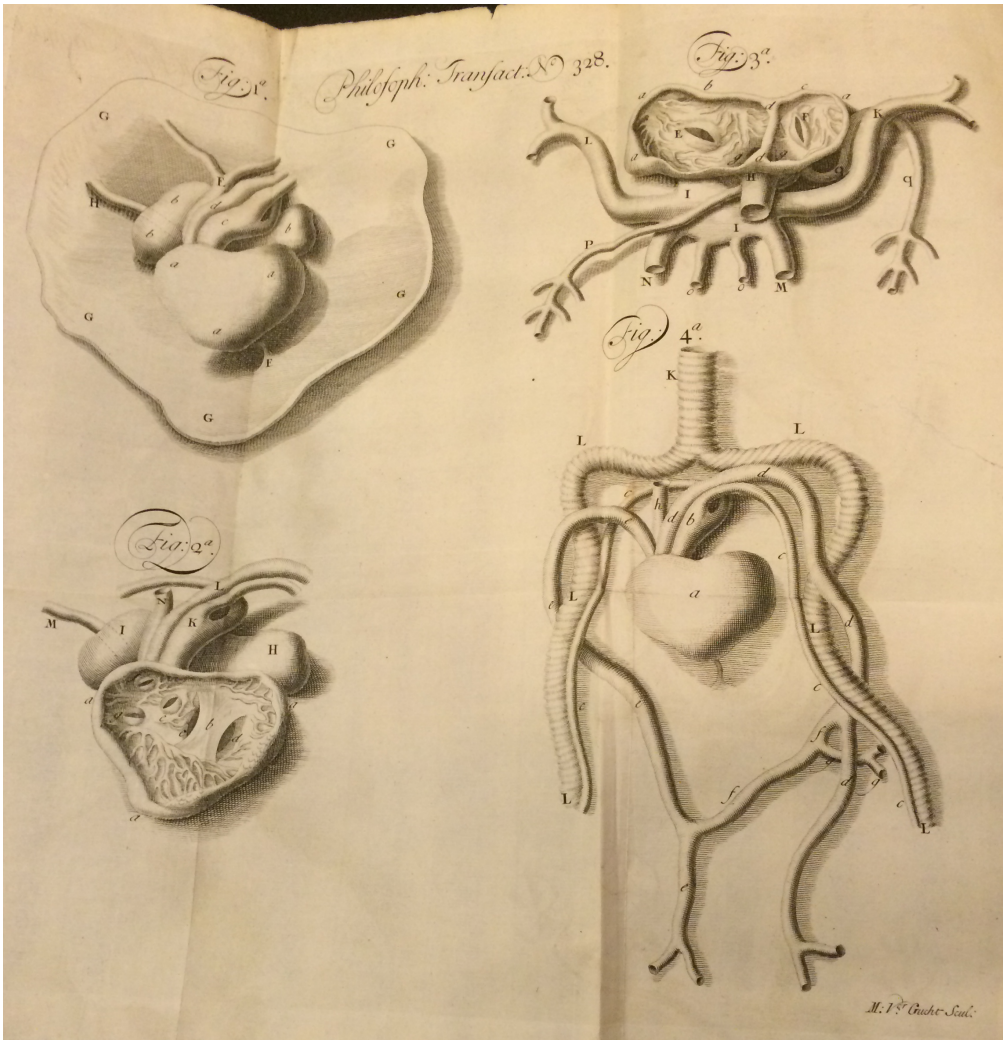
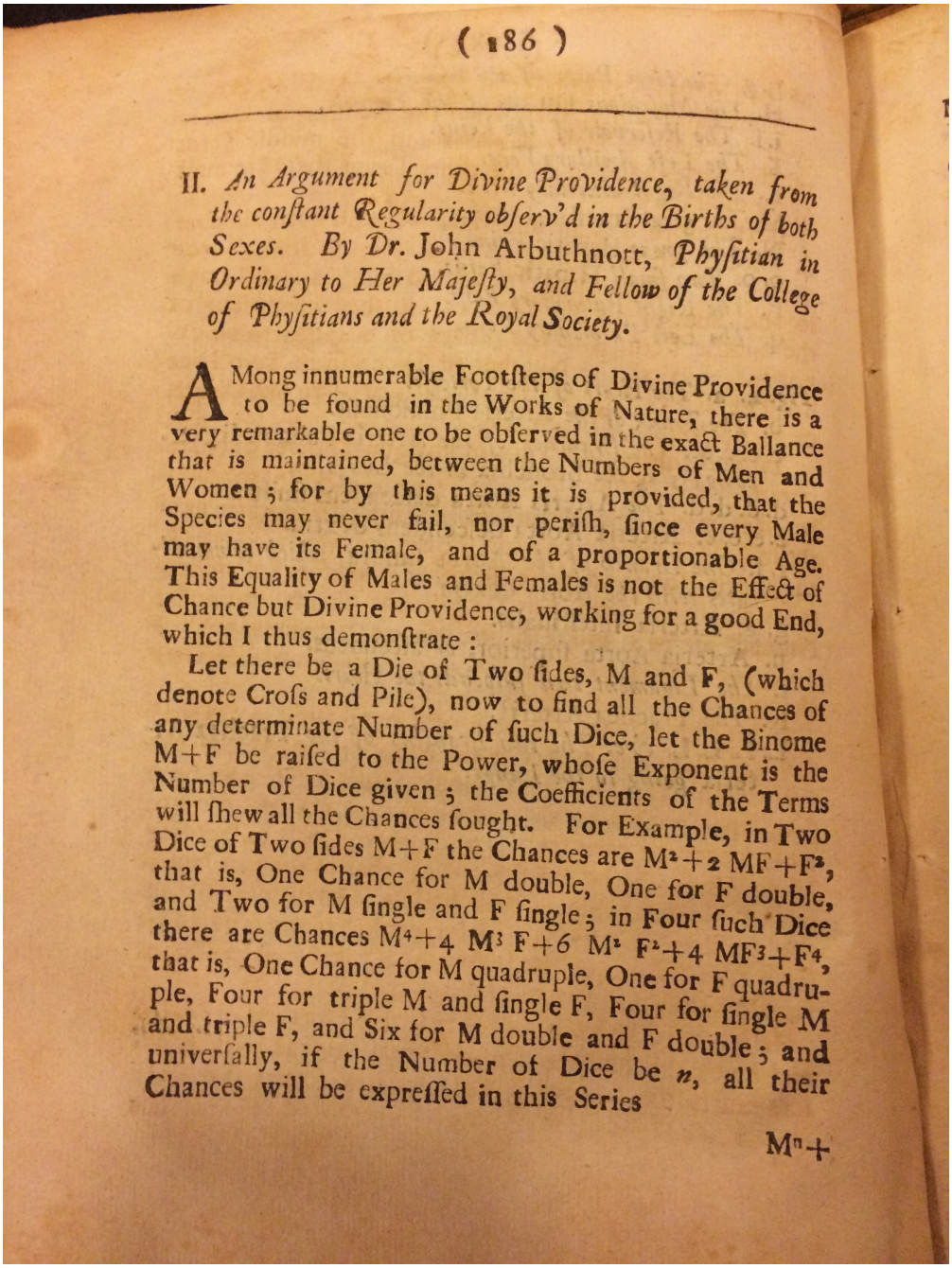


Plate of figures 1–4, NYPL Offsite (NN) *EC R883 v.27 facing p. 169 ($\pi 1^r$)

We get "An Argument for Divine Providence, taken from the constant Regularity observ'd in the Births of both Sexes. By Dr. John Arbuthnott." A careful viewer, or perhaps one with better eyesight than me, will note that we have "Arbuthnott' with two 't's here, which is not the spelling he favored in print but the one he favored in manuscript. We know that William Burnet, son of Gilbert Burnet, read the paper at the Royal Society meeting on April 19, 1711.[290] This was something of a formality, as Oldenburg could publish whatever he would like

[290] Eddie Shoesmith, "The Continental Controversy over Arbuthnot's Argument for Divine Providence," *Historia Mathematica* 14 (1987): 133–46, p.134



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II. *An Argument for Divine Providence, taken from the conſtant Regularity obſerv'd in the Births of both Sexes. By Dr.* John Arbuthnott, *Phyſitian in Ordinary to Her Majeſty, and Fellow of the College of Phyſitians and the Royal Society.*

AMong innumerable Footſteps of Divine Providence to be found in the Works of Nature, there is a very remarkable one to be obſerved in the exact Ballance that is maintained, between the Numbers of Men and Women; for by this means it is provided, that the Species may never fail, nor periſh, ſince every Male may have its Female, and of a proportionable Age. This Equality of Males and Females is not the Effect of Chance but Divine Providence, working for a good End, which I thus demonſtrate:

Let there be a Die of Two ſides, M and F, (which denote Croſs and Pile), now to find all the Chances of any determinate Number of ſuch Dice, let the Binome M+F be raiſed to the Power, whoſe Exponent is the Number of Dice given; the Coefficients of the Terms will ſhew all the Chances ſought. For Example, in Two Dice of Two ſides M+F the Chances are $M^2+2\,MF+F^2$, that is, One Chance for M double, One for F double, and Two for M ſingle and F ſingle; in Four ſuch Dice there are Chances $M^4+4\,M^3F+6\,M^2F^2+4\,MF^3+F^4$, that is, One Chance for M quadruple, One for F quadruple, Four for triple M and ſingle F, Four for ſingle M and triple F, and Six for M double and F double; and univerſally, if the Number of Dice be n, all their Chances will be expreſſed in this Series

M^n+

Page 186, ibid.

without it first being read at the Society.[291] It's possible that Arbuthnot was at the meeting, had

[291] Arbuthnot's response to Justice Chamberlayne from 30 April 1711, thanking him for his comments, suggests that even if Arbuthnot was in attendance at the meeting, his paper's exposure to an audience was in the journal. (John Arbuthnot, *The Correspondence of Dr John Arbuthnot*, ed. Angus Ross, Monographs on Eighteenth-Century English Literature and Culture (Müchen: Wilhelm Fink Verlag, 2006), 140–41)

someone else read the paper, and the unedited manuscript was handed off to the printer, but I think it far more likely that he sent his manuscript to be read without attending.

Not attending and having something read in was fairly common. Arbuthnot's only other article in the *Transactions* was included in just such a way: Edward Berkeley sent him observations by letter on Mount Vesuvius and told him "I doubt there is nothing in this worth shewing the Society: as to that, you will use your discretion"[292]

So, we have an article that is in a sort-of second place, read by the author's assignee, talking about human reproduction and proving the existence of God. Let me walk you through the argument and put the math up on this whiteboard.

$$M + F$$

He represents one birth as being either male or female by addition. M plus F is two terms, one M, one F, so the probability of either M or F is one out of two.

$$(M + F)^2 = (M + F)(M + F) = M^2 + 2MF + F^2$$

This can be extended to two births, both either M or F, but multiplied together. If you remember *foil*, from algebra, you'll see the expansion here is M squared, 2 MF, F squared. This makes sense because there is only one way to get two Ms, male birth followed by male birth; there's only one way to get two Fs, female followed by female; and, there's two ways to get MF: a male birth followed by a female birth, or a female birth followed by a male one.

$$(M + F)^n = M^n + nM^{n-1}F... + \binom{n}{n/2} M^n/2F^n/2 + ...nMF^n - 1 + F^n$$

Now, Arbuthnot extends this to an arbitrary large number, n, say the number of births in a year. He spends a great deal of time explaining how the binomial expansion works, but basically, we have–still–only one way to get all male or all female. But n ways to get one male among all other female births–any one birth can deviate. It's a straightforward matter to see that the coefficients of each of the terms are mirrored across the middle and he spends some time explaining how to calculate this.

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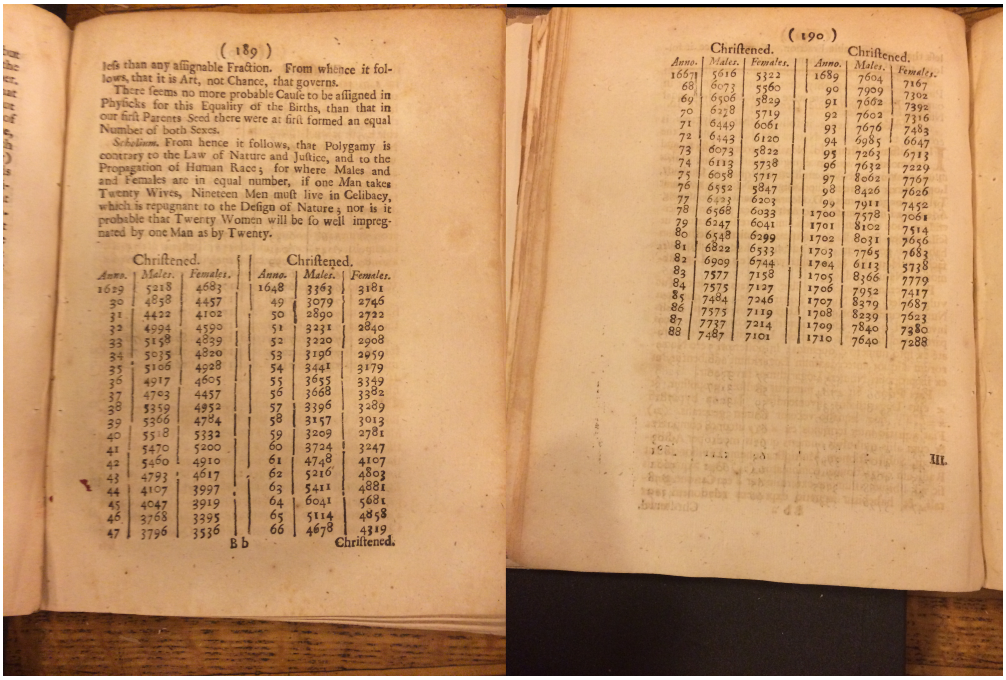
[292] Arbuthnot, *The Correspondence of Dr John Arbuthnot*, 233; *Philosophical Transactions* 30:708

Thus–and this is the critical bit–in the left half of the formula, Ms dominate; there are more Ms than Fs for half the possibilities. So, half the terms had more M than F, well, nearly, so half is a good estimate, certainly for large n.



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less than any assignable Fraction. From whence it follows, that it is Art, not Chance, that governs.

There seems no more probable Cause to be assigned in Physicks for this Equality of the Births, than that in our first Parents Seed there were at first formed an equal Number of both Sexes.

Scholium. From hence it follows, that Polygamy is contrary to the Law of Nature and Justice, and to the Propagation of Human Race; for where Males and and Females are in equal number, if one Man takes Twenty Wives, Nineteen Men must live in Celibacy, which is repugnant to the Design of Nature; nor is it probable that Twenty Women will be so well impregnated by one Man as by Twenty.

Christened.			Christened.		
Anno.	*Males.*	*Females.*	*Anno.*	*Males.*	*Females.*
1629	5218	4683	1648	3363	3181
30	4858	4457	49	3079	2746
31	4422	4102	50	2890	2722
32	4994	4590	51	3231	2840
33	5158	4839	52	3220	2908
34	5035	4820	53	3196	2959
35	5106	4928	54	3441	3179
36	4917	4605	55	3655	3349
37	4703	4457	56	3668	3382
38	5359	4952	57	3396	3289
39	5366	4784	58	3157	3013
40	5518	5332	59	3209	2781
41	5470	5200	60	3724	3247
42	5460	4910	61	4748	4107
43	4793	4617	62	5216	4803
44	4107	3997	63	5411	4881
45	4047	3919	64	6041	5681
46	3768	3395	65	5114	4858
47	3796	3536	66	4678	4319

B b

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Christened.			Christened.		
Anno.	*Males.*	*Females.*	*Anno.*	*Males.*	*Females.*
1667	5616	5322	1689	7604	7167
68	6073	5560	90	7909	7302
69	6506	5829	91	7662	7392
70	6278	5719	92	7602	7316
71	6449	6061	93	7676	7483
72	6243	6120	94	6985	6647
73	6073	5822	95	7263	6713
74	6113	5738	96	7632	7229
75	6058	5717	97	8062	7767
76	6552	5847	98	8426	7626
77	6423	6203	99	7911	7452
78	6568	6033	1700	7578	7061
79	6247	6041	1701	8102	7514
80	6548	6299	1702	8031	7656
81	6822	6533	1703	7765	7683
82	6909	6744	1704	6113	5738
83	7577	7158	1705	8366	7779
84	7575	7127	1706	7952	7417
85	7484	7246	1707	8279	7687
86	7575	7119	1708	8239	7623
87	7737	7214	1709	7840	7380
88	7487	7101	1710	7640	7288

III.

Pages 189–90, ibid.

So he actually has data for 82 years. For each of which there are more male than female births. He calculates the probability that this happens as one over two raised to the power of eighty two. That is, 1 over nearly 484 sextillion, a very small number representing something very unlikely. He writes: "But if A wager with B, not only that the Number of Males shall exceed that of Females, every Year, but that this Excess shall happen in a constant Proportion, and the Difference lye within fix'd limits; and this not only for 82 Years, but for Ages of Ages, and not only at London, but all over the World; … then A's Chance will be near an infinitely small Quantity." Thus, "it is Art, not Chance, that governs."

Arbuthnot continues, "From hence it follows, that Polygamy is contrary **to the Law** of Nature and Justice, and to the Propagation of Human Race; for where Males and Females are in equal number, if one Man takes Twenty Wives, Nineteen Men must live in Celibacy, which is repugnant to the Design of Nature; nor is it probably that Twenty Women will be so well impregnated by one Man as by Twenty." Thus, it's near impossible to have more male births, men die easily, polygamy is bad, God exists, QED.

The problem is that the math is wrong. It assumes that there is a 50/50 chance of producing a male child, not an unreasonable assumption, but this particular table demonstrates it to be false. But, maybe Arbuthnot didn't notice. Well, this data matches the data produced by John Graunt in 1662; they both swapped 1641 and 42 and the only other data available didn't.[293] Arbuthnot, thus, most likely used Graunt's tables, but along with his tables Graunt notices the difference in birth rates between women and men, estimating slightly more than half would be born male, not 50/50.[294] But, perhaps Arbuthnot just missed it when he copied the data.

Arbuthnot's *Essay on the Usefulness of Mathematical Learning* also mentions the "encrease and the decrease of the people" as an appropriate topic for a gentleman to consider when learning mathematics and suggests that Arbuthnot knew of the possibility of an unfair die.[295] Since he imagines a fair die in birth rates, perhaps he's left this as a puzzle for the gentlemen of the Royal Society?[296]

It's generally agreed that Arbuthnot translated Hugenius into English with his *Of The Laws of Chance or a Method of the Calculation of the Hazards of Game* which puts it more explicitly in the preface: "if a Woman is with Child, but it shall be a Boy; and if you would know the just odds, you must consider the Proportion in the Bills that the Males bear to the Females."[297] The preface furthermore suggests that the calculations might be improved with "the Series's and Logarithms"[298] which he does in the article. If you believe–as the consensus seems to since the late 19th-century–that he indeed translated and wrote the preface to *Of The Laws of*

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[293] The great fire of 1666 had destroyed all the bills of mortality for the years before 1658; the only known check on this table is John Bell's *London's Remembrancer* (1665) which matches this and Graunts except for 1641 and 1642 which both Arbuthnot and Graunt swapped.[^26]

[294] John Graunt, *Natural and Political Observations Mentioned in a Following Index and Made Upon the Bills of Mortality* (Early English Books Online, London: Printed by Tho: Roycroft, for John Martin, James Allestry,; Tho: Dicas at the Sign of the Bell in St. Paul's Church-yard, 1662), 48–49, 64

[295] John Arbuthnot, *An Essay on the Usefulness of Mathematical Learning in a Letter from a Gentleman in the City to His Friend in Oxford* (HathiTrust http://hdl.handle.net/2027/mdp.39015031910980, Oxford: Printed for A. Peisley, 1701), 55

[296] In his *Essay on the Usefulness of Mathematical Learning* Arbuthnot notes that he learned probability from the first treatise on the topic by Hugenius.[^27] Hugenius includes the possibility of an unfair die in the same treatise, which would suggest that Arbuthnot was not reading closely.

[297] John Arbuthnot, *Of the Laws of Chance, or a Method of Calculation of the Hazards of Game Plainly Demonstrated and Applied to Games at Present Most in Use* (Early English Books Online, London: Printed by Benj. Motte,; sold by Randall Taylor near Stationers-Hall, 1692), A9^{v}

[298] Arbuthnot, ibid, A11^{r}

Chance then his paper in the *Transactions* seems stranger and stranger. Why would he ignore a fact he knew? Perhaps to leave the way open for someone else?

Well, there were a series of responses and recalculations. Let me start with Arbuthnot's on the whiteboard,

John Arbuthnot (1710) $1 / 2^{82} \cong 10^{-26}$

William Burnet apparently also sent Arbuthnot's paper to Dutch mathematician Willem 'sGravesande who thought that the argument wasn't strong enough. Arbuthnot had merely considered the probability that there would be *more* males each year, not the likelihood that there would be more males born within a certain range. Restricting the possible outcomes further to more males born within the observed range and using the same binomial expansion we've already seen, he found a different probability. Adding that to the whiteboard, we have,

John Arbuthnot (1710) $1 / 2^{82} \cong 10^{-26}$

Willem 'sGravesande (1712) $0.2917^{82} \cong 10^{-45}$

So the likelihood of observing that pattern of male births was even less likely. We go from 26 zeros to 45, much smaller. The math itself is very interesting, and those curious should look at Eddie Shoesmith's paper in *Historia Mathematica*.[299]

The problem here is still that the likelihood of a male birth is considered 50/50, which from the observed data we know it's not. Sometime in 1712 Niklaus Bernoulli, of the prominent family of mathematicians, came to know of Arbuthnot's work while he was visiting England. 'sGravesande broached the subject and Bernoulli took it up with other members of the Royal Society. Disagreeing with the results, Bernoulli points out what Arbuthnot seems to have known all along, that the likelihood of male births was not 50/50, but higher. He takes the likelihood of a particular birth as 18/35, which is close to what Graunt gives. Again, after some clever mathematics that further develop what comes to be called binomial distributions, he comes up with a high likelihood that he publishes in 1713. Let me compare that with the others on the whiteboard,

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[299] Shoesmith, "The Continental Controversy over Arbuthnot's Argument for Divine Providence".

John Arbuthnot (1710) $1 / 2^{82} \cong 10^{-26}$

Willem 'sGravesande (1712) $0.2917^{82} \cong 10^{-45}$

Niklaus Bernoulli (1713) 0.978 i.e. 0.9999 for the few errors

He calculates the probability of achieving the average number of surplus male births within a small range and, furthermore, the probability that the birth rate might deviate the few times it did.[300] So, it turns out, divine providence is merely one of the absolutely most likely outcomes given the greater frequency of male births.

This puts Arbuthnot's paper in a strange position. He never published a follow-up and the only correspondence that has surfaced is his response to Justice Chamberlayne about the problem where he suggests not the hand of God, but "physical Causes of the production of the different sexes. The Most probable is that they [exist originally in Semine Masculo]."[301]

I think there's a clue, though, in the opening phrase of Arbuthnot's paper: "Among innumerable Footsteps of Divine Providence to be found in the Works of Nature." The late Robert Boyle had endowed "an Annual Salary for some Divine or Preaching Minister, … to preach eight sermons in the year for proving the Christian Religion against notorious infidels"[302], connecting natural philosophy with proper religion. Richard Bentley gave the first eight sermons over the year 1692, which focused on what we might now call intelligent design, where he talks about seeing "visible footsteps" or "divine footsteps." And, this word "footsteps" comes to be associated with traces of divine: a peculiar topic for the *Transactions*. I can find no other paper arguing directly for the existence of God, just using God as a sort of topos for appreciating nature or beauty. [*aside*] Though, there's a lot to read, so I'd welcome any listeners who know of one.

More to the point of this panel, Arbuthnot is using representations of data to argue for the existence of a deity. Since the math turns out to be flawed in ways that he most likely

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[300] In particular, he estimates that the likelihood of male births being no more than 163 people different than the average over those years as 0.978, but observing that for 11 years out of the 82, the number fell outside that limit, he calculated that the probability of "falling outside the prescribed limits no more than 10 times in a run of 82 years" as 0.9999.

[301] Arbuthnot, *The Correspondence of Dr John Arbuthnot*, 140–141

[302] Richard Bentley, *The Folly of Atheism, and (What Is Now Called) Deism, Even with Respect to the Present Life: A Sermon Preached in the Church of St. Martin in the Fields, March the VII 1691/2 Being the First of the Lecture Founded by the Honourable Robert Boyle* (Early English Books Online, London: Printed for Tho. Parkhurst at the Bible; Three Crowns in Cheapside,; H. Mortlock at the Phœnix in St. Paul's Church-yard, 1692). A2^{r}

knew, we have to wonder what he might have been doing. I think of the *Dunciad*, which he contributed to, describing the figure of *Mathesis* madly running rampant,[303]

> Mad *Mathesis* alone was unconfin'd,
> Too mad for mere material chains to bind,
> Now to pure Spaces lifts her extatic stare,
> Now running round the Circle, finds it square.

The *Dunciad in Four Books* glosses this passage with Mathesis as "the strange Conclusions some Mathematicians have deduced from their principles" and "the action of men who look about with full assurance of seeing what does not exist, such as those who expect to find *Space* a real being." Arbuthnot was the most informed of the Scriblerians regarding mathematics, so the knowledge for this satire of the over-reach of mathematics seems most likely to have come from him. The objects ridiculed here are mathematicians who ignore physical reality in favor of metaphysical-like musings on abstract possibilities. Somewhat like a proof of God that ignores a portion of the data in favor of its own conclusion.

The *Memoirs of Scriblerus*–yet more closely associated with Arbuthnot's writing–play on the same image of mathematics as engaged in political arithmetic with one of Scriblerus's publications,

> The number of the inhabitants of London determined by the reports of the gold-finders, and the tonnage of their carriages; with allowance for the extraordinary quantity of the *ingesta* and *egesta* of the people of England, and a deduction of what is left under dead walls, and dry ditches.[304]

This fictional title links data collection to over-reaching calculations about a city. Scriblerus, having been brought-up as Blaise Pascal–instructed in mathematics from an early age–produces execrable scholarship later on. The object of the satire here would seem to fall fairly closely to what Arbuthnot himself was doing. Yet his satire works in subtle ways. Analyzing Arbuthnot's *The Art of Political Lying* Conal Condren observes that it's not a party

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[303] *Dunciad in Four Books* IV.31–34 Alexander Pope, *The Dunciad in Four Books*, ed. Valerie Rumbold, 2nd ed. (London: Routledge, 2009), 277.

[304] *Memoirs of Scriblerus* Ch. 14 from George A. Aitken, *The Life and Works of John Arbuthnot* (Oxford: Clarendon Press, 1892), 357.

tract; it's not a Tory accusation of bad Whiggish thought, but accuses everyone of manipulating truth to their own ends. He says "Arbuthnot's satire exposed … [the] common belief [that lying, cheating, and misinformation played their part in creating group identity] by pretending to take it with deadly literalness."[305] Following Pascal in his *Provincial Letters*, Arbuthnot seems present an earnest explanation to someone who may not understand the subtlety of the sorts of political arguments going on.[306]

As I see it, there are two possibilities then for Arbuthnot's error in his article and the strange topic. First, that in his enthusiasm to encourage the gentlemen of the Royal Society to take-up mathematics and the doctrine of series in particular, he overlooked the obvious flaw in his study, which he should have been well aware. In this case, while the strategy itself is not satirical, he selected birth rates and divinity as appealing topics *because* of their significance. Later thinking about the over-reach of data into overly-significant topics makes this a somewhat funny self-satire in retrospect; Arbuthnot derides the very approach he sees as critical for convincing people, which is totally in keeping with his understanding of political lying. It's also possible that his "overlooking" was knowing–maybe he knew that the data didn't support the claim he wanted to make, but meant to give an interesting example to encourage further research. In this case, we have a sort of boosterism of mathematics at the expense of reality for purposes of education–another political lie.

Second, perhaps he *meant* the article to be an elaborate straight-faced joke about the limitations of mathematics. Before we decide this is implausible as being too obscure, remember that Samuel Johnson noted that Arbuthnot's *Memoirs* didn't succeed because the philosophy was too obscure to be of broad interest. Arbuthnot's response to Justice Chamberlayne, that he should think of semen, not look to God, suggests that he intended the error to be uncovered and noticed. Since he does no further work in this area, it seems possible that he was playing some

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[305] Conal Condren, *Satire, Lies and Politics* (New York: St. Martin's Press, Inc., 1997), 17

[306] In analyzing Arbuthnot's *The Art of Political Lying* Conal Condren observes that it's not quite so simple as taking the *Art* as a Tory tract, that points out inconsistencies in Whiggish thought. But, that it "draws on and ironically generalizes from the way in which mutual accusations about lying, cheating, and misinformation played their part in maintaining, or even creating group identity. It was almost a presupposition of debate that opposing parties were always dishonest, dishonesty helped explain why they existed. Most generally characterized, Arbuthnot's satire exposed this common belief by pretending to take it with deadly literalness." (ibid., 17) That is, Arbuthnot's *Art* takes the technique of manipulating truth and lays it on all of humanity, not a certain crowd, by following the same sort of approach used by Pascal in his *Provincial Letters*, a sort of earnest explanation to someone who may not understand the subtlety of the sorts of political arguments going on.

sort of joke on the idea of how eagerly people like Richard Bentley were world-building under the guise of linking theology to natural philosophy.

Then again, these two options aren't really that different. I think plenty of people have noted that the news these days matches the jokes a bit too closely to be comfortable. Sometimes a text doesn't have to be intended to be satire to satirize, even before we declared irony dead.

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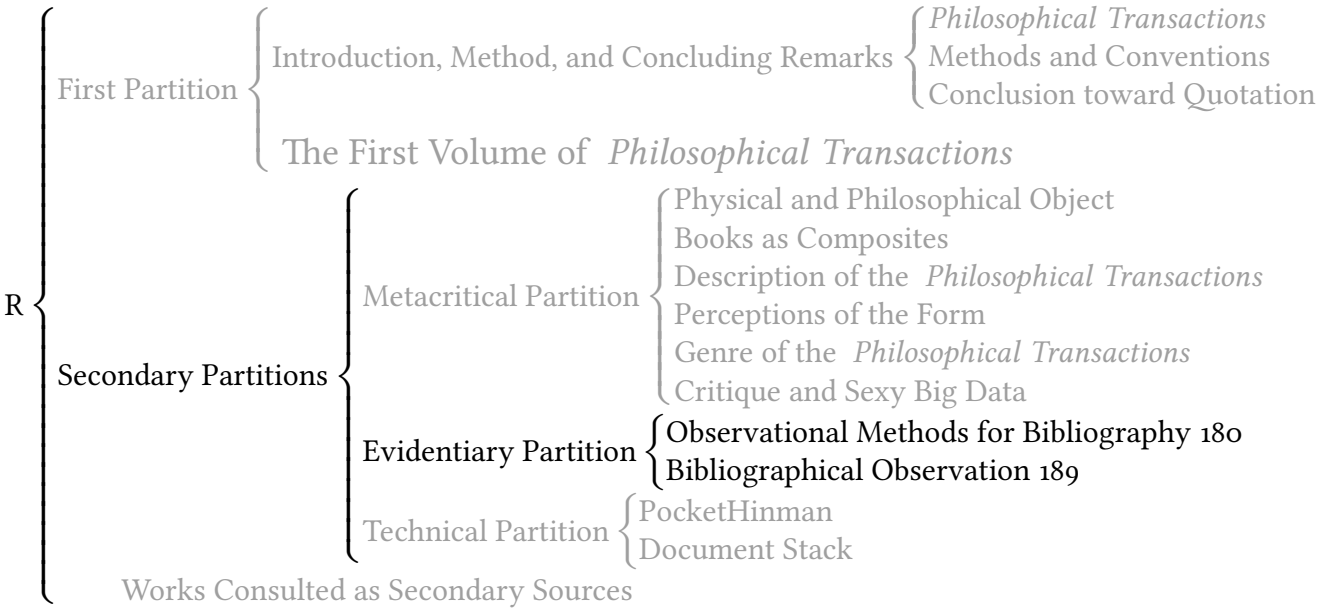
Evidentiary Partition

This partition describes the methods for collecting observations about the *Philosophical Transactions* and then provides a comprehensive account of those observations. It falls within the larger scheme as below, but expects the reader to have understood the first partition—which derives from it and simplifies it—prior to beginning.



Observational Methods for Bibliography

While the first partition presents a bibliographical description based on my judgment of the evidence arising from observation, and the second partition contextualizes my efforts within

the history of books in society and literary criticism, this partition aims to account for those observations, themselves written as facts based on another set of judgments.[307] In collecting these facts, descriptions of the state of things based on my observations, I'm concerned first with the visual appearance of the page as printed and how the individual choices and cultural expectations of communities relate to choices in the layout of this visual appearance. Selecting the elements to include and exclude given the constraints of time and the scope of the work requires some thought.

For example, consider recording press-figures and the chainlines of the unwatermarked paper.[308] While such physical features are not directly planned by the bookseller, or designed by a compositor, they nevertheless provide evidence of the production process and can illuminate things about the text. Kenneth Povey explains how press-figures and paper evidence can demonstrate whether two different half-sheets were worked together or apart.[309] Yet this requires a great deal of information; Povey notes that for half-sheets "a single uncut copy in perfect condition cannot always provide sufficient evidence,"[310] and so the scope of this project would have to expand. More copies of the same item would need to be examined and a tally drawn of half-sheets that were done together and those apart. Such a record would give the printing house practices which—surely—bears upon the layout and typographical decisions that could be made; i.e. how much type did they have? Were there other materials on the press at the same time? As many issues of the *Transactions* begin and end with a half-sheet, understanding half-sheets could resolve differences between the text of the contents and the arguments at the head of an article and indicate a chronological relationship. Indeed, such work is valuable, but will have to wait and although it will, I hope, be motivated by the necessarily preliminary work here.

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[307] Mary Poovey, *A History of the Modern Fact: Problems of Knowledge in the Sciences of Wealth and Society* (Chicago: University of Chicago Press, 1998), 9 "the singular experiences or observed particulars that natural philosophers began to value in the seventeenth century were not *evident*, because they were neither signifiers of anything nor self-evidently valuable; only when such particulars were intepreted *as evidence* did they seem valuable enough to collect, because only then did they acquire meaning or even, I contend, identity as facts."

[308] G. Thomas Tanselle, "The Recording of Press Figures," in *Readings in Descriptive Bibliography*, ed. John Bush Jones (Kent State University Press, 1974), 173–83; David L. Vander Meulen, "The Identification of Paper Without Watermarks: The Example of Pope's *Dunciad*," *Studies in Bibliography* 37 (1984): 58–81.

[309] Kenneth Povey, "On the Diagnosis of Half-Sheet Impositions," in *Readings in Descriptive Bibliography*, ed. John Bush Jones (Kent State University Press, 1974), 150–51.

[310] Ibid., 153.

Bibliographical descriptions rely on judgment to select the elements that best illuminate the problem at hand because "one must decide which are the principal aims or emphases of the work and which are the subordinate ones and then adjust the relative proportions accordingly."[311] Any such judgment should start, as noted by G. T. Tanselle, with Fredson Bowers extended meditation on description in his *Principles of Bibliographical Description*, which has yet to be superseded in comprehensiveness.[312] Bowers's thinking about describing contents is followed in this partition, except page and signature references are given after their slightly more than quasi-facsimile transcription, like in a normal quotation.[313] Furthermore, because items in the contents may occur on the same page, I give the references at the end of all of the items falling on the same page; again, as in the practice of giving a series of quotes. Additionally since this partition aims to record observations, each reference includes the copy consulted. The words and layout of the text itself competently represents its own contents, which should thus be sufficient to describe what it is and can come before the linkage to its location in the object since these observations generate comparison, not summary. As each number of the *Philosophical Transactions* may have been issued in several editions that attempt to duplicate the look of the previous edition, I have gathered these editions under one heading for the number rather than spreading them out into separate entries. I often determine which was the first, so the numbers are assigned an that order in the description.

The choice of what contents to transcribe relies on the judgment of the bibliographer,

> An attempt to lay down strict rules for the formation of this contents list would be futile: the method of notation will differ with each separate bibliography according to its purpose, the kind of books treated, and the amount of space the writer is willing to devote to the list.[314]

Bowers refers to the contents statement that comes after the transcription of the title page here and goes on to offer two abbreviated versions of contents statements and one that uses the full quasi-facsimile transcription that he expects for the title page. The full transcription

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311 G. Thomas Tanselle, "The Arrangement of Descriptive Bibliographies," *Studies in Bibliography* 37 (1984): 25.

312 G. Thomas Tanselle, "The Bibliographical Concepts of Issue and *State*," *The Papers of the Bibliographical Society of America* 69, no. 1 (1975): 17–66, http://www.jstor.org/stable/24302244; Fredson Bowers, *Principles of Bibliographical Description* (1949; repr., New York: Russell & Russell, 1962).

313 Bowers, *Principles of Bibliographical Description*, 289–99, 340–43, 135–84.

314 Bowers, *Principles of Bibliographical Description*, 289

aims to provide the evidence of the type, line breaks, rules, and other ornaments as part of the historical record. In my observational descriptions, I consider the title as merely another part of the contents and treat it all to a full transcription. I also deviate from Bowers by describing the type sorts, as Peter Blayney does, but for the entire contents.[315] To achieve this, I modified Peter Baker's Junicode typeface, making a new version: JunicodeRX, Junicode with eXtensions for Restoration typography. These include varying swash characters and ligatures. This has served better than anything else to distingush editions and documents the choices made by the compositor setting the type.[316] Yet the type appears normal enough that in informal experiments, bibliographers did not perceive the added precision of my experiment as distracting. I consider this—therefore—an appropriate innovation in quasi-facsimile transcription, one which is entirely legible to someone familiar only with the older form. I further consider the innovation a more logical basis for transcribing *printed* documents, which were last modified by a compositor, not an author. We are, after all, looking at type, not manuscript, so the accuracy I add documents the actual historical object.

Furthermore, I follow the Jerome E. Brooks *Tobacco Catalogue* in transcribing content related to this study.[317] Brooks transcribed the references and information related to, or about, tobacco. For my study, I transcribe portions of narrative that refer to how the text was written, printed, sold, or presented to the public. Since this bibliography aims to document the printing and marketing of the *Philosophical Transactions*, fingerprints, collation, and certain portions of text are just as much evidence of the printing as anything else. Yet a careful reader will note that I have only done this for the first volume and some other selections. While I'd like to appeal to some coherent degressive principle, the truth is that such a full treatment for all volumes would have occupied roughly fourteen volumes. I'm unsure how to resolve this issue, but as this document stands the descriptions of the earlier numbers represent a full treatment and the later numbers become more abbreviated and review fewer copies.

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315 Peter W. M. Blayney, *The Texts of King Lear and Their Origins* (Cambridge: Cambridge University Press, 1982).

316 James P. Ascher, "Compositors' Choices in Eighteenth-Century Typography," in *Forms, Formats and the Circulation of Knowledge: British Printscape's Innovations, 1688–1832*, ed. Louisiane Ferlier and Bénédicte Miyamoto, Library of the Written Word 83 (Boston: Brill, 2020), 187–207.

317 Jerome E. Brooks, *Tobacco: Its History Illustrated by the Books, Manuscripts and Engravings in the Library of George Arents, Jr.*, 5 vols. (New York: Rosenbach, 1937–1952).

To make this pragmatic degression clear, I also—unusually for bibliographies—cite every copy for which I have confirmed the presented piece of evidence. Some passages reference as many as six copies, or more, and others just a single copy. Given the scale of producing the most thorough treatment of every copy and the limits of time, this approach seems to be the best way of signaling the different levels of confidence for various features. Indeed, I suspect most bibliographers do some form of this pragmatic degression, but remain silent about it.[318] My approach, while visually denser, describes the actual evidence I saw and can be made as short as the reader wishes in the reading. For someone checking an inevitable error, or who discovers a new copy, it should be useful to be able to imaginatively recreate my process and degree of certainty. For the reader who just wants the prefaces, they can make the bibliography as degressive as they like when they read it.

The transcribed titles and headings use the pipe symbol to indicate line breaks, as is the convention, but the transcription of text appears in a smaller digital typeface with line breaks matching the original. Where the text is justified mine is ragged left and any other alignment is noted. This is a design choice to balance the need to look like previous work and to signal different kinds of information. Think of these transcriptions as recovering the individual actions of the compositors, like a Monotype tape, but that just happen to produce legible text in the same way their actions would have. The typographical differentiation between titles and text also means that it is easy to distinguish prose from titles and someone wishing to read the *Philosophical Transactions* account of its own formation can focus on those transcriptions rather than the supporting detail.

The collations follow Bowers as modified by Tanselle in his article on non-letter press insertions, which introduces the idea of the "composite entity",[319] and his article on title-page transcription and signature collation.[320] The key concept from these essays is linking elements into a composite entity. Each element of a description provides information about a separate production process and page references link these paragraphs together to describe the composite

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[318] I have been confidentially advised to do just this on at least one occasion, but I think that adopting the current approach serves my aims better.

[319] G. Thomas Tanselle, "The Description of Non-Letterpress Material in Books," *Studies in Bibliography* 35 (1982): 23.

[320] G. Thomas Tanselle, "Title-Page Transcription and Signature Collation Reconsidered," *Studies in Bibliography* 38 (1948/49): 45–81.

book; in my descriptions, the collation and contents to link them. A collation is provided for each edition of a number of the *Transactions* and the contents link to it with page references. The item described is not typically a particular copy, but attempts to account for the ideally perfect copy as planned by the producer.[321] Foregrounding the linkage is particularly important for the *Transactions* because the publishers seem to have almost always intended them to be accompanied by illustrations facing the title page that were produced—mostly—by engraving and—occasionally—by other processes. The method of production, if not stated, is relief printing and metal type, but in all other cases identified in the contents paragraphs. In the collation, plates are generally engravings because their status as plates means they were produced separately and integrated into one book. Descriptions of plates begin with a brief description of the image, what a reader would have seen, and continue with a quasi-facsimile transcription of the text visible on their surface. Locations—that is typically page references—in the composite entity are indicated in **bold** along with the particular copies and representations that support that location. In brackets, I give the measurement of the whole image—which in many cases is made of several figures or tables—and a measurement of the plate mark in parentheses and the largest sheet size.[322] For some plates, the printing surface isn't perfectly square, so I give a range. The measurements, while to the millimeter, have a certainty to 5 millimeters. I'm able to compare some of the measurements of impressions of the same surface (confirmed visually) and the folds can lay more or less flat, but I was unwilling to damage the books for a more accurate measurement. A prefixed tilde, '~,' implies more than usual uncertainty and a trailing plus, '+,' indicates that the item was cropped and so the particular dimension must be bigger than what I measured.

Occasionally the *Transactions* were produced not as a quarto book with engraved plates inserted, but with plates produced by mezzotint or in multiple formats. For these, the bulk of the

[321] I use the term "producer," which is historically inaccurate, because it covers a wide range of activities which would fall under the modern term of "publisher." The individual who plans the production of the text as a whole might be called the "editor," the "undertaker" or the "publisher" during the time I consider. While they're never called the "producer," it is the agent-noun form for the verb "to produce," which is the activity I'm concerned with. It's worth noting that in many cases I've examined only one imperfect copy, but that evidence can still indicate how the producer meant for the book to go together; I attempt to describe what the producer meant.

[322] Tanselle, "The Description of Non-Letterpress Material in Books," 34 is the guide here. I prefer his more full measurements that include the distance of the image to the edges of the plate, but given the constraints of time for this project I have in some cases given briefer measurements.

material—the letterpress body text—is described and additions are then either treated like plates or like mixed format in the notation: "4^{o} (A-G, L-M) and 2^{o} (H-K, N)" for quarto for sheets A, B, C, D, E, etc. and folio for sheets H, K and N.[323]

Since this project concerns itself with the varying typographical representations of the same material, I have approached transcriptions of the contents in a way that integrates the changes. Bowers gives several examples where obvious alterations are given in brackets, such as "VPON THE FIRST [SECOND] BOOKE OF."[324] As brackets are used for editorial comments, this alerts the reader that the content is not actually present in *some* copies. Bowers also uses brackets to describe ornaments, editorial insertions and layout, which is slightly different than describing variants between volumes, but works because the two hardly ever come into conflict. However, since I collapse the variations between editions into one description, I have a much more frequent need to indicate variations while still indicating layout, ornaments and other aspects in brackets. Because of this I adapt Bowers practice for multiple volumes and use curly brackets, { and }, for variations between editions. At the end of each transcription, I identify the variant editions and copies that these curly brackets represent within the curly brackets.

I rely on some descriptions or representations of copies that I have not seen. Where the representation of a copy is clear enough for me to reconstruct the ideally perfect copy that it represents, I rewrite the other descriptions and representations into my system. Where the method of description or representation is not sufficient for my needs, I transcribe their description and give a citation to the source. The hazards of basing work on reproductions is well known and for this reason much of my work is tentative. Reproductions can deceive for many reasons, but three particularly troubling reasons are tampering, exposure problems and selection errors.[325] Images, such as those in so-called scholarly facsimiles, may be altered with the intent to improve them, but these alterations oftentimes obscure or erase evidence that would be present in the physical object. Punctuation may be cleaned-up in an effort to remove smudges and poorly inked type may be "opaqued" away in tampering intended to erase the ink

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[323] G. Thomas Tanselle, "The Concept of Format," *Studies in Bibliography* 53 (2000): 108 n. 79.

[324] Bowers, *Principles of Bibliographical Description*, 469.

[325] G. Thomas Tanselle, "Reproductions and Scholarship," in *Literature and Artifacts* (Charlottesville: The Bibliographical Society of the University of Virginia, 1998), 66, 68, 69.

showing through from the other side.[326] High-contrast microfilming and digitization convert a range of tones to stark black-and-white, which is good for printing, but can cause shading from text on one side of a sheet of paper to appear as text on the other. High-contrast can also demote poorly inked items off the page because they are not dark enough to cross a certain threshold in the algorithm. Tanselle explains that "most [high-contrast] reproductions do not offer a broad enough range of gradation in tone to make such [of bleed through from printed material on the other side of a leaf] discriminations possible; and frequently the photographic adjustments necessary to make the faintest inscriptions show up cause distortion in the heavier inscriptions."[327] Lastly, the item selected may be damaged or otherwise unique; the person producing the facsimile must select a particular copy to duplicate, but without a careful study of the material reproduced, the copy chosen may be deceptively defective.[328] These three reasons are particularly troubling for digitized materials because they—unlike focus problems or getting numbered pages out of order—don't leave any obvious evidence. Because of this I rely on reproductions and descriptions to supplement my access to physical copies rather than replace it.

Practically, this means that I identify particular copies that I know only through reproductions with a special symbol prefixed by a small 'r' and those only through description by a small 'd.' In giving the description, I provide the sources that I have checked that portion of the description against. Those only checked against reproductions and descriptions ought to be checked against the original in the future.[329] I also avoid reproductions that use high-contrast photography as much as possible, and when I must use them I note the fact in the source's description. Also, I use reproductions that have eccentricities associated with systematic reproduction rather than those that have been cleaned up. The presence of blank leaves, bindings and endpapers, along with the occasional finger and focus problem, suggest (but do not prove) that the images have not been tampered with. So few reproductions have any notes on their own textual history that, while I would favor those, I do not find them. However, I trace each reproduction to the owning institution's copy. This is another reason to favor the reproduction of endpapers: they have the ownership marks, barcodes and shelf numbers I need

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[326] Ibid., 66–67.
[327] Ibid., 68.
[328] Tanselle, "Reproductions and Scholarship."
[329] Ibid., 77–79.

to confirm the physical copy which I'm examining. The presence of any notes on the textual history is recorded in the description of the source, but normally only a copy and location is given because that's all there is.

Lastly, because I aim to uncover the different editions of these numbers, I provide a bibliographical fingerprint. Carolyn Nelson and Matthew Seccombe identify the importance of bibliographical fingerprinting in working with periodicals, where producers often attempt to duplicate the appearance between editions, but their method is insufficient to distinguish all the editions present in the *Transactions*. They record "the position of the first signature relative to the letters in the text above"[330] but they do not manage to distinguish all the editions of even the third number of the *Transactions* with this method. To improve on the situation, I follow the method for the STCN fingerprint outlined by P. C. A. Vriesema.[P. C. A. Vriesema;[331] more fully described in the first partition.] Where I have seen a copy, or can determine the fingerprint with certainty from a reproduction, it is provided following the collation for that edition of the text. In some cases, descriptions or representations give me enough information to rule-out the fingerprints I've collected, but not enough to provide a full fingerprint. In these cases, I give what information I have. For example, Nelson and Seccombe name all the letters above the first signature, even those only partially overlapped. The STCN fingerprint only includes letters wholly within the boundaries of the signatures considered—except where no letters are wholly within the boundaries, when it gives all the letters overlapped by the boundaries. I can often use Nelson and Seccombe's fingerprint to determine that the signatures do not match, but I cannot give the STCN signature for the item based on Nelson and Seccombe's work.

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[330] Carolyn Nelson and Matthew Seccombe, *British Newspapers and Periodicals 1641-1700: A Short-Title Catalogue of Serials Printed in England, Scotland, Ireland, and British America: With a Checklist of Serials Printed 1701-March 1702, and Chronological, Geographical, Foreign Language, Subject, Publisher, and Editor Indexes 1641-1702* (New York: The Modern Language Association of America, 1987), ix.

[331] "The STCN Fingerprint," *Studies in Bibliography* 39 (1986): 93–99.

Bibliographical Observation of the *Philosophical Transactions*

Descriptions Consulted

dArber contemporary trade catalogs describing the dates and sometimes prices of contemporary sales in Edward Arber ed. *The Term Catalogues, 1668-1709 A.D.; with a Number for Easter Term, 1711 A.D.: A Contemporary Bibliography of English Literature in the reigns of Charles II, James II, William and Mary, and Anne* 3 v. (London: Arber, 1903; New York: Johnson Reprint Company Ltd., 1965)

dESTC *English Short Title Catalogue* available at http://estc.bl.uk/

dL-B briefly described in William Thomas Lowndes, *The Bibliographer's Manual of English Literature, Part VIII*, New. ed. rev., corr., & enlg. by Henry G. Bohn (London: Henry G. Bohn, 1863)

dN&S briefly described in Carolyn Nelson and Matthew Seccombe, *British Newspapers and Periodicals 1641–1700* (New York: Modern Language Association of America, 1987)

Representations Consulted

rBHL photographically reproduced in Biodiversity Heritage Library (DcWaBHL) from an undetermined source, available at http://www.biodiversitylibrary.org/item/183299[332]

rNHS photographically reproduced from Natural History Museum Library, London, South Kensington General SERIALS S 3 C v.1 (000163680), v.47 (000163707) available from http://www.biodiversitylibrary.org/item/183299

rSI photographically reproduced from Smithsonian Libraries (DSI) Special Collections Dibner Library Q41.L8 R88p, available from http://library.si.edu/digital-library/book/philosophical-transactions-royal-society-london

[332] Leora Siegel, "Biodiversity Heritage Library: Inspiring Discovery Through Free Access to Biodiversity Knowledge," *Caxtonian: Journal of the Caxton Club* 27, no. 12 (December 2019): 4–5, 5 explains the exceptional value of this resource which made a "decision to ban 'Frankenbooks' (imperfect copies digitally sewn together to make a more complet copy) … Therefore, all volumes in the BHL are true representations of authentic physical copies."

rUCM photographically (high-contrast) reproduced from Universidad Complutense de Madrid BH MED Rev. 6-1, available from HathiTrust http://hdl.handle.net/2027/ucm.5324351311

Copies Consulted

CLU-SC University of California, Los Angeles, Department of Special Collections, SRLF Non-Circ Request, Q41 .R81t [Barcode:H0000036376] v.1–3

CSmH Huntington Library, Art Collections and Botanical Gardens, 98681 v.1–2, 4

CSmH(B) Huntington Library, Art Collections and Botanical Gardens, Burndy 750073 v.1–2 c.1, v.3–4

CSmH(B.2) Huntington Library, Art Collections and Botanical Gardens, Burndy 750073 v.1–2 c.2

CSmH(B.Newton) Huntington Library, Art Collections and Botanical Gardens, Burndy 700752–4 (Newton pamphlets)

CU-BANC University of California, Berkeley, Bancroft Library, Q41 L842 v.1–5

DLC Library of Congress, Rare Books and Special Collections Division, https://lccn.loc.gov/sn92028128, DLC-RBSC Q41.L8: v.1–19,21–22,24–26,28

IeDuTC University of Dublin, Trinity College, WW.0.1: v.1

NcU University of North Carolina at Chapel Hill, Louis Round Wilson Library, Rare Book Collection: Q41 .L8 v.1

NYPL New York Public Library, Stephen A. Schwartman Building, Offsite (NN) *EC R883 [=(Royal Society of London. Philosophical Transactions)]: v.1–6,23,27,28,42

NYPL-RB New York Public Library, Stephen A. Schwartzman Building, Rare Book Room (328) (NN) *KC 1704 (Royal Society of London. Philosophical transactions) [v.23 only]

PU-Sp University of Pennsylvania, Van Pelt Library, Special Collections Q41 .L8 v.1–2

ICU University of Chicago Special Collections Research Center (ICU) Q41.L72 v.37, 41 pt.1–2, 43, 44 pt. 1–2, 45–47; QC353.N48 [no. 80]

UI University of Illinois at Urbana-Champaign Rare Book & Manuscript Library, UI-R 506 RO v.1–3, 10–12, 20, 29–40, 47

UkLoRS Royal Society, London, RCN: 6928, Library's Set: v.1, plate for v.2 no. 24, plate for v.2 (variant) no. 24

UkLoRS(D) Royal Society, London, Director's Set: v.1 [not in the catalogue]

ViU University of Virginia [Albert and Shirley Small Special Collections Library]: SPEC-COLL STACKS Q41 .L8 no.472 1744 Jan./Apr.

VaCvJPSA The collection of James Phillip Ascher, No. 278 and fragment of No. 216.

Evidence

Volume 1: Numbers 1--22 (1665--1666)

4^{o}: π^{2}; 2 leaves, [*4*]; [front.]

PHILOSOPHICAL | TRANSACTIONS: | GIVING SOME | ACCOMPT | OF THE PRESENT | Undertakings, Studies, and Labours | OF THE | INGENIOUS | IN MANY | CONSIDERABLE PARTS | OF THE | WORLD· | [*rule 121+ NYPL, 119.9 UkLoRS' 120.0 UkLoRS (D) 122.0 IeDuTC 119.1 PU-Sp*, 120.0 CU-BANC, 119.8 CLU-SC, 120.0 CSmH] | *Vol I.* | For *Anno* 1665, and 1666. | [*rule 121 (120.1 PU-Sp), 121.5 CU-BANC, 120.5 CLU-SC, 121 CSmH*] | In the *SAVOY*, | Printed by *T. N.* for *John Martyn* at the Bell, a little with-|out *Temple-Bar*, and *James Alleſtry* in *Duck-Lane*, | Printers to the *Royal Society*. [*middle dot after WORLD, P is swash left* **$\pi 1^{r}$:** rNHS, UI, dN&S, dL-B, NYPL, DLC, UkLoRS, UkLoRS(D), IeDuTC, PU-Sp, CU-BANC, CLU-SC, CSmH]

[*blank*] [**$\pi 1^{v}$:** CSmH]

[**Dedication:**] [**$\pi 2^{r}$:** rNHS, UI, NYPL, DLC UkLoRS, UkLoRS(D), IeDuTC, PU-Sp, CU-BANC, CLU-SC]

[*Two lines centered:*] TO THE

Royal Society.

*IT will not become me, to adde any [*I in IT in five-line factotum*]*
Attributes to a Title,which has a
Fulneſs of Luſtre from his Ma-
jeſties *Denomination.*

In theſe Rude Collections,which
are onely the Gleanings of my private *diverſions*
in broken hours, it may appear, that many
Minds and Hands are in many places induſtri-
ouſly employed, under Your Countenance and by
Your Example, in the purſuit of thoſe Excellent
Ends, which belong to Your Heroical Under-
takings.

Some of theſe are but the Intimations of large
Compilements. And ſome Eminent Members of
Your Society, *have obliged the Learned World*
with Incomparable Volumes, *which are not*
herein mention'd, becauſe they were finiſht, and
in great Reputation abroad, before I entred upon
this Taske. And no ſmall Number are at
preſent engaged for thoſe weighty Productions, [**π2ʳ:** rNHS, UI, NYPL, DLC, UkLoRS, PU-Sp, CU-BANC]
which require both *Time and Aſſiſtance, for*
their due Maturity. So that no man can from
theſe Glimpſes of Light take any juſt Meaſure
of Your Performances, or of Your Proſecuti-
ons; but every man may perhaps receive ſome be-
nefit from theſe Parcels, which I gueſſed to be
ſomewhat conformable to Your Deſign.

This is my Solicitude, That, as I ought not to
be unfaithful to thoſe Counſels you have com-
mitted to my Truſt, ſo alſo that I may not altoge-
ther waſte any minutes of the leaſure you afford
me. And thus have I made the beſt uſe of ſome of
them,that I could deviſe; To ſpread abroad En-
couragements, Inquiries, Directions, and Pat-
terns, that may animate, and draw on Univer-
ſal Aſsiſtances.

The Great God *prosper You in the Noble Engagement of Dispersing the true Lustre of his Glorious Works, and the Happy Inventions of obliging Men all over the World, to the General Benefit of Mankind: So wishes with real Affections*,

Your humble and obedient Servant

HENRY OLDENBURG. [**π2ᵛ:** rNHS, UI, NYPL, DLC, CU-BANC]

Copies considered: rNHS: signatures, full transcription, Plate: Frontispiece portrait of Viscount William Brouncker and Francis Bacon seated by a bust of Charles II being crowned with laurels by an angel, surrounded by books and instruments with the arms of the Society at the top, usually associated with Sprat's *History*: [**lower left**] *Evelyn inv. D.D. C.* [**lower right**] *Wenceslaus Hollar f 1667* [*engraved,* **facing π1ʳ:** rNHS][333] **dL-B:** has two tables of contents, 9 plates, pp. 1–407; **dN&S:** format, abbreviated title and imprint; 539.01000, Ed. Henry Oldenburg et al. [1667]; **dArber:** reprint of 1669 classified under Miscellanies "A Complete Collection of the Philosophical Transactions for the years 1665, 1666, 1667, and 1668 ... In Quarto. Two Volumes. Price. bound, 30s." for Feb 1669, [i.e. 8.18d each number]; **UI:** collation, lacks plate, partial transcription; **NYPL:** transcription, collation, lacks plate; **DLC:** transcription, collation, lacks plate; **UkLoRS:** transcription, collation, lacks plate, presentation copy from the "Author" presumably Oldenburg 'Pro'sented by the Author May.30.th 1667.' π1ʳ; **UkLoRS(D):** transcription, collation, lacks plate; **IeDuTC:** collation, title, imprint, Claudius Gilbert's copy 'Ex Librii Claud. Gilbert | vv, gg'; **PU-Sp:** collation, title, imprint, 'Jo: Merewether.' on p. [1], endpapers: 'Tho: Corn: Consintini. Progymnasmata Physica p:576' refers to a book review in v.2 № 30, 'H. Oldenburge. | <ar>d: Epistolos. inter Epist. B: de Spinoza. Oper. | Epus posthuma. 4to. 1677.' referring to *B.d.S. Opera posthuma* (1677), 'This Volume contains the | plate of Saturn by the Mepi | Ball which is wanting in | so many copies of this Vol — | P. 147 C. L. P' referring to plate for № 9; **CU-BANC:** collation, title, imprint, CU-BANC accession number 761230, 'mit 7 Tafeln | Band 1–67 — 64 Bdn | (1665.–1777.) | [*rule*] | 750— | Suone Ruitue'(??) on upper endpaper, inserted letter facing p. [4]: Lieutᵗ. Gen. Schlieffen [Martin Ernst von Schlieffen 1732–1825?] London. |

[333] Michael Hunter, *The Image of Restoration Science: The Frontispiece to Thomas Sprat's* History of the Royal Society*(1667)* (With a chapter on the instruments by Jim Bennett, New York: Routledge, 2017) gives an incredibly thorough treatment of this plate and why its presence here might not be as odd as it seems.

Bot. of L. Davis. | 1778. | Mar. 25 Philosophical Transactions *complete* [*previous word underlined*] 52 and 10 — | A Packing Box for ditto — 5 | [*rule*] | £ 52.12.0 | Rev^{d}. the Contents in full for | Mr. Lockyer Davis | Jn^{o}. Egerton. [Sir John Grey Egerton, 8th Baronet?]; **CLU-SC:** collation, title, imprint, with ownership marks of UCLA(?) see photos; **NcU:** lacking and replaced in photostat; **CSmH:** collation, transcriptions, plate of Bridgewater Library; **CSmH(B):** collation, gift of Bern Dibner, Prof. Cha. Singer's set; **CSmH(B.2):** collation, git of Mr. Thomas Heatley to the Mathematical School in Christ's Hospital 1700.

Number 1 (Monday, March 6. 166$\frac{4}{5}$)

A: 4^{o}: A–B^{4} [$1–2 signed]; 8 leaves, pp. 1–16

000004 - b1 A1 m$: b2 B2 in [rNHS, DLC(gathering B), PU-Sp, CU-BANC, NcU, CSmH]

B: 4^{o}: A–B^{4} [$1–2 signed]; 8 leaves, pp. 1–16

000004 - b1 A1 fr : b2 B2 Fi [UI, NYPL, DLC(gathering A), UkLoRS, UkLoRS(D), IeDuTC, CLU-SC, CSmH(B), CSmH(B.2)]

C: 4^{o} [dN&S]

PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 57.2+0.3+57.2 {rule 111.5}*] | *Munday, March* 6. 166$\frac{4}{5}$ | [*broken rule 54.2+0.7+58.3 {rule 111.6}*] | [**in upper-right headline:**] *Numb.* 1.

The Contents. | *An Introduction to this Tract. An Accompt of the Improvement of* | Optick Glaſſes *at* Rome. *Of the Observations made in* England, | *of a Spot in one of the Belts of the Planet* Jupiter. *Of the mo-|tion of {|} the late* Comet *prædicted. The Heads of many New Ob-|ſervations {|} and Experiments{◌}, in order to an Experimental* Hiſto-|ry of Cold {◌}; {|} *together with ſome* Thermometrical *Diſcourſes and* | *Experiments. {|} A Relation of a very odd Monſtrous* Calf. *Of* | *a peculiar* Lead-{|}Ore *in* Germany{◌}, *very uſeful for Eſſays. {Eßays.} Of* | *an* Hungarian Bolus, {Bo-|lus,} *of the ſame effect with the* Bolus Armenus. | *Of the New* Ame{-|}rican *Whale-fiſhing about the* Bermudas. *A Nar-|rative {Narative} concerning {|} the ſucceſs of the* Pendulum-watches *at Sea* | *for the* Longi{-|}tudes ; *and the Grant of a* Patent *thereupon. A* | *Catalogue of the {|} Philosophical Books publiſht by* Monſieur de Fer-|mat, *Counſellour at* {|} Tholouſe, *lately dead.* |

The Introduction. [**1 (A1^{r}):** A=rNHS, PU-Sp, CU-BANC {B=UI, NYPL, DLC, UkLoRS, UkLoRS(D), IeDuTC, CLU-SC}]

> W^{ſ}Hereas there is nothing more neceſſary for promo-
> ting {|} the improvement of Philoſophical Matters{◌},

than the {|} communicating to ſuch {○}, as apply their
Studies and {|} Endeavours that way, ſuch things as are
diſcove{-|}red or put in practice {practiſe} by others; {;} It {it} is there-
fore {|} thought fit to employ the *Preſs*, as the moſt proper way
to {|} gratifie thoſe, whoſe engagement in ſuch Studies{}, and delight
in the advancement of Learning and profitable Diſcoveries{○},
doth entitle them to the knowledge of what this Kingdom{}, or
other parts of the World, do, from time to time, afford, as well [**1(A1r):** A=rNHS, PU-Sp {B=NYPL,
UkLoRS, IeDuTC, CLU-SC}]
of the Progreſs {progreſs} of the Studies{},Labors{}, and attempts of the {|} Cu-
rious and Learned {learned} in things of this kind{○}, as of their complete {compleat}
Diſcoveries and Performances: {performances:} To the end, that ſuch Produ-
ctions being clearly and truly communicated{○}, deſires after ſo-
lide {ſolid |} and uſeful {uſefull} knowledge may be further entertained, ingeni-
ous {|} Endeavors {Endeavours} and Undertakings cheriſhed, and thoſe, addi-
cted to and converſant in ſuch Matters,may {matters, may} be invited and en-
coura{|}ged to ſearch, try, and find out new things{○}, impart their
know{-|}ledge to one another, and contribute what they can to
the {|} Grand Deſign {desſign} of improving Natural knowledge, {○,○}and per-
fecting {|} all *Philoſophical Arts*, and *Sciences*. All for the Glory of
God{○}, the {|} Honor {Honour} and Advantage of theſe Kingdoms{○}, and the
Univerſal {|} Good of Mankind. [**2 (A1v):** A=rNHS, PU-Sp {B=NYPL, UkLoRS, IeDuTC, CLU-SC}]

An Accompt of the improvement of Optick Glaſſes. [**2 (A1v):** rNHS, UI, NYPL, DLC, UkLoRS, PU-Sp, CLU-SC]

There came lately from *Paris* a Relation, concerning the Im-
provement of *Optick Glaſſes*, not long ſince attempted at *Rome*
by Signor *Giuſeppe Campani*,and by him diſcourſed of,in a Book,
Entituled, *Ragguaglio di nuoue Oſſer-vationi*, lately printed in the
ſaid City,but not yet tranſmitted into theſe parts; wherein theſe
following particulars, according to the Intelligence,which was
ſent hither, are contained.
[… *account continues*] [**2 (A1v):** CLU-SC]

A Spot in one of the Belts of Jupiter. [**3 (A2r):** rNHS, UI, NYPL, DLC, UkLoRS, PU-Sp, CLU-SC]

The Ingenious Mr. *Hook* did, ſome moneths ſince, intimate to a friend of his, that he had, with an excellent twelve foot Te-
[… *report continues*] [**3 (A2^{r}):** CLU-SC]

The Motion of the late Comet prædicted. [**3 (A2^{r}):** rNHS, UI, NYPL, DLC, UkLoRS, PU-Sp, CLU-SC]

There was lately ſent to one of the *Secretaries* of the *Royal Society* a Packet, containing ſome Copies of a Printed Paper, Intituled, The *Ephemerides* of the *Comet*, made by the ſame Perſon, that ſent it, called *Monſieur Auzout*, a *French* Gentleman of no ordinary Merit and Learning, who deſired, that a couple of them might be recommended to the ſaid *Society*, and one to their *Preſident*, and another to his Highneſs Prince *Rupert*, and the reſt to ſome other Perſons, nominated by him in a Letter that accompanied this preſent, and known abroad for their ſingular abilitys and knowledge in Philoſophical Matters. The end of the Communication of this Paper was, That, the motion of the *Comet*, that hath
[… *prediction contiues*] [**3 (A2^{r}):** CLU-SC]

An Experimental Hiſtory of Cold. [**8 (A4^{v}):** rNHS, NYPL, DLC, UkLoRS, PU-Sp, CLU-SC]

There is in the Preſs, a New *Treatiſe*, entituled, *New Obſervations and Experiments in order to an Experimental Hiſtory of Cold*, begun by that Noble Philoſopher,Mr.*Robert Boyle*, and in great part already Printed; He did lately very obligingly preſent ſeveral Copies of ſo much as was Printed, to the *Royal Society*, with a deſire that ſome of the Members thereof might be engaged to peruſe the Book, and ſelect out of it for trial, the hints of ſuch Experiments, as the *Author* there wiſheth might be either yet made or proſecuted. The Heads thereof are,
[… *headings and account continues*] [**8 (A4^{v}):** CLU-SC]

An Account of a very odd Monſtrous Calf. [**10 (B1^{v}):** rNHS, NYPL, DLC, UkLoRS, PU-Sp, CLU-SC]

By the ſome Noble perſon was lately communicated to the *Royal Society* an Account of a very Odd Monſtrous Birth, produced at *Limmington* in *Hampſhire*, where a Butcher, having
[… *account continues*] [**10 (B1^{v}):** CLU-SC]

*Of a Peculiar Lead-Ore of Germany, {*Germany*,} and the Uſe | thereof.* [**10 (B1^{v}):** A=rNHS, DLC, PU-Sp {B=NYPL, UkLoRS, IeDuTC, CLU-SC}]

> There was,not long ſince,ſent hither out of *Germany* from an inquiſitive Phyſician,a Liſt of ſeveral *Minerals* and *Earths* of that Country, and of *Hungary*, together with a *Specimen* of each of
> [… *account continues*] [**10 (B1^{v}):** CLU-SC]

Of an Hungarian Bolus{◌}, of the ſame Effect with the | Bolus {|} Armenus [**11 (B2^{r}):** A=rNHS, PU-Sp {B=NYPL, DLC, UkLoRS, CLU-SC}]

> The ſame perſon gave notice alſo, that, beſides the *Bolus Ar-*
> [… *account continues*] [*us ligatured*] [**11 (B2^{r}):** CLU-SC]

Of the New American *Whale-fiſhing about the* Ber-|mudas. [**11 (B2^{r}):** rNHS, NYPL, DLC, UkLoRS, PU-Sp, CLU-SC]

> Here follows a Relation, ſomewhat more divertiſing, than the precedent Accounts;which is about the new *Whale fiſhing* in the *Weſt-Indies* about the *Bermudas*, as it was delivered by an underſtanding and hardy Sea-Man, who affirmed he had been at the killing work himſelf. His account,as far as remembred,was this;
> [… *account continues*] [**11 (B2^{r}):** CLU-SC]

A Narrative concerning the ſucceſs {ſucceſs} of Pendulum-Watches | at { at |} Sea for the Longitudes. [**13 (B3^{r}):** A=rNHS, DLC, PU-Sp {B=NYPL, UkLoRS, IeDuTC}]

> The Relation lately made by Major *Holmes*, concerning the ſucceſs of the *Pendulum-Watches* at Sea (two whereof were committed to his Care and Obſervation in his laſt voyage to *Guiny* by ſome of our Eminent *Virtuoſi*, and Grand Promoters of Navigation) is as followeth;
> [… *relation continues*] [**13 (B3^{r}):** CLU-SC]

The Character, lately publiſhed beyond the Seas, of an Eminent | Person, {person,} not long ſince dead at Tholouſe {◌}, *where he was a | Councellor of Parliament.* [**15 (B4^{r}):** A=rNHS, NYPL, DLC, PU-Sp {B=UkLoRS, IeDuTC, CLU-SC}

Imprint: [*rule 114.0 {112.9}*] | {*London*, |} Printed with Licence, For *John Martin*, {By *John Martyn*,} {{for *John Martin*}} and *James Alliſtry*, | {*Alle-|ſtry,*} Printers to the *Royal Society*. {*Royal-Society.*} [*{short st ligatured}*] [**16 (B4^{v}):** A=rNHS, DLC, PU-Sp, CU-BANC {B=UI, NYPL, UkLoRS, IeDuTC, CLU-SC} {{C=dN&S}}]

Copies considered: dN&S: three editions, abbreviated titles and imprints; rNHS=539.01001A, UI=539.01001B, 539.01001C has imprint of 1666 and listed at Univ. Kansas and Queen's College, Oxford; **rNHS:** signatures, fingerprint, full transcription; **UI:** collation, fingerprint, partial transcription; **NYPL:** collation, fingerprint, transcriptions; **DLC:** fingerprint, transcription; copy seems to be made up of two different editions of the sheets; **UkLoRS:** fingerprint, transcription, collation; **UkLoRS(D):** fingerprint, some transcription, collation; **IeDuTC:** fingerprint, some transcription, collation; **PU-Sp:** fingerprint, collation, transcription; **CU-BANC:** fingerprint, collation, title, imprint; **CLU-SC:** fingerprint, collation, transcription; **NcU:** collation, imprint, fingerprint, pamphlet stitching indicating individual issue.

Number 2 (Monday, April 3, 1665)

A: 4^{o}: C–D^{4} [$1–2 signed]; 8 leaves, pp. 17–32; plate [1]
000004 - b1 C1 t$: b2 D2 nab [rNHS, PU-Sp, CU-BANC, CSmH]

B: 4^{o}: C–D^{4} [$1–2 signed]; 8 leaves, pp. 17–32; plate [1]
000004 - b1 C1 t (partially under 'th') : b2 D2 na [UI, rUCM, NYPL, DLC, UkLoRS, UkLoRS(D), IeDuTC, CLU-SC, CSmH(B), CSmH(B.2)]

C: 4^{o} as above
000004 - b1 C1 or : b2 D2 be$ [NuC, Queen's College, Oxford variant in dN&S: por/C Num.]

a: **Plate:** Diagram of washing mercury and producing suction through water aspiration, referred to on page 25 ($D1^{r}$): [*in black border with two figures,* **upper:**] Fig: II [**lower:**] Fig: I [*engraved* 184.2×129.5 (192–4x138.5–9.0, sheet 222.0x307.0+) **17 ($C1^{r}$):** UkLoRS, UI, PU-Sp, CU-BANC, CLU-SC, NcU, CSmH]

b: **Plate:** plate a with [**upper right**] №.2^{d}, water between A and B worn in both figures [*engraved* 184.2×129.4 (193.0×139.0, sheet 219×167.2) **17 ($C1^{r}$):** UkLoRS(D), IeDuTC, CSmH(B), CSmH(B.2)]

c: **Plate:** as plate b [*engraved* (186x129, sheet 194x137+) **17 ($C1^{r}$):** NYPL, DLC]

PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 46.9+0.2+56.0, 57.2+0.2+57.2 CU-BANC, CSmH {rule 111.0 DLC UkLoRS(D), 112.0 UkLoRS, 112 CLU-SC, CSmH(B), CSmH(B.2)} {{56.8+0.1+56.9}}*] | *Munday{{ }}, April* 3. 1665. | [*broken rule 54.6+0.7+58.1 CU-BANC, CSmH {rule 110.9 DLC, 111.9 UkLoRS, 112.2 UkLoRS(D), 112.2 CLU-SC} {{54.1+0.8+57.9}}*] | [**in upper-right headline:**] *Numb. {Num.} {{Num.}}* 2.

The Contents. | *Extract of a Letter written from* Rome, *concerning the late* Co-|met{{}}, *and a* New *one. Extract of another Letter from* Paris, | *containing ſome Reflexions {Reflections} on the precedent* Roman *letter. {Letter.} {{Letter. An}}* | *An {{\}} Obſervation concerning ſome particulars, further conſide-|ra{-|}ble in {{\}} the* Monſter, *that was mention'd in the firſt Papers of* | *theſe* {|} Phi{{-|}}loſophical Tranſactions. *Extract of a Letter written* | *from {\} {{\}}* Venice,{ }*concerning the Mines of* Mercury *in* Friuly. {*Friuly.*} *Some* | *Ob{-|}{{-|}}ſervations ,{{ↄ,}} made in the ordering of* Silk-worms. *An Ac-|count of {\} {{\}} Mr.* Hooks Micrographia{}{{}}, *or the Phyſiological deſcri-|ptions of {\} {{\}}* Minute Bodies,{ }*made by* Magnifying Glaſſes. | [*broken rule 50.0+0.2+59.7, 49.8+1.0+59.9 CU-BANC {rule 112.2 DLC, 113.2 UkLoRS, 112.4 UkLoRS(D), 113.0 CLU-SC} {{rule 111.9}}*] [*note swash variant of Reflections in B*] |

Extract of a Letter, lately written from Rome, *touching the* | *late Comet, and a New one.* [**17 (C1^{r}):** A=rNHS, PU-Sp {B=rUCM, NYPL, DLC, UkLoRS, UkLoRS(D), CLU-SC} {{C=NcU}}]

Extract of a Letter , written from Paris ,{{ↄ,}} *containing ſome* | *Reflections on part of the precedent* Roman *Letter.* [**18 (C1^{v}):** rNHS, rUCM, NYPL, DLC, UkLoRS, PU-Sp, CLU-SC {{C=NcU}}]

An Obſervation imparted to the Noble Mr. Boyle , *by* | *Mr. {{\}}* David Thomas{{}}, *touching ſome particulars fur-|ther {\} {{\}} conſiderable in the* Monſter *mentioned in the* | *firſt {firſt} {{firſt}} Papers {\} {{\}} of theſe* Philosophical Tranſactions. [*small st ligatured in edition A*] [**20 (C2^{v}):** A=rNHS, PU-Sp {B=rUCM, NYPL, DLC, UkLoRS, CLU-SC} {{C=NcU}}]

Extract of a Letter {ↄ}, lately written from Venice *by the* | *Learned Doctor* Walter Pope, *to the Reverend Dean of* | Rippon, *Doctor* John Wilkins ,{{ↄ,}} *concerning the Mines* | *of* Mercury *in* Friuli ; *and a way of producing* Wind | *by the fall of* Water. [**21 (C3^{r}):** A=rNHS, PU-Sp {B=rUCM, NYPL, DLC, UkLoRS, CLU-SC} {{C=NcU}}]

An Extract of a Letter {ↄ}, {{ↄ}}containing ſome Obſervations, {{ↄ}}| made {{\}} in the ordering of Silk-worms, *communicated* | *by that {{\}} known* Vertuoſo, *Mr.{,}* Dudley Palmer,*from* | *the in{{-|}}genuous{{us}} Mr.*Edward Digges. [*note ligature variant in C*] [**26 (D1^{v}):** A=rNHS, PU-Sp {B=rUCM, NYPL, DLC, UkLoRS, CLU-SC} {{C=NcU}}]

> I herewith offer to your *Society* a ſmall parcel of my
> *Vir{-|}ginian* ſilk. {Silk.} What I have obſerved in the ordering of
> Silk-{|}worms,{ }contrary to the received opinion, is:
> [… *observations continue*] [**26 (D1^{v}):** CSmH {B=CLU-SC} {{C=NcU}}]

An Account of Micrographia{ },{ }{{ }}*or the* Phyſiological {|} De-|ſcriptions *of* Minute Bodies,*made by* Magni{-|}fying | Glaſſes. [**27 (D2^{r}):** A=rNHS, PU-Sp {B=rUCM, NYPL, DLC, UkLoRS, CLU-SC, CSmH(B), CSmH(B.2)} {{C=NcU}}]

> The Ingenious and knowing Author of this *Treatiſe,* Mr. *Robert{{Robert}} Hook*, conſidering with himſelf, of what importance a faithful *Hiſtory of Nature* is to the eſtabliſhing of a ſolid Syſteme of *Natural Philoſophy* {{○}}, and what advantage *Experimental* and *Mechanical* knowledge hath over the Phi{-|}loſophy of *diſcourſe* and *diſputation* {{○}}, and making it{ }, upon{|} that account, his conſtant buſineſs to bring into that vaſt{|} Treaſury what portion he can, {○}hath lately publiſhed a Spe{-|}cimen of his abilities in this kind of ſtudy, which certainly {certainly |} is very welcome to the Learned and Inquiſitive world{ },{|}both for the *New diſcoveries* in *Nature*, and {○}the *New Inventions*{|}of*Art*.
>
> As to the *former*, the Attentive Reader of this Book will
>
> [… *account continues*] [**27 (D2^{r}):** A=CSmH, rNHS {B=CLU-SC} {{C=NcU}}]

Imprint: [*rule 99.9 {broken rule 33.2+1.0+70.0} {{103.0}}*] | London, Printed with Licence for *John Martyn,* and *swashJ{}ames* | *Alleſtry*, Printers to the *Royal Society*. [**32 (D4^{v}):** rNHS, CSmH, PU-Sp, CU-BANC {B=rUCM, NYPL, DLC, UkLoRS, UkLoRS(D), IeDuTC, CLU-SC} {{C=NcU}}]

Copies considered: dN&S: 539.01002 B=Cambridge variant, A=Yale variant (p.618); **rNHS:** signatures, fingerprint, full transcription, plate present; **rUCM:** fingerprint, full transcription; **UI:** collation, plate 186x129 (194x137+), fingerprint; **NYPL:** collation, plate 186x129 (194x137+), fingerprint, signatures, transcription; **DLC:** collation, plate 183x129 (190x143+), fingerprint, transcription, plate; **UkLoRS:** collation, plate 194x138.5 (222.0x159.2+) bound facing next number, fingerprint, transcription; **UkLoRS(D):** collation, plate, fingerprint, rules, imprint, title; **IeDuTC:** collation, fingerprint, title, imprint; **PU-Sp:** collation, fingerprint, transcription, plate has two rows of stab holes suggesting that it was issued wrapped around the text; **CU-BANC:** collation, fingerprint, title, imprint; **CLU-SC:** collation, fingerprint, transcription, plate bound facing next issue; **NcU:** collation, fingerprint, transcription, stitched for individual issue; **CSmH:** collation, fingerprint, part. transcription. **CSmH(B):** collation, fingerprint, initial woodcut

'I' matches CSmH=A, suggesting the same printer in a similar time period; **CSmH(B.2):** collation, fingerprint, initial woodcut 'I' as CSmH(B).

Number 3 (Monday, May 8, 1665)

A: 4°: E-F⁴ G² [$1-2 (-G2) signed]; 10 leaves, pp. 33-52

166504 - b1 E1 $p : b2 G1 $ [rNHS, DLC, PU-Sp, CU-BANC, NcU, CSmH]

B: 4°: E-F⁴ G² [$1-2 (-G2) signed]; 10 leaves, pp. 33-52

166504 - b1 E1 y : b2 G1 f$ [UI, rUCM, NYPL, UkLoRS, UkLoRS(D), IeDuTC, CLU-SC, CSmH(B), CSmH(B.2)]

[**in upper right:**] *Numb.* 3. | PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 56.0+0.1+56.0 {rule 111.8}*] | *Munday, May* 8. 1665. [*broken rule 54.3+1.1+58.2 {rule 111.7}*]

The Contents. | *Some Obſervations and Experiments upon* May-Dew. *The Motion* | *of the* Second Comet *predicted, by the ſame perſon, who predicted* | *that of the former. A Relation of the Advice, {○}given by a* French | *Gentleman, touching the Conjunction of the* Ocean *and the* Medi-|terranean. *Of the way of killing* Ratle-ſnakes{○}, *uſed in* Virgi-|nia. *A Relation {Relation} of Perſons kill'd with Subterraneous* Damps. *Of* | *the* Mineral *of* Liege, {○}*yielding both* Brimſtone, *and* Vitriol, *and* | *the way of extracting them out of it, uſed at* Liege. *An Account* | *of Mr.* Boyle's {Boyle's} *Experimental* Hiſtory *of* Cold. |

Some Obſer-vations and Experiments upon | May-Dew. [**33 (E1ʳ):** A=rNHS, DLC, PU-Sp {B=rUCM, NYPL, UkLoRS, UkLoRS(D, CLU-SC)}]

> T7HAT ingenious and inquiſitive Gentle{-|}man,
> Maſter *Thomas Henſhaw*, having had {|} occa-
> ſion to make uſe of a great quantity of{|} *May-*
> *dew*, did, by ſeveral caſual Eſſayes on{|} that
> Subject, make the following Obſer{-|}vations
> and Tryals, {○}and preſent them to the{| *Royal*} *Royal*
> *Society*.
>
> [**33 (E1ʳ):** woodcut T7 optically matches between A and B, A=CSmH {B=CLU-SC, CSmH(B), CSmH(B.2)}]

The Motion of the Second *Comet predicted , | by {|} the ſame Gentleman , who predicted that | of the* former. [**36 (E2ᵛ):** A=rNHS, DLC, {B=rUCM, NYPL, UkLoRS, IeDuTC, CLU-SC}]

Monſieur *Auzout*, the ſame Perſon, that not long ſince communicated to the World his *Ephemerides* touching the courſe of the former *Comet*, and recommended ſeveral Copies of them to the *Royal Society*, to compare their Obſervations with his Account, and thereby, either to verifie his Predictions, or to ſhew, wherein they differ, hath lately ſent another *Ephemerides* concerning the Motion of the Second *Comet*, to the ſame end, that invited him to ſend the other, [**36 (E2^{v}):** CLU-SC]

In that Tract he obſerves, firſt in *General*, that this ſecond [… *account continues*] [**37 (E3^{r}):** CLU-SC]

A Relation of the ad-vice give nby {given by} Monſieur | Petit , *Intendant of the Fortifications of* | Normandy.{,} *touching the Conjunction of the* | Ocean *and* Mediterranean. [**41 (F1^{r}):** A=rNHS, DLC {B=rUCM, NYPL, UkLoRS, IeDuTC, CLU-SC}]

This Intelligent Gentleman, Monſieur *Petit*, having been conſulted with{ }, touching the Conjunction of the *Ocean* and *Mediterranean*{ }, delivers firſt the Propoſition, and then giveth his thoughts upon it.

[… *relation continues*] [**41 (F1^{r}):** A=CSmH {B=CLU-SC, CSmH(B)}]

Of the Way of killing Ratle-Snakes. [**43 (F2^{r}):** rNHS, rUCM, DLC, NYPL, UkLoRS]

There being not long ſince occaſion given at a meeting of the *Royal Society* to diſcourſe of *Ratle* {*Ratle*} *Snakes*, that worthy and [*note two forms of R*] inquiſitive Gentleman, Captain *Silas* {*Silas*} *Taylor*,related the manner,{|} how they were killed in *Virginia* {○}, which he afterwards was plea{-|}ſed to give in writing, {○}atteſted by two credible perſons in whoſe{|} preſence it was don{e}; which is, as follows.

[… *account continues*] [**43 (F2^{r}):** A=CSmH {B=CLU-SC, CSmH(B)}]

A Relation of Perſons killed with ſubterraneous | Damps. [**44 (F2^{v}):** rNHS, rUCM, DLC, NYPL, UkLoRS, CLU-SC]

This Relation was likewiſe made to the *Royal* {*Royal*} *Society*, {○}by that Eminent *Virtuoſo* Sir *R. Moray,* who was pleaſed,{ }upon their de- [*R is swash right*] ſire, to give it them in writing;{○;} as followeth,

[… *relation follows*] [**44 (F2^{v}):** A=CSmH {B=CLU-SC, CSmH(B)}]

Of the Mineral *of* Liege{○}, *yielding {yeilding} both* Brim-|ſtone *and* Vitriol, *and the way of extracting* | *them out of it, uſed at* Liege. [**45 (F3^{r}):** A=rNHS, DLC {B=rUCM, NYPL, UkLoRS, IeDuTC, CLU-SC}]

A further Account of Mr. Boyle's *Experimen-|tal* Hiſtory of {*of*} Cold. [**46 (F3^{v}):** A=rNHS, DLC {B=rUCM, NYPL, UkLoRS, IeDuTC, CLU-SC}]

> In the firſt Papers of theſe *Philoſophical Tranſactions*{ }, ſome{|} promiſe was made of a *fuller* account, {○}to be given by the next,of{|} the *Experimental Hiſtory of Cold*{ }, compoſed by the Honourable{|} Mr. {Mr} *Robert Boyle*{○}; it being then ſuppoſed, that this *Hiſtory* would{|} have been altogether printed off at the time of publiſhing the {| **46:** B=CLU-SC} *Second* [**46 (F3^{v}):** CSmH {B=CLU-SC}] Papers of theſe *Tranſactions;*{;} but the Preſs, employed up{-|}on this Treatiſe,{ }having been retarded ſomewhat longer than{|} was gheſ-ſed, {gheſſed,} the ſaid promiſe could not be performed before{|} this time: wherein it now concerns the inquiring World to take{|} notice, {notice,} that this ſubject{ },{ }as it hath hitherto bin almoſt totally{|} neglected, ſo it is now, by this Exceellent {Excellent} Author, in ſuch a man{-|}ner hand-led,and {handled, and} improved by near *Two hundred* choice *Experi{-|}ments* and *Obſervations*,{ }that certainly the *Curious* {*Curious*} and *Intelligent* {|} Reader will [*us and ll ligatured*] in the peruſal thereof find cauſe to admire both the{|} Fertility of a Subject, ſeemingly ſo barren, and the Author's A{-|}bilities of im-proving {improving} the ſame to ſo high a Degree.
>
> But to take a ſhort view of ſome of the particulars of this *Hi-{=}ſtory*, and thereby to give occaſion to *Philoſophical* men,to take this Subject more into their conſideration{ }, than hitherto hath been done; the Ingenious Readers will here ſee,
>
> [… *account continues*] [**47 (F4^{r}):** A=CSmH {B=CLU-SC, CSmH(B)}]

Imprint: [*broken rule 15.8+1.4+91.3+0.2+3.4 {rule 112.2}*] | *LONDON,* | Printed with Licenſe, {Licence,} By *John Martyn*, and *James Al-|eſtry, {Alle-|ſtry,}* Printers to the *Royal-Society*.{,} 1665.{1665˳} | [*rule 114.0 {112.0}*] [**52 (G2^{v}):** A=rNHS, PU-Sp, NcU {B=rUCM, NYPL, UkLoRS, UkLoRS(D), IeDuTC, CLU-SC, CSmH}]

Copies considered: dN&S: 539.01003 A=Yale variant, B=Cambridge variant (p. 618); **rNHS v.1–2:** signing, pagination, fingerprint, full transcription; **rUCM v.1:** signing, pagination, full transcription; **UI:** collation, fingerprint; **NYPL:** collation, fingerprint, transcription; **DLC:** collation, fingerprint, transcription; **UkLoRS:** collation, fingerprint, transcription; **UkLoRS(D):** collation, fingerprint, title, imprint; **IeDuTC:** collation, fingerprint, title, imprint; **PU-Sp:** collation, fingerprint, title, imprint; **CU-BANC:** collation, fingerprint, title, imprint; **CLU-SC:**

collation, fingerprint, transcription; **NcU:** collation, fingerprint, imprint, stitching indicating individual issue; **CSmH:** collation, fingerprint, transcription; **CSmH(B):** collation, fingerprint, part. transcription, low quality paper like CSmH(B.2); **CSmH(B.2):** collation, fingerprint, low quality paper like CSmH(B).

Number 4 (Monday, June 5, 1665):

A: 4°: H–K⁴ L1 [$1–2 signed]; 13 leaves, pp. 53–78
166504 - b1 H1 m : b2 L1 f [PU-Sp, rNHS, CSmH, CSmH(B.2)]

B: 4°: H–K⁴ [$1–2 signed; K2=C2]; 12 leaves, pp. 53–76 (58–59=59–58)
166504 - b1 H1 I : b2 K2 t$th [UI, NYPL, DLC, NYPL, UkLoRS, UkLoRS(D), IeDuTC, CLU-SC, NcU, CSmH(B)]

[*Upper right:*] *Numb.* 4. | PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 57.0+0.2+56.0 {rule 117.2}*] | *Munday{ }, June* 5. 1665. | [*broken rule 54.1+1.9+58.3 {rule 117.0}*] |

The Contents. | *A Relation {R-} of ſome extraordinary Tydes in the* Weſt-Iſles *of* Scot-|land, {|} *by Sr.* Robert Moray. *The judgment of Monſieur* Au-|zout, *touching {|} the* Apertures *of* Object-glaſſes, *and their* pro-|portions *in reſpect {|} of the ſeveral lengths of* Teleſcopes*;* {;} *toge-|ther with a* Table *thereof. {|} Conſiderations of the ſame Perſon | upon Mr.* Hook's *New Engine for {|} grinding of* Optick-glaſſes. | *Mr.* Hook's *Thoughts thereupon. {|} Of a means to illuminate an* | Object *in what proportion one pleaſeth*;*{; |} and of the* diſtances, *that | are requiſite to burn Bodies by the* Sun. *A {|} further accompt by | Monſieur* Auzout *of Signior* Campani's *{-s} {[*next seven word, including Campani's, omitted*]} Book, and Performances | about* Optick-Glaſſes. Campani's *Anſwer {|} thereunto*; *and Mr.* | Auzout's *{-'s} Animadverſions upon that Anſwer. {|} An accompt of Mr.* | Lower's* {-'*s*} newly publiſhed* Vindication *of Dr.* {|} Willis's *{-'s} Diatriba de* | Febribus. | [*R is right swash*]

A Relation of ſome extraordinary Tydes in the | Weſt-Iſles of Scot{-|}land{◌}, *as {-as} it was commu-|nicated by Sr.* Robert Moray. [**53 (H1ʳ):** A=PU-Sp {B=NYPL, UkLoRS, CLU-SC}]

Monſieur Auzout's *{-'s} Judgment touching the A-|pertures of* Ob{-|}ject-Glaſſes, *and their* Pro-|portions, *in reſpect of the seve{-|}ral* Lengths *of* | Teleſcopes. [**55 (H2ʳ):** A=PU-Sp, rNHS {B=NYPL, UkLoRS, CLU-SC}]

This Author, obſerving in a ſmall *French Tract* lately written
by {|} him to a Countryman of his{}, Monſieur *L' Abbe Charles;*
That {|} great [… *account continues*] [**55 (H2^{r}):** A=rNHS {B=CLU-SC}]
[… *account completes*]

A *TABLE* of the *Apertures* of *Object-Glaſſes.*
The Points put to ſome of theſe Numbers denote Fractions.

[… *table of values*] [**56 (H2^{v}):** CLU-SC, rNHS]

Conſiderations of Monſieur Auzout *upon Mr.* | Hook's *{-'s} New In{-|}ſtrument for Grinding {g-} of* | Optick-Glaſſes. [**57 (H3^{r}):** A=PU-Sp, rNHS] {[**56 (H2^{v}):** {B=NYPL, CLU-SC, UkLoRS]}

M$^{r.}$ {Mr.} Hook's *Anſwer to Monſieur* Auzout's | *Con{-|}ſiderations, in a Letter to the Publiſher | of theſe* | Tranſactions. [**64 (I2^{v}):** A=PU-Sp] {[**63 (I2^{r}):** {B=NYPL, UkLoRS]}

SIR, [*R right swashed*]

Together with my moſt hearty thanks for the favour you
were {|} pleaſed to do me, in ſending me an *Epitome* of what had
been by {|} the ingenious Monſieur *Auzout* animadverted on a de-
ſcription, I {|} had made of an *Engine* for *grinding ſpherical Glaſſes*{},
I thought my {|} ſelf obliged, both for your ſatisfaction, and my
own Vindication,{|}to return you my preſent thoughts upon thoſe
Objections. The {|} chief of which ſeems to be againſt the very
Propoſition it ſelf: For {|} it appears, that the *Objector* is ſomewhat
unſatisfied, that I ſhould {|} propound a thing in *Theory*{}, without
having firſt tried the *Practi{-|}cableneß* of it. But firſt, I could wiſh
that this worthy Perſon had {|} rectified my miſtakes{}, not by ſpe-
culation, but by experiments. {|} Next, I have this to anſwer,{}that
(though I did not tell the *Reader* {*R-* |} ſo much, to the end that he
might have the more freedom to ex{-|}amine and judg {judge} of the con-
trivance{}, yet) it was not meer *Theory* {|} I propounded, but ſome-
what of *Hiſtory* and *matter of Fact*: For, I {|} had made trials, as
many as my leiſure would permit, not without {|} ſome good ſuc-
ceſs{⌒}; but not having time and opportunity enough {|} to proſecute
them{}, I thought it would not be unacceptable to {|} ſuch,{ }as enjoyed
both, to have a deſcription of a way altogether {|} *New*, and *Geo-*
metrically true, and ſeemingly, not unpracticable{}, {|} whereof they
might make uſe,{ }or not, as they ſhould ſee reaſon. {|} But nothing
ſurpriſed me ſo much, as, that he is pleaſed (after he {|} had de-
clared it a fault,{ }to write this *Theory*, without having redu{-|}ced it to

practice){ }to lay it,{ }as he ſeems to do,{ }in one place of his {|} book,{ }*p.* 22.
upon the *Royal {R-} Society*. Truly, *Sir*, I ſhouldb think {|} my ſelf moſt
injurious to that *Noble Company*, had I not endeavou{-|}red, even in
the beginning of my Book, to prevent ſuch a miſcon{-|}ſtruction.
And therefore I cannot but make this interpretation {|} of what
Monſieur *Auzout* ſaith in this particular,{ }that either he had {|} not ſo [**64 (I2^{v}):** A=PU-Sp]
much of the Language wherein I have written, as to un-
derſtand all what was ſaid by me{ }, or, that he had not read
my {| [**63 (I2^{r}):** B=NYPL, UkLoRS]} *Dedication* to the *Royal Society*{○}, which if he had done,
he would {|} have found, how careful I was, that that *Illuſtrious*
Society ſhould {|} not be prejudiced by my *Errors*, that could be
ſo little advantaged {|} by my *Actions*. And indeed, for any man
to look upon the mat{-|}ters publiſhed by their Order or License,
as if they were *Their* {|} Senſe, and had *Their* Approbation, {○}as *cer-*
tain and *true*, 'tis extremely {extream-|ly} wide of their intentions,{ }ſeeing they{ },
in giving way to, or en{-|}couraging ſuch publications, aim chiefly
at this, that *ingenious con{-|}ceptions*, and important *philoſophical mat-*
ter of Fact may be commu{-|}nicated to the learned and enquiring
World, thereby to excite {|} the minds of men to the examination
and improvement thereof. {|} But, to return; As to his *Objections*
againſt the *Matter*, I do find {|} that they are no more againſt mine,
[… *discussion of grinding glass lenses*] [**65 (I3^{r}):** A=PU-Sp, rNHS] {[**64 (I2^{v}):** B=NYPL, UkLoRS, CLU-SC]}

Of a means to illuminate an Object in what pro-|portion one pleaſ{-|}eth {○}; and of the Diſtances re-|quiſite to burn Bodies by the Sun. [**69 (K1^{r}):** A=PU-Sp, rNHS] {[**68 (I4^{v}):** B=NYPL, UkLoRS, CLU-SC]}

A further Account,{ }touching Signor Campani*'s Bookand Per-|formances about* Optick-glaſses. {Glaſſes.} [**70 (K1^{v}):** A=PU-Sp, rNHS] {[**69 (K1^{r}):** B=NYPL, UkLoRS, CLU-SC]}

Signor Campain's *Anſwer: and Monſieur* | Auzout*'s Animad-verſions thereon*. [**75 (K4^{r}):** A=PU-Sp, rNHS] {[**74 (K3^{v}):** B=NYPL, UkLoRS, CLU-SC]}

An Account of Mr. Richard Lower*'s newly* | *publiſhed* Vindica{-|}tion *of Doctor* Willis*'s* | Diatriba *de* Febribus. [**77 (L1^{r}):** A=PU-Sp, rNHS] {[**75 (K4^{r}):** B=NYPL, UkLoRS, CLU-SC]}

Errata: *A Note touching a Relation, inſerted in the laſt* | Tranſactions. [**78 (L1^{v}):** A=PU-Sp, rNHS] {[**76 (K4^{v}):** NYPL, UkLoRS, CLU-SC]}

In the Experiment of killing *Ratle-Snakes*{}, {*Rattle*} mentioned in the laſt {|} of the precedent Papers (wherein, by a miſtake{⁀}, theſe words, *The {|} way*, were put for *A way*{⁀}, or *An Experiment*) it ſhould have been {|} added, that the Gentleman there mention'd, did affirm, that, in thoſe places, where the Wild *Penny-Royal* or *Dittany* grows, no {|} *Ratle-Snakes* are obſerved to come. [**78 (L1^{v}):** A=PU-Sp, rNHS] {[**76 (K4^{v}):** B=NYPL, UkLoRS, CLU-SC]}

Errata: *Errata.* [**78 (L1^{v}):** A=PU-Sp, rNHS]

P^{2}Ag. 59. line 11.read, *bigneſſes,* l. 20. r. *endure,* for,reſiſt. l.30. r. *thoſe,* for, theſe. l. 31. r. *Plain,* for, place. [**78 (L1^{v}):** A=PU-Sp, rNHS]

Imprint: [*rule 111.0 {115.9}*] | *LONDON*, | Printed with Licence, By *John Martyn*, and *James Al-*|*leſtry*, {*Aleſtry,*} | Printers to the *Royal-Society*, at the *Bell* in | St. {|} *Pauls Church-Yard*. 1665. [**78 (L1^{v}):** A=PU-Sp, rNHS] {[**76 (K4^{v}):** B=NYPL, UkLoRS, UkLoRS(D), IeDuTC, CLU-SC, NcU]}

Copies considered: dN&S: 539.01004 B=Cambridge variant, A=var. 1 (p. 618); **NYPL:** collation, fingerprint, K2=C2, transcription **UI:** collation, fingerprint; **DLC:** collation, fingerprint, K2=C2, χ1 facing K4^{v} is a bookseller's catalog: [*bookseller's catalog*] [**77 (χ1^{r}):** DLC]; **UkLoRS:** collation, fingerprint, transcription, lacks χ1; **UkLoRS(D):** collation, fingerprint, title, imprint; **IeDuTC:** collation, fingerprint, title, imprint; **PU-Sp:** collation, fingerprint, transcription; **CU-BANC:** collation, fingerprint, title, imprint; **CLU-SC:** collation, fingerprint, transcription; **rNHS:** transcription; **NcU:** fingerprint, collation, plate for no. 5 misbound here, stitching and discoloration indicates individual issue, K2=C2; **CSmH:** collation, fingerprint, woodcut 'I' on p. 53 optically collates with other CSmH copies; **CSmH(B):** collation, fingerprint, woodcut 'I' on p. 53 optically collates with other CSmH copies; **CSmH(B.2):** collation, fingerprint, woodcut 'I' on p. 53 optically collates with other CSmH copies.

Number 5 (Monday, July 3, 1665):

A: 4^{o}: M–N^{4} [$1–2 signed]; 8 leaves, pp. 79–94; plate [*1*]

166504 - b1 M1 a : b2 N2 $by [NYPL, UI, DLC, UkLoRS, UkLoRS(D), IeDuTC, CLU-SC, CSmH(B), CSmH(B.2)]

B: 166504 - b1 M1 $: b2 N2 e$en [PU-Sp, CU-BANC, NcU, CSmH]

a: **Plate:** Four figures: '*Fig: 1*' cutaway view of a chimney drawing air from a mine by stack effect described on pp. 81–2 (M2^{r}-M2^{v}), '*Fig: 3*' diagram of a double cylindrical wedge with gunpowder cartridge for breaking rocks described on p. 84 (M3^{v}), '*Fig: 2*' diagram of an iron digging tool for drilling holes in rocks described on p. 83 (M3^{r}), '*Fig: 4*' a monstrous head of a colt described pp. 85–6 (M4^{r}-M4^{v}); [*engraved* 204.5×253.8 (209.0–210.0x268.0–271.0, sheet 226.4x346.0) **79 (M1^{r}):** UkLoRS, PU-Sp, CU-BANC, CLU-SC, NcU, CSmH]

b: **Plate:** as plate a with, losses in spots on right side of chimney [**upper right:**] №. 5th. [*engraved* 204.5×253.8 (208.2x272.6, sheet 219.0×356) **79 (M1^{r}):** NYPL, UkLoRS(D), IeDuTC, CSmH(B), CSmH(B.2)]

[**Upper right:**] *Numb.* 5. | PHILOSOPHICAL | *TRANSACTIONS.* | [*rule 107.0* NYPL UkLoRS(D) IeDuTC, *rule 106.0* UkLoRS, *rule 106.0 CLU-SC* {113.6 PU-Sp, 113.2 CU-BANC}] | *Munday, July* 3. 1665. | [*rule 107.5* NYPL UkLoRS(D), *rule 108.2* UkLoRS, *rule 108.0* IeDuTC, 108.0 CLU-SC {*broken rule 54.0+0.6+57.8, 54.0+1.0+57.8 CU-BANC*}] |

The Contents. | *An Account{ }, how* Adits *and* Mines *are wrought at* Liege *without* | Air-ſhafts, *communicated by Sir* Robert Moray. *A way to* | *break* eaſily *and* ſpeedily *the hardeſt* Rocks; *imparted by the* | *ſame* Perſon, *as he received it from Monſieur* Du Son{,○} *the Inven-*|*tor. Obſervables upon a* Monſtrous Head. *Obſervables in the* | *Body of the Earl of* Belcarres, *ſent out of* Scotland. *A Rela-*|*tion of the deſigned Progreſs to be made in the* Breeding of Silk-|worms, {,○}*and the* Making *of* Silk, *in* France. *Enquiries touching* | Agriculture,*for* Arable *and* Meadows. | [*ft in Air-shafts not ligatured, R swashed*]

An Account, how Adits *&* Mines *are wrought* | *at* Liege *without* Air-ſhafts, {,○}*communicated* | *by Sir* Robert Moray. [*ft in shafts not ligatured in A or B*] [**79 (M1^{r}):** NYPL, UkLoRS, CLU-SC {B=PU-Sp, CU-BANC}]

A way to break eaſily *and* ſpeedily *the hardeſt* | Rocks, *communicated by the ſame Perſon,* | *as he received it from Monſieur* Du Son, | *the Inventor.* [**82 (M2^{v}):** NYPL, UkLoRS, PU-Sp, CLU-SC]

Obſer-vables upon a Monſtrous Head. [**85 (M4^{r}):** NYPL, UkLoRS, PU-Sp, CLU-SC]

Obſer-vables in the Body of the Earl *of* | Balcarres. [**86 (M4^{v}):** NYPL, UkLoRS, PU-Sp, CLU-SC]

Of the deſigned Progreſs to be made in the | Breeding of Silkworms, *and the* Making *of* | Silk, *in* France. [**87 (N1^{r}):** NYPL, UkLoRS, PU-Sp, CLU-SC]

Enquiries concerning Agriculture. [**91 (N3^{r}):** NYPL, PU-Sp, CLU-SC, CSmH(B)]

Whereas the *Royal Society*, in proſecuting the *Improvements* [*R right swash*] *of Natural knowledge*, {*knowledg,*} have it in deſign{}, to collect *Hiſtories of Nature and Arts*{}, and for that purpoſe have already{}, accor{-|}d-ing to the ſeveral Inclinations and Studies of their Members, divided themſelves into divers *Commitees*, to execute the ſaid deſign*:* Thoſe Gentlemen{}, which do conſtitute the *Commitee* for conſidering of *Agriculture*{}, and the *Hiſtory* and *Improve-ment* thereof, have begun their work with drawing up certain [**91 (N3^{r}):** A=CLU-SC {B=CSmH}] Heads of *Enquiries*{}, to be diſtributed to perſons *Experienced in Husbandry* all over *England, Scotland{ },* and *Ireland*{}, for the procuring a *faithful* and *ſolid* information of the *knowledge* {*knowledg*} and *practice* already obtained and uſed in theſe Kingdoms; {*;*} where-by, beſides the aid which by this means will be given to the general End of collecting the aforementioned *Hiſtory*, every place will be advantaged by the helps, {○}that are found in any, and occaſion miniſtred to conſider, what improvements may be further made in this whole matter. Now to the End, {○}that thoſe *Enquiries* may be the more univerſally known{}, and thoſe who are skilful in Husbandry{}, publickly invited to {|} im-part their knowledge {knowledg} herein, for the *common* benefit of their Countrey, it hath been thought fit to publiſh the *effect* of them in Print{}, and withal{l} to deſire, {○,○} that what ſuch perſons ſhall think good from their own *Knowledge* {*Knowledg*} and *Experience* to communicate hereupon{ }, they would be pleaſed to ſend it {|} to the Printers of the *Royal Society*, to be delivered to either of the *Secretaries* of the ſame. The Enquiries follow.
[… *enquiries*] [**92 (N3^{v}):** A=CLU-SC {B=CSmH}]

Advertiſement. [**94 (N4^{v}):** NYPL, UkLoRS, PU-Sp, CLU-SC]

The Reader *is hereby advertiſed{ }, that by reaſon of the preſent {|} Con-tagion in* London{ }, *which may unhappily cauſe an interrup{-|}tion aſwel of* Correſpondencies, *as of* Publick Meetings, *the {|} Printing {printing} of theſe* Philoſophical Tranſactions *may poſſibly for a {|} while be inter-mitted; {;} though endeavours ſhall be uſed to continue {|} them, if it may be.* [**94 (N4^{v}):** NYPL, UkLoRS, CLU-SC {B=PU-Sp, CU-BANC, CSmH}]

Imprint: [*rule 109.3* NYPL *108.7* UkLoRS UkLoRS(D) IeDuTC, 108.5 CLU-SC {110.8 PU-Sp, 111.4 CU-BANC}] | *LONDON,* | Printed with Licence, by {By} *John Martyn,* and *James Al-|leſtry*,

Printers to the *Royal Society,* {*Royal-Society,*} at the *Bell {B-}* in | St. *Pauls {P-} Church-Yard*. 1665. [**94 ($N4^v$):** NYPL, UkLoRS, UkLoRS(D), IeDuTC, CLU-SC {B=PU-Sp, CU-BANC}]

Copies considered: dN&S: 539.01005, A=Cambridge variant?, B=Yale variant? (p. 618); **NYPL:** collation, fingerprint, plate misbound facing 94 ($N4^v$), transcription; **UI:** collation, fingerprint, plate; **DLC:** collation, fingerprint, plate lacking; **UkLoRS:** collation, fingerprint, plate bound facing next number; **UkLoRS(D):** collation, fingerprint, title, imprint; **IeDuTC:** collation, fingerprint, title, imprint plate facing 94 ($N4^v$); **PU-Sp:** collation, fingerprint, transcription, manuscript insertions p. 84 of the references on figures; **CU-BANC:** collation, fingerprint, title, imprint; **CLU-SC:** collation, fingerprint, transcription; **NcU:** fingerprint, plate bound facing no. 4, stitching indicates individual issue; **CSmH:** collation, fingerprint, part. transcription; **CSmH(B):** collation, fingerprint; **CSmH(B.2):** collation, fingerprint.

Number 6 (Monday, November 6, 1665):

A.1: 4^o: O–Q^4 [$1–2 signed]; 12 leaves, pp. 95–118

000004 - b1 O1 0 : b2 Q2 uibs [UkLoRS, PU-Sp, CSmH]

A.2: 4^o: O–Q^4 [$1–2 signed]; 12 leaves, pp. 95–118

166504 - b1 O1 0 : b2 Q2 uibs [NYPL, DLC, rNHS, CU-BANC, CLU-SC, NcU]

B: 4^o: O–Q^4 [$1–2 signed]; 12 leaves, pp. 95–118

166504 - b1 O1 r : b2 Q2 uibs [UI, UkLoRS(D), IeDuTC, CSmH(B), CSmH(B.2)]

PHILOSOPHICAL | *TRANSACTIONS. {TRANSACTIONS,}* | [*rule 107.0 106.5 NcU 107.5 CSmH {106 106.5 CSmH(B) 107.0 CSmH(B.2)}*] | Monday, *Novemb*. {*November*} 6. 1665. | [*rule 107.2 NcU 108.5 CSmH {108.1, 108.5 CSmH(B) 108.7 CSmH(B.2)}*] | [**in upper-right headline:**] *Numb*. 6. | [*T (for B) , R and Aare left swash only, T on A.1 is left-right swash, Nis swash left and right, note absence of swash on R for B*]

The Contents. | *An Account of a not ordinary* Burning Concave{ }, *lately made* | *at* Lyons, *and compared with ſeveral others made formerly.* | *Of Monſieur* Hevelius *his promiſe of communicating to the* | *World his Invention of making* Optick Glaſſes; *and of the* | *hopes, given by Monſieur* Chriſtian Hugens *of* Zalichem, [Zulichem, *NcU*] {Zulichem,} | *to perform ſomething of the like nature*; *as also of the Ex-*|*pectations, conceived of ſome Perſons in* England, *to im-*|*prove* Teleſcopes. *An Intimation {intimation} of a way of making* | *more {\|} lively Counterfeits of Nature in* Wax, *then are extant* | *in {\|}* Painting; *and of a new kinde of* Maps *in a low* Relievo{ }, | *or {\|} Sculpture{ },*

both practiſed in France. *Some* Anatomical | *Obſervations, of Milk found in Veins inſtead {inſtead} of Blood*{ }; | *and of {|} Graſs, found in the Wind-pipes of ſome Animals.* | *Of a place {|} in* England, *where, without petrifying Water,* | *Wood is turn'd {turn-|ned} into Stone. Of the nature of a certain Stone,* | *{,○}found in the {|}* Indies *in the head of a* Serpent. *Of the way,* | *uſed in the {|}* Mogol's*{~'s} Dominions{ }, to make * Saltpetre. [Salt-petre.* NcU*] {Salt-petre.}* An | Account of {|} *Hevelius* his *Prodromus Cometicus,* and of | ſome Animad{-|}verſions made upon it by a *French* Philoſopher*;* | as alſo of {|} the *Jeſuit Kircher's** Mundus Subterraneus. |

An Account of a not ordinary Burning Concave{○}, | *lately made at* Lyons, *and compared with ſeve{-|}ral* | *others made formerly.* | [**95 (O1^r):** A.1=PU-Sp, CSmH A.2=NYPL, rNHS, NcU {B=UkLoRS(D), IeDuTC, CSmH(B)}]

A²N opportunity being preſented to revive the publiſhing
of theſe Papers, {Papers,} which for ſome Moneths hath been [**95 (O1^r):** A.1=UkLoRS A.2=NYPL, NcU {B=UkLoRS(D), IeDuTC}]
diſcontinued by reaſon of the great Mortality in *London*,
where they were begun to be Printed; {Printed;} it hath been thought
fit to embrace the ſame, {~,} and to make uſe thereof for the
gratifying of the Curious, that have been pleaſed to think
well of ſuch Communications: To re-enter whereupon,
there offers it ſelf firſt {ſelf, firſt} of all a Relation of an un-common {uncommon}
Burning Glaſs, {*Burning-glaſs*,} not long ſince made in *France*, in the city of
Lyons, by one called Monſieur *de Vilette*, as it was ſent to
the *Publiſher* {Publiſher} of theſe *Tracts,* {Tracts,} in two Letters, whereof the {|} one
was in *Latine*, the other in *French*, {French,} to this effect: {effect.}
[… *summary translation of a letter*] [**96 (O1^v):** A.1=UkLoRS, CSmH A.2=NYPL, NcU {B=UkLoRS(D), IeDuTC}]

Of Monſieur Hevelius's *Promiſe of imparting to* | *the World his In-vention of making* Optick | Glaſſes; *and of the hopes gi-ven by Monſieur* | Hugens *of* Zulichem, *to perform ſomething of* | *the like nature*; *as alſo of the Expectations{○},* | *concei-ved of ſome Ingenious Perſons in* England, | *to impro-ve* Teleſcopes. [**98 (O2^v):** A.1=UkLoRs, CSmH A.2=NYPL, rNHS, NcU {B=UkLoRS(D), IeDuTC}]

That eminent Aſtronomer of *Dantzick,* Monſieur *Heve-*
lius, writes to his Correſpondent in *London*, as followeth:
What hath [… *account continues*] [**98 (O2^v):** A.1=CSmH A.2=NcU]

An Ad-vertiſement of a way of making more li-vely | Counterfaits of Nature in Wax, *then are ex-|tant in* Painting*: And of a new kinde {kind} of* Maps | *in a low* Relievo; [Relievo. *NcU, NYPL*] {Relievo.} *both {Both} practiſed in* France. [**99 (O3^{r}):** A.1=UkLoRS, CSmH A.2=NYPL, rNHS, CU-BANC, NcU {B=UkLoRS(D), IeDuTC, CSmH}]

This was communicated by the Ingenious Mr. *John Evelyn*, to whom it was ſent from *Paris* {*Paris*} in a Letter, as followeth: {-.}

Here is in our Neighbourhood a *French-man*, who makes more lively Counterfeits [… *account continues*] [**99 (O3^{r}):** A.1=CSmH A.2=Ncu {B=CSmH(B), CSmH(B.2)]

Some Anatomical *Obſer-vations of Milk found [Found UkLoRS] in | Veins, {Veins,} inſtead {inſtead} of Blood*; *and of Graſs, found | in the Wind-pipes of ſome* Animals. [**100 (O3^{v}):** A.1=UkLoRS, CSmH A.2=NYPL, NcU {B=UkLoRS(D), CSmH(B), CSmH(B.2)}]

A curious Perſon wrote not long ſince from *Paris*, {*Paris,*} that there they had{}, in the Houſe {houſe} of a Phyſician{}, newly open'd a Mans Vein{}, wherein they found *Milk*, inſtead of *Blood*. This being imparted to Mr. *Boyle* at *Oxford*, his Anſwer was, That the like Obſervation about *white {White} Blood*, had been made by a Learned Phyſician {Phyſitian} of his acquaintance, and the thing being by him look'd upon as remarkable{}, he was de-ſirous to have it very circumſtantially from the ſaid Phyſi-tian {Phy-|ſitian} himſelf, before he would ſay more of it. The next Moneth may bring us in this Account.

The other Particular{}, mention'd in the Title of this Head, came in a Letter, {-ˎ} ſent also by Mr. *Boyle*, in theſe words:

I ſhall acquaint you{}, That two very Ingenious Men, Dr. *Clark*, and Dr. *Lower*{}, were pleas'd {pleaſed} to give me an ac-count of a pretty odde kinde {odd kind} of Obſervation: One of them aſſuring me{}, [… *account continues*] [**100 (O3^{v})** A.1=CSmH A.2=NcU {B=CSmH}]

Of a place in England, *where, without petrifying | Water, Wood is turned into Stone. {ſtone.}* [**101 (O4^{r}):** A.1=UkLoRS A.2=NYPL, UkLoRS(D), IeDuTC, NcU {B=CSmH(B), CSmH(B.2)]

The ſame Searcher of Nature{}, that was alledged in the immediately precedent Obſervations, did impart alſo the following, in another Letter from *Oxford*, {,○}where he ſaith:

I was a while ſince viſited by a Gentleman, who tells me,
That he met with a Place {place} [… *account continues*] [**101 (O4^{r}):** A.1=CSmH A.2=NcU {B=CSmH(B), CSmH(B.2)}]

Of the nature of a certain Stone, found in the In-|dies, *in the head of a* Serpent. [**102 (O4^{v}):** NYPL, UkLoRS, UkLoRS(D), IeDuTC, NcU, CSmH]

Of the way, uſed in the Mogol*'s Dominions, to | make* Saltpetre. [**103 (P1^{r}):** NYPL, UkLoRS, UkLoRS(D), IeDuTC, NcU, CSmH, CSmH(B)]

This is delivered in the ſame Book of Monſieur *Thevenot*,
and the manner of it having been inquired after{}, by ſeve-
ral curious Perſons, to compare it with that which is uſed in
Europe, 'tis preſum'd{}, they will not be diſpleaſed to finde {find} it
inſerted here in *Engliſh*, which is as followeth*:* {:}

Saltpetre is found [… *account continues*] [**103 (P1^{r}):** A.1=CSmH A.2=NcU {B=CSmH(B) CSmH(B.2)}]

An Account {account} of Hevelius *his* Prodromus Cometicus, | *together with ſome Animad-verſions made upon | it by a* French *Philoſopher*. [**104 (P1^{v}):** A.1=UkLoRS, CSmH A.2=NYPL, NcU {B=UkLoRS(D), IeDuTC, CSmH(B)}]

This excellent *Dantiſcan* Aſtronomer, *Hevelius*, {*Hevelius*,} in his *Pro-
dromus* (by Him ſo call'd, becauſe it is as a Harbinger to his
Cometography, which hath already ſo far paſſed the Preſs,
that of twelve Books there are but three remaining to be
Printed) gives an Account of the Obſervations he hath
made of the *Firſt* of the two late Comets; reſerving thoſe
he hath made of the *ſecond*, for that great Treatiſe, where
he alſo intends to deliver the Matter of this *firſt* {*firſt*} more parti-
cularly and more fully then he hath done here.

In this Account he repreſents the […*account continues*] [**104 (P1^{v}):** A.1=CSmH A.2=NcU {B=CSmH(B)}]

Of the Mundus Subterraneus *of* Athanaſius | Kircher. [**109 (P4^{r}):** NYPL, UkLoRS, UkLoRS(D), IeDuTC, NcU, CSmH, CSmH(B)]

This long expected *Subterraneous World*, is now come to
light, dedicated (at leaſt the *Exemplar*, that hath been per-
uſed by the *Publiſher* of theſe *Papers*, who hears, That other
Copies bear Dedication to other *Great Princes*) both to the
preſent *Pope*,as {Pope, -} being eſteemed by the Author to have a part
of his *Apoſtolical Kingdom* there; and to the *Roman Emperor*

now Regnant, {Regent,} who indeed in his Kingdom of *Hungary*, and
in ſeveral Provinces of *Germany*, hath very many and very
conſiderable things, worthy to be obſerved, under *Ground*.

To give the *Curious* {Curious} a taſte of the *Contents* of this *Volume*,
and thereby to excite them to a farther ſearch into the re-
ceſſes of Nature, for the compoſure of a good *Natural Hi-*
ſtory; they may firſt take notice, [… *summary continues*] [**109 (P_4^r):** A.1=CSmH A.2=NcU {B=CSmH(B)}]
[… *contents listing*]

This may ſuffice{}, to give occaſion to the Searchers of Na-
ture, to examine this Book{}, and the Obſervations and Ex-
periments contained therein, together with the Ratiocina-
tions raiſed thereupon, and to make ſeverer and more mi-
nute Inquiries and Diſcuſſions of all. [**117 ($Q4^r$):** A.1=CSmH A.2=NcU {B=CSmH(B)}]

A farther Account of an Obſer-vation abo-ve-men-|tioned, about white Blood. {White Blood.} [**117 ($Q4^r$):** A.1=UkLoRS, CSmH A.2=NYPL, NcU {B=UkLoRS(D), IeDuTC, CSmH(B)}]

Since the Printing of the former Sheet, {○}there is this far-
ther account from the ſame hand. Mr. *Boyle*, {hand. | Mr. *Boyle*,}

I have at length, according to your deſire, receiv'd {received} from
the Ingenious Dr. *Lower*, an account in Writing {writing} of the Ob-
ſervation about *Chyle* found in the Blood; which though
you may think ſtrange, agrees well with ſome Experiments
of his and mine{}, not now to be mention'd. {mentioned.} The Relation,
though ſhort, comprizing the main Particulars of what he
had more fully told me in Diſcourſe{}, I ſhall give it you with
little or no variation from his own Words. [**117 ($Q4^r$):** A.1=UkLoRS, CSmH A.2=NYPL, NcU
{B=UkLoRS(D), IeDuTC, CSmH(B)}]

A Maid, [… *continues the account*] [**118 ($Q4^v$):** NYPL, NcU, CSmH, CSmH(B)]

Errata: Note. [**118 ($Q4^v$):** NYPL, UkLoRS, UkLoRS(D), IeDuTC, NcU, CSmH, CSmH(B)]

The Reader *of theſe Papers is {is} deſired, that in thoſe of*
Numb. 4. pag. {pag,} 60. lin. 10. *he would pleaſe {would be pleaſed} to read* eight, *in-*
ſtead of hundred; { *:* } *this latter word having been put in by a*
great over-ſight, and, {and} without this {this} Correction, injuring that {\} Au-
thor, {Author,} whoſe Conſiderations are there related. This {This} Adver{-|}tiſe-
ment {Adver-|tiſement} ſhould have been given in Numb. {Number} 5. *but was omitted {\} for*
haſte. [**118 ($Q4^v$):** A.1=CSmH A.2=NYPL, NcU {B=UkLoRS(D), IeDuTC, CSmH(B)}]

A.1: **Imprint:** *FINIS.* [**118 ($Q4^v$):** A.1=UkLoRS, PU-Sp, CSmH]

A.2: **Imprint:** [*rule 99.9, 99.5 CU-BANC, 99.5 CLU-SC*] | Imprimatur *Rob. Say, Vice-Cancel.* Oxon. | [*rule 101.3, 101.1 CU-BANC, 101.1 CLU-SC*] | Oxford, Printed by *Leonard Lichfield*, | for *Richard Davis.* 1665. [**118 ($Q4^v$):** NYPL, rNHS, CU-BANC, CLU-SC, NcU]

B: **Imprint:** [*rule 104.2*] | Imprimatur *Rob. Say, Vice-Cancel.* Oxon. | [*rule 105.1*] | Oxford, Printed by *Leonard Lichfield*: | for *Richard Davis.* 1665. [**118 ($Q4^v$):** UkLoRS(D), IeDuTC, CSmH(B), CSmH(B.2)]

Copies considered: dN&S: B=539.01006A, A.1=539.01006B, A.2=Yale variant, A.1=Royal Society variant (p. 618); **NYPL:** collation, fingerprint, transcription; **UI:** collation, fingerprint; **DLC:** collation, fingerprint; **UkLoRS:** collation, fingerprint, imprint varies; **UkLoRS(D):** collation, fingerprint, transcription; **IeDuTC:** collation, fingerprint, transcription, manicule pointing to *Of the nature of a certain Stone…* (p. 102 ($O4^r$)) and 'A way of preparing ſuch a Liquor,…' (p. 116 ($Q3^v$)); **PU-Sp:** collation, fingerprint, title, imprint; **CU-BANC:** collation, fingerprint, title, imprint, manuscript x marking line ending 'Mundus Subterraneus.' p. 95 l. 20, article beginning 'A curious' p. 100 l. 15, article beginning 'There was,' p. 102 l. 10, report beginning 'A Maid,' p. 118 l. 1.; **CLU-SC:** collation, fingerprint, optical collation via text with CSmH with Devin Fitzgerald confirms A.2 is a state of A.1; **NcU:** fingerprint, imprint, transcription, stitching indicates individual issue; **CSmH:** fingerprint, collation, part. transcription, optical collation via text with CLU-SC with Devin Fitzgerald confirms A.2 is a state of A.1; **CSmH(B):** collation, fingerprint, part. transcription; **CSmH(B.2):** collation, fingerprint, part. transcription.

Number 7 (Monday, December 4, 1665):

A: 4^o: R^4 S^2 [$1–2 (+S2) signed]; 6 leaves, pp. 119–130
166504 - b1 R1 n : b2 S2 .$A [NYPL, UkLoRS, rNHS, PU-Sp, CU-BANC, CLU-SC, NcU, CSmH]

B: 4^o: R^4 S^2 [$1–2 (+S2) signed]; 6 leaves, pp. 119–130
166504 - b1 R1 $: b2 S2 A [UI, DLC, UkLoRS(D), CSmH(B), CSmH(B.2)]

C: 4^o: R^4 S^2 [$1–2 (+S2) signed]; 6 leaves, pp. 119–130
166505 - b1 R1 t : b2 S2 .$ [IeDuTC]

PHILOSOPHICAL | *TRANSACTIONS.* {*TRANSACTIONS.*} {{*TRANSACTIONS.*}} | [*rule 100.9 {broken rule 52.1+1.1+55.6} {{broken rule 74.0+1.1+26.0}}*] | Monday, {Munday,} {{Monday,}} *Decemb.* 4. 1665. | [*rule 99.5 {broken? 109.8} {{broken rule 49.9+1.4+51.3}}*] | [**in**

upper-right headline:] *Num.* 7 {{*Num.*7.}} | [< *and* > *indicate left and right swashes; T and A left swash; N and R left and right swash;*]

The Contents. {{contents.}} | *Monſieur de* Sons *progreſs in working* Parabolar *Glaſſes.* | *Some {|} ſpeculations of Monſieur {{*M*onssieur}}* Auzout *concerning the chan-|ges{○}{{○}}, likely to be diſco-vered in the Moon{○}{{○}}. The inſtance of* | *the ſame Perſon {{perſon}} {|} to Mr.* {Mr.} Hook, *for communicating his Con-|triv-ance of making {|} with Glaſſes of a few feet Diameter*{○}, |Teleſcopes *drawing ſe-ve{-|}ral hundred feet*; *together with* | *his Offer of recompenſing that {|} ſecret with another{○}, which* | *teaches{○}{{○}}, How to meaſure with a* Tele{-|}ſcope *the* Diſtances [of NcU] *of* {{of}} | Objects *upon the* Earth. *The Experi{-|}ment {{experiment}} of* Kircher{○}, *of* | *preparing a Liquor{○}{{○}}, that ſhall ſink into, and {|} colour the whole* | *Body of Marble{○}, deli-vered at length. An In{-|}timation of a* | *Way {way} found in* Europe, {○,○}*to make good* China-Diſhes. {{China Diſhes.}} {|} *An* | *Account of an odd Spring in* Weſtphalia, *together with an* | *Information {with* | *an Information} touching* Salt-Springs {Salt Springs}; *and a way of ſtraining {{ſtreaning}}* | Salt-water. {{*S*alt-water}} *Of {{of}} the Riſe and Attempts of a way to conveigh* | *Liquors immediately into the Maſs of Blood.* |

Of Monſieur de Sons *Progreſs {{*P*rogreſs}} in working* Parabolar | *Glaßes {Glaſſes.} {{Glaſſes.}* [**119 (R1^{r}):** A=NYPL, UkLoRS {B=UkLoRS(D)} {{C=IeDuTC}}]

> S^{2}Ince what was mentioned in the immediately precedent
> *Tract*,touching {*Tract*, touching} Monſieur *de Son's* {*de Son*'s} noble attempt of grinding
> Glaſſes {grind-|ing Glaſſes} of a *Parabolical* {{P*arabolical*}} Figure, the {Figure,the} *Publiſher* {{P*ubliſher*}}
> of theſe *Papers* {{P*apers*}}
> hath himſelf ſeen two *Eye-glaſſes* of that ſhape,about {ſhape, about} {{ſhape about}} one inch
> [… *description continues*] [**119 (R1^{r}):** A=NYPL, UkLoRS {B=UkLoRS(D)} {{C=IeDuTC}}]

Monſieur Auzout's *Specultions of the Changes,likely* | *to be diſcovered in the* Earth *and* Moon, {Moon,} {{Moon,}} *by their* | *reſpective Inhabitants.* [**120 (R1^{v}):** NYPL, UkLoRS {B=UkLoRS(D)} {{C=IeDuTC}}]

The Inſtance {{inſtance}} of the ſame Perſon *to Mr.* Hook, {Hook,} {{Hook,}} *for* | *communicating his Contrivance of making,with {making, with} {{making, with}} a* | *Glaſs of a Sphere of* 20 *or* 40 *foot* diameter,*a* Te-|leſcope *drawing ſeveral hundred foot;and {foot; and} {{foot; and}} his of-|fer of recompenſing that Secret with another,teach-|ing {{another, teach-|ing}} To meaſure with a* Teleſcope *the* Diſtances {{diſtances}} | of Objects *upon the Earth.* [**123 (R3^{r}):** NYPL, UkLoRS {B=UkLoRS(D)} {{C=IeDuTC}}]

[… *description of making telescope glass completes*]
So far M. *Auzout*, who, I truſt, will receive due ſatisfa-
ction to {ſatisfaction | to} his deſire, {deſires} as ſoon as the happy end of the preſent
Contagion {preſent Conta-|gion} ſhall give a beginning and life again to the Studies
and {Studies and |} Actions of our retired *Philoſophers*.

I ſhall onely h ere {only here} {{only here}} adde, That the Secret he mentions [*Of {* [*Off*
meaſuring the diſtance of Places by a Teleſcope (fitted {{(fitted)}} for that
purpoſe) and {purpose and} from one {{and for one}} ſtation] {*ſtation*]} is a thing already known (if {(if} {{(if}}
I am not miſ-informed) to ſome Members of our Society; {{Society;}}
who have been a good while ſince conſidering of it, {it,} {{it,}} and
have contrived ways {wayes} for the doing of it: Whether {{it. VVhether}} the ſame
with thoſe of Mr. *Auzout*, I know not. Nor have I (at {*(*at}{{(at}} the
diſtance that I am now from them) {them*)*} opportunity of particu-
lar Information. {information.} [*brackets and parentheses transcribed as-is* **125 (R4^{r}):** NYPL, UkLoRS {B=UkLoRS(D)} {{C=IeDuCT}}]

*An Experiment {{*E*xperiment}} of a way of preparing a Liquor, that | ſhall ſink into, and colour the whole Body of* Mar-|ble, *cauſing a* Picture, {{Picture,}} *drawn on a ſurface, to | appear alſo in the* inmoſt *parts of the Stone.* [**125 (R4^{r}):** NYPL, UkLoRS, UkLoRS(D) {{C=IeDuCT}}]

This *Experiment*, {{*Experiment,*}} having been hinted at in the next fore-
going *Papers*, {*Papers,*} {{P*apers,*}} out of the *Mundus {{*M*undus}} Subterraneus* of *Athanaſius*
Kircher, {*Kircher,*} and ſeveral Curious Perſons, {Persons,} who either have not
the leiſure to read Voluminous Authors, {Authors,} or are not readily
skilled in that Learned Tongue wherein the ſaid Book is {{skilled in that Voluminous Authors, or are not readily}}
written, {{written,}} being very deſirous to have it transferred {Transferred} hither,
it was {hither, it | was} thought fit to comply with their deſire herein.
[… *summary continues*] [**125 (R4^{r}):** NYPL, UkLoRS {B=UkLoRS(D)} {{C=IeDuTC}}]

An Intimation of a Way, {{Way,}} found in Europe *to make* | China-diſhes. [**127 (S1^{r}):** NYPL, UkLoRS, UkLoRS(D) {{C=IeDuTC}}]

Notice was lately given by an inquiſitive *Pariſian* to a friend
of his in *London* , {*London,*} {{L*ondon,*}} that by an Acquaintance he had been in-
formed, {{formed,}} that Signor *Septalio* , {*Septalio,*} a {{*Septalio* a}} Canon in *Millan*, {{M*illan,*}} had
the
Secret of making as good *Porcelane* {{P*orcelane*}} as is made in *China* {{China}} it ſelf,
and tranſparent ; {{tranſparent,}} adding that he had ſeen him make ſome.

This as it deſerves , {deſerves,} {{deſerves,}} ſo it will be further inquired after , {after,} if God Permit. [**127 (S1^{r}):** NYPL {B=UkLoRS(D)} {{C=IeDuTC no indentation before Notice}}]

An Account of an odd Spring *in* Weſtphalia, *together | with an Information touching* Salt-Springs {Salt-ſprings,} *and | the ſtraining of ſalt-water. {Salt water.}* [**127 (S1^{r}):** NYPL, UkLoRS {B=UkLoRS(D)} C=IeDuTC]

An Account of the Riſe and Attempts , {{Attempts,}} of a Way to | conveigh Liquors immediately into the Maſs of | Blood. {{of Blood.}} [**128 (S1^{v}):** NYPL, UkLoRS, UkLoRS(D) {{C=IeDuTC}}]

Imprint: [*rule 105.5 {{broken rule 56.9+1.0+46.1}}*] {[*no rule*]} | *Publiſhed with Licenſe. {Licence.}* | [*rule 107.2 {broken rule 74.5+0.6+35.7} {{broken rule 53.1+1.4+42.6}}*] | Oxford, {*Oxford*} Printed by *A*: & *L : {A.* and *L.} Lichfield*, | for {{by *W. Hall.* for |}} *Ric: Davis. {Richard Davis,}* 1665. [**130 (S2^{v}):** NYPL, UkLoRS {B=UkLoRS(D)} {{C=IeDuTC}}]

Copies considered: dN&S: A,B=539.01007A, C=539.01007B, A=Yale variant, B=Cambridge variant (p. 618); **NYPL:** collation, fingerprint, transcription; **UI:** collation, fingerprint; **DLC:** collation, fingerprint; **UkLoRS:** collation, fingerprint, transcription; **UkLoRS(D):** collation, fingerprint, transcription; **IeDuTC:** collation, fingerprint, transcription; **PU-Sp:** collation, fingerprint, title, imprint; **CU-BANC:** collation, fingerprint, title, imprint, clipped price in upper right p. 119 'pr'; **CLU-SC:** collation, fingerprint; **NcU:** fingerprint; **CSmH:** fingerprint, head title, imprint; **CSmH(B):** fingerprint, head title, imprint; **CSmH(B.2):** fingerprint, head title, imprint.

Number 8 (Monday, January 8, 166$\frac{5}{6}$):

A: 4°: T–V^{4} [$1–2 signed]; 8 leaves, pp. 131–146 (133='(133,' 138='(138')
166604 - b1 T1 $e : b2 V2 $the [NYPL, UkLoRS, rNHS, PU-Sp, CU-BANC, CLU-SC, CSmH, CSmH(B.2)]

B: 4°: T–V^{4} [$1–2 signed]; 8 leaves, pp. 131–146
166604 - b1 T1 $: b2 V2 an, [UI, DLC, UkLoRS(D), CSmH(B)]

C: 4°: T–V^{4} [$1–2 signed]; 8 leaves, pp. 131–146
166904 - b1 T1 e : b2 V2 ey$c [IeDuTC]

PHILOSOPHICAL | *TRANSACTIONS·* {{*TRANSACTIONS.*}} | [*rule 100.9 {broken rule 52.0+1.3+55.3} {{broken rule 74.0+2.3+26.1}}*] | Munday, *Januar {January} {{Januar.}}*.8. 166$\frac{5}{6}$. | [*rule 99.4 {broken rule 38.0+1.6+70.4} {{broken rule 50.0+1.2+51.7}}*] | [**in upper-right headline:**] *Num.* 8. {{*Num.8.*}} |

The Contents. | *An Account of the Tryals, made in* Italy *of* Campani's *new* | *Optick Glaſſes. A further Relation of the Whale-fiſhing about* | *the* Bermudas, *and upon the Coaſt of* New England, {New-England,} *and* | New Netherland. *Of a remarkable Spring of* Paderborn | *in* Germany. *Of ſome other uncommon Springs at* Baſel | *and in* Alſatia. *Of the richeſt Salt-ſprings {Salt-Springs} in* Germany. | *Some Obſervations of Strange {ſtrange} Swarms of* Inſects, *and the* | *miſchiefs done by them: {them:} {{them: }} as alſo of the Brooding of Snakes and* | *Vipers. Obſervations of odd Conſtitutions {Conſtitutions} of humane Bodies.* | *Of a way, uſed in* Italy,*of {{* Italy, *of}} preſerving Ice and Snow by* Chaffe. | *Directions for Sea-men bound for far Voyages, {Voyages,} {{Voyages,}} drawn up by* | *Maſter* Rook, *late* Geometry *Profeſſour {{Profeſſor}} of* Greſham Col-|lege. *Some Obſervations of* Jupiter; {{Jupiter,}} *Eclipſed {* Jupiter *Eclipſed} by one of* | *his* Satellites: {Satellites,} {{Satellites:}} *and of his Converſion about his* Axis. *Of ſome* | *Philoſophical and Curious Books, {Books,} {{Books,}} that are ſhortly to come a-*|*broad.* |

An Account of the Tryalls, made {Tryals made} {{Tryals, made}} in Italy *of* Cam-|pani's *new* {Campani's | *new*} Optick Glaſſes. [**131 (T1r):** NYPL, UkLoRS {B=UkLoRS(D)} {{C=IeDuTC}}]

A²N Inquiſitive *Pariſian* writes to his Correſpondent in
London, {{L*ondon*,}} as follows: {follows.} {{follows;}} {{{follows;}}}
We {{VVe}} received lately news from *Rome*, from a very Curious
Perſon of our acquaintance,importing,that {acquaintance importing, that} {{acquaintance, importing,that}}
Campani hath had
[… *account continues*] [**131 (T1r):** A=UkLoRS {B=UkLoRS(D)} {{C=IeDuTC}} {{{A=CU-BANC}}}]

A Further Relation of the Whale-fiſhing *about the* | Bermudas, {Bermudas,} *and on the Coaſt of* New-England {New England} *and* | New-Netherland. [**132 (T1v):** NYPL, UkLoRS {B=UkLoRS(D)} {{C=IeDuTC}}]

The ſame Person, {{Person,}} that communicated the particulars a-
bout the new Whale-fiſhing near the *Bermudas*, mentioned
in the firſt of theſe *Tracts*, gives this further Information;
[… *account of whale deaths*] [**132 (T1v):** UkLoRS, UkLoRS(D) {{C=IeDuTC}}]

Of a remarkable Spring, about {{Spring about}} Paderborn *in* Ger-|many. [**133 (T2r):** NYPL, UkLoRS, UkLoRS(D) {{C=IeDuTC}}]

Of ſome other not-common Springs at Baſel {Baſel,} *and in* | Alſatia. [**134 (T2v):** NYPL, UkLoRS {B=UkLoRS(D)} {{C=IeDuTC}}]

Of the richeſt Salt-Springs {Salt Springs} *in* Germany. [**136 (T3^{v}):** NYPL, UkLoRS {B=UkLoRS(D)} C=IeDuTC]

Some Obſervations of ſwarms {Swarms} of ſtrange Inſects, {Inſects,} {{Inſects,}} | and the Miſchiefs done by them. [**137 (T4^{r}):** NYPL, UkLoRS {B=UkLoRS(D)} {{C=IeDuTC}}]

A great Obſerver, {Obſerver,} {{Obſerver,}} who hath lived long in *New England,* {*New-England,*} {{*New England*,}}
did upon occaſion,relate {did, upon occaſion relate} {{occaſion, relate}} to a Friend of his in *London*, where he lately was, {{was,}} That ſome few Years {years} ſince there was ſuch a
[… *description of the swarm*] [**137 (T4^{r}):** UkLoRS {B=UkLoRS(D)} {{C=IeDuTC}}]

An Obſervation touching the Bodies of Snakes and | Vipers. [**138 (T4^{v}):** NYPL, UkLoRS, UkLoRS(D), IeDuTC]

Some Obſervations of odde {odd} Conſtitutions of Bodies. {Bodies,} [**138 (T4^{v}):** NYPL, UkLoRS {B=UkLoRS(D)} C=IeDuTC]

A very curious Perſon, {Person,} {{Person,}} ſtudying Phyſick at *Leyden*, {{*Leyden*,}} to whom had been imparted thoſe Relations about a Milky Subſtance in Veins, heretofore alleged in *Numb {Num}.* 6. returns, by {returns by} way of gratitude, the following Obſervations.

There was (ſaith he) {)} {{(ſaith he)}} not many Years ſince, in this Country a Student, {{Student,}} who being much addicted to the ſtudy of *Aſtronomy*, {{*A-|ſtronomy*,}} and ſpending very many Nights in Star gazing, {Star-gazing,} {{Star-gazng,}}
[… *account of sweat, etc.*] [**138 (T4^{v}):** UkLoRS {B=UkLoRS(D)} {{C=IeDuTC}}]

A way of preſerving Ice and Snow by Chaffe. [**139 (V1^{r}):** NYPL, UkLoRS, UkLoRS(D), IeDuTC]

The Ingenious Mr. *William Ball* did communicate the relation hereof, as he had received it from his Brother, now reſiding at *Livorne*, as follows;
[… *relation continues*] [**139 (V1^{r}):** UkLoRS, UkLoRS(D), IeDuTC]

Directions for Sea-men, {{Sea-Men,}} bound for far Voyages. {Voyoges.} [**140 (V1^{v}):** NYPL, UkLoRS {B=UkLoRS(D)} {{C=IeDuTC}}]

It being the Deſign of the *R. Society*, {*Royal Society*,} for the better attaining the End of their Inſtitutions, {Inſtitution,} to ſtudy *Nature* rather than *Books*, and from the Obſervations, made of the *Phænomena* and Effects ſhe preſents, {preſents,} to compoſe ſuch a Hiſto- [**140 (V1^{v}):** NYPL, UkLoRS IeDuTC {B=UkLoRS(D)}]
ry of Her, {Her,} {{Her,}} as may hereafter ſerve to build a Solid and Uſeful Philoſophy upon; They have from time to time given or-

der to ſeveral of their Members to draw up both *Inquiries* of
things Obſervable in forrain {forreign} Countries, and *Directions*
for {{*Directions* for |}} the Particulars,they {Particulars, they} {{Particulars, they}} deſire chiefly to be
informed about.
And conſidering with themſelves, {{themſelves,}} how much they may in-
creaſe their *Philoſophical* ſtock by the advantage, {{advantage,}} which
England {{which E*ng-|land*}} injoyes {enjoyes} of making Voyages into all parts of the
World, {{the World, |}} they formerly appointed that Eminent Mathema-
tician and {{Mathematician and |}} Philoſopher Maſter *Rooke*, {*Rook*,} one of their Fellowes,
and *Geometry* {{Fellows, and *Geome-|try*}} Profeſſor of *Greſham Colledge* (now {{ (now }} deceaſed
to the great {{deceaſed to the great |}} detriment of the Common-wealth of Learning)
to think upon {{Learning) to think up-|on}} and ſet down ſome *Directions* for *Sea-men* go-
ing into the {{going into the |}} *Eaſt* & {and} {{and}} *Weſt-Indies*, {{*Weſt-Indies.*}} the {*Weſt-Indies*,the}
better to capacitate them
for making {{them for ma-|king}} ſuch obſervations abroad, {abroad,} as may be pertinent
and ſuitable {{pertinent and ſuita-|ble}} for their purpoſe; {{purpoſe;}} of which the ſaid Sea-men
ſhould be {{Sea-men ſhould be |}} deſired to keep an exact *Diary*, {*Diary,*} {{D*iary*,}} delivering at their
return a {{their return a |}} fair Copy thereof to the *Lord High Admiral* of *En-
gland*, {*Eng-|land*,} his {{*England*, his |}} Royal Highneſs the *Duke* of *York*, {{*York*,}} and another to
Trinity-houſe {Trinity-Houſe} {{to *Trinity-|houſe*,}} to be peruſed by the *R. Society. {Royal Society.}* Which
*Cata-
logue* of {{*Catalogue* of |}} *Directions* having {{*Directions*,haveing}} been drawn up accordingly by the
ſaid Mr. {{the ſaid Mr. |}} *Rook*, and by him preſented to thoſe, who appoin-
ted {appoint-|ed} him to {{appointed him to |}} expedite ſuch a one, {one,} {{one,}} it was thought not to
be
unſeaſonable {un-|ſeaſonable} at {{be unſeaſonable at |}} this time to make it publique, {publick,} the more
con-
veniently {conveni-|ently} to furniſh {{conveniently to fur-|niſh}} Navigators with Copies thereof. They
are ſuch, {They are | ſuch} as follow; {:} {{They are ſuch as follow.}}
[… *directions continue*] [**141 (V2^{r}):** NYPL, UkLoRS {B=UkLoRS(D)} {{C=IeDuTC}}]

Some Obſervations concerning Jupiter. *Of the ſha-|dow of one of his* Satellites *ſeen, {{ſeen,}} by a Teleſcope | paſſing over the Body of* Jupiter. [**143 (V3^{r}):** NYPL, UkLoRS, UkLoRS(D) {{C=IeDuTC}}]

Of a permanent Spot in Jupiter*: {{:}} by which is mani-|feſted the converſion of* Jupiter *about his own Axis.* [**143 (V3^{r}):** NYPL, UkLoRS, UkLoRS(D), {{C=IeDuTC}}]

Of ſome Philoſophical {{Philoſophical}} and curious Books, that are | ſhortly to come abroad. [**145 (V4^{r}):** NYPL, UkLoRS, {{C=UkLoRS(D)}}]

Imprint: [*rule 105.5 {111.1 111.9 CSmH(B)} {{broken rule 49.9+0.3+50.4}}*] | [*rule 104.0 {broken rule 70.4+1.1+38.9 70.8+1.0+40.0 CSmH(B)} {{broken rule 56.7+1.6+45.7}}*] | *Publiſhed with Licenſe, {Licence.} {{Licenſe.}}* | [*rule 105.9 {broken rule 74.3+2.0+34.3 74.5+2.9+34.5 CSmH(B)} {{broken rule 55.0+1.6+42.8}}*] | Oxford, {*Oxford,*} {{Oxford,}} Printed by *A*: & *L: {A.* and *L.} Lichfield* {○}, | for *Ric: Davis. {Richard Davis,}* 1666. {{by *W. Hall.* for | *Ric: Davis.* 1669.}} [**146 (V4^{v}):** NYPL, UkLoRS {B=UkLoRS(D), CSmH(B)} {{C=IeDuTC}}]

Copies considered: dN&S: A,B=539.01008A, C=539.01008B, A=Yale variant, B=Cambridge variant (p. 618); **UI:** collation, fingerprint; **NYPL:** collation, fingerprint, transcription, p. 133 l. 10 'a ſmall Fiſh called the *Treſher*'; **DLC:** collation, fingerprint; **UkLoRS:** collation, fingerprint, transcription, p. 133 l. 10 'a ſmall Fiſh called the *Trehper*; **UkLoRS(D):** collation, fingerprint, transcription, third rule on imprint poorly inked, p. 133 l. 10 'a ſmall Fiſh called the *Trehper*; **IeDuTC:** collation, fingerprint, transcription; **PU-Sp:** collation, fingerprint, title, imprint, p. 133 l. 10 'a ſmall Fiſh called the *Treſher*'; **CU-BANC:** collation; fingerprint; title; imprint; clipped price in upper right 'p'; p. 133 l.1 0 'a ſmall Fiſh called the *Treſher*'; manuscript x marking lines beginning 'they call' and 'and its' p. 183 ll. 20–21, lines ending 'by the' and 'ſometimes' p. 133 ll. 14–15, ll. ending 'and' and 'Perſons' p. 135 ll. 4–5, ending 'Salt,' and 'eat' p. 139 ll. 1–2, ending 'above' and '*Cam-*' p. 139 ll. 10–11; **CLU-SC:** collation, fingerprint; **CSmH:** fingerprint, head title, imprint; **CSmH(B):** fingerprint, head title, imprint; **CSmH(B.2):** fingerprint, head title, imprint.

Number 9 (Monday, February 12, 166$\frac{5}{6}$):

A: 4°: X–Y^{4} [$1–2 signed]; 8 leaves, pp. 147–162; plate [*1*]
166604 - b1 X1 $: b2 Y2 owi [UI, DLC, PU-Sp, rNHS, CU-BANC, CLU-SC]

B: 4°: X–Y^{4} [$1–2 signed]; 8 leaves, pp. 147–162; plate [*1*]
166604 - b1 X1 0 : b2 Y2 fol [NYPL, UkLoRS, UkLoRS(D), IeDuTC, CSmH, CSmH(B), CSmH(B.2)]

a: **Plate:** Three figures: '*Fig: 1*' diagram of device for finding depths with bent wire (C F) incorrectly over loop (B) p. 148, '*Fig: 2*' diagram of instrument for collecting ocean water p. 149,

'*Fig:3.*' view of Saturn p. 153 [*engraved* 195.5×164.8 (215.8×205.0+) **147 (X1^{r}):** rNHS, UkLoRS, PU-Sp, CU-BANC, CLU-SC, CSmH(B)]

b: **Plate:** Eight figures, no caption, lacks view of Saturn: '*Fig. 1.*' , '*Fig. 2.*' [=*No. 9, fig. 1*] diagram of device for finding depths with corrected bent wire (C F) under B p. 148, '*Fig. 3.*' , '*Fig. 4.*' , '*Fig. 5.*' , '*Fig. 6.*' , '*Fig. 7.*' , '*Fig. 8.*' [=*No. 9, fig. 2*] diagram of instrument for collecting ocean water p. 147 [191.3×256.5 (221.0×352.0) *engraved* **147 (X1^{r}):** UI, UkLoRS (in v.2 before № 24), UkLoRS (in v.2 variant before № 24), CSmH]

c: **Plate:** as plate b with [**upper right:**] '№. 9 & 24.' [*engraved* 189.7x256.9 (211.0+x373.5+) **147 (X1^{r}):** NYPL, UkLoRS(D), IeDuTC, CSmH(B.2)]

PHILOSOPHICAL | *TRANSACTIONS.* | [*rule 114.3 {111.1}*] | *Munday,{◌,} Feb.* 12. $166\frac{5}{6}$. | [*broken rule 54.2+0.7+58.3 {rule 111.2}*] | [**in upper-right headline:**] *Num.* {*Numb.*} 9. | [*rule above small comma suggests a wrong sized comma*]

The Contents. | *An* Apendix {Appendix} *to the* Directions *for Seamen, bound {,bound} for far voyages.* | *Of the judgment of ſome of the* Engliſh *Aſtronomers,{◌,} touching* | *the difference between two learned men, about an Obſervation* | *made of the firſt of the two late* Comets. *Of a* Correſpondency, | *to he {be} procured,{ }for the finding out of the* True *diſtance of the* Sun | *and* Moon *from the Earth.{ }Of an Obſervation not long ſince made {\|} in* | England *of* Saturn.{ }*An Account of ſome* Mercurial *Obſervations,* | *made {Obſerva-\|tions,made} with a* Barometer, *and their Reſults. Some Obſervations* | *{Obſerva=\|tions} of* Vipers, *made by an* Italian *Philoſopher.* |

An Appendix *to the* Directions *for Seamen,{ ,}* | *bound for far Voyages.* [**147 (X1^{r}):** A=PU-Sp, CU-BANC {B=NYPL, UkLoRS}]

Of the Judgement of ſome of the Engliſh *Aſtro-\|nomers, touching the difference between two* | *learned men,{◌,} about an Obſervation made of* | *the Firſt of the two late* Comets. [**150 (X2^{v}):** A=PU-Sp, CU-BANC {B=NYPL, UkLoRS}]

Of a {a◌}Correſpondency,to be procured,{, }for the Fin-\|ding out the True *diſtance of the* Sun *and* | Moon *from the Earth,{◌,}by the* Paralax,*obſer-\|ved under (}{(}or neer){)} the ſame* Meridian. [**151 (X3^{r}):** A=PU-Sp, CU-BANC {B=NYPL, UkLoRS}]

Of an Obſervation, {,◌}not long ſince made in Eng-\|land {England} *of* Saturn. [**152 (X3^{v}):** A=PU-Sp, CU-BANC {B=NYPL, UkLoRS}]

A Relation of ſome Mercurial *Obſervations,* | *and their Reſults.* [**153 (X4^{r}):** NYPL, UkLoRS, PU-Sp]

Some Obſervations of Vipers. [**160 (Y3^{v}):** NYPL, UkLoRS, PU-Sp]

Errata: *Advertiſement.* [**162 (Y4^{v}):** NYPL, UkLoRS, PU-Sp]

T²He *Reader* of theſe *Tranſactions* is deſired to correct theſe *Errata* in *Number* 8. *viz.* page. 132. line penult. read *Wine* for *Lime*; and page 133. line 10. read *Threſher* for {fer} *Tre=*{-} *pher*, as ſome *Copies* have it;{○;} and page 136. line ult. read *purifie* for *putrifie*. [**162 (Y4^{r}):** A=PU-Sp, CU-BANC {B=NYPL, UkLoRS}]

Imprint: [*rule 109.8 {111.5}*] | *LONDON,* | Printed for *John Martyn*, and *James Alleſtry, {Alleſtry,}* Printers | to the Royal-Society {*Royal-Society.*} 1666. [**162 (Y4^{v}):** NYPL, UkLoRS, IeDuTC, rNHS {B=CSmH}]

Copies considered: dN&S: A,B=539.01009, A=Yale variant, B=Cambridge variant (p. 618); **NYPL:** collation, fingerprint, plate: № 9 & 24 facing 162 (Y4^{v}), transcription; **UI:** collation, fingerprint, plate enumerated in manuscript *Tranſact: N. 9th & 24th*; **DLC:** plate placed in front of № 24, collation, fingerprint; **UkLoRS:** collation, fingerprint, transcription, plate a, plate b from v.2; **UkLoRS(D):** collation, fingerprint, title, imprint; **IeDuTC:** collation, fingerprint, plate faces 162 (Y6^{v}), underlining of errata; **PU-Sp:** collation, fingerprint, on back of plate 'Will: Parker pr–o–o–6' a wrapper with a price of 6 pence for early member William Parker?; **CU-BANC:** collation, fingerprint, title, imprint; **CLU-SC:** collation, fingerprint; **CSmH:** fingerprint, head title, plate, imprint; **CSmH(B):** fingerprint, head title, plate, imprint; **CSmH(B.2):** fingerprint, head title, plate, imprint.

Number 10 (Monday March 12, 166$\frac{5}{6}$):

A: 4^{o}: Z–2A^{4} [$1–2 signed]; 8 leaves, pp. 163–175 [177–178]
166604 - b1 Z1 e : b2 2A2 ere$b [UI, PU-Sp, rNHS, CU-BANC, CSmH]

B: 4^{o}: Z–2A^{4} [$1–2 signed]; 8 leaves, pp. 163–175 [177–178]
166604 - b1 Z1 Be : b2 2A2 ave$h [NYPL, DLC, UkLoRS, UkLoRS(D), IeDuTC, CLU-SC, CSmH(B), CSmH(B.2)]

PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 57.1+0.1+57.2 {111.6}*] | *Munday, March* 12. 166$\frac{5}{6}$. | [*broken rule 54.5+1.2+58.3 (58.3=25.7+0.2+33.0 PU-Sp, bad inking?) {rule 111.8}*] | [**in upper-right headline:**] *Num..*{.˄.} 10. | [*rule above small comma suggests a wrong sized comma or shoulder printing, N is A=CSmH 4.8, N in CSmH(B.2) 4.4 supporting wrong-size type*]

The Contents. | *Obſervations continued upon the* Barometer,*or* Ballance of the Air. | *A Relation concerning the* Earth-quake *neer* Oxford; *together* | *with ſome Obſervations of the ſealed* Weatherglaſs *and* Barome-|ter *thereupon by* Dr. Wallis. *A more full and particular Account* | *of thoſe Obſervations about* Jupiter, *that were mention'd in Numb.* | 8. *An Account of ſome Books,{ ,} lately publiſht,*{ ,} videl. *Mr.* Boyles | *Hydroſtatical Paradoxes*; Steno *de Muſculis & Gladulis*; De | Graeff *de Natura & Uſu Succi Pancreatici.* |

Obſervations continued upon the Barometer,{ ,} *or rather* Ballance of | the Air. [**163 (Z1^{r}):** A=PU-Sp, CU-BANC {B=NYPL}]

T^{8}Heſe *Tranſactions* being intended, *not only* to
be {○(}by parcels) {(○}brief Records of the Emer-
gent Works and Productions in the Uni-
verſe; Of the Myſteries of Nature of later
diſcoveries;{;} And,{And^} of the growth of Uſeful
Inventions and Arts;{ ;} *but* alſo, and chiefly,{○,}
to ſollicite in all parts mutuall {mutual} Ayds and
Collegiate endeavours for the farther ad-
vancement thereof: {○:○}We ſhall begin this *Second* year of our Pub-
lications in this kind (in which,{which^} for 3. moneths {months} the Printing-preſ-
ſes were interrupted by the publick Calamity){○)} with a few more
particular Obſervations upon the *Ballance of the Air*, {○}as they are
moſt happily invented and directed by Mr. *Boyle*; and deſerve
to be proſecuted with care and diligence in all places.
[… *observations continue*] [**163 (Z1^{r}):** A=PU-Sp, CU-BANC {B=NYPL, UkLoRS}]

A Relation concerning the late Earthquake *neer* Oxford;{;} *together* | *with ſome Obſervations of the ſealed Weatherglaſs, and the Baro-|meter. both{B*aro-|meter, *both} upon that* Phænomenon,{ }*and in* General. [**166 (Z2^{r}):** A=PU-Sp, CU-BANC {B=NYPL, UkLoRS}]

A more particular Account of thoſe Obſervations about Jupiter, *that* | *were mentioned in* Numb. 8: [**171 (2A1^{r}):** NYPL, UkLoRS, PU-Sp]

An Account of ſome Books, lately publiſhed. [**173 (2A2^{r}):** NYPL, UkLoRS, PU-Sp]

Errata: *NOTE,* [**178 (2A4^{v}):** NYPL, PU-Sp]

In *Fig.* {.○}1. of *Num. {Numb}.* 9 of theſe Tracts, the Graver hath placed the bended *end*
of the *ſpringing Wire* C F, above the *Wire-ſtaple* B, between it and the *Ring E*,
of the *Weight* D;{○;} whereas *that* end ſhould have been ſo expreſſed,{expreſſed^} as to paſs *un-*

der {|} the VVire-ſtaple, betwixt its two Wires,into the {Wires, in the the} ſaid *Ring*. [**178 (2A4^{v}):** A=PU-Sp, CU-BANC (f. VVire-ſtaple r. Wire-ſtaple) {B=NYPL, UkLoRS}]

Imprint: *London*, Printed for *John Martyn*, and *James Alleſtry*, Printers to | the {|} Royal Society. 1666. [**178 (2A4^{v}):** A=PU-Sp, CU-BANC, CSmH {B=NYPL, UkLoRS, CSmH(B)}]

Copies considered: dN&S: 539.01010; **UI:** collation, fingerprint; **NYPL:** collation, fingerprint, transcription; **DLC:** collation, fingerprint; **UkLoRS:** collation, fingerprint, transcription; **UkLoRS(D):** collation, fingerprint, title, imprint; **IeDuTC:** collation, fingerprint, title, imprint; **PU-Sp:** collation, fingerprint, transcription, manuscript on t.p. 'pr:–o–' probably short for pr:–o–o–6 a price of 6 pence; **CU-BANC:** collation, fingerprint, title, imprint; **CLU-SC:** collation, fingerprint; **CSmH:** fingerprint, head title, imprint; **CSmH(B):** fingerprint, head title, imprint; **CSmH(B.2):** fingerprint, head title, imprint.

Number 11 (Monday April 2, 1666):

A: 4^{o}: 2B–2C^{4} 2D^{2} [$1–2 (-2D2) signed]; 10 leaves, pp. 179–198

166604 - b1 2B1 ot : b2 2D1 $n [DLC, UkLoRS, PU-Sp, CU-BANC, rNHS, CLU-SC, CSmH]

B: 4^{o}: 2B–2C^{4} 2D^{2} [$1–2 (-2D2) signed]; 10 leaves, pp. 179–198

166604 - b1 2B1 $m : b2 2D1 $on [UI, NYPL, UkLoRS(D), IeDuTC, CSmH(B), CSmH(B.2)]

PHILOSOPHICAL | *TRANSACTIONS.* | [*rule 114.8 {112.1}*] | *Munday, April {<April}* 2. 1666. | [*broken rule 54.5+0.5+58.2 {110.9}*] | [*<A is a italic A with left swashed leg* **in upper-right headline:**] *Num.*. 11. | [*rule above small comma suggests a wrong sized comma*]

The Contents. | *A Confirmation of the former Account,touching the late* Earth-|quake *near* Oxford, *and the Concomitants thereof, by* | *Mr.*{ }Boyle. *Some Obſervations and Directions about the* | Barometer{}, *communicated {Communicated} by the ſame Hand. General* | *Heads for a* Natural Hiſtory *of a Country, ſmall or* | *great, propoſed by the ſame. An extract of a Letter{},* | *written from* Holland,*about* Preſerving Ships from be-|ing Worm-eaten. *An Account of Mr.* Boyle's *lately* | *publiſh't Tract, entituled*{}, The Origine of Forms and | Qualities, *illuſtrated by Conſiderations and Experiments.* | [*rule 114.8 {111.8}*] |

A Confirmation of the former Account touching the late {Late} Earth-|quake *near* Oxford{},{ }*and the Concomitants thereof. {thereof.}* [**179 (2B1^{r}):** A=UkLoRS, CU-BANC {B=NYPL}]

T7His Confirmation came from the Noble

Mr *Boyle* in a Letter,to the *Publiſher*, as fol-

loweth:

[… *confirmation continues*] [*woodcut T⁷ differs between A and B* **179 (2B1ʳ):** A=UkLoRS, CU-BANC, CSmH, CSmH(B)]

Some Obſervations and Directions about the Barometer,*com-|municated by the ſame Hand, to the* Author *of this* Tract. [**181 (2B2ʳ):** NYPL, UkLoRS, CU-BANC]

General Heads for a Natural Hiſtory of a Countrey,*Great {great} | or ſmall{ }, imparted likewiſe by Mr.* Boyle. [**186 (2B4ᵛ):** A=UkLoRS, CU-BANC {B=NYPL}]

It having been already intimated (*Num.*8. *of Phil. Tranſact.* p. 140. 141.) that divers *Philoſophers* aime,among other things, at the Compoſing of a good Natural Hiſtory, to ſuperſtruct, in time, a *Solid* and *Uſeful* Philoſophy upon*;* and it being of no ſlight importance, to be furniſht with pertinent Heads, for the direction of Inquirers*;* that lately named *Benefactour to Experimental Philoſophy*, has been pleaſed to communicate, for the ends aboveſaid, the following *Articles*, which (as himſelf did ſignifie) belong to one of his *Eſſays* of the unpubliſht part of the *Uſefulneſs of Nat. and Experimen. Philoſophy*.

But firſt he premiſes, that what follows, is deſign'd only to point at the more *General* heads of Inquiry, which the propoſer ignores not to be Divers of them very comprehenſive, in ſo much, that about ſome of the *Subordinate* ſubjects, perhaps too, not the moſt fertile, he has drawn up *Articles* of inquiſition about particulars, that take up near as much room, as what is here to be deliver'd of this matter.

[… *headings follow*] [**186 (2B4ᵛ):** UkLoRS, CU-BANC]

An Extract | Of a Letter, Written from Holland, *about* Preſerving of | Ships from being Worm-eaten. [**190 (2C2ᵛ):** NYPL, UkLoRS, CU-BANC]

This *Extract* is borrowed from the *French journal des Scavans* of *Febr.* 15. 1666. and is here inſerted, to excite Inventive heads *here*, to overtake the Propoſer in *Holland*. The letter runs thus{ }:

[… *summarized translation*] [**190 (2C2ᵛ):** A=UkLoRS, CU-BANC {B=NYPL}]

An Account | Of a Book, very lately publiſh't, entituled, The Origine | of Forms and Qualities, *illuſtrated by Conſidera-|tions and Experiments, by the Honourable* Robert | Boyle. [**191 (2C3ʳ):** NYPL, UkLoRS, CU-BANC]

Some New obſervations {Obſervation} about the Planet Mars, *communica-|ted ſince the Printing of the former ſheets.* [**198 (2D2^{r}):** A=UkLoRS, CU-BANC {B=NYPL}]

> There was very lately{ }produced a Paper{}, containing ſome obſervations, {Obſervations,} made by Mr. *Hook*{}, about the Planet *Mars*; [… *summary of observations*] of {Of} which a fuller account will be given hereafter{}, God permitting. This ſhort and haſty intimation of it{}, is intended onely {only} to invite others{}, that have opportunity{}, timely to make Obſervations{}, ({ }either to confirm{}, or rectify{}*)* {)} before *Mars* {|} gets out of ſight. [**198 (2D2^{v}):** A=UkLoRS, CU-BANC {B=NYPL}]

Imprint: [*broken rule 79.0+0.6+29.8 {rule 114.8}*] | Printed with Licence {Licenſe} for *John Martyn*,{ }and *James Alleſtry*{}, | Printers to the Royal Society. 1666. | [*rule 110.0 {114.1}*] [**198 (2D2^{v}):** A=UkLoRS, rNHS, PU-Sp, CU-BANC {B=NYPL, IeDuTC}]

Copies considered: dN&S: 539.01011, B=Cambridge variant, A=Yale variant? (p. 618); **UI:** collation, fingerprint; **NYPL:** collation, fingerprint, transcription; **DLC:** collation, fingerprint; **UkLoRS:** collation, fingerprint, transcription; **UkLoRS(D):** collation, fingerprint, title, imprint; **IeDuTC:** collation, fingerprint, title, imprint; **PU-Sp:** collation, fingerprint, title, imprint; **CU-BANC:** collation, fingerprint, title, imprint, transcription; **CLU-SC:** collation, fingerprint; **CSmH:** fingerprint, head title, imprint; **CSmH(B):** fingerprint, head title, imprint; **CSmH(B.2):** fingerprint, head title, imprint.

Number 12 (Monday, May 7, 1666):

4^{o}: 2E–2F^{4} [$1–2 signed]; 8 leaves, pp. 199-214

166604 - b1 2E1 he : b2 2F2 ,$th [UI, NYPL, DLC, UkLoRS, UkLoRS(D), PU-Sp, CLU-SC, CSmH, CSmH(B), CSmH(B.2)]

A: unbroken rules on p. 199 [NYPL] B: broken rules on p. 199 [UkLoRS, UkLoRS(D), IeDuTC, PU-Sp, CU-BANC, CLU-SC]

PHILOSOPHICAL | *TRANSACTIONS.* | [*rule 103.8 {broken rule 57.1+0.1+56.8}*] | *Munday, May* 7. 1666. | [*rule 103.4 {broken rule 54.4+1.0+58.2}*] | [**in upper-right headline:**] *Num.* 12. [*rule above small comma suggests a wrong sized comma*]

The Contents. | *A way of Preſerving Birds taken out of the Egge, and other ſmall* | Fetus's; {;} *communicated by* Mr. {Mr} Boyle. *An Extract of a Letter,* | *lately ſent to* Sr. Robert Moray

out of Virginia, *concerning an* | *unuſuall way of Propagating Mulberry-trees there, for the better* | *improvement of the* Silk-Work; *together with ſome other particu-*|*lars, tending to the good of that* Royall *Plantation. A Method,* | *by which a Glaß of a ſmall Plano=Convex Sphere may be made to* | *refract the Rayes of Light to a* Focus *of a far greater diſtance,* | *than is uſuall. Obſervations about* Shining Worms *in Oyſters.* | *Obſervations of the Effects of* Touch *and* Friction. *Some par-*|*ticulars, communicated from forrain Parts, concerning the Per-*|*manent* Spott *in* Jupiter; *and a conteſt between two Artiſts about* | Optick-Glaſſes, *&c. An Account of a Book Written by* Dr. | Thomas Sydenham, *entituled,* Methodus Curandi Febres, | propriis Obſervationibus ſuperſtiucta. | [*rule 109.2 {109.0}*] |

A way | *Of preſerving Birds taken out of the Egge, and other ſmall* | Fætus's; *communicated by Mr.* Boyle. [**199 (2E1^{r}):** A=NYPL {B=UkLoRS IeDuTC, CU-BANC}]

An Extract | *Of a Letter, ſent lately to* Sir Robert Moray *out of* Vir-|ginia, *concerning an* unuſual *way of propagating* Mul-|berry trees *there, for the better improvement of the* Silk-|Work; *together with ſome other particulars, tending to* | *the good of that* Plantation. [**201 (2E2^{r}):** NYPL, UkLoRS, CU-BANC]

A Method, by which a Glaſs of a ſmall Plano-convex Sphere | *may be made to refract the Rayes of light to a* Focus *of* | *a far greater diſtance, than is uſual.* [**202 (2E2^{v}):** NYPL, UkLoRS, CU-BANC]

Obſervations | *About* Shining Worms *in Oyſters.* [**203 (2E3^{r}):** NYPL, UkLoRS, CU-BANC]

> Theſe Obſervations occur in the *French journal* of *April* 12. 1666. in two letters, written by M. *Auzout* to M. *Dela Woye*; whereof the ſubſtance may be reduced to the following particulars.
>
> [… *enumerated observations*] [**203 (2E3^{r}):** CU-BANC]
>
> [… *observations complete*]
>
> So far the *Journal des Scavans*; which intimates withal,that if the *Obſervers* had had better *Microſcopes*,they could have better examin'd this matter.
>
> But ſince the curious here in *England* are ſo well furniſh with good ones, 'tis hoped, that they will employ ſome of them for further and more minute Obſervations of theſe Worms; it being a matter, which, joyned with other Obſervations, already made by ſome excellent perſons here, (eſpecially Mr.*Boyle*) upon this ſubject of Light, may prove very luciferous to the doctrine of it, ſo much yet in the dark. [**206 (2E4^{v}):** UkLoRS, CU-BANC]

Some Obſervations | Of the Effects of Touch *and* Friction. [**206 (2E4^{v}):** NYPL, UkLoRS, CU-BANC]

Some particulars, communicated from forraign parts, | concerning the Permanent Spott *in* Jupiter; *and | a Conteſt between two Artiſts about* Optick Glaſ-|ſes, *&c.* [**209 (2F2^{r}):** NYPL, UkLoRS, CU-BANC]

An Account | Of Dr. {.○}Sydenham's *Book, entituled*, Methodus Curandi | Febres, Propriis obſervationibus ſuperſtructa. [**210 (2F2^{v}):** A=NYPL {B=UkLoRS, CU-BANC}]

[*rule 106.2 {broken rule 41.9+1.2+63.5}*] | Advertiſement. [**213 (2F4^{r}):** A=NYPL {B=UkLoRS, CU-BANC}]

> *Whereas 'tis taken notice of, that ſeveral perſons perſwade themſelves, that theſe* Philoſophical Tranſactions *are publiſh't by the* Royal Society, *notwithſtanding many circumſtances, to be met with in the already publiſht ones,* [**213 (2F4^{r}):** NYPL, UkLoRS, CU-BANC] *that import the contrary; The Writer thereof hath thought fit, expreſly here to declare, that that perſwaſion, if there be any ſuch indeed, is a meer miſtake*; *and that he, upon his* Private *account (as a Well-wiſher to the advancement of uſefull knowledge, and a Furtherer thereof by ſuch Communications, as he is capable to furniſh by that Philoſophical Correſpondency, which he entertains, and hopes to enlarge) hath begun and continues both the compoſure and publication thereof: Though he denies not, but that, having the honour and advantage of being a* Fellow *of the ſaid* Society, *he inſerts at times ſome of the Particulars that are preſented to them*; *to wit, ſuch as he knows he may mention without offending them, or tranſgreſſing their Orders*; *tending only to adminiſter occaſion to others alſo, to conſider and carry them further, or to Obſerve or Experiment the like, according as the nature of ſuch things may require.* [**214 (2F4^{v}):** NYPL, UkLoRS, CU-BANC]

Imprint: [*broken rule 79.2+0.6+29.9*] | Printed with Licence for *John Martyn,* and *James Alleſtry*, | Printers to the Royal Society. 1666. [**214 (2F4^{v}):** NYPL, UkLoRS, PU-Sp, CU-BANC]

Copies considered: dN&S: 539.01012; **UI:** collation, fingerprint; **NYPL:** collation, fingerprint, transcription; **DLC:** collation, fingerprint; **UkLoRS:** collation, fingerprint, transcription, diagonal

p. 200 from m to d touches [f$ me in 's $ m $ d$ if fo (e b H $f $O y$p by o h b o u h g d ch in f h rd t$ e u ſe b y$ d], diagonal p. 208 from w to e touches [in ld io $ $ b e ad $ ſu $ dg th e $h h h is ic en o m o$ pe e$ e Th $a wh b pa o d i]; **UkLoRS(D):** collation, fingerprint, title, imprint, diagonals; **IeDuTC:** collation, fingerprint, title, imprint; **PU-Sp:** collation, fingerprint, title, imprint; **CU-BANC:** collation, fingerprint, title, imprint, transcription, manuscript x marking article with line ending 'follows;' p. 199 l., ending 'that' p. 207 l. 27, ending 'he' p. 209 l. 5; **CLU-SC:** collation, fingerprint; **CSmH:** fingerprint, head title, imprint; **CSmH(B):** fingerprint, head title, imprint; **CSmH(B.2):** fingerprint, head title, imprint.

Number 13 (Monday, June 4, 1666):

4°: 2G–2H⁴ [$1–2 signed]; 8 leaves, pp. 215–230; plate [*1*]

166604 - b1 2G1 re : b2 2H2 snott [UI, NYPL, DLC, UkLoRS, UkLoRS(D), IeDuTC, PU-Sp, CU-BANC, CLU-SC]

A: first rule on p. 215 unbroken [NYPL] B: first rule on p. 215 broken [UkLoRS, UkLoRS(D), IeDuTC, PU-Sp, CLU-SC, CSmH, CSmH(B), CSmH(B.2)]

a: **Wrap-around plate:** Four figures: '*Fig. I.*' diagram wheel-barometer p. 219 , '*Fig.II.*' illustration of solar phenomenon p. 220 , '*Fig.III.*' another solar phenomenon to compare with previous p. 221, '*Fig.IV.*' illustration of double rainbows crossing p. 221 [*engraved* 210.0+161.5+? (214.9x308.0) **215 (2G1^{r}):** PU-Sp (plate mark mostly not visible), CLU-SC]

b: **Throw-out plate:** Four figures as above titled in upper-left: '*Transact: N. 13 th*' [*engraved* 219.5–220.2x160.1–161.0 (235.7x297.2) **230 (2H4^{v}):** NYPL, UkLoRS, IeDuTC, CU-BANC, CSmH, CSmH(B), CSmH(B.2)]

PHILOSOPHICAL | *TRANSACTIONS.* | [*rule 114.8 {broken 57.0+0.9+56.5*] | *Munday, June* 4. 1666. | [*broken rule 54.4+1.0+58.6*] | [**in upper-right headline:**] *Num.* 13. |

The Contents. | *Certain* Problems *touching ſome Points of Navigation. Of a new* | *Contrivance of* Wheel-Barometer,*much eaſier to be prepar'd,than* | *others. An account of* Four Suns *which lately appeared in* France;{;} | *and of two,unuſually poſited*,Rainbows,*ſeen in the ſame Kingdom.* | *A Relation of an Accident,by Thunder and Lightning, in* Oxford. | *An Experiment, to examine{,} what* Figure *or Celerity of Motion* | *begetteth or increaſeth* Light *and* Flame. *Some Conſiderations* | *touching a Letter in the* Journal des Scavans *of* May 24. 1666. | [*rule 109.1*] |

Certain Problems | *Touching ſome Points of* Navigation. [**215 (2G1^{r}):** A=NYPL {B=UkLoRS, CU-BANC}]

A new Contrivance of Wheel-Barometer, *much more eaſy to* | *be prepared, than that, which is deſcribed in the* Micrograֿ|phy; *imparted by the Author of that Book.* [**218 (2G2^{v}):** NYPL, UkLoRS, CU-BANC]

An Account | *Of* Four Suns, *which very lately appear'd in* France, *and* | *of* two Raine-bows, *unuſually poſited, ſeen in the ſame* | *Kingdom, ſomewhat longer agoe.* [**219 (2G3^{r}):** NYPL, UkLoRS, CU-BANC]

A Relation | *Of an Accident by Thunder and Lightning,at* Oxford. [**222 (2G4^{v}):** NYPL, UkLoRS, CU-BANC]

An Experiment | *To examine, what* Figure, *and* Celerity *of* Motion *begetteth,* | *or encreaſeth* Light *and* Flame. [**226 (2H2^{v}):** NYPL, UkLoRS, CU-BANC]

Some Conſiderations | *Touching a Letter in the* Journal des Scavans *of* May 24 {24.} | 1666. [**228 (2H3^{v}):** A=NYPL {B=UkLoRS, CU-BANC}]

> In *Num.* 9. of theſe *Tranſactions* were publiſh't the *Schemes* and *Deſcriptions* of certain Waies of *Sounding the Depth of the Sea without a Line*; and of *Fetching up Water from the bottom of it;* together with ſome Experiments already made with the former of theſe two Contrivances. The Author of the French *Journal des Scavans* found good, to inſert them both in his *Journal* of *May* 3; but in another of *May* 24. intimates, that the ſaid *Schemes* and their *Deſcriptions* are not very clear and intelligible (he means,that they were not well underſtood by *French* Readers;) propoſing alſo ſome Difficulties,relating to that Subject, and eſteemed by him neceſſary to be ſatisfied, before any uſe could be made of the ſaid Inſtruments.
>
> Upon this occaſion,the Author of theſe *Tracts* thinks fit,here to repreſent. [**228 (2H3^{v}):** NYPL, UkLoRS, CU-BANC]
>
> Firſt, That *Engliſh*-men and ſuch others, as are well verſed in the *Engliſh* tongue, find no difficulty in underſtanding the deſ=criptions of theſe *Engins*, nor in apprehending their ſtructnre, [*stet*] exhibited by the *Figures*, eſpecially if notice be taken of the E-mendation, expreſſed at the end of *Num.* 10. about the miſgra-ving the *Bended end* of the *Springing Wire*;(which it ſeems has not

been noted in *France*, though the ſaid *Num.* 10.is known to have been ſeen there a pretty while before their *Journal* of *May* 24. was publiſh't.) And as for the particular of the *Bucket*, fetching water from the bottom of the Sea, both the *Figure* and the annexed *Deſcription* thereof are ſo plain and clear, that 'tis ſome wonder here, that any difficulty of underſtanding them is pretended by any, that hath but ordinary skill in *Cutts* and the *Engliſh* language. Mean while, that way, which the *French* Author [… *continues with a critique of the article*] [**229 (2H4^{r}):** NYPL, CU-BANC]

Imprint: [*broken rule 29.8+0.5+79.5*] | Printed with License for *John Martyn*, and *James Alleſtry*, | Printers to the Royal Society. 1666. [**230 (2H4^{v}):** NYPL, IeDuTC, CU-BANC]

Copies considered: dN&S: 539.01013; **UI:** collation, fingerprint; **NYPL:** collation, fingerprint, transcription, plate faces 230 (2H4^{v}); **DLC:** collation, fingerprint; **UkLoRS:** collation, fingerprint, plate faces 215 (2G1^{r}) and is trimmed to within plate mark; **UkLoRS(D):** collation, fingerprint, title, imprint; **IeDuTC:** collation, fingerprint, title, imprint; **PU-Sp:** collation, fingerprint, title, imprint; **CU-BANC:** collation, fingerprint, title, imprint, plate, transcription, price code clipped in upper right 'pr:'; **CLU-SC:** collation, fingerprint; **CSmH:** fingerprint, head title, imprint; **CSmH(B):** fingerprint, head title, imprint; **CSmH(B.2):** fingerprint, head title, imprint.

Number 14 (Monday, July 2, 1666):

4°: 2I–2L^{4} [$1–2 signed]; 12 leaves, pp. 231–254 (245=145, 253=153); plate [*1*]
000004 - b1 2I1 gn (2I2 dium) : b2 2L2 inc [UI]

4°: 2I–2L^{4} [$1–2 signed]; 12 leaves, pp. 231–254 (245=145, 253=153); plate [*1*]
166604 - b1 2I1 g : b2 2L2 ince [NYPL, DLC, UkLoRS, UkLoRS(D), PU-Sp, CU-BANC, CLU-SC, CSmH, CSmH(B), CSmH(B.2)]

a: **Wrap-around plate:** Four compartments: '*The Figures of the Obſeruations made in London.*' figures A–I spots on Mars p. 241–2, '*The Figurs of y^{e}. Italian Obſeruations.*' figures K–P of Mars confirming the London p. 145 with aquatint background, '*The Obſeruation of Iupiter.*' figure Q p. 246 with aquatint background, '*The late Obſerv. of Saturne.*' figure R p. 247 with aquatint background, [*mixed aquatint and engraving* 206.0+x148.9–150.2 (215.0x243.8) **231 (2I1^{r}):** PU-Sp, CLU-SC] [*aquatint appears to be over the original cross-hatched shading in the background*]

b: **Throw-out plate:** Four compartments as above with punctuation changes titled: '*Tranſact:N.14th*': '*The Figures of the Obseruations made in London*,' figures A–I spots on Mars p. 241–2, '*The Figurs of y^e. Italian Obseruations.*' figures K–P of Mars confirming the London p. 145, '*The Obseruation of Iupiter.*' figure Q p. 246, '*The late Observ, of Saturne.*' figure R p. 247 , [*entirely engraved* 209.5x151.7 (211.0x321.0) **254 (2L4^v):** NYPL, UkLoRS, CU-BANC, CSmH, CSmH(B), CSmH(B.2)]

PHILOSOPHICAL | *TRANSACTIONS.* | [*rule 114.3 NYPL, broken rule 57.0+0.9+56.9 UkLoRS, IeDuTC, PU-Sp, CU-BANC*] | *Munday, July* 2. 1666. | [*rule 113.1 NYPL, broken rule 58.5+1.0+54.3 UkLoRS, IeDuTC, CU-BANC*] | [**in upper-right headline:**] *Num.* {*Num.* UkLoRS, IeDuTC, CU-BANC [*rule above small comma suggests a wrong sized comma*]} 14. |

The Contents. | *An Account of a* New *kind of* Baroſcope,*which may be call'd* Stati-|cal; *and of ſome Advantages and Conveniencies it hath above the* | Mercurial; *communicated by Mr.* Boyle. *The Particular Obſerva-|tions of the Planet* Mars,*formerly intimated to have been made by* | *Mr.*Hook *in* February *and* March *laſt. Some Obſervations,made* | *in* Italy,*confirming the former;and withall fixing the* Period *of the* | *ſaid Planet's Revolution. Obſervations, lately made at* London, | *of the Planet* Jupiter: *as alſo of* Saturn. *A Relation of a ſad Ef-|fect of Thunder and Lightning. An Account of ſome Books, lately* | *publiſh't*; videl. *The Relations of divers Curious Voyages,by Monſ.* | Thevenot: *A Diſcourſe about the Cauſe of the Inundation of the* | Nile, *by Monſ.* de la Chambre; *both* French: *De Principiis* | *& Ratiocinatione Geometrarum, Contra Faſtum Profeſſorum Geo-|metriæ, by Mr.* Hobbes: *King* Salomons *Pourtraiture of Old Age,* | *by* J. Smith, M. D. | [*rule 109.0*] |

An Account | *Of a* New *kind of* Baroſcope, *which may be called* Statical; | *and of ſome Advantages and Conveniencies it hath above* | *the* Mercurial: *Communicated, ſome while ſince, by the* | *Honourable* Robert Boyle. [**231 (2I1^r):** NYPL, UkLoRS, CU-BANC]

The Particulars. | *Of thoſe Obſervations of the Planet* Mars, *formerly intimated* | *to have been made at* London *in the Months of* February | *and* March *A.* $166\frac{5}{6}$. [**239 (2K1^r):** NYPL, UkLoRS, CU-BANC]

Obſervations | *Made in* Italy, *confirming the former, and withall fixing the* | Period *of the Revolution of* Mars. [**242 (2K2^v):** NYPL, UkLoRS, CU-BANC]

Some Obſervations | *Lately made at* London *concerning the* | *Planet* Jupiter. [**245 (2K4^r):** NYPL, UkLoRS, CU-BANC]

A late Obſervation about Saturn *made by the ſame.* [**246 (2K4^v):** NYPL, UkLoRS, CU-BANC]

A Relation | Of a ſad effect of Thunder and Lightning: [**247 (2L1^{r}):** NYPL, UkLoRS, CU-BANC]

Of ſome Books lately publiſh't. [**248 (2L1^{v}):** NYPL, UkLoRS, CU-BANC]

Imprint: [*rule 110.0*] | Printed with License for *John Martyn*,and *James Allestry*, | Printers to the Royal Society. 1666. [**254 (2L4^{v}):** NYPL, UkLoRS, PU-Sp, CU-BANC]

Copies considered: dN&S: 539.01014; **UI:** collation, fingerprint; **NYPL:** collation, fingerprint, transcription, plate facing 254 (2L4^{v}); **DLC:** collation, fingerprint; **UkLoRS:** collation, fingerprint, transcription; **UkLoRS(D):** collation, fingerprint, title, imprint; **IeDuTC:** collation, fingerprint, title, imprint, plate; **PU-Sp:** collation, fingerprint, title, imprint; **CU-BANC:** collation, fingerprint, title, imprint, plate; **CLU-SC:** collation, fingerprint, plate; **CSmH:** fingerprint, head title, imprint; **CSmH(B):** fingerprint, head title, imprint; **CSmH(B.2):** fingerprint, head title, imprint.

Number 15 (Monday, July 18, 1666):

4°: 2M4 [$1–2 signed]; 4 leaves, pp. 255–262

166604 - b1 2M1 him; : b2 2M2 newly$ [UI, NYPL, DLC, UkLoRS, UkLoRS(D), IeDuTC, PU-Sp, CU-BANC, CLU-SC, CSmH, CSmH(B), CSmH(B.2)]

PHILOSOPHICAL | *TRANSACTIONS*. | [*broken rule 57.3+0.5+57.0*] | *Wedneſday , July* 18. 1666. | [*broken rule 58.4+0.4+54.5*] | [**in upper-right headline:**] *Num.* 15. | [*rule above small comma suggests a wrong sized comma*]

The Contents. | *A new Experiment, ſhewing,How a conſiderable degree of Cold may be | ſuddently produced without the help of* Snow, Ice, Haile, Wind, *or* | Niter, *and that at any time of the year. An Account of two Books, | lately printed in* London; *whereof the one is entituled*, EU-|CLIDIS ELEMENTA GEOMETRICA,novo | ordine ac Methodo demonſtrata; *the Author* Anonymus. | *The other*, THE ENGLISH VINE-YARD VIN-|DICATED, *by* JOHN ROSE. | [*rule 115.0*] |

A new Frigorifick Experiment ſhewing, how a conſiderable | degree of Cold *may be ſuddenly produced without the help | of* Snow, Ice, Haile, Wind, *or* Niter, *and that at any | time of the year.* [**255 (2M1^{r}):** NYPL, UkLoRS, CU-BANC]

> TꝺHis ſubject will it ſelf, 'tis preſumed, without any other *Preamble*, ſpeak the Cauſe, why this preſent Paper is publiſh't at this (unuſual) time of the Month: though, by the by, it may not be amiſs to

add on this occaſion, that the Publiſher of theſe
Tracts never meant ſo to confine himſelf to a *Set* time, as not
to retain the Liberty of taking any other, when there is occa-
ſion. And there being one given him, before another Month
is come in, he does without any ſcruple or delay comply there-
with, preſenting the Curious with an Experiment which he
thinks is both ſeaſonable,and will not be unwellcome to them;
furniſh't out of the Ample Magazin of that Philoſophical *B*ene-
factor, the Noble Mr. *Boyle*; Concerning which, thus much
is further thought requiſite to intimate on this occaſion, that
it, and ſome others of the ſame Gentlemans, that have been,
and may be, mentioned in the *Tranſactions*, belong to certain
Treatiſes,the Author hath lying by him;but that yet he denys not [**255 (2M1^{r}):** NYPL, CU-BANC]
to communicate them to his Friends, and to allow them to diſ-
poſe thereof, upon a hope, that equitable Readers will be ready
to excuſe,if hereafter they ſhould appear alſo in the Treatiſes
they belong to, ſince he conſents to this Anticipation, but to
comply with thoſe,that think the imparting of real and practi-
cal Experiments, may do the Publick ſome Service, by excite-
ing and aſſiſting mens Curioſity in the interim.

As for the Experiment, you ſaw the other day at my Lodg-
ings, though it belongs to ſome Papers about *Cold*, that (you
know) could not be Publiſh't, when the reſt of the *Hiſtory* came
forth, and therefore was reſerved for the next *Edition* of that
Book; yet the Weather having been of lave very hot, and
threatning to continue ſo, I preſume, that to give you here in
compliance with your Curioſity an Account of the Main and
Practical part of the Experiment, may enable you to gratify
not onely the Curious among your Friends,but thoſe of the
Delicate, that are content to purchaſe a Coolneſs of Drinks
at a ſomewhat chargeable rate.

You may remember, that the Spring before the laſt, I ſhew'd
[… *continues to discuss a method using Sal Armoniack for cooling*] [**256 (2M1^{v}):** NYPL, CU-BANC]

258 (2M2^{v}) ff. of a smaller typeface, presumable to fit the number on one sheet.

An Account of two Books lately printed in London. [**261 (2M4^{r}):** NYPL, CU-BANC]

Imprint: [*rule 110.3*] | Printed with License for *John Martyn*,and *James Alleſtry*, | Printers to the Royal Society. 1666. [**262 (2M4^{v}):** NYPL, UkLoRS, CU-BANC]

Copies considered: dN&S: 539.01015; **UI:** collation, fingerprint; **NYPL:** collation, fingerprint, transcription; **DLC:** collation, fingerprint; **UkLoRS:** collation, fingerprint, title, imprint; **UkLoRS(D):** collation, fingerprint, title, imprint; **IeDuTC:** collation, fingerprint, title, imprint; **PU-Sp:** collation, fingerprint, title, imprint; **CU-BANC:** collation, fingerprint, title, imprint, transcription, manuscript x in margin marking line ending 'VIN-' p. 255, paragraph beginning 'Among' p. 256 l. 36; **CLU-SC:** collation, fingerprint; **CSmH:** fingerprint, head title, imprint; **CSmH(B):** fingerprint, head title, imprint; **CSmH(B.2):** fingerprint, head title, imprint.

Number 16 (Monday, August 6, 1666):

A: 4°: 2N–2Q^{4} [$1–2 signed]; 16 leaves, pp. 263–294; plate [*1*]
000004 - b1 2N1 rni : b2 2Q2 $enou [UkLoRS, PU-Sp, CU-BANC, CLU-SC, CSmH]

B: 4°: 2N–2Q^{4} [$1–2 signed]; 16 leaves, pp. 263–294; plate [*1*]
000004 - b1 2N1 hat$: b2 2Q2 ults$e [UI, NYPL, DLC, UkLoRS(D), IeDuTC, CSmH(B), CSmH(B.2)]

a: **Wrap-around plate:** Five figures in a black border: 'Figure 1.' A–G diagram of the orbit and rotation of the earth around the sun p. 269 , 'Figure 2.' A–E illustrating the orbit of the moon around the earth p. 273, 'Figure 3.' E–I illustrating the continuation p. 273, 'Figure 4.' L–O illustrating the center of gravity between the earth and moon p. 274, 'Figure 5.' A–E,S,T,a–e,ε,☌,γ,β,α,♍,♂ illustrating parallax supporting considering the earth and moon as one unit p. 288 [*engraved* 200.0–202.0×186.0–186.5 (215.0×281.0) PU-Sp, CU-BANC, CLU-SC]

b: **Throw-out plate:** Five figures as above, without border, titled '*Tranſact:N.16 th*': 'Figure 5.' printing M for ♍ above [*engraved* 192.0x180.2 (205.0x334.5+)**294 (2Q4^{v}):** NYPL; 188.9–192.0×177.2–179.0 IeDuTC, CSmH, CSmH(B), CSmH(B.2)]

c: [*same as throw-out*] **Plate:** [*engraved* 187.3×178.7 (207.0×192.6) **263 (2N1^{r}):** UkLoRS, UkLoRS(D)]

PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 57.2+0.8+56.9 {rule 112.6}*] | *Munday, Auguſt {⌣Auguſt}* 6. 1666. | [*broken rule 58.2+0.4+54.5 {rule 111.3}*] | [⌣*Ain Auguſt swashed left* **in upper-right headline:**] *Num.* 16. [*rule above small comma suggests a wrong sized comma*]

The Contents. | *An {⌣An} Eſſay of Dr.* John Wallis, {*Dr.* Wallis,} *exhibiting his* Hypotheſis *about the* | Flux and Reflux of the Sea, *taken from the Conſideration {conſideration} of the* |

Common Center of Gravity of the Earth and Moon*; toge-|ther with an* Appendix *of the ſame, containing an* Anſwer *to | ſome* Objections, *made by ſeverall Perſons againſt that* Hypo-|theſis. *Some Animadverſions {⌣Animadverſions} of the ſame* Author *upon Maſter* | Hobs's *late Book{ },* De Principiis & Rationcinatione Geome-|trarum. | [*rule 114.9 {112.2}*] [⌣*Ain An and Animadverſions left swashed*]

An Eſſay | Of Dr. John Wallis,{˄} *exhibiting his* Hypotheſis *about the* | Flux and Reflux of the Sea. [**263 (2N1r):** A=UkLoRS, CU-BANC {B=NYPL}]

H7Ow abſtruſe a ſubject in Philoſophy, the *Flux and Reflux of the Sea* hath proved hitherto{ }, and how much the ſame hath in all Ages perplexed the Minds even of the beſt of *Naturaliſts*, when they have attempted to render an Account of the Cauſe thereof{ }, is needleſs here to repreſent. It may perhaps be to more purpoſe{ }, to take notice, that all the deficiencies{ }, found in the *Theories* or *Hypotheſes*, formerly invented for that End, have not been able to deterre the Ingenious of *this* Age from making farther ſearch into that Matter: {:} Among whom that Eminent Mathematician Dr. *John Wallis*, following his happy *Genius* for advancing reall Philoſophy, hath made it a part of his later Inquiries and Studies, to contrive and deduce a certain Hypotheſis concerning that *Phænomenon*{ }, taken [**263 (2N1r):** A=UkLoRS, PU-Sp, CU-BANC {B=NYPL}] from the Conſideration of the *Common Center of Gravity of the Earth and Moon,* {*Moon*:} This being by ſeveral Learned Men lookt upon, as a very rational Notion, it was thought fit to offer it by the Preſs to the Publick, {⌣,} that other Intelligent Perſons alſo might the more conveniently and at their leiſure examine the *Conjecture* ({ }the Author, ſuch is his Modeſty{ }, preſenting it no {|} otherwiſe{ }) and thereupon give in {it} their ſense, and what Difficulties may occur to them about it, that ſo it may be either confirm'd or laid aſide accordingly; As the *Propoſer* himſelf expreſly deſires in the Diſcourſe, we now{ }, without any more *Preamble{ },* are going to ſubjoyn, as it was by him addreſſed, {⌣,} by way of Letter, from *Oxford* to Mr. *Boyle{,} April {<April}* 25.1666. and afterwards communicated to the *R. Society*{ }, as follows: {:} [<*A in April left swashed*]

Y²Ou were earneſt with me{◌}, when you laſt went from hence,
that I would put in writing ſomewhat of that{ },{ }which at {|} divers
[… *theory of tides continues*] [**264 (2N1ʳ):** A=UkLoRS, PU-Sp, CU-BANC {B=NYPL}]

An {◡An} APPENDIX, *written by way {Way} of Letter to the* Pub{|}liſher;{,} | *Being an Anſwer to ſome Objections, made by ſeveral {|} Perſons{ }, to* | *the precedent Diſcourſe.* [**281 (2P2ʳ):** A=UkLoRS, CU-BANC {B=NYPL}]

I² Received yours;{;} and am very well contented, that *objecti-*
ons be made againſt my *Hypotheſis* concerning *Tydes*: being [**281 (2P2ʳ):** A=UkLoRS, CU-BANC {B=NYPL}]
propoſed but as a conjecture to be examined; and,{ˬ} upon that
Examination, rectified{ }, if there be occaſion;{;} or rejected, if it
will not hold water.
[… *five objections addressed one after the other*] [**282 (2P2ᵛ):** A=UkLoRS, CU-BANC {B=NYPL}]

ANIMADVERSIONS {◡ANIMADVERSIONS} | *Of Dr.* Wallis, *upon Mr.* Hobs's{*s*} *late Book*{ }, De Principiis & | Ratiocinatione Geometrarum. [◡*Ain ANIMADVERSIONS swashed left*, **289 (2Q2ʳ):** A=UkLoRS, CU-BANC {B=NYPL}]

Smaller face from p. 293 (2Q4ʳ) {p. 292 (2Q3ᵛ): NYPL} onward, presumably to fit the sheet (PU-Sp, CU-BANC too).

Imprint: [*rule 110.5 {114.2}*] | Printed with Licenſe for *John Martyn*, and *James Alleſtry*, | Printers to the Royal Society. [**294 (2Q4ᵛ):** A=UkLoRS, PU-Sp, CU-BANC {B=NYPL, UkLoRS(D)}]

Copies considered: dN&S: 539.01016; **UI:** collation, fingerprint; **NYPL:** collation, fingerprint, transcription, plate facing 294 (2Q4ᵛ); **DLC:** collation, fingerprint; **UkLoRS:** collation, fingerprint, transcription, plate; **UkLoRS(D):** collation, fingerprint, title, imprint; **IeDuTC:** collation, fingerprint, title, imprint; **PU-Sp:** collation, fingerprint, title, imprint; **CU-BANC:** collation, fingerprint, transcription, plate; **CLU-SC:** collation, fingerprint, plate with ℳ corrected to m in manuscript; **CSmH:** fingerprint, head title, imprint; **CSmH(B):** fingerprint, head title, imprint; **CSmH(B.2):** fingerprint, head title, imprint.

Number 17 (Monday, September 9, 1666):

A.1: 4°: R–S⁴ [$1–2 (+S3) signed]; 8 leaves, pp. 295–310
166604 - b1 R1 e : b2 S3 $al [UI, UkLoRS, PU-Sp, CLU-SC, CSmH]

A.2: 4°: R–S⁴ [$1–2 (+S3) signed, R1=2R1]; 8 leaves, pp. 295–310

166604 - b1 R1 re$: b2 S3 $al [rNHS, NYPL, DLC, UkLoRS(D), IeDuTC, CU-BANC, CSmH(B), CSmH(B.2) probably a state based on R1=2R1 in this one: optical collation of R1 between CSmH, CSmH(B), and CSmH(B.2) confirms this!]

PHILOSOPHICAL | *TRANSACTIONS*. | [*broken rule 57.1+0.7+56.8*] | *Munday Septemb*. 9. 1666. | [*broken rule 58.1+0.7+54.4*] | [**in upper-right headline:**] *Num*. 17 | [*rule above small comma suggests a wrong sized comma*]

The Contents. | *Obſervations made in ſeveral places (at* London, Madrid *and* | Paris,) *of the late* Eclipſe of the Sun, *which hapned* June 22. | 1666. *Some Enquiries and Directions, concerning* Tides, *pro-|poſed by Dr*. Wallis. *Conſiderations and Enquiries touching the | ſame Argument, ſuggeſted by Sir* Robert Moray. *An Account | of ſeveral Books lately publiſh't: Vid*. 1. Johannis Hevelii De-|ſcriptio Cometæ,*A*. 1665. *exorti*; *una cum* Mantiſſa Prodro-|mi Cometici. 2. Iſaacus Voſſius de Nili & aliorum Flumi-|num Origine. 3. Le Diſcernement du Corps & de l'Ame,| *par Monſieur de* Cordemoy. | [*rule 114.7*] |

Obſervations made in ſeveral places, Of the late *Eclipſe of | the Sun,* which hapned on the 22 of *June*, 1666. [**295 (2R1^{r}):** NYPL, UkLoRS, CU-BANC]

Some Inquiries and Directions concerning Tides, *propoſed by Dr*. | Wallis, *for the proving of diſproving of his lately publiſh't* | Diſcourſe *concerning them.* [**297 (2R2^{r}):** NYPL, UkLoRS, CU-BANC]

Conſiderations and Enquiries concerning Tides, *by Sir* Robert | Moray; *likewiſe for a further ſearch into* Dr. Wallis's *newly* | *publiſh't* Hypotheſis. [**298 (2R2^{v}):** NYPL, UkLoRS, CU-BANC]

An Account | Of ſeveral Books lately publiſhed. [**301 (2R4^{r}):** NYPL, UkLoRS, CU-BANC]

Errata: [*broken rule 57.8+1.9+49.3*] | *Advertiſement*. [**310 (S4^{v}):** NYPL, UkLoRS, CU-BANC]

> The following *Errata,* left by the *Preſs* in *Num*.16, the *Reader* is de-
> ſired thus to correct.
> P²Age 269. lin. 27. read, *motion of B. above the Center*; *G. is alſo*, vvith a *Semi-colon*
> after the vvord *Center*. p. 274. l. 13, r. *it to do to the*. p. 277. l.24 r. *natural days*.
> p.281. l. 16. r. *of his*. ib.l.27.r. *a notion*. p.293. l. 4. r *enough without*. ib. l. 43. r. *to the*
> *Sine of*. p.294 l. 1. r. *to the Sine of*. [**310 (S4^{v}):** NYPL, UkLoRS, CU-BANC]

Imprint: [*rule 108.4*] | *LONDON,* | Printed for *John Martin* and *James Aleſtry*, | Printers to the Royal Society. 1666. [**310 (S4^{r}):** NYPL, UkLoRS, PU-Sp, CU-BANC]

Copies considered: dN&S: 539.01017; **UI:** collation, fingerprint; **NYPL:** collation, fingerprint, transcription; **DLC:** collation, fingerprint; **UkLoRS:** collation, fingerprint, transcription;

UkLoRS(D): collation, fingerprint, title, imprint; **IeDuTC:** collation, fingerprint, title, imprint; **PU-Sp:** collation, fingerprint, title, imprint; **CU-BANC:** collation, fingerprint, transcription; **CLU-SC:** collation, fingerprint; **CSmH:** fingerprint, head title, imprint; **CSmH(B):** fingerprint, head title, imprint; **CSmH(B.2):** fingerprint, head title, imprint.

Number 18 (Monday, October 22, 1666):

A: 4^{o}: T–V^{4} X^{2} [$1–2 (-X2 +V3) signed]; 10 leaves, pp. 311–313 [314] 315–328; plate [relief, *1*]
166604 - b1 T1 w : b2 X1 $
Pp. 315–319, 322, 324–327 in brackets [UI, UkLoRS, PU-Sp, CU-BANC, CLU-SC, CSmH]

B: 4^{o}: T–V^{4} X^{2} [$1–2 (-X2 +V3) signed]; 10 leaves, pp. 311–313 [314] 315–328 [*2*]; plate [relief, *1*]
000004 - b1 T1 r : b2 X1 a
All pages in parentheses, X2 blank, nothing contradicts the relief plate and X^{2} being conjugate [NYPL, DLC, UkLoRS(D), IeDuTC, rNHS, CSmH(B), CSmH(B.2)]

[*Upper right:*] Num. 18 {[*lacks this numeration*]} | PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 81.0+0.3+31.6 {73.3+0.5+35.2}*] | *Munday October* {*October.*} 22. 1666. | [*broken rule 67.5+0.3+43.9 {72.3+1.0+36.2}*] |

The Contents. | Patternes {Patterns} *of the* Tables *propoſed to be made for* Obſerving of | Tides,{;} *promiſed in the next foregoing* Tranſactions. *Other* | Inquiries *touching the Sea. Some Conſiderations touching the* | Parenchymous *parts of the Body. Obſer¬vables concerning* Petri-|fication. *A Relation from* Paris,{◌,} *of a kind of* Worms,{◌,} *that* | *eat out Stones. Some promiſcuous Obſer¬vations made in* Somerſet-|ſhire. *A Problem for finding the Year of the* Julian Period,{◌,} *by* | *a new and ¬very eaſie Method. An Account of ſome Books, not* | *long ſince publiſh'd: which are,{◌,}* 1. Tentamina Phyſico-The-|ologica de Deo,* authore *Samuele Parkero. 2. Honorati Fa-|bri Tractatus duo; Prior,{◌,} de Plantis & {et} de Generatione Ani-|malium; Poſterios, de Homine. 3. Relation du Voyage* | *de l' Eueſque {Eveſque} de Beryte, par la Turquie, la Perſe, les Indes,* | *&c.* par Monſieur de* Bourges. | [*broken rule 70.0+1.4+41.2 {61.0+0.9+48.5}*] |

Patternes {Patterns} | *Of the* Tables *propoſed to be made for* Obſerving of Tides, *pro-|miſed in the next foregoing* Tranſactions; *by Sr. {Sir}* Rob. Moray. [**311 (T1^{r}):** A=UkLoRS, PU-Sp, CU-BANC {B=NYPL, UkLoRS(D)}]

[*Blank*] [**314 (T^{v}):** CU-BANC, rNHS]

Two-sided plate: recto: example table for '1666. | *Sept.*' (i.e. 'The *Firſt Table*' p. 312 l. 10), verso: '*A Perpendicular Line di-vided into* Signes,{ }*ſuppoſed to be the* Periods | *of the Riſings and Fallings of the Tides,{◌,} as is in the other Table | repreſented.*' (i.e. 'The *other* Table p. 312 l. 24) [*two-sided letterpress* 209.4x313+ **facing 314 (T2^{v}):** A=UkLoRS, PU-Sp, CU-BANC {B=NYPL, UkLoRS(D), IeDuTC}]

Other Inquiries Concerning the Sea. [**315 (T3^{r}):** NYPL, UkLoRS, UkLoRS(D), CU-BANC]

The width of marginal note is 62.2 in A=CSmH B=CSmH(B), CSmH(B.2) and the dropped letter e in 'Boyle' and comma on the first line suggests the use of a fixed measure for this note.

> The *Publiſher* of theſe *Tracts*{,} knowing,{◌,} that the Honorable *Robert Boyle* had not left unconſidered the Natural Hiſtory of the *Sea*,{◌,} of which Subject the late,{◌,} and theſe preſent Papers,{◌,} have entertained the *Reader* as to the Obſervables of its *Flux and* {and} *Reflux*; He was, on this occaſion,{ˆ} inſtant{,} with that Gentleman to impart to him, for publication, theſe Heads of Inquiries, he had drawn up,{◌,} touching that Subject: Which having obtained (though the *Author* deſires, they may be lookt upon as unfiniſht) he thus ſubjoynes.
> [… *queries about the sea*] [**315 (T3^{r}):** A=UkLoRS, CU-BANC {B=NYPL, UkLoRS(D)}]

Some Conſiderations | Concerning the Parenchymous *parts of the Body.* [**316 (T3^{v}):** NYPL, UkLoRS, CU-BANC]

Obſervables{.} | Touching Petrification. [**320 (V1^{v}):** A=UkLoRS, CU-BANC {B=NYPL}]

A {A} Relation | Of a kind of Worms,{ˆ} *that eat out Stones.* [**321 (V2^{r}):** A=UkLoRS, CU-BANC {B=NYPL, UkLoRS(D),rNHS}]

> This is taken out of a Letter{ }, written by one *M. de la Voye* to M.{*M.*} *Auzeut{ },* to be found in the 32. *Journal des Scavans*; as follows.
> I²N a great and very ancient Wall of Free-Stone in the *Benedictins Abby* at *Caen* in *Normandy*{ }, facing Southward, there are to be found many Stones
> [… *description continues*] [**321 (V2^{r}):** A=UkLoRS, CU-BANC {B=NYPL}]
> [… *continuation*]
> that point to range them, and to form their Shells of them. They have Ten Eyes, very black and round, which appear to be bigger than a Pins-head.
> There are five of them on each ſide of the head, ſtanding after this manner{,}

o o
o o o o
o o
o o

But beſides theſe Worms, I have found; that *Mortar* is eaten by an infinit{e}
[… *description continues*] [**322 (V2^{v}):** A=UkLoRS, CU-BANC {B=NYPL, UkLoRS(D)}]

Some promiſcuous Obſervations, made in Somerſet-ſhire {Somerſet ſhire}, *and* | *imparted by the abo-ve-mention'd {above-mentioned} Dr.* Beale. [**323 (V3^{r}):** A=UkLoRS, CU-BANC {B=NYPL, UkLoRS(D)}]

Sidenote 45.0 in A=CSmH, but 49.3 in B=CSmH(B), CSmH(B.2) suggesting a measured based on the lines, which match word for word, cf. the earlier shoulder note suggests that the compositor's stick is tall enough for this one, but not the other.

A Problem | *For finding the Year of the* Julian Period *by a new and ¬very eaſie* | *Method.* [**324 (V3^{v}):** A=UkLoRS, CU-BANC {B=NYPL, UkLoRS(D)}]

An Account | *Of ſome Books, {An Account of ſome Books,} not long ſince publiſhed.* [**324 (V3^{v}):** A=UkLoRS, CU-BANC {B=NYPL, UkLoRS(D), rNHS}]

Imprint: [*rule 111.2*] | LONDON, | Printed for *John Crook* in *Duck-Lane* neer | *Little-Britain*. 1666. [*broken rule 66.3+1.0+46.0*] [**328 (X1^{v}):** A=UkLoRS, PU-Sp, CU-BANC]

{[*broken rule 73.0+1.5+38.1*] | *London,* Printed by *T. R.* for *John Martin,* Printer to | the *Royal Society,* and are to be ſold at the *Bell* a little | without *Temple-Bar* [*no rule*]} [**328 (X1^{v}):** B=NYPL, UkLoRS(D)}]

[*Blank*] [**329–330 (X2^{r}–X2^{v}):** A=PU-Sp, CU-BANC, CLU-SC {B=NYPL IeDuTC}]

Copies considered: dN&S: A=539.01018B, B=539.01018A but unnumbered (some numbered in pen); **UI:** collation, fingerprint; **NYPL:** collation, fingerprint, transcription, relief plate bound as inner bifolium of gathering X, '*Numb*.18.' in manuscript in upper-right headline of 311 (T1^{r}); **DLC:** collation, fingerprint; **UkLoRS:** collation, fingerprint, transcription; **UkLoRS(D):** collation, fingerprint, transcription, '*Numb*.18.' in manuscript in upper-right headline of 311 (T1^{r}); **IeDuTC:** collation, fingerprint, title, imprint, relief plate bound between X1.2; **PU-Sp:** collation, fingerprint, title, imprint; **CU-BANC:** collation, fingerprint, transcription, price in upper right corner of p. 311 'pll[*?*]: 6^{d},' manuscript marginal notes 'H: F.' p. 311 l. 10 of contents for Honorati Famalium, paragraph beginning 'Theſe were' p. 316 l. 14, paragraph beginning 'But beſides'; **CLU-SC:** collation, fingerprint; **CSmH:** fingerprint, head title, imprint; **CSmH(B):** fingerprint, head title, imprint; **CSmH(B.2):** fingerprint, head title, imprint.

Number 19 (Monday, November 19, 1666):

A: 4°: 2Y–2Z⁴ 2Z*⁴ [$1–2 signed]; 12 leaves, pp. 329–352

000004 - b1 2Y1 ,$a : b2 2Z*2 ′.9″.to$1

Pp. 350, 344, 336 in brackets [UI, DLC, UkLoRS, PU-Sp, CU-BANC, CLU-SC, CSmH, CSmH(B.2)]

B: 4°: 2Y–2Z⁴ 2Z*⁴ [$1–2 signed]; 12 leaves, pp. 329–352

000004 - b1 2Y1 nd$: b2 2Z*2 o$16′.$22″

Page numbers in parentheses [NYPL, UkLoRS(D), IeDuTC, CSmH(B)]

PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 56.8+56.0 {52.0+0.6+57.6}*] | *Munday {Monday} November* 19. 1666. | [*broken rule 60.9+1.0+49.8 {55.6+0.5+54.2}*] | [**in upper-right headline:**] *Numb.* 19. |

The Contents. | *An Addition to the Inſtances of* Petrification,*formerly enumerated.* | *Articles of* Inquiries *concerning* Mines; *as, to the neighbouring* | *Countrey about them*; *the Soyl where they are*; *the Signs of them{ };* | *the Structure and other particulars belonging to the Mines {* Mines *} them-|ſelves;{;} the Nature and Circumſtances of* Ore; *and the Redu-|ction of* Ore *into* Metal. *Promiſcuous* Inquiries *formerly re-|commended to Mounſieur* Heuelius {Huelius}, *particularly about* Cold; | *together with his own, and his Correſpondents* Anſwer *to ſome of* | *them. The ſucceſs of the Experiments of Trasfuſing the Blood* | *of one Animal into another.* |

An Additon to the Inſtances *of* Petrification, | *enumerated in the laſt of theſe* Papers. [**329 (2Y1ʳ):** A=UkLoRS, PU-Sp, CU-BANC {B=NYPL, UkLoRS(D)}]

This Inſtance* w*as* ſome while ſince communicated*
to the Royal Society *by that Ingenious Gentleman*
Mr. Philip Packer, *a worthy Member of that*
Body; *in theſe words*;

OʃN a Bank in a Cloſe of Mr. *Purefoy*, {*Purefor*,} neer his houſe,{○,} [*O is woodcut initial*]

[… *description continues*] [**329 (2Y1ʳ):** A=UkLoRS, PU-Sp, CU-BANC {B=NYPL, UkLoRS(D)}]

Articles of Inquiries touching Mines. [**330 (2Y1ᵛ):** NYPL, UkLoRS, UkLoRS(D), CU-BANC]

What the Honourable *Robert Boyle* gave the Reader cauſe to
hope for, {○}in *Numb.* {○}11. when he was pleaſed to impart thoſe *General* Heads for a Natural Hiſtory of a Country, {○}*there* publiſh'd;
He is not un-mindful {unmindful} to perform,{○,} by enlarging them as occaſion

ſerves,{ }with *Particular* and *Subordinate* {*particular* and *ſubordinate*} Inquiries. Here he grati- fies {gra-|tifies} the Curious with a conſiderable Set of Inquiries about *Mines:* which though unfiniſh'd, yet the *Publiſher*, was inſtant to obtain their preſent publication,to the end, {,○}that he might the more conveniently recommend them to ſeveralForreigners { forreigners} of {|} his Acquaintance, {○,○}now ready to return to their ſeveral Countryes, which {Coun-|tries,which} he underſtands to abound in Mines; and from the {|} Curi- ous Inhabitants whereof, {,○}he expects to receive a good Accompt {ac-|compt} upon ſome at leaſt of theſe Inquiries; which alſo by ſeveral {ſe-|veral} of them have been earneſtly deſired, {,○}as Inſtructions, to direct them, {di-|rect them,} what Particulars to inquire after upon this Subject.

Theſe Quæries {*Quæries*} are reduced by the *Author* to ſix Heads:

[… *queries outlined and given*] [**330 (2Y^{v}):** A=UkLoRS, CU-BANC {B=NYPL, UkLoRS(D)}]

Promiſcuous Inquiries about Mines, from the | ſame Author. {the ſame Au-|thour}. [**342 (2Z3^{v}):** A=UkLoRS, CU-BANC {B=NYPL, UkLoRS(D)}]

Promiſcuous Inquiries, *chiefly about* Cold, *for-|merly ſent {|} and recommended to Monſieur* | Heuelius {Huelius}; *together with has {|} Anſwer return'd | to ſome of them.* [**344 (2Z4^{v}):** A=UkLoRS, CU-BANC {B=NYPL, UkLoRS(D)}]

A conſiderable piece of the grand Deſign of the Modern *Ex-perimental* Philoſophers being, {○}to procure and accumulate Mate- rials {Ma-|terials} for a good Natural Hiſtory{○}, whence to raiſe in progreſs {|} of time a ſolid Structure {ſtructure} of Philoſophy{}; all poſſible Endevours {endevours |} are uſed in *England*, {○,○}to ſend abroad and recommend to as many {|} of Forreign parts, {○,○}as there is opportunity, {○,○}*Directions* for ſearch- ing into the Operations of Nature{○}, and for obſerving what oc- curs therein{○}, aſwell as in Mechanical operations and practiſes.

Several Heads of that kind have been already publiſh'd for this purpoſe in ſeveral of the former Tracts; {;} to which{○}, as we have added, in this{○}, the *Quæries* about *Mines*, ſo we ſhall ſub- joyn thoſe,{˛} that were not long ſince committeed to the care of that Excellent Promoter of Aſtronomy and Philoſophy, Monſieur *Heuelius*, {*Huelius*○,} Conſul of *Dantzick*; {;} who demonſtrates ſo much zeal for the advancement of real knowledge{○}, that he not only improves and promotes it by his own Studies, {○,○}but labours alſo to incite others to do the like; {;} having already warmed ma- ny {| many} of the Northern Climate, {○,○}particularly *Poland, {○}Pruſſe{Pruße}, {○}Li-vo-*

nia{○}, Sweden and *Denmark*, into a diſpoſition to be ſtudious and
active in inquiring after ſuch particulars concerning Philoſophy,
{Philoſo-|phy○,} as are recommended from hence, {○,○}and rendred them, {○,○}very {|} willing to employ themſelves in things of that nature.

The Inquiries ſent to Dantzick, *are theſe*;

1. What Signior *Burattini (*{(}an *Italian* Gentleman{○}, Maſter of

[… *queries continue*] [**344 (2Z4^{v}):** A=UkLoRS, CU-BANC {B=NYPL}]

The Succeſs {Secceß} of the Experiment of Tranſfuſing the Bloud {Blood} of one | Ani{-|}mal into another. [**352 (2Z*4^{v}):** A=UkLoRS, CU-BANC {B=NYPL, UkLoRS(D)}]

Errata: *Errata* to be corrected in Number 18. [**352 (2Z*4^{v}):** UkLoRS NYPL UkLoRS(D) CU-BANC]

Pag. {Page} 311. line 18. read *marked*. p. 312. l. 35. r. *Sines*. 16. l. penult. *Sines*. p. 113.l.{˄}
13 r. *Sines*. p. 316. l 26. 1. *that* for *if*. [**352 (2Z*4^{v}):** A=UkLoRS, CU-BANC {B=NYPL, UkLoRS(D)}]

Imprint: [*broken rule 55.5+0.2+56.8*] | *London*, Printed for *John Crook* neer the *Blew-Anchor* | in *Ducklane*; and *Moſe Pits* at the *White-Hart* | in *Little-Britain*. [**352 (2Z*4^{v}):** A=UkLoRS, PU-Sp, CU-BANC]

{[*broken rule 61.5+0.9+49.1*] | *London*, by *T. R.* for *John Martyn*. Printer to | the *Royal Society*,and are to be ſold at the *Bell* a little | without *Temple-Bar*.} [**352 (2Z*4^{v}):** {B=NYPL, UkLoRS(D), IeDuTC}]

Copies considered: dN&S: A=539.01019B, B=539.01019A; **UI:** collation, fingerprint; **NYPL:** collation, fingerprint, transcription; **DLC:** collation, fingerprint; **UkLoRS:** collation, fingerprint, transcription; **UkLoRS(D):** collation, fingerprint, transcription; **IeDuTC:** collation, fingerprint, title, imprint; **PU-Sp:** collation, fingerprint, title, imprint, 'pr: 6^{d}' on t.p; **CU-BANC:** collation, fingerprint, transcription, remnant of price(?) on t.p., markings in margin indicating 6th inquiry p. 345 l. 15, the line beginning 'with him' p. 346, l. 36, the 3rd paper p. 350 l. 13; **CLU-SC:** collation, fingerprint; **CSmH:** fingerprint, head title, imprint; **CSmH(B):** fingerprint, head title, imprint; **CSmH(B.2):** fingerprint, head title, imprint.

Number 20 (Monday, December 17, 1666):

A: 4^{o}: 3A–3B^{4} [$1–2 signed]; 8 leaves, pp. 353–367 [368]

000004 - b1 3A1 $be : b2 3B2 e$hole, [UkLoRS, UI, PU-Sp, CU-BANC, CLU-SC, CSmH]

B: 4°: 3A–3B⁴ [$1–2 signed]; 8 leaves, pp. 353–367 [368]

000004 - b1 3A1 sfu : b2 3B2 e,$whe [NYPL, DLC, UkLoRS(D), IeDuTC, CSmH(B), CSmH(B.2)]

PHILOSOPHICAL | *TRANSACTIONS.* | [*broken rule 49.4+0.8+60.6 {rule 109.7}*] | *Munday December* 17. 1666. | [*rule 111.6 {broken rule 74.2+0.9+37.4}*] | [**in upper-right headline:**] *Numb.* 20. |

The Contents. | *The Method obſerved in* Transfuſing the Bloud out of one live | Animal into another: *And how this Experiment is like to be im-|proved. Some Conſiderations concerning the ſame. An Accompt | of ſome Sanative {Sanative} Waters in* Herefordſhire. *A farther Accompt | of the* Vitriolate *Water mention'd* Numb. 18. *together with | ſome other particulars touching Waters. Inquiries for* Tur-|ky. *An Obſervation about OptickGlaſſes made of RockCry-|ſtal, communicated from* Italy. *A Relation of the Uſe of the | Grain of* Kermes *for* Coloration, *from* France. *An Accompt | of ſome Books lately publiſht*, vid.{ }1. *PINAX Rerum Naturalium | BRITANNICARUM, continens VEGETABILIA, {○}ANIMA{-|}LIA | & Foſſilia ANGLIÆ, inchoatus*;* {;} Auth.* Chriſtophoro {|} Mer-|ret, {Merret,} *M. D.* 2. *PLACITA PHILOSOPHICA {PHYLOSOPHICA}* Guarini. | 3. *GUSTUS ORGANUM per* Laurentium Bellini *deprehen-|ſum.* |

The Method obſerved in *Transfuſing the | Bloud out of one Animal into another.* [**353 (3A1ʳ):** A=UkLoRS, PU-Sp, CU-BANC {B=NYPL, UkLoRS(D)}]

> T⁴His {T²His} Method was promiſed in the laſt {laſt} of theſe Papers. It [*'ſt' not ligatured in A*] was firſt practiſed by Doctor {Dr.} *Lower* in *Oxford*, and by him communicated to the Honourable *Robert Boyle, {Boyl,}* who im-parted {|} it to the *Royal Society*, as follows;
>
> Firſt, Take up the *Carotidal* Artery of the Dog or other
>
> [… *description continues*] [**353 (3A1ʳ):** A=UkLoRS, CU-BANC {B=NYPL, UkLoRS(D)}]

Note. [**358 (3A3ᵛ):** NYPL, UkLoRS, CU-BANC]

> *In the laſt* Tranſactions *was alſo promiſed an Accompt by the next, of Monſieur* Hevelius *has accurate Calcul. {Calcul.} of the late* Solar Eclipſes,*Duration, {○}Quantity, &c. But this being to be accompanyed with a* Scheme, *the* Graving *whereof met with a diſappointment, it muſt be ſtill referred to another Opportunity.* [**358 (3A3ᵛ):** A=UkLoRS, CU-BANC {B=NYPL, UkLoRS(D)}]

An account {Accompt} of ſome Sanative Waters {Sanative-waters} in | Herefordſhire. [**358 (3A3ᵛ):** A=UkLoRS, CU-BANC {B=NYPL, UkLoRS(D)}]

This account was communicated by Dr. *B.* in theſe words. [… *account continues*] [**358 (3A3^{v}):** CU-BANC, rNHS]

A farther Accompt of the Vitriolate-water, | *mention'd* Num. 18 p. 323. *Together with* | *ſome other Particulars {particulars} touching Waters. {waters.}* [**359 (3A4^{r}):** A=UkLoRS, CU-BANC {B=NYPL, UkLoRS(D)}]

This comes from the ſame hand as follows; [… *account continues*] [**359 (3A4^{r}):** CU-BANC, rNHS]

Inquiries for Turky. [**360 (3A4^{v}):** NYPL, UkLoRS, UkLoRS(D)]

Though many Relations and Deſcriptions of *Turkey* be extant
in Print, {◌}yet they leave in many a deſire of {of a} fuller information {|} in
the following particulars, lately drawn up, for the moſt part {|} by
Mr. *H.* and recommended to an Ingenious Gentleman, {|} bound
for that Country; {;} and deſired alſo to be taken notice {|} off {of} by
others, that may have occaſion to viſit the ſame.
[… *queries continue*] [**360 (3A4^{v}):** A=CU-BANC {B=rNHS}]

An Obſervation of Optick Glaſſes,{˛} made of | Rock-Cryſtal. {Rock-Chryſtal.} [**362 (3B1^{v}):** A=UkLoRS, CU-BANC {B=NYPL, rNHS}]

This is contained in a Letter, of *Euſtachio Divini,* Printed in
Italian at *Rome*, as the 39. *Journal des Scavans* extracts it; *vid.*
Though it be commonly believed, that *RockCryſtal* {*RockChriſtal*} is not fit
[… *extract continues*] [**362 (3B1^{v}):** A=UkLoRS,CU-BANC {B=NYPL, UkLoRS(D)}]

An accompt {Accompt} of the Uſe of the Grain of Kermes | *for Coloration.* [**362 (3B1^{v}):** NYPL, UkLoRS, UkLoRS(D), CU-BANC]

This was communicated by the Ingenious Dr. *Croon*, {◌}as he re-
ceived it from one,{˛} Monſieur *Verny*, a *French* Apothecary at
Montpelier; who having deſcribed the Grain of *Kermes,* to be
[… *description continues*] [**362 (3B1^{v}):** A=UkLoRS, CU-BANC {B=NYPL, UkLoRS(D)}]

An Account of ſome Books lately publiſhed. [**364 (3B2^{v}):** NYPL, UkLoRS, CU-BANC]

Errata: *Correct in Numb. {Number.}* 19. [**367 (3B4^{r}):** A=UkLoRS, CU-BANC {B=NYPL, UkLoRS(D)}]
Pag. {Page,} 342. lin. {line,} 33. read *mixt Ores*{,} in ſtead of, *mixt with Ores*. [**367 (3B4^{r}):** A=UkLoRS {B=NYPL, UkLoRS(D)}]

Errata: *Correct in this preſent Numb. 20.* [**367 (3B4^{r}):** A=UkLoRS, CU-BANC {B=NYPL, UkLoRS(D), CSmH(B), CSmH(B.2) absent entirely}]

The absence of the errata for this number in the Martin imprint along with the correction being made in the text demonstrates that Moses Pitt printed this first, perhaps being secure after the London fire.

> Page 359. line 13. Read *Marle* for *Pearle*. {[*absent from B entirely*]}

Imprint: [*Rule 113.4 {109.9}*] | *London*, Printed for *Moſes Pitt* at the *White-*|*Hart* in *Little-Britain*. {*John Martin*, Printer to the *Royal* | *Society*, and are to be ſold at the *Bell* a little without | *Temple-Bar*.} [**367 (3B4^{r}):** A=UkLoRS, PU-Sp, CU-BANC {B=NYPL, UkLoRS(D)}]

[*blank*] [**368 (3B4^{v}):** NYPL, UkLoRS, UkLoRS(D), CU-BANC]

Copies considered: dN&S: A=539.01020B, B=539.01020A; **UI:** collation, fingerprint; **NYPL:** collation, fingerprint, transcription; **DLC:** collation, fingerprint; **UkLoRS:** collation, fingerprint, transcription; **UkLoRS(D):** collation, fingerprint, transcription; **IeDuTC:** collation, fingerprint, title, imprint; **PU-Sp:** collation, fingerprint, title, imprint; **CU-BANC:** collation, fingerprint, transcription, manuscript abbreviation in margin '*PRN:B*' marking printed '*PINAX Rerum Naturalium* | *BRITANNICARUM*' p. 353 l. 14, manuscript '*G O.*' marking printed '*GUSTUS ORGANUM*'; **CSmH:** fingerprint, head title, imprint; **CSmH(B):** fingerprint, head title, imprint; **CSmH(B.2):** fingerprint, head title, imprint.

Number 21 (Monday, January 21, 166$\frac{6}{7}$):

4^{o}: 3C–3D^{4} [$1–2 signed]; 8 leaves, pp. 369—384; plate [*1*]

166704 - b1 3C1 $Publ : b2 3D2 g$a$clo [UI, NYPL, DLC, UkLoRS, UkLoRS(D), IeDuTC, PU-Sp, CU-BANC, CLU-SC, CSmH, CSmH(B), CSmH(B.2)]

a.1: **Plate:** Diagrams of solar and lunar eclipses labeled with six 'A's, two 'B's and a 'C': '*Eclipsis Solaris* Gedani. | *Anno 1666 Die 2 Iulii. S.n. ante m. obſervata*. | *à Johanne Hevelio*. | A A' , '*Phaſes Creſcentes* | *AA* | *Phases Decrescentes* | *A A' ,* 'Eclipsis Lunæ obſeruata* | Gedani . | *Anno 1666, Die ☿ 16 Iunii. St. n.* | *à Johanne Hevelio.* | B' , 'C' iron pot for melting Swedish stone p. 376 , [*engraved* 253.2×282.8–285.0 (306.0+x316.5+) **369 (3C1^{r}):** UkLoRS, PU-Sp, CLU-SC, CSmH]

a.2: **Plate:** Diagrams of solar and lunar eclipses as above captioned in upper-right: '№. 12' [*engraved* CU-BANC]

a.3: **Throw-out plate:** Diagrams of solar and lunar eclipses as above captioned in upper-right: '№. 21' [*engraved* 252.2x280.5+ (267.2x431.2+) **369 (3C1^{r}):** NYPL, UkLoRS(D), IeDuTC, CSmH(B), CSmH(B.2)]

Optical collation between a.1=CSmH and a.3=CSmH(B), CSmH(B.2) confirms the same plate, even the hashing matches.

PHILOSOPHICAL | TRANSACTIONS. | [*broken rule 53.2+0.5+58.1*] | *Munday, January* 21. 1666. | [*broken rule 62.5+0.6+48.2*] | [**in upper-right headline:**] *Numb.* 21. |

The Contents. | *An Account, formerly promiſed, of Monſieur* Hevelius's *Calculation* | *of the late* Solar Eclipſe's *Quantity, Duration, &c. The Figure* | *of the Star in the Conſtellation of* Cygnus, *together with the New* | *Star in it, diſcovered ſome years ago, and very lately ſeen again by* | *the ſame Mr.* Hevelius. *An Extract of a Letter, written by Mr.* | Auzout, *concerning a way of his, for taking the* Diameters *of the* | *Planets, and for knowing the* Parallax *of the* Moon: *Giving alſo* | *a Reaſon, why in the* Solar Eclipſe *above-mentioned, the* Diameter | *of the* Moon *did increaſe about the end. A Relation of the loſs of* | *the Way to prepare the* Bononian Stone *for ſhining. A Deſcription* | *of a* Swediſh Stone, *affording* Sulphur, Vitriol, Allum, *and* Mi-|nium. *A Relation of the Raining of Aſhes. An Extract of a Let-*|*ter from* Rome, *rectifying the Relation of* Salamanders *living in* | *Fire.An Account of ſeveral Engagements for* Obſerving of Tydes. | *Some Suggeſtions for Remedies againſt Cold. A Relation of an un-*|*common Accident in two Aged Perſons. An Account of Two Books*, | I. ISMAELIS BULLIALDI ad Aſtronomos Monita | duo: Primum, de Stella Nova, in *Collo Ceti* ante aliquot annos | viſa. Alterum, de Nebuloſa Stella in *Andromedæ* Cinguli parte | *Borea*, ante biennium iterum ortâ. II. ENTRETIENS | ſur les vies & ſur les Ouvrages des plus excellens Peintres, | antients & moderns, par M. FELIBIEN. | [*rule 110.1*] |

Monſieur *Hevelius*'s Calculation of the late *Solar* | *Eclipſe's* Quantity, Duration, *&c.* [**368 (3C1^{r}):** NYPL, UkLoRS, CU-BANC]

> T^{2}His *Calculus* was not long ſince communicated by Monſieur
> *Hevelius* in a Letter to the *Publiſher*, as follows, [**369 (3C1^{r}):** NYPL, UkLoRS, CU-BANC]
>
> *Eclipſis Solaris.*
>
> *Obſervata An.* 1666. *D.* 2. *Julii, St. N. Mane, à Johanne Hevelio.*
>
> [… *table follows*] [**370 (3C1^{v}):** NYPL, UkLoRS]
>
> [… *table continues*]

This Obſervation is by the ſame *Aſtronomer,* repreſented alſo
by the *Figures AAAAAA*; as that of the *Horizontal Eclipſe*
of the *Moon*, is, by the *Figures BB.* [**371 (3C2^{r}):** NYPL, UkLoRS, CU-BANC]

The Figure of the Stars in the Conſtellation of Cygnus; *together* | *with the* New Star *in it, diſcover'd ſome years ſince, and very* | *lately ſen by M*. Hevelius *again*. [**372 (3C2^{v}):** NYPL, CU-BANC]

[*labeled diagram of stars*] [**372 (3C2^{v}):** NYPL, CU-BANC]

An Extract | *Of a Letter written* Decemb. 28. 1666. *by M*. Auzout *to the* | *Publiſher, concerning a way of his, for taking the* Diameters | *of the* Planets, *and for knowing the* Parallax *of the* Moon; | *as alſo the Reaſon, why in the* Solar Eclipſe *above calculated,* | *the* Diameter *of the* Moon *did increaſe about the end*. [*ct in 'Extract' not ligatured*] [**373 (3C3^{r}):** NYPL, CU-BANC]

A Relation | *Of the loſs of the Way to prepare the* Bononian Stone | *for ſhining*. [**375 (3C4^{r}):** NYPL, CU-BANC]

A Deſcription | *Of a* Swediſh *Stone, which affords* Sulphur, Vitriol, | Allum, *and* Minium. [**375 (3C4^{r}):** NYPL, CU-BANC]

This was communicated to the *R. Society* by Sir *Gilbert Talbot*
Knight, a Worthy Member of that Body, as he had received it
in *Denmark*, being his Majeſties Extraordinary Envoy there; as
follows,
T²Here is a Stone in *Sweden* of a Yellow Colour, intermixed
with ſtreaks of white (as if compoſed of Gold and Silver)
[… *description continues*] [**375 (3C4^{r}):** CU-BANC]

A Relation | *Of the* Raining *of* Aſhes, *in the* Archipelago, *upon the Eruption* | *of Mount* Veſuvius, *ſome years ago*. [**377 (3D1^{r}):** NYPL. CU-BANC]

This came but lately to hand from that knowing perſon,
Mr. *Henry Robinſon*; and was thought fit to be now inſerted here,
that it might not be loſt, though it hath hapned above 30 years
ago. It was contained in a Letter, (ſubſcribed by Capt. *Will. Ba-*
dily) in theſe words: [**377 (3D1^{r}):** NYPL, CU-BANC]

An Extract | *Of a Letter not long ſince written from* Rome, *rectifying the* | *Relation of* Salamanders *living in Fire*. [**377 (3D1^{r}):** NYPL, CU-BANC]

This came from that Expert Anatomiſt M. *Steno,* to Dr. *Croon*;
Videl. [… *extract continues*] [**377 (3D1^{r}):** CU-BANC]

An Account | *Of ſeveral Engagements for Obſerving of Tydes*. [**378 (3D1^{v}):** NYPL, CU-BANC]

Since nothing is more important for diſcovering the Cauſe of that Grand *Phænomenon* of Nature, the *Flux* and *Reflux of the Sea*, than a true and full *Hiſtory of the Tydes*, the *Virtuoſi* of *England* have of late (eſpecially ſince the Publication of Dr. *Wallis* his *Theory* touching that *Apparence*) taken care, to direct and recommend in ſeveral parts of the World, and particularly in the moſt proper places of theſe *Ilands*, ſuch Obſervations, as may contribute to the elucidating of that Subject.
[… *account continues*] [**378 (3D1^{v}):** CU-BANC]

Some Suggeſtions | *For Remedies againſt* Cold. [**379 (3D2^{r}):** NYPL, CU-BANC]

A Relation | *Of an uncommon Accident in two Aged Perſons.* [**380 (3D2^{v}):** NYPL, CU-BANC]

This was imparted by the above-mentioned Mr. *Colepreſſe*, who aſſures in his Letter, containing this Account, That the matter of fact was thorowly examined by himſelf, and that he was fully, and in all reſpects, ſatisfied of the truth thereof.

The Relation of the one, is in theſe words.

Joſeph Shute Clerk, Parſon of […*relation continues*] [**380 (3D2^{v}):** CU-BANC]

An Account of two Books. [**381 (3D3^{r}):** NYPL, CU-BANC]

Note on printing: [**384 (3D4^{v}): CU-BANC**]

The Printing of theſe Tracts is now return'd to the firſt Printer thereof, as being ſomewhat re-ſetled after the late ſad Fire of *London*. [**384 (3D4^{v}):** NYPL, UkLoRS, CU-BANC]

The date on the cover of January 1666 and imprint of 1667 do not necessarily contradict each other. Number 23 is March 1666, while 24 is April 1667, suggesting the cover is old style—un-remarked—and the imprint is new style. However, the imprint of number 23 is dated 1668, suggesting at least ten months lag, so it is possible that this number is for Jan 1666 (old style) and printed in 1667 (old style) too.

Imprint: *FINIS.* | [*rule 108.9*] | In the *SAVOY*, | Printed by *T N.* for *John Martyn*, Printer to the | *Royal Society*, and are to be ſold at his Shop a little | without Temple-Bar, 1667. [**384 (3D4^{v}):** NYPL, UkLoRS, UkLoRS(D), CU-BANC]

Copies considered: dN&S: 539.01021; **UI:** collation, fingerprint; **NYPL:** collation, fingerprint, transcription, plate, 1666 on t.p. corrected in pencil to '1667'; **DLC:** collation, fingerprint; **UkLoRS:** collation, fingerprint, title, imprint; **UkLoRS(D):** collation, fingerprint, title, imprint; **IeDuTC:** collation, fingerprint, title, imprint; **PU-Sp:** collation, fingerprint, title, imprint, 'pr:

6[d]' on t.p.; **CU-BANC:** collation, fingerprint, transcription, plate corrected in pen to '№. 21'; **CLU-SC:** collation, fingerprint, plate; **CSmH:** fingerprint, head title, plate, imprint; **CSmH(B):** fingerprint, head title, plate, imprint; **CSmH(B.2):** fingerprint, head title, plate, imprint.

Number 22 (Monday, February 11, 166$\frac{6}{7}$):

4°: 3E–3G⁴ [$1–2 signed]; 12 leaves, pp. 385—407 [408]

166704 - b1 3E1 ld$fo : b2 3G2 n.$18.$32 [UI, NYPL, DLC, UkLoRS, UkLoRS(D), IeDuTC, PU-Sp, CU-BANC, CLU-SC, CSmH, CSmH(B), CSmH(B.2)]

PHILOSOPHICAL | TRANSACTIONS. | [*broken rule 58.0+1.0+53.9*] | *Monday, February* 11. 1666. | [*broken rule 63.5+0.4+48.7*] | [**in upper-right headline:**] *Numb.* 22. |

The Contents. | [*rule 109.8*]| *Trials propoſed to be made for the Improvement of the Experiment of* | Transfuſing Blood out of one live Animal into another. *A* | *Method for* Obſerving the Eclipſes of the Moon, *free from the* | *Common Inconveniences. An Account of ſome Celeſtial Obſerva-*|*tions lately made at* Madrid. *Extract of a Letter, lately written* | *to the Publiſher, containing ſome Obſervations about* Inſects *and* | *their Inoxiouſneſs, &c. An Account of ſome Books*, vid. | I. TOME TROISIEME DES LETTRES DE | M. DESCARTES. II. ASTRONOMIA RE-|FORMATA P. RICCIOLI. III. ANATOME | MEDULLÆ SPINALIS ET NERVORUM, | *inde provenientium*, GERARDI BLASII, *M.D. An* | *Advertiſement about the re-printing of M.* Evelyns *Sylva and* | *Pomona. A* Table *of the* Tranſactions, *printed theſe two years.* | [*rule 106.5*]

Tryals propoſed by Mr. Boyle *to Dr.* Lower, *to be made by him,* | *for the Improvement of Transfuſing Blood out of one live Ani-*|*mal into another*; *promiſed* Numb. 20. p. 357. [**385 (3E1[r]):** NYPL, UkLoRS, PU-Sp, CU-BANC]

> T²He following *Queries* and *Tryals* were written long ſince, and
> read about a Moneth ago in the *R Society*, and do now come
> forth againſt the Authors int ntion, at the earneſt deſire of ſome
> Learned Perſons, and particularly of the worth *Doctor*, to whom [*ct in 'Doctor' not ligatured*]
> they were addreſſed; who thinks, they may excite and aſſiſt
> others in a matter, which, to be well proſecuted, will require
> many hands. At the reading of them, the *Author* declared, that
> of divers of them he thought he could fore-ſee the Events, but [**385 3E1(r):** NYPL, CU-BANC]
> yet judged it fit, not to omit them, becauſe the Importance of
> the *Theories*, they may give light to, may make the Tryals re-

compence the pains, whether the ſucceſs favour the *Affirmative* [*ff in 'Affirmative' not ligatured*] or the *Negative* of the Queſtion, by enabling us to determine the one or the other upon ſurer grounds, than we could otherwiſe do. And this Advertiſement he deſires may be applied to thoſe other Papers of his, that conſiſt of *Queries* or propoſed *Tryals*. [**386 (3E1^{v}):** NYPL, CU-BANC]

A Method | *For Obſerving the* Eclipſes of the Moon, *free from the Common* | *Inconveniencies, as it was left by the Learned Mr.* Rook, *late* | Greſham-*Profeſſor of Geometry*. [*ft in 'left' not ligatured*] [**388 (3E2^{v}):** NYPL, CU-BANC]

An Account | *Of ſome Obſervations, lately made in* Spain, *by* | *His Excellency the* Earl of Sandwich. [**390 (3E3^{v}):** NYPL, CU-BANC]

THe Right Honourable the *Earl of Sandwich*, as he appears eminent in diſcharging the Truſt, his Majeſty hath repoſed in him, of Ambaſſador Extraordinary to the King of *Spain*; ſo he forgets not in the midſt of that Employment, that he is a Member of the *Royal Society*; but does from time to time, when his weighty State-Negotiations do permit, imploy himſelf in making conſiderable Obſervations of divers kinds, both *Aſtronomical* and *Phyſiological*; and communicateth the ſame to the ſaid *Society*; as for inſtance, lately, what he has obſerv'd concerning the *Solar Eclipſe* in *June* laſt, the Suns height in the Solſtice, and alſo the Latitude of *Madrid*, eſteeming by the Suns Altitude in the *Solſtice*, and by other Meridian [… *account continues*] [**390 (3E3^{v}):** CU-BANC]

Extract | *Of a Letter, lately written by Mr.* Nathaniel Fairfax *to the* | Publiſher, *containing Obſervations about ſome* Inſects, *and* | *their Inoxiouſneſs, &c.* [**391 (3E4^{r}):** NYPL, CU-BANC]

The Ingenious Author of this Letter, as he expreſſes an extraordinary deſire to ſee the *Store-houſe* of *Natural Philoſophy*, more richly fraughted (a Work begun by the ſingle care and conduct of the Excellent Lord *Verulam*, and proſecuted by the Joynt-undertakings of the *R. Society*) ſo he very frankly offers his Service in contributing ſome of his Obſervations, and begins in this very Letter to perform his Offer. For, Having taken notice of […*extract continues*] [**391 (3E4^{r}):** CU-BANC]

An Account | *Of Some Books.* [**392 (3E4^{v}):** NYPL, CU-BANC]

Advertiſement. [**398 (3F3^{v}):** NYPL]

It was thought fit to publiſh here the following *Advertiſement* of *John Evelyn* Eſquire, and that, as himſelf propoſed it. *Viz.*

B3Eing much ſolicited by many worthy Perſons, to publiſh a *Second Edition* of my Diſcourſe and Directions concerning *Timber, &c.* which was printed at the Command and by the Encouragement of the *R. Society*, I do humbly requeſt, that if any Perſon have any Material Additions or Reformations, which he thinks neceſſary either to the Part, which concerns the Improvement of *Forreſt-Trees*, or that of *Cider*, he would be pleaſed to communicate his Notes and Directions to Mr. *H. Oldenburgh*, one of the Secretaries of the ſaid Society, at his Houſe in the *Palmal* of *St. James's Fields ſt Weſtminſter*, with what ſpeed they conveniently can, before our *Lady-day* next, to be inſerted into this intended *Edition*. [**398 (3F3v):** NYPL, CU-BANC]

Errata: NOTE, [**398 (3F3v):** NYPL, UkLoRS, CU-BANC]

What was obſerved, Numb. 20. *p.* 364. *l.* 18 *of the Number of* Vegetables, (*vid.* That they are about 410.) *found in* England; *and catalogued by Dr.* Merret *in his* Pinax, *&c. is to be underſtood only of the* different Kinds *of Plants, not of the ſeveral ſorts of ſeveral Plants*; *for, theſe being compriſed, the Number will amount to about* 1400. [**398 (3F3v):** NYPL, UkLoRS, CU-BANC]

THE | *PHILOSOPHICAL TRANSACTIONS* | OF | Two Years, 1665 and 1666. beginning *March* 6. 1665. | and ending with *February* 1666; abbreviated in an | Alphabetical Table: | And alſo afterwards Digeſted into a more | *NATURAL METHOD.* | [*rule 105.6*] [**399 (3F4r):** NYPL, UkLoRS, CU-BANC]

In the Table, the firſt *Figure* ſignifies the *Number* of the *Tracts:* the ſecond, the *Page,* as it is remarked in the ſame. [**399 (3F4r):** NYPL, CU-BANC]

The more | *NATURAL METHOD* [**405 (3G3r):** NYPL, CU-BANC]

[… *table finishes*]

Note,

That though in this laſt Head there is repeated the *Tranſfuſion* of Blood, becauſe the Operation is an Art requiring diligence, and a practiſed hand to perform it for all advantagious Diſcoveries, and ſo to be diſtinguiſh'd from the *Anatomical* Account; yet that there is not affected noiſe and number, may well appear by reviewing and comparing the partiulars of *Artificial Inſtruments* in the [**406 (3G3^{v}):** IeDuTC, CU-BANC] *Table*, where ſometimes one Engin or Inſtrument may miniſter Aid to diſcover a large branch of Philoſophy, as the *Baroſcope*, an *Optick Glaſs*, &c.

And very particularly M.*Rook*'s directions for Seamen,which ſpecifies Inſtruments, may hereunto belong.

And ſometimes in one of the Diſcourſes herein mention'd, and abbreviated, there are almoſt as many Artificial Inventions, as Experiments; as in Mr. *Boyle*'s Hydtoſtatical Experiments: Beſides all the Chymical Operations, recited in the *Treatiſe* of the *Origine of Forms*, &c.

[*line of Greek*, photos] [**407 (3G4^{r}):** IeDuTC, CU-BANC]

Errata: ERRATA [**407 (3G4^{r}):** NYPL, CU-BANC]

Pag. 392. lin. 23. blot out,*as*. ibid. lin. 24 read *of the Soul*. [*as not ligatured*] [**407 (3G4^{r}):** NYPL, CU-BANC]

[*rule 111.6*] | FINIS. | [*rule 108.9*] [**407 (3G4^{r}):** NYPL, UkLoRS, CU-BANC]

Imprint: [*broken rule 60.2+0.6+48.0*] | In the *SAVOY* | Printed by *T N* for *John Martyn*, and | *James Alleſtry*, Printers to the *Royal Socie-*|*ty*: And are to be ſold at their Shop with-|out *Temple-Bar*, and in *Ducklane*, 1667. | [*rule 109.6*] [**408 (3G4^{v}):** NYPL, UkLoRS, CU-BANC]

Copies considered: dN&S: 539.01022; **UI:** collation, fingerprint very slight shift b2 3G2 .$18.$3 **NYPL:** collation, fingerprint very slight shift b2 3G2 .$18.$3, transcription; **DLC:** collation, fingerprint; **UkLoRS:** collation, fingerprint, imprint, title; **UkLoRS(D):** collation, fingerprint, title, imprint; **IeDuTC:** collation, fingerprint, title, imprint; **PU-Sp:** collation, fingerprint, title, imprint, 'Pr: 6^{d}' on t.p.; **CU-BANC:** collation, fingerprint, transcription, 'pr 1: 6^{d}?' on t.p; **CSmH:** fingerprint, head title, imprint; **CSmH(B):** fingerprint, head title, imprint; **CSmH(B.2):** fingerprint, head title, imprint.

VOLUME 2: NUMBERS 23--32 (1667)

4^{o}: π^{2}; 2 leaves, [*4*] [NYPL]

4°: π4; 4 leaves [*8*] [DLC, CU-BANC, CSmH, CSmH(B), CSmH(B.2)]

[*All within double-ruled border:*] *PHILOSOPHICAL* | Tranſctions: | GIVING SOME | ACCOMPT | OF THE | Preſent Undertakings, Studies, and Labours | OF THE | INGENIOUS | IN MANY | CONSIDERABLE PARTS | OF THE | WORLD. | [*broken rule 28.1+1.8+76.3 CSmH 28.2+1.6+76.4 CSmH(B) 28.0+1.9+76.6*] | Vol. II | For *Anno* 1667. | [*broken rule 61.4+44.3*] | In the *SAVOY*. | Printed by *T.N.* for *John Martyn* at the Bell, a little | without *Temple-Bar*, Printer to the *Royal Society*. [**π1r:** CSmH, CSmH(B), CSmH(B.2)]

[*blank*] [**π2v:** CSmH, CSmH(B), CSmH(B.2)]

Dedication: To the Right Honourable | William Lord Viscount Brouncker, | Chancellor to Her Majesty, | AND | President to the Royal Society, *&c.* | [**π2r:** CSmH, CSmH(B), CSmH(B.2)]

AN INDEX | FOR THE | *PHILOSOPHICAL TRANSACTIONS*. | OF | *An.* 1667, beginning with *Number* 23, and ending | with *Numb.* 32. | [*broken rule 39.0+1.1+72.9 CSmH 38.5+1.2+73.0 CSmH(B)*] | The *firſt* Letter *(n)* ſignifies the *Number*, the *ſecond (p)* the *Page*. | [*broken rule 46.0+0.4+65.0 CSmH*] | [*... two column index*] [**π2v:** CSmH, CSmH(B), CSmH(B.2)]

[*... two column index ends*] | *FINIS*. [**π4v:** CSmH, CSmH(B), CSmH(B.2)]

Copies considered: dN&S: 539.02000; **dArber:** reprint of 1669 classified under Miscellanies "A Complete Collection of the Philosophical Transactions for the years 1665, 1666, 1667, and 1668 ... In Quarto. Two Volumes. Price. bound, 30s." for Feb 1669, [i.e. 8.18d each number]; **dL-B:** beginning the third year, pp. 409–891, dedication and index (6 pp.), 2 plates; **NYPL:** collation, fingerprint; **DLC:** collation, fingerprint; **CU-BANC:** collation, π2v to end are the volume index; **CSmH:** collation, transcription; **CSmH(B):** collation, transcription; **CSmH(B.2):** collation, transcription.

Number 23

A: 4°: 3H–3K4 [$1–2 signed]; 12 leaves, pp. 409–432

166704 - b1 3H1 $Arts : b2 3K2 the$Clo [DLC, CLU-SC, CSmH]

B: 4°: 3H–3K4 [$1–2 signed]; 12 leaves, pp. 409–432

166804 - b1 3H1 eful$: b2 3K2 lock,$an [NYPL, rNHS, CSmH(B), CSmH(B.2)]

Copies considered: dN&S: A=539.02023A, B=539.02023B; **rNHS:** fingerprint, imprint; **NYPL:** collation, fingerprint; **DLC:** collation, fingerprint; **CLU-SC:** collation, fingerprint; **CSmH:**

fingerprint, head title, imprint; **CSmH(B):** fingerprint, head title, imprint; **CSmH(B.2):** fingerprint, head title, imprint.

Number 24 (8 April 1667)

A: 4°: 3L–3M⁴ [$1–2 signed]; 8 leaves, pp. 433–444 [445] 446–448; plate [1]
166704 - b1 3L1 $Obſ : *b2 3M1 all$re [DLC, rNHS, CSmH, CSmH(B.2)]

B: 4°: 3L–3M⁴ [$1–2 signed]; 8 leaves, pp. 433–444 [445] 446–448 (447=442); plate [1]
166704 - b1 3L1 bſ : *b2 3M1 $Ball$r [NYPL, CSmH(B)]

Copies considered: dN&S: A=539.02024A, B=539.02024B? ("T.N. and John Martin for James Allestry"); **NYPL:** collation, fingerprint; **DLC:** plate № 9 & 24 facing 3L1 (433); **CSmH:** fingerprint, part. optical collation; **CSmH(B):** fingerprint, part. optical collation; **CSmH(B.2):** fingerprint, part. optical collation.

Number 25

4°: 3N–3P⁴ [$1–2 signed]; 12 leaves, pp. 449-472
166704 - b1 3N1 iety$, : b2 3P2 are$digg [NYPL, DLC, CSmH, CSmH(B), CSmH(B.2)]

Copies considered: NYPL: collation, fingerprint; **DLC:** collation, fingerprint; **CSmH:** fingerprint; **CSmH(B):** fingerprint; **CSmH(B.2):** fingerprint.

Number 26 (3 June 1667)

4°: 3A–3B⁴ [$1–2 signed]; 8 leaves, pp. 473–488; plate [*1*]
166704 - b1 3A1 $Mar : b1 3B2 rficies$o [NYPL, DLC, CSmH, CSmH(B), CSmH(B.2)]

Plate of Chinese bridge and China Wall, *Trans: N.26.* [**473 (3A1ʳ):** DLC]

Copies considered: NYPL: collation, fingerprint, plate; **DLC:** collation, fingerprint, plate; **CSmH:** fingerprint; **CSmH(B):** fingerprint; **CSmH(B.2):** fingerprint.

Spurious Number 27

4°: 3C–3D⁴ [$1–2 signed]; 8 leaves, pp. 489–504
000004 - b1 3C1 ons$: b2 3D2 rience [CSmH]

A Letter Concerning a New Way of Curing Sundry Diseases by Transfusion / J. Denis [not quasi-facsimile CSmH]

Number 27

A: 4°

166704 - b1 3C1 ſom : b2 3F1 ith$ [CSmH]

The extended treatment of the controversial blood transfusion.

B: 4°: 3C–3E⁴ [$1–3 signed]; 12 leaves, pp. 489–512; plate [*1*]

166704 - b1 3C1 noti : b2 3E3 g,and [NYPL, DLC, CSmH(B), CSmH(B.2)]

Plate [**489 (3C1ʳ):** NYPL]

Copies considered: NYPL: collation, fingerprint, plate location from stub, plate missing (perhaps previous plate? almost certainly) **DLC:** collation, fingerprint, plate missing; **CSmH:** fingerprint; **CSmH(B):** fingerprint; **CSmH(B.2):** fingerprint.

Number 28

4°: 3G–3I⁴ [$1–2 signed]; 12 leaves, pp. 517–540 [522=519, 523=623]

166704 - b1 3G1 en$ſuc : b2 3I2 e$in [NYPL, CSmH(B), CSmH(B.2)]

4°: 3G–3I⁴ [$1–3 (-3I3) signed]; 12 leaves, pp. 517–540

166704 - b1 3G1 ing$ſu : b2 3I2 $inſid [DLC, CSmH]

Copies considered: NYPL: collation, fingerprint **DLC:** collation, fingerprint; **CSmH:** fingerprint; **CSmH(B):** fingerprint; **CSmH(B.2):** fingerprint.

Number 29

4°: 3K–3L⁴ [$1–2 signed]; 8 leaves, pp. 541–556; plate [*1*]

166704 - b1 3K1 ot$be : b2 3L2 $related [NYPL, CSmH(B)]

4°: 3K–3L⁴ [$1–2 (+3K3) signed]; 8 leaves, pp. 541–556; plate [*1*]

166704 - b1 3K1 ſo$re : b2 3L2 elated$by [DLC, CSmH, CSmH(B.2)]

Plate of an apparatus, *№:29:* [**541 (3K1ʳ):** NYPL,DLC]

Copies considered: NYPL: collation, fingerprint, plate location **DLC:** collation, fingerprint, plate; **CSmH:** fingerprint; **CSmH(B):** fingerprint; **CSmH(B.2):** fingerprint.

Number 30

4° 166704 - b1 3M1 $this$: b2 3O2 as$they$a [CSmH]

4°: 3M–3O4 [$1–2 signed]; 12 leaves, pp. 557–580

166704 - b1 3M1 is$man : b2 3O2 ey$are$c [NYPL, DLC, CSmH(B), CSmH(B.2)]

Copies considered: NYPL: collation, fingerprint; **DLC:** collation, fingerprint; **CSmH:** fingerprint; **CSmH(B):** fingerprint; **CSmH(B.2):** fingerprint.

Number 31

4°

166704 - b1 3P1 quiſi : b2 g$ſo$ma [CSmH]

Clearly a different edition or state, CSmH.

4°: 3P–3R4 [$1–2 signed]; 12 leaves, pp. 581–604

166704 - b1 3P1 req : b2 3R2 g$ſo$m [NYPL, DLC, CSmH(B), CSmH(B.2)]

Copies considered: NYPL: collation, fingerprint **DLC:** collation, fingerprint

Number 32

4°

166704 - b1 3S1 $were : b2 3V2 better$ [CSmH]

4°: 3S–3V4 [$1–2 signed]; 12 leaves, pp. 605–628

166704 - b1 3S1 rom : b2 3V2 olety [NYPL, DLC, CSmH(B), CSmH(B.2)]

Copies considered: NYPL: collation, fingerprint; **DLC:** collation, fingerprint; **CSmH:** fingerprint; **CSmH(B):** fingerprint; **CSmH(B.2):** fingerprint.

Volume 3: Numbers 33--44 (1668)

4°: π1; 1 leaf, [*2*] [DLC, CU-BANC, CSmH(B)]

4°: π1 π2; 2 leaves, [*4*] [CSmH]

To the Right Honourable, | HENRY | Lord Arlington, | [...] [**(π2^{r}):** CSmH]

Copies considered: dArber: reprint of 1669 classified under Miscellanies "A Complete Collection of the Philosophical Transactions for the years 1665, 1666, 1667, and 1668 ... In Quarto. Two Volumes. Price. bound, 30s." for Feb 1669, [i.e. 8.18 d. each number]; **dL-B:** beginning the 4th year, pp. 629–891, table (6 pp.), 4 plates; **CU-BANC:** collation, leaf integral as 4G1 from Number 44; **CSmH(B):** collation.

Number 33

4°: 3X–3Y⁴ [$1–2 signed]; 8 leaves, pp. 629-644; plate [*1*]

166704 - b1 3X1 ar$($b : b2 3Y2 empeſt$ [NYPL, CSmH]

166704 - b1 3X1 ear$($b ; b2 3Y2 peſt$ap [DLC, CSmH(B)]

Plate of geometry, №. 33 [**629 (3X1ʳ):** NYPL, DLC, CSmH(B)]

Copies considered: NYPL: collation, fingerprint, plate location **DLC:** collation, fingerprint, plate; **CSmH(B):** fingerprint, plate; **CSmH:** fingerprint, part. optical collation with CSmH(B) another edn. plate in superior state.

Number 34

4°: 3Z–4A⁴ 3B² [$1–2 (-3B2) signed]; 10 leaves, pp. 645–664 [655=955, 658=558, 664=604]; plate [*1*]

166704 - b1 3Z1 te, : b2 3B1 e$part [NYPL, CSmH(B)]

3Z2=4A2 3B1=4B1 [664 illegible by damage] … : b2 4B1 (=3B1) e$part (perhaps a letter fell out?) [DLC, CSmH]

Plate of geometry, *Num. 34* [**645 (3Z1ʳ):** NYPL]

Copies considered: NYPL: collation, fingerprint, plate location, p. 647, 650 cropped off in this copy **DLC:** collation, fingerprint, plate; **CSmH(B):** fingerprint, plate; **CSmH:** fingerprint, appears to be another state of CSmH(B).

Number 35

4°: 4C–4E⁴ 4F² [$1–2 (-4F2) signed]; 14 leaves, pp. 665–692 [672=172]; plate [*1*]

166804 - b1 4C1 ,$and : b2 4F1 s$Let [NYPL, DLC, CSmH(B), CSmH]

Plate of plant growth, *Trans: №35.* [**665 (4C1ʳ):** NYPL, DLC, CSmH(B), CSmH]

Copies considered: NYPL: collation, fingerprint, plate locations; **DLC:** collation, fingerprint, plate; **CSmH(B):** fingerprint, plate; **CSmH:** fingerprint.

Number 36

4°: 4G–4I⁴ [$1–2 signed]; 12 leaves, pp. 693–716

166804 - b1 4G1 elís,$co [i is poorly inked in NYPL and DLC] : b2 4I2 $enou [NYPL, DLC, CSmH(B), CSmH]

Copies considered: NYPL: collation, fingerprint; **DLC:** collation, fingerprint; **CSmH(B):** fingerprint, plate; **CSmH:** fingerprint.

CSmH Letter by J. Denis

Phyſical Reflections | UPON A | LETTER | [...] | BY *GEO. ACTON a Spagyricis Regiis in Ordinario.* | [*broken rule*] | *LONDON,* | Printed, by *T. R.* for *J. Martyn*,at the *Bell* without | *Temple-Barr*, 1668. [**A1r:** CSmH]

Clearly an occasional pamphlet like the *Transactions* in the context of this collector. In vol. for of CU-BANC

Number 37

4°: 4K–4M4 [$1–2 (+4L3) signed]; 12 leaves, pp. 717–740

166804 - b1 4K1 $Publiſh : b2 4M2 a. [NYPL, DLC: 734=733, CSmH(B): 734=733, CSmH: 734=734]

Two states of page number? Does something else change?

Copies considered: NYPL: collation, fingerprint; **DLC:** collation, fingerprint, 734=733; **CSmH(B):** fingerprint.

Number 38

4°: 4N–4O4 [$1–2 (+4N3) signed]; 8 leaves, pp. 741–764

166804 - b1 4N1 ay.$It : *b2 4P1 entu [NYPL, DLC, CSmH(B), CSmH]

Copies considered: NYPL: collation, fingerprint; **DLC:** Collation, fingerprint; **CSmH(B):** fingerprint; **CSmH:** fingerprint.

Number 39

4°: 4Q–4S4 [$1–2 signed]; 12 leaves, pp. 765–788

166804 - b1 4Q1 llform : b2 4S2 .$c.$19. [NYPL, DLC, CSmH(B), CSmH]

Copies considered: NYPL: collation, fingerprint; **DLC:** collation, fingerprint; **CSmH(B):** fingerprint; **CSmH:** fingerprint.

Number 40

4°: 4T–4X⁴ [$1–2 signed]; 12 leaves, pp. 789–812

166804 - b1 4T1 oves$v : b2 4X2 d$about$ [NYPL, DLC]

Copies considered: NYPL: collation, fingerprint; **DLC:** collation, fingerprint; **CSmH(B):** fingerprint; **CSmH:** fingerprint.

Number 41

4°: 4Y–5A⁴ [$1–2 signed]; 12 leaves, pp. 813–836

166804 - b1 4Y1 the$Æ : b2 4A2 furabilitat [NYPL, DLC: 825=852, CSmH: 825=852, CSmH(B): 825=852]

Copies considered: NYPL: collation, fingerprint; **DLC:** collation, fingerprint; **CSmH(B):** fingerprint; **CSmH:** fingerprint.

Number 42

4°: 5B–5C⁴ [$1–2 (+5B3) signed]; 8 leaves, pp. 837–852; plate [*1*]

166804 - b1 5B1 afforded$: b2 5C2 the$harm,$ [NYPL, DLC, CSmH, CSmH(B)]

Plate of apparatus and specimen, *Tranſact.№. 42.* [**837 (5B1ʳ):** NYPL, DLC, CSmH, CSmH(B)]

Copies considered: NYPL: collation, fingerprint, plate location; **DLC:** collation, fingerprint, plate; **CSmH(B):** fingerprint, plate; **CSmH:** fingerprint, plate faces number 43.

Number 43

4°: A⁴ 5E–5F⁴ [$1–2 signed]; 12 leaves, pp. 853–876

166804 - b1 A1 a : b2 5F2 the$Ma [NYPL, DLC, CSmH, CSmH(B)]

Copies considered: NYPL: collation, fingerprint **DLC:** collation, fingerprint

Number 44

4°: 4G (3 ll.) 4H–4I⁴ [$1–2 (+4H3) signed, 4G1=4G2]; 11 leaves, pp. 877–890 ᵡ890 891 [*6*]

166804 - b1 4G2 $Juyces, : b2 4I2 -$Voyage [NYPL, DLC, CSmH, CSmH(B)]

DLC: 4G⁴ (-4G1=π1 for vol.?)- confirmed by CU-BANC

Copies considered: **NYPL:** collation; fingerprint; 890, $^{\chi}$890 and 891 seem to be a case of cramming in text with a smaller face; **DLC:** collation, fingerprint; as above for $^{\chi}$890; **CU-BANC:** collation, 4G1=π1 of volume title; **CSmH(B):** fingerprint; **CSmH:** fingerprint.

VOLUME 4: NUMBERS 45--56 (1669)

4°: π^2; 2 leaves, pp. [*4*] [DLC, NYPL, CSmH, CSmH(B)]

Copies considered: **dArber:** under Miscellanies 17 May 1670, "The Fourth Volume, for Anno 1669. In Quarto. Price, bound, 7s. 6d." the same in May 1670 in *Catalogue*, I. [John in *Catalogue*] Martyn [i.e. 7.5 d each number]; **dL-B:** beginning the 5th year, pp. 893–1142, dedication and table (4 pp.), 6 plates; **DLC:** collation, no evidence contradicts π^2 conjugate with χ^2 from vol. 56; **NYPL:** collation; **CU-BANC:** collation; **CSmH(B):** fingerprint; **CSmH:** fingerprint.

Number 45

4°: 4K–4L^4 4M^2 [$1–2 (+4M2) signed]; 10 leaves, pp. 893–912; plate [*1*]
166804 - b1 4K1 fatally$: b2 4M2 tomack$;$but [DLC, NYPL, CSmH, CSmH(B)]

Plate: Trans: №. 45 | *Fig.I–III* 893 (4K1^r)

Copies considered: **dArber:** under Miscellanies 28 June 1669, price 6d., J. Martyn; **DLC:** collation, fingerprint, plate; **NYPL:** fingerprint, plate 912 (4M2^v); **CSmH(B):** fingerprint, plate; **CSmH:** fingerprint, plate.

Number 46

4°: 4N–4P^4 [$1–2 signed]; 12 leaves, pp. 913–936
166904 - b1 4N1 fo$ano : b2 4P2 ,$by$com [DLC, NYPL, CSmH, CSmH(B)]

Copies considered: **dArber:** under Miscellanies 28 June 1669, price 6d., J. Martyn; **DLC:** collation, fingerprint; **NYPL:** fingerprint; **CSmH(B):** fingerprint; **CSmH:** fingerprint.

Number 47

4°: 4Q–4S^4 [$1–2 signed]; 12 leaves, pp. 937-960 (942 has upside down 2, 947=749, 952=452)
166904 - b1 4Q1 equally$: b2 4S2 wo$you [DLC, NYPL, CSmH, CSmH(B)]

Copies considered: **dArber:** under Miscellanies 28 June 1669, price 6d., J. Martyn; **DLC:** collation, fingerprint; **NYPL:** fingerprint; **CSmH(B):** fingerprint; **CSmH:** fingerprint.

Number 48

4°: 4T-4V⁴ [$1–2 signed]; 8 leaves, pp. 961–976; plate [*1*]

166904 - b1 4T1 M : b2 4V2 e,ofeq [DLC, NYPL, CSmH, CSmH(B)]

Plate: *Traſact:№.48 | Fig.I–II.* 961 (4T1ʳ)

Copies considered: dArber: under Miscellanies 28 June 1669, price 6d., J. Martyn; **DLC:** collation, fingerprint, plate; **NYPL:** fingerprint, plate; **CSmH(B):** fingerprint, plate; **CSmH:** fingerprint, plate at end, superior state but smudged.

Number 49

4°: 4X–4Z⁴ [$1–2 signed]; 12 leaves, pp. 977–1000

166904 - b1 4X1 is$Citty : b2 4Z2 $middle; [DLC, NYPL, CSmH, CSmH(B)]

Copies considered: DLC: collation, fingerprint; **NYPL:** fingerprint; **CSmH(B):** fingerprint; **CSmH:** fingerprint.

Number 50

4°: 5A–5C⁴ [$1–2 signed]; 12 leaves, pp. 1001–1024 (1005=10005)

166904 - b1 5A1 tionofh : b2 5C2 $ſoon$ſtop [DLC, NYPL, CSmH, CSmH(B)]

Copies considered: DLC: collation, fingerprint; **NYPL:** fingerprint; **CSmH(B):** fingerprint; **CSmH:** fingerprint.

Number 51

4°: 5D–5E⁴ [$1–2 signed]; 8 leaves leaves, pp. 1025–1040; plate [*1*]

166904 - b1 5D1 Plan$*$0 : b2 5E2 $accuratene [DLC, NYPL, CSmH, CSmH(B)]

Plate: *Trans: No. 51.* 1025 (5D1ʳ)

Copies considered: DLC: collation, fingerprint, plate lacking; **NYPL:** fingerprint, plate; **CSmH(B):** fingerprint, plate; **CSmH:** fingerprint, plate.

Number 52

4°: 5F–5G⁴ [$1–2 signed]; 8 leaves, pp. 1041–1051 1054–1055 χ1055–1054 1058 [=1056]; plate [*1*]

166904 - b1 5F1 examin : b2 5G2 y$self$have [DLC, NYPL, CSmH, CSmH(B)]

Plate: *Tran* .№.52. | *Fig. I–III* 1041 (5F1^{r})

Copies considered: **DLC:** collation, fingerprint, plate; **NYPL:** fingerprint, plate; **CSmH(B):** fingerprint; **CSmH:** fingerprint.

Number 53

4°: 5H–5I^{4} [$1–2 signed, 5I1=3I1, 5H1=Hffff]; 8 leaves, pp. 1059–1074; plate [*1*]

166904 - b1 5H1 $;$Q : b2 5I2 they$h [DLC, NYPL: swash Q in b1, CSmH: swash Q, CSmH(B): swash Q too]

Plate: *Trans №. 53.* | *Fig. I–VI.* 1059 (5H1^{r})

Copies considered: **DLC:** collation, fingerprint, plate; **NYPL:** fingerprint, plate; **CSmH(B):** fingerprint; **CSmH:** fingerprint.

Number 54

4°: 5K–5M^{4} [$1–2 signed]; 12 leaves, pp. 1075–1097 [1098]

166904 - b1 5K1 ſtitution$: b2 5M2 may$Judge. [DLC, NYPL, CSmH, CSmH(B)]

Copies considered: **DLC:** collation, fingerprint; **NYPL:** fingerprint; **CSmH(B):** fingerprint; **CSmH:** fingerprint.

Number 55

4°: 5N–5P^{4} [$1–2 signed]; 12 leaves, pp. 1099–1122

167004 - b1 5N1 ir$Suppo : b2 5P2 eral$times [DLC, NYPL, CSmH, CSmH(B)]

Copies considered: **DLC:** collation, fingerprint; **NYPL:** fingerprint; **CSmH(B):** fingerprint; **CSmH:** fingerprint.

Number 56

4°: 5Q–5S^{4} χ^{2} [$1–2 signed]; 14 leaves, pp. 1123–1142 [*8*]; plate [*1*]

167004 - b1 5Q1 g$Cont : b2 5S2 n$this$or [DLC, NYPL: t poorly inked in b1, CSmH: t poorly inked, CSmH(B): t poorly inked too]

Plate: *Trans.№. 56.* 1123 (5Q1^{r})

A | *CATALOGUE* | *Of ſome Books Printed for, and ſold by* | *John Martyn*, at the *Bell* a Little without | *Temple-Bar*. [**1142+5 (χ1ʳ):** NYPL, CU-BANC]

Copies considered: DLC: collation, fingerprint, no evidence contradicts χ^2 conjugate with π^2 from vol. preliminaries, plate; **NYPL:** fingerprint, plate, stocks of π^2 and χ^2 seem to match; **CSmH(B):** fingerprint, plate, catalogue; **CSmH:** fingerprint, plate, catalogue.

Addendum

4°: A–B⁴ [$1–2 (-A1) signed]; 8 leaves, pp. [*6*] 1–10

166804 - b1 A2 dre : b2 B2 n,$ [CU-BANC]

Phyſical Reflections | UPON A | LETTER | WRITTEN | By *J Denis* Profeſſor of Philosophy | and the Mathematicks, | TO | Monſieur *de Montmor* Counſellor to the *French* | King, and Maſter of Requeſts. | Concerning a New way of Curing ſundry Diſeaſes | BY | TRANSFUSION of BLOOD. | [*broken rule 2/3+1/3*] | BY *GEO. ACTON a Spagyricis Regiis in Ordinario.* | [*broken rule 1/4+3/4*] | *LONDON,* | Printed, by *T R.* for *J Martyn,* at the *Bell* without | *Temple-Barr*, 1668. [**A1ʳ:** CU-BANC]

[*blank*] [**A1ᵛ:** CU-BANC]

[*ornamental box*] | TO THE | KING. [**A2ʳ:** CU-BANC]

[*double rows of ornaments*] | Phyſical Reflections | UPON A | LETTER, &c. [**1 (A4ʳ):** CU-BANC]

[*... reflections complete*] | *FINIS.* [**10 (B4ᵛ):** CU-BANC]

Copies considered: DLC: not present; **NYPL:** not present; **CU-BANC:** collation, fingerprint, transcription, inserted after no. 56 but with soiling suggesting an independent life; **CSmH:** in volume 3, see above.

Volume 5: Numbers 57--68 (1670)

4°: π⁴ 2π1; 4 leaves, [*8*] [DLC, NYPL]

[*blank*] [**π1ʳ–π1ᵛ:** NYPL]

Copies considered: dL-B: beginning the 6th year, pp. 1147–2083, index (3 pp.), 5 plates; **DLC:** collation; **NYPL:** collation; **CU-BANC:** collation, both π1 and 2π1 lacking.

Number 57

4°: A–D⁴ [$1–2 signed]; 16 leaves, pp. 1147–1178; plate [*1*]

167004 - b1 A1 e$: b2 D2 I [DLC, NYPL]

Plate: *Trans.№. 57* 1147 (A1ʳ) (1147)

Copies considered: DLC: collation, fingerprint, lacks π1 (blank); **NYPL:** fingerprint, collation, plate 1178 (D4ᵛ); **CU-BANC:** plate has pamphlet stitching that matches the text, suggesting it was sewn facing as throw-out.

Number 58

4°: E–G⁴ [$1–3 (-G3) signed]; 12 leaves, pp. 1179–1202 (1195=1197,1198=1196,1199=1201,1202=1200)

167004 - b1 E1 l : b2 G2 e$w [DLC, NYPL]

Copies considered: DLC: collation, fingerprint; **NYPL:** fingerprint.

Number 59

4°: H–K⁴ [$1–3 (-K3) signed]; 12 leaves, pp. 1023–1030 1039–1054[=1046]

167004 - b1 H1 t$: b2 K2 a$st [DLC, NYPL]

Copies considered: DLC: collation, fingerprint; **NYPL:** fingerprint.

Number 60

4°: L–O⁴ [$1–2 signed]; 16 leaves, pp. 1055–1086 (1071=1070); plates [*2*]

167004 - b1 L1 r : b2 O2 ,$th [DLC, NYPL]

Plate: *№. 60 . | Tab. I.* 1055 (L1ʳ)

Plate: *№. 60 . | Tab. 2.* 1055 (L1ʳ)

Copies considered: DLC: collation, fingerprint, plates **NYPL:** fingerprint, plates 1086 (O4ᵛ).

Number 61

4°: P–R⁴ [$1–2 signed]; 12 leaves, pp. 1087–1099 2000–2010 [=1110] [DLC,NYPL]

167004 - b1 P1 e : b2 R2 of$ [NYPL]

Copies considered: DLC: collation, fingerprint missing from notes (check LC); **NYPL:** fingerprint.

Number 62

4°: S–U4 [$1–2 signed]; 12 leaves, pp. 2011–2034

167004 - b1 S1 $, : b2 U2 e$to [DLC, NYPL]

Copies considered: DLC: collation, fingerprint; **NYPL:** fingerprint.

Number 63

4°: X–Z4 [$1–2 signed]; 12 leaves, pp. 2035–2058

167004 - b1 X1 e$: b2 Z2 the [DLC, NYPL]

A Preface concerning theſe Experiments. [**2035 (X1r):** NYPL]

Copies considered: DLC: collation, fingerprint; **NYPL:** fingerprint; **CU-BANC:** hole pierced at top with metal spike (see pictures), not pin-holes since they obscure later text, perhaps storage?

Number 64

4°: 2A–2C4 [$1–2 signed]; 12 leaves, pp. 2059–2082

000004 - b1 2A1 am : b2 2C2 of$Gla [DLC, NYPL]

Copies considered: DLC: collation, fingerprint; **NYPL:** fingerprint.

Number 65

4°: 2D–2G4 [$1–2 signed]; 16 leaves, pp. 2083–2106 2007–2014[=2114]; tables [engraved] 1–2

167004 - b1 2D1 $ha : b2 2G2 theot [DLC, NYPL]

Plate: *Trans. №. 65 | Tab. 1.* [**2083 (2D1r):** DLC, NYPL]

Plate: *Trans. №. 65 | Tab: 2.* [**2083 (2D1r):** DLC, NYPL]

Copies considered: DLC: collation, fingerprint, plates; **NYPL:** fingerprint, plates 2014 2G4v; **CU-BANC:** plates throw-out 2083 (2D1r) and 2098 (2E4v).

Number 66

4°: 2H–2K4 [$1–2 signed]; 12 leaves, pp. 2015–2024 [2025] 2026–2038

167104 - b1 2H1 nd$a : b2 2K2 d$Au [DLC, NYPL]

[*table*] [**2025 (2I2r):** NYPL]

Copies considered: DLC: collation, fingerprint; **NYPL:** fingerprint; **CU-BANC:** holes pierced at top with metal spike, not pin-holes since they obscure text, stored rough-folded (doesn't line up with this binding).

Number 67

4°: 2L–2N⁴ [$1–2 signed]; 12 leaves, pp. 2039–2062
000004 - b1 2L1 xtr : b2 2N2 ONE [DLC, NYPL]
Copies considered: DLC: collation, fingerprint; **NYPL:** fingerprint.

Number 68

4°: 2O–2Q⁴ [$1–2 signed]; 12 leaves, pp. 2063–2083 [2084–2086]
000004 - b1 2O1 me : b2 2Q2 rtific [DLC, NYPL]
An Alphabetical TABLE [**2084 (2Q3ᵛ):** NYPL, CU-BANC]
Copies considered: DLC: collation, fingerprint; **NYPL:** fingerprint; **CU-BANC:** collation, fingerprint.

Volume 6: Numbers 69--80 (1671)

4°: π²; 2 leaves, [*4*] [DLC, NYPL]
Copies considered: dArber: under Mathematics 7 Feb 1672, bound 8s. 6d. [i.e. 8.5d. each], John Martyn; **dL-B:** beginning the 7th year, pp. 2087–3095, index (3 pp.), 6 plates; **DLC:** collation; **NYPL:** collation.

Number 69

4°: 2R–2V⁴ [$1–2 signed]; 16 leaves, pp. 2087–2118 (2094='(2094.'); tables [engraved] 1–2
167104 - b1 2R1 an : *b2 2V1 h$s [DLC, NYPL]
Plate: *Trans.№.69* | *Tab. 1.* [**2087 (2R1ʳ):** NYPL]
Plate: *Trans.№.69.* | *Tab. 2.* [**2087 (2R1ʳ):** NYPL]
Copies considered: DLC: collation, fingerprint, plate location; **NYPL:** fingerprint, plates 2118 (2V4ᵛ).

Number 70

4°: 2X–2Z⁴ [$1–2 signed]; 12 leaves, pp. 2119–2142

167104 - b1 2X1 a : b2 2Z2 RU [DLC, NYPL: U in b2 is swash 'U>']

Copies considered: DLC: collation, fingerprint; **NYPL:** fingerprint.

Number 71

4°: 3A–3C⁴ [$1–2 signed]; 12 leaves, pp. 2143–2166

167104 - b1 3A1 tt. : b2 3C2 oresof [DLC,NYPL]

Copies considered: DLC: collation, fingerprint; **NYPL:** fingerprint.

Number 72

4°: 3D–3F⁴ [$1–2 signed]; 12 leaves, pp. 2167–2190

000004 - b1 3D1 prepa : b2 3F2 ll$?$If$h [DLC]

Copies considered: DLC: collation, fingerprint; **NYPL:** fingerprint.

Number 73

4°: 3G–3I⁴ [$1–2 signed]; 12 leaves, pp. 2192–2214

167104 - b1 3G1 m$verſ : *b2 3I1 end [DLC, NYPL]

Copies considered: DLC: collation, fingerprint; **NYPL:** fingerprint.

Number 74

4°: 3K–3M⁴ [$1–2 signed]; 12 leaves, pp. 2215–2238

167104 - b1 3K1 gio. : b2 3M2 ommon$ [DLC, NYPL]

Copies considered: DLC: collation, fingerprint; **NYPL:** fingerprint.

Number 75

4°: 3N–3Q⁴ [$1–2 signed]; 16 leaves, pp. 2239–2270 (2268=2258); tables [engraved] 1–2

167104 - b1 3N1 $wate : b2 3Q2 theJesu [DLC, NYPL]

Throw-out plate: *Trans.№. 75.* | *Tab. I.* [**2270 (3Q4ᵛ):** NYPL]

Throw-out plate: *Trans.№. 75.* [**2270 (3Q4ᵛ):** NYPL]

Two tabs. 3N1 (2239)

Copies considered: DLC: collation, fingerprint, plates; **NYPL:** fingerprint, plates.

Number 76

4°: 3R–3T⁴ [$1–2 signed]; 12 leaves, pp. 2271–2294

167104 - b1 3R1 tum$: b2 3T2 ded$by [DLC, NYPL]

Copies considered: DLC: collation, fingerprint; **NYPL:** fingerprint.

Number 77

4°: 3U–3Y⁴ [$1–2 signed]; 12 leaves, pp. 2295–2299 3000–3018 [=2318]

167104 - b1 3U1 their$: b2 3Y2 thor$a [DLC, NYPL]

Copies considered: DLC: collation, fingerprint; **NYPL:** fingerprint.

Number 78

4°: 3Z–4C⁴ [$1–2 signed]; 16 leaves, pp. 3019–3050; tables [engraved] 1–2

167104 - b1 3Z1 E$: b2 4C2 refractio [DLC, NYPL]

Throw-out plate: *Trans.№.* 78 | *Tab.* *1* [**3050 (4C4^{v}):** NYPL]

Throw-out plate: *Trans.№.* 78 | *Tab.* 2 [**3050 (4C4^{v}):** NYPL]

Copies considered: DLC: collation, fingerprint, plates; **NYPL:** fingerprint, plates.

Number 79

4°: 4D–4F⁴ [$1–2 signed]; 12 leaves, pp. 3051–3074

167204 - b1 4D1 brica$TR : b2 4F2 bywha [DLC, NYPL: year is o.s. $167\frac{1}{2}$, b1 R is swash '*R*']

Copies considered: DLC: collation, fingerprint; **NYPL:** fingerprint.

Number 80

4°: 4G–4I⁴ [$1–2 (-4I2) signed]; 12 leaves, pp. 3075–3095 [3096–3098]

167104 - b1 4G1 theCel : b2 4I1 olet$s [DLC]

Copies considered: DLC: collation, fingerprint; **NYPL:** lacking from v.6.; **ICU:** QC353.N48: pamphlet stitching suggesting individual issue and apparently complete, perhaps never collected.

VOLUME 7: NUMBERS 81--91 (1672)

4°: π1; 1 leaf, [*2*] [DLC]

Copies considered: dArber: under Miscellanies 6 May 1673, bound for 7s. 6d [i.e. 8.18 d. each], John Martyn along with *Calvinus Redivivus* preceding;[334] **dL-B:** beginning the 8th year, pp. 3999–5172, index (4 pp.), 4 plates; **DLC:** collation, fingerprint.

Number 81

4°: 4K–4N⁴ [$1–2 signed]; 16 leaves, pp. 3999–4030; tables [engraved] 1–2

167204 - b1 4K1 RO$.$B : b2 4N2 he$Instan [DLC]

Two tabs. 4K1 (3999)

Copies considered: DLC: collation, fingerprint, plates

Number 82

4°: 4O–4Q⁴ [$1–2 signed]; 12 leaves, pp. 4031–4054

167204 - *b1 4O2 ur$foot$s : b2 4Q2 nes$being$co [DLC]

Copies considered: DLC: collation, fingerprint

Number 83

4°: 4R–4T⁴ [$1–2 signed]; 12 leaves, pp. 4055–4078

167204 - b1 4R1 s. (line above: agve.$) : b2 4T2 ion$upo [DLC]

Copies considered: DLC: collation, fingerprint

Number 84

4°: 4U–4Y⁴ [$1–2 signed]; 12 leaves, pp. 4079–4099 5000–5002 [=4102]

167204 - b1 4U1 . (line above: currence$) : b2 4Y2 $Book$it$s [DLC]

Copies considered: DLC: collation, fingerprint

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334 Same reference without price in Robert Clavel, *Robert Clavel: A Catalogue of All the Books Printed in England Since the Dreadful Fire of London, 1666. To the End of Michaelmas Term, 1672 (1673)*, English Bibliographical Sources, Series 2: Catalogues of Books in Circulation (London: R. Clavel, 1673; HathiTrust https://babel.hathitrust.org/cgi/pt?id=uc1.32106002801188, Farborough, Hants: Gregg Press Ltd., 1965), 18.

Number 85

4°: 4Z–5B⁴ [$1–2 signed]; 12 leaves, pp. 5003–5026 (5004=4004, 5014=4014)

167204 - *b1 4Z2 $Letter$i : b2 5B2 andsweet [DLC]

Copies considered: DLC: collation, fingerprint

Number 85 [i.e. 86]

4°: 5C–5E⁴ [$1–2 signed]; 12 leaves, pp. 5027–5050

167204 - b1 5C1 $Air,$d : b2 5E2 nderstand [DLC]

Copies considered: DLC: collation, fingerprint, number corrected in manuscript

Number 87

4°: 5F–5I⁴ [$1–2 signed]; 16 leaves, pp. 5051–5082; tables [engraved] 1–2

167204 - b1 5F1 Printe : b2 5I2 s,$dispr [DLC]

Two tabs. 5F1 (5051)

Copies considered: DLC: collation, fingerprint, plates

Number 88

4°: 5K–5M⁴ [$1–2 signed]; 12 leaves, pp. 5083–5106 (5096–5097=5097–5096)

167204 - b1 5K1 rnet.M : b2 5M2 g$such$a$Di [DLC]

Copies considered: DLC: collation, fingerprint

Number 89

4°: 5N–5P⁴ [$1–2 (-5P2) signed]; 12 leaves, pp. 5107–5130

167204 - *b1 5N2 s. : *b2 5O2 ree$exactly. [DLC]

Copies considered: DLC: collation, fingerprint

Number 90

4°: 5Q–5S⁴ [$1–2 signed]; 12 leaves, pp. 5131–5154

167204 - b1 5Q1 $John$Bir : b2 5S2 d$North- [DLC]

Copies considered: DLC: collation, fingerprint

Number 91

4°: 5T–5U⁴ 5X⁴ (-5X4) [$1–2 signed]; 11 leaves, pp. 5155–5172 [5173–5176]
167204 - b1 5T1 g.$A : b2 5X2 $Comet$see [DLC]
5X4 = π1 from vol. 7 preliminaries is not contradicted by evidence [DLC]
Copies considered: DLC: collation, fingerprint

VOLUME 8: NUMBERS 92--100 (1673)

4°: π⁴; 4 leaves, [*8*] [DLC]
Copies considered: dArber: under Miscellanies 26 May 1674, bound 7s. 6d. [i.e. 11.25 d. each], J. Martyn along with *An Attempt to prove the Motion of the Earth from Observations made by Robert Hooke* 1s.; **dL-B:** beginning the 9th year, pp. 5175–7002, preceded by dedication and index (6 pp.), 11 plates; **DLC:** collation, fingerprint, π4 is an index which as well belong at the end, as suggested by catchwords

Number 92

4°: 5Y–6B⁴ [$1–2 signed]; 16 leaves, pp. 5175–5199 6000–6006 [=5206]; tables [engraved] 1–2
167304 - b1 5Y1 iverse$co : b2 6B2 by$Garcias$a [DLC]
Two tabs. 5Y1 (5175)
Copies considered: DLC: collation, fingerprint, plates

Number 93

4°: 6C–6E⁴ [$1–2 signed]; 12 leaves, pp. 6007–6030
167304 - b1 6C1 oundtot : b2 6E2 e$visible$mo [DLC]
Copies considered: DLC: collation, fingerprint

Number 94

4°: 6F–6G⁴ 6H² [$1–2 signed]; 10 leaves, pp. 6031–6050; plate [*1*]
167304 - b1 6F1 ervia,Bul : b2 6H2 ftenthousan [DLC]
Plate 6F1 (6031)
Copies considered: DLC: collation, fingerprint, plates

Number 95

4°: 6I–6L⁴ [$1–2 signed]; 12 leaves, pp. 6051–6074

167304 - b1 6I1 ohn$: b2 6L2 s.$Whence [DLC]

Copies considered: DLC: collation, fingerprint

Number 96

4°: 6M–6P⁴ [$1–2 signed]; 16 leaves, pp. 6075–6106 (6076=6097, 6080=6079, 6100=6000, 6105=6005); tables [engraving] 1–3

167304 - b1 6M1 iousnessofGl : b2 6P2 Catholick$A [DLC, CSmH(B.Newton)]

'T*ab*. I. | *Tranſa*ˆ*ct*. №. *96.*' [*engraved* 166×124 (182–2.5×124, sheet 218×162 (+35.0 stub) **facing 6075 (6M1ʳ):** CSmH(B.Newton)]

[*Upper right:*] *Numb*. 96 | PHILOSOPHICAL | TRANSACTIONS. | [*broken rule 68.2 1.1 39.8*] | *July* 21. 1673. | [*broken rule 74.8 1.5 32.9*] | The CONTENTS. | [...] [**6075 (6M1ʳ):** CSmH(B.Newton)]

> [*One word centered:*] Advertiſment.
> *The Reader is herewith deſired to take notice, that the next of*
> *theſe Tranſactions will not appear abroad till about the end of*
> October *next.*
> [*broken rule 32.5 1.4 75.3*]
> [*Line centered:*] *Errata* left uncorrected in №. 95.
> Pag. 6060 l. 16. r. *Cerebellum*. Pag. 6062. l. I. r. *within the.*
> Pag. 6068. l. 16. r. 12. *d.* Pag. 6069. l. 5. r. *Evolution.*
> Page. 6070. l. 15. r.*he premiſeth*.Pag. 6071.l. I r *and having.*
> *ibid.* l. 24. r. *Ricciolus.* Pag. 6074. l. II. r. *Models.*
> [*Line centered:*] *Errata* in this *Numb.* 96.
> Pag. 6081. l. 42. r. *propiores.* Pag. 6082. l. 13. r. *huic malo ap-*
> *parenti.* ibid. l. 37. r. *& relatum*. ibid. l. 44. r. *cùm Ortho-*
> *graphicè*, pro, *Geographicè.* Pag. 6096. l. 1. r. *ſecundam.*
> [*broken rule 84.9 1.9 24.3*]

LONDON, | Printed for *John Martyn*, Printer to the *R. Society* 1673. [**6106 (6P4ᵛ):** CSmH(B.Newton)]

'T*ranſact*№. *96.* | *Tab*. *II. [III.]*' [*two engraved plates* Tab. II. 151×97 (154×100), Tab. III. 88.5×95.5 (95–6×100), both on a sheet 214.5×239.2 (+38.5 stub) **facing 6106 (6P4ᵛ):** CSmH(B.Newton)]

Copies considered: DLC: collation, fingerprint, plates all facing 6M1^{r} (6075); **CSmH(B.Newton):** collation, fingerprint, prelim. transcription, Burndy 700752: 'T*ab.* I.' wrapped around gathering 6M facing 6M1 (6075), 'T*ab.* II. [III.]' wrapped around gathering 6P facing 6P4^{v} (6106), three separate plates that appear to have been on one sheet, trace of previous folding, although stab holes don't line up with current location, disbound from larger volume.

Number 97

4°: 6Q–6T^{4} [$1–2 signed]; 16 leaves, pp. 6107–6138; tables [engraved] 1–2

167304 - b1 6Q1 ty.$IV.$T : b2 6T2 ice,$That$t [DLC]

Two tabs. 6Q1 (6107)

Copies considered: DLC: collation, fingerprint, plates

Number 98

4°: 6U–6X^{4} [$1–2 signed]; 8 leaves, pp. 6139–6154; table [*1*]

167304 - b1 6U1 eland. : b2 6X2 $that$the$Par [DLC]

Table 6U1 (6139)

Copies considered: DLC: collation, fingerprint, plate

Number 99

4°: 6Y–7A^{4} [$1–2 signed]; 12 leaves, pp. 6155–6178

167304 - b1 6Y1 veraloft : b2 7A2 ade$up$of$a$t [DLC]

Copies considered: DLC: collation, fingerprint

Number 100

4°: 7C–7E^{4} [$1–2 signed]; 12 leaves, pp. 6179–6199 7000–7002 [=6202]; tables [engraved] 1–2

167404 - b1 7C1 s$of$the$pl : b2 7E2 y$;$and$the$a [DLC]

Copies considered: DLC: collation, fingerprint, plates

Volume 9: Numbers 101--111 (1674)

4°: π^{4}; 4 leaves, [*4*] [DLC]

Press-figure 8 in direction line on $\pi 2^r$

$\pi 4$ is an index, could be at the end instead

Copies considered: dArber: under Miscellanies for 10 May 1675, "beginning the Second Century for the Year 1674," bound for 7 s. 6 d. [i.e. 8.18 d. each], John Martyn along with *A Discourse of Gravity and Gravitation* 6d. and *A Discourse … Concerning the Nature, Causes, and Power, of Mixture* by Nehemiah Grew;[335] **dL-B:** title says "beginning the Second Century," pp. 1–252, precede by dedication and index (6 pp.), 5 plates; **DLC:** collation, fingerprints

Number 101

4^o: A–B^4 [$1–2 signed]; 8 leaves, pp. 1–16; plate [*1*]

167404 - b1 A1 ol : b2 B2 ot [DLC]

Plate $A1^r$ (1)

Copies considered: DLC: collation, fingerprint, plates

Number 102

4^o: D–E^4 F^2 [$1–2 (-F2) signed]; 10 leaves, pp. 21–40; plate [*1*]

167404 - b1 D1 h : b2 F1 De [DLC]

Plate D1 (21)

Copies considered: DLC: collation, fingerprint, plate

Number 103

4^o: G–I^4 [$1–2 signed]; 12 leaves, pp. 41–64

167404 - b1 G1 $t : b2 I2 .$p [DLC]

Copies considered: DLC: collation, fingerprint

Number 104

4^o: K–M^4 [$1–2 signed]; 12 leaves, pp. 65–88

167404 - b1 K1 nd : b2 M2 he$ [DLC]

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[335] In three volumes from 1665 to 1764, , 3 £. 10 s. Robert Clavel, *The General Catalogue of Books Printed in England Since the Dreadful Fire of London, 1666, to the End of Trinity Term, 1674* (London: Robert Clavel, 1675; Early-English Books Online, n.d.), 43.

Copies considered: DLC: collation, fingerprint

Number 105

4°: N–Q⁴ [$1–2 signed]; 16 leaves, pp. 89–120; tables [engraved] 1–2

167404 - b1 N1 Me : b2 Q2 s$in [DLC]

Two tables N1 (89)

Copies considered: DLC: collation, fingerprint, plates

Number 106

4°: R–T⁴ [$1–2 signed]; 12 leaves, pp. 121–144

167404 - b1 R1 $: b2 T2 eav [DLC]

Copies considered: DLC: collation, fingerprint

Number 107

4°: V–Y⁴ [$1–2 signed]; 12 leaves, pp. 145–168

167404 - b1 V1 d : *b2 Y1 n [DLC]

Copies considered: DLC: collation, fingerprint

Number 108

4°: Z–2B⁴ [$1–2 signed]; 12 leaves, pp. 169–192 (182=821)

167404 - b1 Z1 hi : b2 2B2 lame$ [DLC]

Copies considered: DLC: collation, fingerprint

Number 109

4°: 2C–2E⁴ [$1–2 signed]; 12 leaves, pp. 193–216

167404 - b1 2C1 the : b2 2E2 thor$ [DLC]

Copies considered: DLC: collation, fingerprint

Number 110

4°: 2F–2G⁴ 2H² [$1–2 (-2H2) signed]; 10 leaves, pp. 217–236; plate [*1*]

167404 - b1 2F1 id : b2 2H1 llati [DLC]

Plate 2F1^{r} (217)

Copies considered: DLC: collation, fingerprint, plate

Number 111

4^{o}: 2I–2K^{4} [$1–2 signed]; 8 leaves, pp. 237–252 (250–251=50–51)

000004 - b1 2I1 e : b2 2K2 s,$but [DLC]

Copies considered: DLC: collation, fingerprint

Chymical Books

"A Catalogue of Chymical Books. In Three Parts. In the First and Second Parts .... Lixewise in the Third Part is contained a Collection of such things published in the 'Philosophical Transactions' ... as pertain to Chymistry ... Octavo ... W. Cooper" 24 Nov 1675[336]

Volume 10: Numbers 112--122 (1675)

4^{o}: π^{2}; 2 leaves, [*4*] [UI, DLC]

Copies considered: dArber: under Miscellanies, bound 8s. [i.e. 8.72 d.], John Martyn "where all the 'Transactions' are to be had compleat, or single ones"; **dL-B:** beginning the 11th year, pp. 253–550, dedication and index (4 pp.), 4 plates; **UI:** collation, fingerprint, plates **DLC:** collation, fingerprint, plates

Number 112

4^{o}: 2L–2O^{4} [$1–2 signed]; 16 leaves, pp. 253–284; tables [enrgaved] 1–2

167504 - b1 2L1 ru : b2 2O2 essar [UI, DLC]

Two tabs. 2L1 (253)

Copies considered: UI: collation, fingerprint, plates **DLC:** collation, fingerprint, plates

[336] Edward Arber, ed., *The Term Catalogues, 1668-1709 a.d.; With a Number for Easter Term, 1711 a.d.: A Contemporary Bibliography of English Literature in the Reigns of Charles II, James II, William and Mary, and Anne* (London: Professor Edward Arber, 1903; New York: Johnson Reprint Company Limited, 1965), 1:218.

Number 113

4°: 2P–2Q⁴ 2R² [$1–2 signed]; 10 leaves, pp. 285–304; plate [*1*]

167504 - b1 2P1 ou : b2 2R1 arren$ [UI]

4°: 2P–2Q⁴ 2R² [$1–2 (-2R2) signed]; 10 leaves, pp. 285–304; plate [*1*]

167504 - b1 2P1 h$s : b2 2R1 m$ [DLC]

Plate 2P1 (285) [UI, DLC]

Copies considered: UI: collation, fingerprint, plate **DLC:** collation, fingerprint, plate

Number 114

4°: 2S–2V⁴ [$1–2 signed]; 12 leaves, pp. 305–328

167504 - b1 2S1 'T : b2 2V2 $;$for [UI, DLC]

Copies considered: UI: collation, fingerprint, p. 313='313)' **DLC:** collation, fingerprint

Number 115

4°: 2X–2Z⁴ [$1–2 signed]; 12 leaves, pp. 329–351 [352]

167504 - b1 2X1 eve : b2 2Z2 ts$way [UI, DLC]

Integral engraved illustration along with letterpress 2Y2ᵛ (340)

Copies considered: UI: collation, fingerprint **DLC:** collation, fingerprint

Number 116

4°: 3A–3C⁴ [$1–2 signed]; 12 leaves, pp. 353–376 (360=260)

167504 - b1 3A1 hich : b2 3C2 riori$di [UI, DLC]

Copies considered: UI: collation, fingerprint **DLC:** collation, fingerprint

Number 117

4°: 3D–3H⁴ [$1–2 signed]; 20 leaves, pp. 377–416; plate [*1*]

000004 - b1 3D1 .D. : b2 3H2 nd$mak [UI, DLC]

Plate 3D1 (377)

Copies considered: UI: collation, fingerprint, plate **DLC:** collation, fingerprint, plate

Number 118

4°: 3I–3L⁴ [$1–2 signed]; 12 leaves, pp. 417–432 435–442 [=440]

167504 - b1 3I1 s$ha : b2 2L2 $from$ [UI, DLC]

Copies considered: UI: collation, fingerprint **DLC:** collation, fingerprint

Number 119

4°: 3M–3O⁴ [$1–2 signed]; 12 leaves, pp. 443–466

167504 - b1 3M1 thelibe : b2 3O2 forth [UI, DLC]

Copies considered: UI: collation, fingerprint **DLC:** collation, fingerprint

Number 120

4°: 3P–3R⁴ [$1–2 signed]; 12 leaves, pp. 467–490

167504 - b1 3P1 fite : b2 3R2 dian$Ra [UI, DLC]

Copies considered: UI: collation, fingerprint **DLC:** collation, fingerprint

Number 121

4°: 3S–3V⁴ χ1 [$1–2 signed]; 13 leaves, pp. 491–514 [*2*] (500–501=501–500)

167504 - b1 3S1 thf : b2 3V2 and$di [UI, DLC]

Bookseller catalog χ1 [*2*] could very well belong elsewhere, but is in this location in all copies seen.

Copies considered: UI: collation, fingerprint, catalog **DLC:** collation, fingerprint, catalog

Number 122

4°: 3X–4B⁴ [$1–2 signed]; 20 leaves, pp. 515–550 [*4*]

167504 - b1 3X1 erimen : b2 2B2 $Archite [UI, DLC]

Copies considered: UI: collation, fingerprint **DLC:** collation, fingerprint

Volume 11: Numbers 123--132 (1676)

4°: π²; 2 leaves, [*4*] [UI, DLC]

Copies considered: dArber: under Miscellanies, bound 8s. [i.e. 9.6 d. each], John Martyn; **dL-B:** beginning the 12th, misprinted the 11th year, pp. 551-814, dedication and index (4 pp.), 5 plates; **UI:**

collation, fingerprint **DLC:** collation, fingerprint, no evidence contradicts π being conjugate with 5E from Number 132

Number 123

4°: 4C–4E⁴ [$1–2 signed]; 12 leaves, pp. 551–574

000004 - b1 4C1 thegene : b2 4E2 $that$it$s [UI, DLC]

Copies considered: UI: collation, fingerprint **DLC:** collation, fingerprint

Number 124

4°: 4F–4H⁴ [$1–2 signed]; 12 leaves, pp. 575–598

000004 - b1 4F1 $some$: b2 4H2 ies's$,$whi [UI, DLC]

Copies considered: UI: collation, fingerprint **DLC:** collation, fingerprint

Number 125

4°: 4I–4L⁴ [$1–2 signed]; 12 leaves, pp. 599–622

167604 - b1 4I1 rieflу$: b2 4L2 eral$dr [UI, DLC]

Smaller face 4L2^v6 (618) till the end.

Copies considered: UI: collation, fingerprint **DLC:** collation, fingerprint

Number 126

4°: 4M–4O⁴ [$1–2 signed]; 12 leaves, pp. 623–646

167604 - b1 4M1 tes$North : b2 4O2 iver'd$in$ [UI, DLC]

Copies considered: UI: collation, fingerprint **DLC:** collation, fingerprint

Number 127

4°: 4P–4R⁴ 4T⁴ [$1–2 signed]; 16 leaves, pp. 647–678; tables [engraved] 1–2

167604 - b1 4P1 s$Maste : b2 4T2 thesa [UI, DLC]

Two tabs. 4P1 (647)

Copies considered: UI: collation, fingerprint, plates **DLC:** collation, fingerprint, plates

Number 128

4°: 4V–4Z⁴ [$1–2 signed]; 16 leaves, pp. 679–710 (708–9 as 710–11); tables [engraved] 1–2

167604 - b1 4V1 will,$: b2 4Z2 nofpar [UI, DLC]

Two tables 4V1ʳ (679)

Copies considered: UI: collation, fingerprint, plates: one facing 4V1ʳ (679) the other facing 4Z4ᵛ (710) **DLC:** partial collation, partial fingerprint; only 4Z2–4Z4 (705–710) present, fingerprint matches in b2, but pagination errors absent, only one plate present facing 4V1ʳ (679)

Number 129

4°: 5A–5E⁴ [$1–2 signed]; 20 leaves, pp. 711–750 (720=721); plates [engraved, *2*]

167604 - b1 5A1 tit : b2 5E2 of$his [UI, DLC]

Two plates 5A1 (711)

Copies considered: UI: collation, fingerprint, plates both facing 5E4ᵛ (750) **DLC:** collation, fingerprint, one plate lacking

Number 130

4°: 5F–5H⁴ [$1–2 signed]; 12 leaves, pp. 751–774

167604 - b1 5F1 th : b2 5H2 oth$si [UI, DLC]

Copies considered: UI: collation, fingerprint **DLC:** collation, fingerprint

Number 131

4°: 5I–5L⁴ [$1–2 signed]; 12 leaves, pp. 775–798

167604 - b1 5I1 at : b2 5L2 ctto [UI, DLC]

Copies considered: UI: collation, fingerprint **DLC:** collation, fingerprint, more trimmed than surrounding numbers, more heavily soiled, and poorer inking

Number 132

4°: 5M–5N⁴ 5E² [$1–2 (-5E2) signed]; 10 leaves, pp. 799–814 [*4*]

167604 - b1 5M1 sie : b2 5N2 olomæ - c1=c2 5E1 p.5 [UI, DLC]

Copies considered: UI: collation, fingerprint **DLC:** collation, fingerprint, no evidence contradicts 5E conjugate with π from vol. prelims

General Index (1677)

4°: A–E⁴ [$2 (-A1) signed]; 20 leaves, pp. [2] [1] 2–27 [28–29] 30–38 (32=23)
167704 - b1 A2 ht$0 :b2 E2 $Ge [CLU-SC]

A | GENERAL INDEX | OR | Alphabetical Table | To all the | PHILOSOPHICAL | TRANSACTIONS, | From the Beginning to *July* 1677. | Alſo a Catalogue of the Books mentioned and | Abbreviated in the Tranſactions | digeſted Alphabetically. | [*rule 110.4*] | [*rule 110.5*] | *LONDON,* | Printed by *J* M. for *John Martyn*, Printer to the | Royal Society, and are to be Sold at the | *Bell* in St *Paul*'s Church-yard. | MDCLXXVIII. [**1 (A1^{r}):** CLU-SC]

[*blank*] [**2 (A1^{v}):** CLU-SC]

AN | Alphabetical Table | OF THE | PHILOSOPHICAL | TRANSACTIONS. | [*broken rule 90.0+0.7+18.5*] | From *March* 6. 1665. to *July* 1677. | [*broken rule 67.7+1.6+40.4*] [**2 (A2^{r}):** CLU-SC]

A | CATALOGUE | OF THE | BOOKS mentioned and abbreviated in the | Tranſactions,digeſted Alphabetically. [**29 (D4^{r}):** CLU-SC]

[*rule 100.9*] | *FINIS*. [**38 (E4^{v}):** CLU-SC]

Copies considered: dArber: under Miscellanies, 1 s. for J. Martyn; **CLU-SC:** bound after preliminary matter in vol. 1, but before issue 1.

Volume 12: Numbers 133--142 (1677)

Preliminaries don't seem to exist, although several title pages and dedications from Vol. 13 (1683), misprinted as Vol. 12, have been placed at the heads of this volume. [DLC] It seems possible that volume 12 was missed when printing so-called volume 13.

Copies considered: dL-B: for 1677 and 1678 beginning the 13th year, to № 144 [*stet*], pp. 815–1074, "followed by a General Index from the beginning to July, 1677 (38 pp.), 5 plates. **UI, DLC,rNHS:** absent

Number 133

4°: 5P–5R⁴ [$1–2 signed]; 12 leaves, pp. 815–838

167704 - b1 5P1 $t : b2 5R2 al$fault [UI, DLC]

Copies considered: UI: collation, fingerprint **DLC:** collation, fingerprint, prefixed by preliminary matter from v.13

Number 134

4°: 5S–5V⁴ [$1–2 signed]; 12 leaves, pp. 839–862

167704 - b1 5S1 m$i : b2 5V2 eti$no [UI, DLC]

Copies considered: UI: collation, fingerprint **DLC:** collation, fingerprint

Number 135

4°: 5X–5Z⁴ [$1–2 signed]; 12 leaves, pp. 863–886

167704 - b1 5X1 it : b2 5Z2 tude$; [UI, DLC]

Copies considered: UI: collation, fingerprint **DLC:** collation, fingerprint

Number 136

4°: 6A–6D⁴ 6E² [$1–2 (-6E2) signed]; 18 leaves, pp. 887–922 (904–905=898,895; 908–909=902,899); plate [*1*]

167704 - b1 6A1 ar : b2 6E1 am [UI, DLC]

Plate 6A^{r} (887)

Copies considered: UI: collation, fingerprint, plate **DLC:** collation, fingerprint, plate, followed by index in this copy

Number 137

4°: 6F–6H⁴ [$1–2 (-6F1) signed]; 12 leaves, pp. [*2*] 923–944

167804 - b1 6F2 succe : b2 6H2 egisti [UI, DLC]

Leaf 6F1 is blank on the recto and a large woodcut illustration on the verso, emulating a facing plate for the issue.

Copies considered: dArber: under Miscellanies, "Six Philosophical Transactions. Published by Nehemiah Grew, M.D.; being a continuation of those formerly published by Mr. Oldenburg. In Quarto." J. Martyn Nov 1679, unindexed in Arber; [Arber,[337] 1:372;[338] **UI:** collation, fingerprint **DLC:** collation, fingerprint, plate of Francis Lodwick's completion of Bishop Wilkin's philosophical language from *Philosophical Transactions* (16:182 (1686) 126-137) [*centered at top*] *The Universal Alphabet.* [*upper right*] 137 [159x108 (165x116) *engraved* **facing 6F2^{r} (923):** DLC]

Number 138

4°: 6I–6L^{4} [$1–2 signed]; 12 leaves, pp. 945–968

167804 - b1 6I1 ess$: b2 6L2 st$and [UI, DLC]

Copies considered: dArber: under Miscellanies, "Six Philosophical Transactions. Published by Nehemiah Grew, M.D.; being a continuation of those formerly published by Mr. Oldenburg. In Quarto." J. Martyn Nov 1679, unindexed in Arber;[339] **UI:** collation, fingerprint **DLC:** collation, fingerprint

Number 139

4°: 6M–6N^{4} 6O^{2} [$1–2 (-6O2) signed]; 10 leaves, pp. 969–988; plate [*1*]

167804 - b1 6M1 inu : b2 6O1 mp [UI, DLC]

Plate 6M^{r} (969)

Copies considered: dArber: under Miscellanies, "Six Philosophical Transactions. Published by Nehemiah Grew, M.D.; being a continuation of those formerly published by Mr. Oldenburg. In Quarto." J. Martyn Nov 1679, unindexed in Arber;[340] **UI:** collation, fingerprint, plate **DLC:** collation, fingerprint, plate

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[337] *The Term Catalogues, 1668-1709 a.d.; With a Number for Easter Term, 1711 a.d.*

[338] "Grew's Six Philosophical Transactions, being a Continuation of those formerly published by Mr. Oldenburgh. Both for J. Martin" Robert Clavel, *Robert Clavel: A Catalogue of Books Printed in England Since the Dreadful Fire of London, 1666 to the End of Michaelmas Term, 1695 (1696)*, English Bibliographical Sources, Series 2: Catalogues of Books in Circulation (London: R. Clavel, 1696; HathiTrust https://babel.hathitrust.org/cgi/pt?id=coo.31924029559980, Farborough, Hants: Gregg Press Ltd., 1965), 71.

[339] Arber, *The Term Catalogues, 1668-1709 a.d.; With a Number for Easter Term, 1711 a.d.*, 1:372.

[340] Ibid.

Number 140

4^{o}: 6P–6Q^{4} [$1–2 (+6P3) signed]; 8 leaves, pp. 999–1014; plate [*1*]

167804 - b1 6P1 s$A : b2 6Q2 .$of$an [UI, DLC]

Plate 6$P1^{r}$ (999)

Copies considered: dArber: under Miscellanies, "Six Philosophical Transactions. Published by Nehemiah Grew, M.D.; being a continuation of those formerly published by Mr. Oldenburg. In Quarto." J. Martyn Nov 1679, unindexed in Arber;[341] **UI:** collation, fingerprint, plate facing 6$Q4^{v}$ (1014) **DLC:** collation, fingerprint, plate

Number 141

4^{o}: 6R–6S^{4} 6T^{2} [$1–2 (-6T2) signed]; 10 leaves, pp. 1015–1034

167904 - b1 6R1 sde : b2 6T1 ove [UI, DLC]

Copies considered: dArber: under Miscellanies, "Six Philosophical Transactions. Published by Nehemiah Grew, M.D.; being a continuation of those formerly published by Mr. Oldenburg. In Quarto." J. Martyn Nov 1679, unindexed in Arber;[342] **UI:** collation, fingerprint **DLC:** collation, fingerprint

Number 142

4^{o}: 6U–7A^{4} [$1–2 signed]; 20 leaves, pp. 1035–1074; plate [relief, *1*]

167904 - b1 6U1 ma : b2 7A2 l,$som [UI, DLC]

Relief plate 6U^{r} (1035)

Copies considered: dArber: under Miscellanies, "Six Philosophical Transactions. Published by Nehemiah Grew, M.D.; being a continuation of those formerly published by Mr. Oldenburg. In Quarto." J. Martyn Nov 1679, unindexed in Arber;[343] **UI:** collation, fingerprint, plate facing 7$A4^{v}$ (1074) **DLC:** collation, fingerprint, plate, followed by the index for v.13 (1683) χ^{2}

[341] Ibid.
[342] Ibid.
[343] Ibid.

General Index (1678)

4^{o}: A–E^{4} [$1–2 (-A1) signed]; 20 leaves, pp. [2] [1] 2–27 [28–29] 30–38 (32=23)
167804 - b1 A2 ht$0 : b2 $Ge [UI, DLC]

Copies considered: dL-B: from the beginning to July, 1677 (38 pp.); **UI:** collation, fingerprint **DLC:** collation, fingerprint, lacks A1 entirely and is bound between numbers 136 and 137, perhaps suggesting a chronological rather than logical relationship

A Defense

"A Defence of the Royal Society and the 'Philosophical Transactions,' particularly those of *July* 1670, in answer to the Cavils of Dr. *W. Holder*. By John Wallis, D.D., in a Letter to the Right Honourable *William*, Lord Viscount *Brouncker*. Quarto. Printed for W. Rogers at the Maiden's Head in *Fleet street*. 6 Dec 1678[344]

Philosophical Collections 1 (1679)

Copies considered: dArber: "PHILOSOPHICAL Collections; Containing an account of such Physical, Anatomical, Chymical, Mechanical, Astronomical, Optical, or other Mathematical and Philosophical Experiments and Observations as have lately come to the Publisher's hands. As also an account of some books of this kind lately published. In Quarto. Stitcht is … Both printed for J. Martyn at the Bell in St. *Paul*'s Churchyard." Nov 1679 under Miscellanies;[345] **dESTC:** printed for John Martyn, printer to the Royal Society.

Philosophical Collections 2 (1680)

Copies considered: dArber: "Philosophical Collections, Numb. 2., containing, 1. A Letter of Mr. Beaumont concerning *Oakey* hole and other Subterraneous Grottos in *Mendip* Hills. 2. A Letter from Sturmius, of the variation of the Needle, etc. 3. A Letter from *Norimberg*, being a Relation of a Body turn'd into Hair. 4. Observations of Dr. Tyson's, of Hair, Bones, TEeth, found in the Body. 5. An Experiment tryed upon one Infected. 7. An Account of a Strange Birth in *Somersetshire*. 8. Dr. Crone, of the Structure of a Muscle. 9. Dr. Wood's new Almanack. 10.

344 Ibid., 1:332.
345 Ibid., 1:372.

Mr. Boyle's new Lamp. 11. An Account of Dr. *Borrellius' De Motu Musculorum*. 12. Dr. Tyson's Anatomy of a Porpess. 13. An account of the 1. vol. of the 'English Atlas.' 14. Dr. Sampson's Observations on a Morbid Body. 15. Of the growing of Hair on a Dead Body. Quarto. Price 1s. Sold by M. Pitt at the Angel in St. *Paul*'s Churchyard." Nov 1680 under Miscellanies;[346] **dESTC:** printed by: Moses Pitt, at the Angel in St. Paul's Church-yard.

Philosophical Collections 3 (December 1681)

Copies considered: dArber: "Philosophical Collections by the Royal Society, N[o]. 3. *December* 10. 1681. Quarto. Printed for R. Chiswell, Printer to the Royal Society, at the Rose and Crown in St. *Paul's* Churchyard." Feb 1682;[347] **dESTC:** printed for: Richard Chiswell, printer to the Royal Society, at the Rose and Crown in St. Paul's Church-yard.

Philosophical Collections 4 (January 1682)

Copies considered: dESTC: printed for: Richard Chiswell, printer to the Royal Society, at the Rose and Crown in St. Paul's Church-yard.

Philosophical Collections 5 (February 1682)

Copies considered: dESTC: printed for: Richard Chiswell, printer to the Royal Society, at the Rose and Crown in St. Paul's Church-yard.

Philosophical Collections 6 (March 1682)

Copies considered: dESTC: printed for: Richard Chiswell, printer to the Royal Society, at the Rose and Crown in St. Paul's Church-yard.

Philosophical Collections 7 (April 1682)

Copies considered: dESTC: printed for: Richard Chiswell, printer to the Royal Society, at the Rose and Crown in St. Paul's Church-yard.

346 Ibid., 1:419.
347 Ibid., 1:475.

VOLUME 13: NUMBERS 143--154 (1683)

4°: π^2; 2 leaves, [*4*] [DLC]

Copies considered: dArber: under Miscellanies May 1684, v.12 [i.e. 13] "for the year 1683. *Oxford*. Printed at the Theater; and sold by M. Pitt at the Angel in St. *Paul*'s Churchyard."; **dL-B:** for 1683 "having title Vol. 12, altered to 13," pp. 1–430, table (4 pp.), 17 plates; **DLC:** collation

Number 143

4°: A–C^4 [$1–2 (-A1,B2) signed]; 12 leaves, pp. [*2*] 1–6 9–24 [=22]

000004 - b1 A2 Chr : b2 C2 $est [DLC]

A1^v has engraved illustration with a blank recto, appearing like a plate and explaining the pagination

Copies considered: DLC: collation, fingerprint

Number 144

4°: D–H^4 I^2 [$1–2 (-I2) signed]; 22 leaves, pp. 25–54 [55] 56-68 (58-59=46-47); plates [engraved, *2*]

168304 - b1 D1 i : b2 I1 wh [DLC: year actually $168\frac{2}{3}$]

Two plates, fig. 1–3, 4–12 D1^r (25)

Copies considered: DLC: collation, fingerprint, plates

Number 145

4°: K–O^4 P^2 [$1–2 (-P2) signed]; 22 leaves, pp. 69–112; tables [engraved] 1–2

168304 - b1 K1 o : *b2 O2 $ag [DLC]

Two tabs K1^r (69)

Copies considered: DLC: collation, fingerprint, plates

Number 146

4°: Q–V^4 [$1–2 (-V2) signed]; 20 leaves, pp. 113–151 [152]; tables [engraved] 1–2

168304 - b1 Q1 qu : *b2 T1 om (V1 |$ [where | is a rule]) [DLC: type damaged for b2, but appears to be citation to Hier Gabucinius, *De lumbricis aluum occupantibus, ac de ratione curandi eos qui ab illis infestantur commentarius* which gives the above]

Two tabs. 1–2 Q1 (113)

Copies considered: DLC: collation, fingerprint, plates

Number 147

4°: X–2B⁴ 2C² [$1–2 (-2C2) signed]; 22 leaves, pp. 153–196 (193='(193'); plate [*1*]

168304 - b1 X1 $R : b2 2C1 y$t [DLC]

Plate, fig. 1–5 X1ʳ (153)

Copies considered: DLC: collation, fingerprint, plate

Number 148

4°: 2D–2H⁴ [$1–2 signed]; 20 leaves, pp. 197–235 [236]; plate [*1*]

168304 - b1 2D1 e$: b2 2H2 stbe [DLC]

Plate, fig. 1–20 2D1ʳ (197)

Copies considered: DLC: collation, fingerprint, plate

Number 149

4°: 2I–2N⁴ [$1–2 (-2I2, +2I1ᵛ) signed]; 20 leaves, pp. 237–275 274 [=276] (241='241),' 272–273=270–271); plate [*1*]

168304 - b1 2I1 82 : *b2 2N1 ,$no [DLC]

Plate 2Iʳ (237)

Copies considered: DLC: collation, fingerprint, plate

Number 150

4°: 2O–2R⁴ 2S² [$1–2 (-2S2) signed]; 18 leaves, pp. 275–310; plates [*2*]

168304 - b1 2O1 N : b2 2S1 . (line above: ,$ar) [DLC]

Two plates, figs. 1–5, 1–55 2O1ʳ (275)

Copies considered: DLC: collation, fingerprint, plates

Number 151

4°: 2T–2X⁴ [$1–2 (-2X2; 2T2=2S2) signed]; 12 leaves, pp. 311–333 [334] (332='(332)'); plate [*1*]

168304 - b1 2T1 $: b2 2X1 $am [DLC]

Switched to enclosing page numbers in square brackets, except 332

Plate 2T^{r} (311)

Copies considered: DLC: collation, fingerprint, plate

Number 152

4^{o}: 2Y–3A^{4} [$1–2 (+2Y3) signed]; 12 leaves, pp. 335-358; plate [*1*]

168304 - b1 2Y1 Chr : b2 3A2 ood,$t [DLC]

Pp. 335–346 enclosed in parentheses, pp. 347–358 enclosed in brackets

Plate, fig. 1–2 2Y^{r} (335)

Copies considered: DLC: collation, fingerprint, plate, some sort of warehouse mark on 2Y2.3(o) (338–339) '200< >to W?'

Number 153

4^{o}: 3B–3F^{4} [$1–2 signed]; 20 leaves, pp. 359–398 (387 with upside-down 3); tables [engraved] 1–2

168304 - b1 3B1 e$Repo : b2 3F2 nes$are$ (R in b1 is swash, *R*) [DLC]

Tabs. 1–2 3B1^{r} (359)

Copies considered: DLC: collation, fingerprint, plates

Number 154

4^{o}: 3G–3K^{4} χ^{2} [$1–2 signed]; 18 leaves, pp. 399–430 [*4*]; table [engraved] 1

168304 - b1 3G1 the : b2 3K2 er$then [DLC]

χ is clipped in this copy, but DLC v.12 also lacks a signature

No evidence contradicts χ and π conjugate

Tab. 1 3G^{r} (399)

Copies considered: DLC: collation, fingerprint, plate

Volume 14: Numbers 155--166 (1684)

4^{o}: π^{2}; 2 leaves, [*4*] [DLC]

Copies considered: dL-B: for 1684, pp. 431–834, dedication and index (8 pp.), 11 plates, "An advertisement directs that the title of the former volume should be altered to Vol. 13."; **DLC:** collation

Number 155

4°: A–E⁴ [$1–2 (+A3) signed]; 20 leaves, pp. 431–468 [469–470]; plate [*1*]

168404 - b1 A1 b : *b2 E1 $t [DLC]

Plate A1ʳ (431)

Copies considered: DLC: collation, fingerprint, plate

Number 156

4°: F–K⁴ [$1–2 signed]; 20 leaves, pp. 471–509 [510]; plate [*1*]

168404 - b1 F1 Q : b2 K2 hi [DLC]

Plate F1ʳ (471)

Copies considered: DLC: collation, fingerprint, plate

Number 157

4°: L–P⁴ [$1–2 signed]; 20 leaves, pp. 511–550; plate [*1*]

168404 - b1 L1 e : b2 P2 ius [DLC]

Plate L1ʳ (511)

Copies considered: DLC: collation, fingerprint, plate

Number 158

4°: Q–U⁴ [$1–2 signed]; 20 leaves, pp. 551–574 573–587 [588=590]; plate [*1*]

168404 - b1 Q1 a : b2 U22 $th [DLC]

Plate Q1ʳ (551)

Copies considered: DLC: collation, fingerprint, plate

Number 159

4°: X–Z⁴ [$1–2 signed]; 12 leaves, pp. 559–582; plate [*1*]

168404 - b1 X1 b : b2 Z2 nc [DLC]

Plate X1 (559)

Copies considered: DLC: collation, fingerprint, plate

Number 160

4°: A–E⁴ [$1–2 signed]; 20 leaves, pp. 583–621 [622]; plate [*1*]

168404 - b1 A1 D : b2 E2 . (line above: ;$t) [DLC]

Plate, fig. 1–13 A1 (583)

Copies considered: DLC: collation, fingerprint, plate

Number 161

4°: F–K⁴ [$1–2 (K2=L2) signed]; 20 leaves, pp. 623–654 663–670 [=662]; plate [*1*]

168404 - b1 F1 a : b2 K2 iona [DLC]

Plate, fig. 1–5 F1 (623)

Copies considered: DLC: collation, fingerprint, plate

Number 162

4°: L–P⁴ [$1–2 signed]; 20 leaves, pp. 671–710 (682='[682'); plate [*1*]

168404 - b1 L1 a : *b2 P1 to [DLC]

Plate, fig. 1–11 L1 (671)

Copies considered: DLC: collation, fingerprint, plate

Number 163

4°: Q–S⁴ [$1–2 signed]; 12 leaves, pp. 711–734; plate [*1*]

168404 - b1 Q1 00 : *b2 S1 ds [DLC]

Plate Q1 (711)

Copies considered: DLC: collation, fingerprint, plate

Number 164

4°: T–X⁴ [$1–2 signed]; 12 leaves, pp. 735–758 (743=737,746=736,747=741,750=740); plate [*1*]

168404 - b1 T1 l : b2 X2 æqu [DLC]

Plate, fig. 1–2 T1^{r} (735)

Copies considered: DLC: collation, fingerprint, plate

Number 165

4°: Y–Z⁴ A–C⁴ [$1–2 signed]; 20 leaves, pp. 759–775 χ786–791 782–798 [=798] (χ788=778, χ789=']789]'); plate [*1*]

168404 - b1 Y1 l : b2 C2 I$ju [DLC]

Plate, fig. 1–9 Y1ʳ (759)

Copies considered: DLC: collation, fingerprint, plate

Number 166

4°: D–G⁴ H² I⁴ [$1–2 (-H2) signed]; 22 leaves, pp. 799–834 [*8*]; plate [engraved, *1*], letterpress table [*1*]

000004 - b1 D1 $: b2 I2 es$ [DLC]

Plate [engraved] D1ʳ (799)

Letterpress table of tides F4ᵛ (822)

Copies considered: DLC: collation, fingerprint, plates

VOLUME 15: NUMBERS 167--178 (1685)

4°: π²; 2 leaves, [*4*] [DLC]

Copies considered: dArber: under Miscellanies May 1685, 'for the year 1685; and sold by S. Smith at the Prince's Arms in St. *Paul*'s Churchyard, and H. Clements, Bookseller in *Oxford*", preceded by *Short Memories ... mineral Waters* by Robert Boyle, octavo, 1 s. for S. Smith; **dL-B:** for 1685, pp. 835–1310, dedication and index (8 pp.), 15 plates; **DLC:** collation

Number 167

4°: A² B–E⁴ F² [$1–3 signed]; 20 leaves, pp. 835–862 862–873 [=874]; plate [*1*]

000004 - b1 A1 æ (ae) : b2 F2 um [DLC]

Plate, fig. 1–9 A1ʳ (835)

Copies considered: DLC: collation, fingerprint, plate

Number 168

4°: G² H–L⁴ M² [$1–3 signed]; 20 leaves, pp. 875–914; plate [*1*]

000004 - b1 G1 y : b2 M2 u$sh [DLC]

Plate, fig. 1–9 G1^{r} (875)

Copies considered: DLC: collation, fingerprint, plate

Number 169

4°: N^{2} O–Q^{4} R^{2} [$1–3 signed]; 16 leaves, pp. 915–946; plate [*1*]

000004 - b1 N1 u : b2 R2 unc [DLC]

Plate N1^{r} (915)

Copies considered: DLC: collation, fingerprint, plate

Number 170

4°: S^{2} T–Y^{4} Z^{2} [$1–3 signed]; 20 leaves, pp. 947–986; plate [*1*]

000004 - b1 S1 $B : b2 Z2 $alt [DLC]

Plate, No. 1–12 S1^{r} (947)

Copies considered: DLC: collation, fingerprint, plate

Number 171

4°: 2A^{2} 2B–2E^{4} 2F^{2} [$1–3 signed]; 20 leaves, pp. 987–1026; plate [*1*]

000004 - b1 2A1 ,$8° : b2 2F2 t$tha [DLC]

Plate, fig. 1–4 2A1^{r} (987)

Copies considered: DLC: collation, fingerprint, plate

Number 172

4°: 2G^{2} 2H–2L^{4} 2M^{2} [$1–3 signed]; 20 leaves, pp. 1027–1066; plate [*1*]

000004 - *b1 2H2 hen$: b2 2M2 oallwh [DLC]

Alternative for b1: 2G1 $\frac{4}{5}$ (line above: rabl)

Plate, fig. 1–3 2G1^{r} (1027)

Copies considered: DLC: collation, fingerprint, plate

Number 173

4°: 2N^{2} 2O–2R^{4} 2S^{2} [$1–3 (2O3=2O3) signed]; 20 leaves, pp. 1067–1106; plate [*1*]

000004 - b1 2N1 $L : b2 2S2 fter$ [DLC]

Plate, No. 1–18 2N1^{r} (1067)

Copies considered: DLC: collation, fingerprint, plate

Number 174

4°: 2T^{2} 2V–2Z^{4} 3A^{2} [$1–3 signed]; 20 leaves, pp. 1107–1146; plate [*1*]

000004 - b1 2T1 s$N : b2 3A2 es,$wher [DLC]

Plate, fig. 1–10 2T1^{r} (1107)

Copies considered: DLC: collation, fingerprint, plate

Number 175

4°: 3B^{2} 3C–3F^{4} 3G^{2} [$1–3 (3F3=2F3) signed]; 20 leaves, pp. 1147–1186 (1170=1870); plate [*1*]

000004 - b1 3B1 RI$: b2 3G2 he$argu [DLC]

Plate, fig. 1–12 3B1^{r} (1147)

Copies considered: DLC: collation, fingerprint, plate

Number 176

4°: 3H^{2} 3I–3K^{4} 3L^{2} [$1–3 signed]; 12 leaves, pp. 1187–1210; plate [*1*]

000004 - b1 3H1 naba : b2 3L2 hereal [DLC]

Plate, gif. 1–34 3H1^{r} (1187)

Copies considered: DLC: collation, fingerprint, plate

Number 177

4°: 3M^{2} 3N–3Q^{4} 3R^{2} [$1–3 signed]; 20 leaves, pp. 1211–1250; plate [*1*]

000004 - b1 3M1 cta$à$J : b2 3R2 The$blo [DLC]

Plate, fig. 1–34 3H1^{r} (1187)

Copies considered: DLC: collation, fingerprint, plate

Number 178

4°: 3S^{2} 3T–4C^{4} [$1–3 signed]; 34 leaves, pp. 1251–1310 [*8*]; tables [engraved, *3*]

000004 - b1 3S1 kirk. : b2 4C3 n$account$ [DLC]

Three tabs. 1–3 3S1^{r} (1251)

Copies considered: DLC: collation, fingerprint, plate

VOLUME 16: NUMBERS 179--191 (1686--1687)

π^{2}; 2 leaves, [*4*] [DLC]

Copies considered: dArber: under Miscellanies May & June 1686, "monthly, for the years, 1685, [16]86. Quarto. Sold by S. Smith at the Prince's Arms in St. *Paul*'s Churchyard," see also old stock under entry for v.17; **dL-B:** for 1686, 1687, etc. pp. 1–450, dedication and index, 13 plates, "There were no volumes for 1688–1690, and included in vol. 16 are all that were published for 1691 and 1692, viz., Nos. 192 to 195, which are paged 451–578, with 2 plates"; **DLC:** collation

Number 179

4°: a1 A–D^{4} E1 [$1–2 signed]; 18 leaves, pp. 1–36; table [engraved] 1

000004 - a1=a2 a1 rld$ - b1 A be : b2 he [DLC]

Tab. 1 a1^{r} (1)

Copies considered: DLC: collation, fingerprint, plate

Number 180

4°: $^{\pi}$F^{2} F–K^{4} [$1–2 (-$^{\pi}$F2) signed]; 22 leaves, pp. 35–37 [38] 39–78; plate [*1*]

168604 - a1=a2 $^{\pi}$F1 f - b1 F1 gi : b2 K2 $:$ [DLC]

Plate $^{\pi}$F1^{r} (35)

Copies considered: DLC: collation, fingerprint, plate

Number 181

4°: χ1 L–M^{4} N^{2} O–Q^{4} 2χ1 [$1–2 (-N2) signed]; 24 leaves, pp. 77–123 [124]; plate [*1*]

168604 - b1 L1 v : b2 Q2 ture [DLC]

Plate, fig. 1–6 χ1^{r} (77)

Copies considered: DLC: collation, fingerprint, plate

Number 182

4°: R–T⁴ [$1–2 signed, T='‖T']; 12 leaves, pp. 125–148 (137 in engraved ill.)

000004 - b1 R1 n : b2 T2 ch$set [DLC]

Engraved illustration S3ʳ (137)

Copies considered: DLC: collation, fingerprint

Number 183

4°: T–Z⁴ [$1–2 signed]; 20 leaves, pp. 151–189 [190]; plate [*1*]

000004 - b1 T1 h : b2 Z2 $Au [DLC]

Plate T1ʳ (151)

Copies considered: DLC: collation, fingerprint, plate

Number 184

4°: 2A⁴ [2B]⁴ 2C⁴ 2D1 [$1–2 signed]; 13 leaves, pp. 191–199 [200–205] 206–216

000004 - b1 2A1 .$S : b2 2D1 r,$ [DLC]

Copies considered: DLC: collation, fingerprint

Number 185

4°: χ1 2E–2H⁴ 2I1 [$1–2 signed]; 18 leaves, pp. 219–254; plates [*2*]

000004 - b1 2E1 ut : b2 2I1 or [DLC]

Plate and tab. 2, χ1 (219)

Copies considered: DLC: collation, fingerprint, plates

Number 186

4°: 2I² 2K–2N⁴ [$1–2 signed, 2I1=2I2, 2M2=2M1]; 18 leaves, pp. 255-290; plate [*1*]

000004 - b1 2I1 glio : b2 2N2 verfe [DLC]

Plate 2I1ʳ (255)

Copies considered: DLC: collation, fingerprint, plate, ends with the review of book I, but omits review of II, with a catch-word suggesting it's absent

Number 187

4°: 2O1 2P–2S⁴ 2T1 [$1–2 signed]; 18 leaves, pp. 297–332; plate [*1*]
000004 - a1=a2 2O1 pin$ - b1 2P1 e$g : b2 2S2 oo - c1=c2 2T1 ce [DLC]
Square brackets around pp. 297–298, 307–332; round parentheses around 299–306
Plate 2O1 (297)
Copies considered: DLC: collation, fingerprint, plate.

Number 188

4°: χ² 2U² 2W⁴ 2X⁴ [$1–2 signed]; 12 leaves, pp. 331–354
000004 - b1 2U1 ro : b2 2X2 $immo [DLC]
Copies considered: DLC: collation, fingerprint.

Number 189

4°: 2Y–3A⁴ [$1–2 (+3A3) signed]; 12 leaves, pp. 355–378
000004 - b1 2Y1 iis.$: b2 3A3 f$An [DLC]
Precisely registered engravings 2Y2.3(o) (358–359) with raised paper suggesting they were done after the letterpress
Copies considered: DLC: collation, fingerprint.

Number 190

4°: 3B–3G² [$1–2 (-3B2) signed]; 12 leaves, pp. 383 [384] 385–406; plate [*1*]
168704 - b1 3B1 OY : b2 3G2 round [DLC]
Copies considered: DLC: collation, fingerprint, plate.

Number 191

4°: 3H² 3I–3N⁴ [$1–2 (-3HLM2, +3K3) signed]; 22 leaves, pp. 407–426 426 [428–429] 430–431 [432–433] 434–435 [436–439] 440–450; plate [*1*]
000004 - a1=a2 3H1 ixtee - b1 3I1 .$: *b2 3N1 the [DLC]
Plate, fig. 1–3 3H1ʳ (407)
Copies considered: DLC: collation, fingerprint, plate.

Uncollected

Number 192

4°: a² A–D⁴ E² [$1–2 (-aE2) signed]; 20 leaves, pp. 451–490

000004 - a1=a2 a1 un - b1 A1 ma : b2 E1 i [DLC]

Copies considered: dL-B: see entry for v.16 above; **DLC:** collation, fingerprint, at beginning of v. 17.

Number 193

4°: F² G–K⁴ L² [$1–2 (-FL2) signed]; 20 leaves, pp. 491–530; plate [*1*]

000004 - a1=a2 F1 $ - b1 G1 ,$: b2 L1 e [DLC]

Fig. 1–13 [**F1ʳ (491):** DLC]

Copies considered: dL-B: see entry for v.16 above; **DLC:** collation, fingerprint, plate, at beginning of v. 17.

Number 194

4°: L–N⁴ [$1–2 signed]; 12 leaves, pp. 531-555

169104 - b1 L1 i : b2 N2 e$jo [DLC]

Copies considered: dL-B: see entry for v.16 above; **DLC:** collation, fingerprint, at beginning of v. 17.

Number 195

4°: P–R⁴ [$1–2 signed]; 12 leaves, pp. 555–578; plate [*1*]

000004 - b1 P1 ey : b2 R2 $Di [DLC]

[**P1ʳ (555):** DLC]

Copies considered: dL-B: see entry for v.16 above; **DLC:** collation, fingerprint, plate, at beginning of v. 17.

Volume 17: Numbers 196--206 (1693)

4°: π²; 2 leaves, [*4*] [DLC]

Copies considered: dArber: under Miscellanies Nov 1693, "not having of late years been published so duely as desired; these are to advertise that there are newly published Eight Transactions for *January, February, March, April, May, June, July, August,* and *September* last. The present Undertaker resolves to continue them Monthly, invites the Ingenious to a free Communication of what shell be thought proper: directing to one of the Secretaries of the Royal Society, to be left with Mr. *Hunt* at *Gresham* College; or S. Smith and B. Walford at the Prince's Arms in St. *Paul*'s Churchyard, Printers to the Royal Society; by whom the Transactions are sold, and complete setts of those formerly printed. Quarto.";[348] under Miscellanies Feb 1694 "not having of late years been published so duly as desired ; these are to advertise that there is newly printed the Transactions for the month of *December*, 1693: with a general title to that year (being the 17th Vol.), and a general Index to all of them since Mr. *Oldenburgh*'s general table, viz. From *January*, 1677/8 to *December* 1693. Also a Catalogue of the books mentioned and abbreviated in them, in an Alphabetical order. The present Undertaker, resolving to continue them monthly, invites the ingenious to a free communication of what shall be thought proper ; directing for one of the Secretaries of the Royal Society, to be left with Mr. *Hunt* in *Gresham* College; or S. Smith and B. Walford at the Prince's Arms in St. *Paul*'s Churchyard: where may be had the years 1683. and 84. entire;or odd years, or monthly of all that have come out from thence to this present.";[349] **dL-B:** for 1693, pp. 579–1037, dedication and general index from Jan. 1688 to Doc. 1693, 10 plates; **DLC:** collation.

Number 196

4°: A–E^4 F^2 [$1–2 (-F2) signed]; 22 leaves, pp. 579–622; plate [*1*]

169304 - a1=a2 - b1 A1 $: b2 F1 t [DLC]

Fig. 1–8 [**A1^r (579):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 197

4°: G^2 H–L^4 M^2 [$1–2 (-GM2) signed]; 20 leaves, pp. 623–662 (638–639=636–637, 642=640, 643='(643,' 662=652); plate [*1*]

169304 - a1=a2 G1 r - b1 H1 s [f] : b2 M1 t [DLC]

[348] ibid., 2:483.
[349] ibid., 2:494.

Fig. 1–5 [**G1^{r} (623):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 198

4°: N^{2} O–R^{4} S^{2} [$1–2 (-NS2) signed]; 20 leaves, pp. 653–692; plate [*1*]

169304 - a1=a2 N1 r - b1 O1 e : b2 S1 m [DLC]

A–O, Q [**N1^{r} (653):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 199

4°: T^{2} U–Z^{4} 2A^{2} [$1–2 (-T 2A2) signed]; 20 leaves, pp. 693–732; plate [*1*]

169304 - a1=a2 T1 a - b1 U1 $: b2 2A1 ho [DLC]

Fig. 1–15 [**T1^{r} (693):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 200

4°: 2B^{2} 2C–2F^{4} 2G^{2} [$1–2 (-2BG2) signed]; 20 leaves, pp. 733–772 (763=793); plate [*1*]

169304 - a1=a2 2B1 ith - b1 2C1 it,$: b2 2G1 o$t [DLC]

Fig. 1–20, № 1–3 [**2B1^{r} (733):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 201

4°: 2H–2M^{4} [$1–2 (2L1–2L2=2K1–2K2) signed]; 16 leaves, pp. 773–812; plates [*2*]

169304 - b1 2H1 irg : b2 2M2 their$ [DLC]

1–6 [**2H1^{r} (773):** DLC]

[**2H1^{r} (773):** DLC]

Copies considered: DLC: collation, fingerprint

Number 202

4°: 2N^{2} 2O–2S^{4} [$1–2 (-2N2) signed]; 22 leaves, pp. 813–856 (846–847=847–846); plate [*1*]

169304 - a1=a2 2N1 t$of - b1 2O1 the : b2 2S2 add [DLC]

Fig. 1–9 [**2N1^{r} (813):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 203

4°: 2T^{2} 2V–2Z^{4} 3A^{2} [$1–2 (-3A2) signed]; 20 leaves, pp. 857–896; plate [*1*]

169304 - a1=a2 2T1 ,$ - b1 2V1 ns,$: b2 3A1 $gre [DLC]

Fig. 1–10 [**2T1^{r} (857):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 204

4°: 3B^{2} 3C–3F^{4} 3G^{2} [$1–2 (-3BG2) signed]; 20 leaves, pp. 897–936; plate [*1*]

169304 - a1=a2 3B1 .$S.$T - b1 3C1 tion$: b2 3G1 owin [DLC]

Fig. 1–2 [**3B1^{r} (897):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 205

4°: 3H^{2} 3I–3M^{4} 3N^{2} [$1–2 (-3HN2; 3L2=3H2) signed]; 20 leaves, pp. 927–930 941–976 [=966]; plate [*1*]

169304 - a1=a2 3H1 $&c, - b1 3I1 $T : b2 3N1 he$U [DLC]

Fig. 1–14, № 15–16, Fig. B [**3H1^{r} (927):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 206

4°: 3O^{2} 3P–3R^{4} [$1–2 (-3O2) signed]; 14 leaves, pp. 977–1004 (998=999, 1002=1003)

000004 - a1=a2 3O1 .$C - b1 3P1 to$te : b2 3R2 $obtain [DLC]

Copies considered: DLC: collation, fingerprint

General Index

4°: 3S–3X^{4} 3Y^{2} [$1–2 (-3S1,3Y2) signed]; 18 leaves, pp. [*2*] 1005–1037 [1038]

169404 - b1 3S2 of : b2 3Y1 222. [DLC]

Copies considered: dArber: see entry for v.17; **DLC:** collation, fingerprint

Volume 18: Numbers 207--214 (1694)

4°: π²; 2 leaves, [*4*] [DLC]

Copies considered: dArber: under Miscellanies June 1695, "for the year, 1694: finish with a general Title and Index to the whole Year; being the 18[th]. Vol.; and is now continued for the several Months of this present Year, 1695. Quarto. Printed for S. Smith and B. Walford at the Prince's arms in St. *Paul*'s Churchyard.";[350] **dL-B:** for 1694, pp. 1–280, dedication and index (4 pp.), 6 plates; **DLC:** collation

Number 207

4°: A² B–E⁴ F² [$1–2 signed]; 20 leaves, pp. 1–40; plate [*1*]

169404 - a1 A1 mp : a2 A2 oft - b1 B1 t : b2 F2 Mo [DLC]

Fig. 1–3 [**A1ʳ (1):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 208

4°: G² H–L⁴ [$1–2 (-G2) signed]; 18 leaves, pp. 41–76; plate [*1*]

169404 - a1=a2 G1 o - b1 H1 y : b2 L2 o$h [DLC]

A–C [**G1ʳ (41):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 209

4°: M² N–Q⁴ R² [$1–2 (-MR2) signed]; 20 leaves, pp. 77–116; plate [*1*]

169404 - a1=a2 M1 . - b1 N1 i : b2 R1 o [DLC]

[*map*] [**M1ʳ (77):** DLC]

Copies considered: DLC: collation, fingerprint, plate

[350] ibid., 2:560.

Number 210

4°: S² T–X⁴ Y² [$1–2 (-S2) signed]; 16 leaves, pp. 117–148; plates [*3*]

169404 - a1=a2 S1 e - b1 T1 $: b2 Y2 am [DLC]

[*view*] [**S1ʳ (117):** DLC]

[*view*] [**S1ʳ (117):** DLC]

[*relief table*] [**X4ʳ (143):** DLC]

Copies considered: DLC: collation, fingerprint, plates

Number 211

4°: Z² 2A–2B⁴ [$1–2 (-Z2) signed]; 10 leaves, pp. 149–168; plate [*1*]

169404 - a1=a2 Z1 en - b1 2A1 som [ſom] : b2 2B2 g$bei [DLC]

Fig. I–VII [**Z1ʳ (149):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 212

4°: 2C² 2D–2E⁴ 2F² [$1–2 (-2CF2) signed]; 12 leaves, pp. 169–192; plate [*1*]

169404 - a1=a2 2C1 $ve - b1 2D1 $si [$ſi] : b2 2F1 1 [DLC]

[*view and map*] [**2C1ʳ (169):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 213

4°: 2G² 2H–2L⁴ 2M² [$1–2 (-2GM2) signed]; 20 leaves, pp. 193–232; plate [*1*]

169404 - a1=a2 2G1 eon - b1 2H1 at$: b2 2M1 pable [DLC]

Fig. 1–14 [**2G1ʳ (193):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 214

4°: 2N² 2O–2T⁴ [$1–2 signed]; 26 leaves, pp. 233–280 [281–284]

169404 - a1 2N1 $M : a2 2N2 fuiſſe$ - b1 2O1 ,$b : b2 2T2 $whic [DLC]

Copies considered: DLC: collation, fingerprint

Volume 19: Numbers 215--235 (1695--1697)

4^{o}: π^{2}; 2 leaves, [*4*] [DLC]

Copies considered: dArber: see entry under v.18 above and nos. 234 and 235 below, under Miscellanies May 1697: "Begun by Mr. Oldenburg, and carried on by Dr. Hooke, Dr. Grew, Dr. Tyson, Dr. Plot, Mr. Ashton, Dr. Musgrave, Rich. Walker, Esq., Mr. Edmund Halley, etc. are now continued monthly by Dr. Hans Sloane, Secretary to the Royal Society; the year 1696 being compleated. There is since publishedh Numb. 224, 225, 226, 227, for the Months of *January, February, March,* and *April,* 1697. The next, for the present month of *May*, is now in the press; and will be published the first Wednesday in *June*; the first Wednesday in every month being designed the day for publication of these Transactions. Quarto. Printed for S. Smith and B. Walford, Printers to the Royal Society, at the Prince's Arms in St. *Paul*'s Churchyard; where are to be sold compleat setts, or odd numbers, to supply what Gentlemen want.";[351] **dL-B:** for 1695–7, pp. 1–799, dedication and index (24 pp.), 15 plates; **DLC:** collation

Number 215

4^{o}: B^{2} C–F^{4} G^{2} [$1–2 (-BG2) signed]; 20 leaves, pp. 1–40; plate [*1*]

169504 - a1=a2 B1 n$ - b1 C1 3 : b2 G1 t [DLC]

Fig. 1–3 [**B1^{r} (1):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 216

4^{o}: H^{2} I–M^{4} N1 [$1–2 signed]; 19 leaves, pp. 41–78; plate [*2*]

169504 - a1 H1 S : a2 H2 ro - b1 I1 th : b2 N1 o [DLC, VaCvJPSA]

[*view*] [**H1^{r} (41):** DLC]

Fig. 1–4 [*relief diagram*] [**K1^{v} (54):** DLC]

Imprint: [*rule*] | *LONDON:* | Printed for *Sam. Smith*, and *Benj. Walford*, Printers to | the *Royal Society*, at the Prince's Arms in St. P*aul*'s | Church-yard. 1695. | [*rule*] [**N1^{v} (78):** VaCvJPSA]

Copies considered: DLC: collation, fingerprint, plates; **VaCvJPSA:** fragment, only N1 (77–8), matches fingerprint.

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[351] ibid., 3:16.

Number 217

4°: O² P–T⁴ [U]1 [$1–2 signed]; 23 leaves, pp. 79–124; plate [*1*]

169504 - a1=a2 O1 . : a2 O2 He - b1 P1 nu : b2 T2 hic [DLC]

Fig. 1—3 [*relief*] [**P3ᵛ (88):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 218

4°: X² Y–2D⁴ [$1–2 (-X2) signed]; 26 leaves, pp. 125–175 [176]; plate [*1*]

169504 - a1=a2 X1 v - b1 Y1 ve : b2 2D2 or$ΑΓ [DLC]

[*view*] [**X1ʳ (125):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 219

4°: 2E² 2F–2K⁴ [$1–2 (-2E2) signed]; 22 leaves, pp. 117–120 181–220 [=160]; plate [*1*]

169604 - a1=a2 2E1 ro$ - b1 2F1 riti : b2 2K2 ter$w [DLC]

Fig. 1–14 [**2E1ʳ (117):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 220

4°: 2L² 2M–2Q⁴ [$1–2 (-2L2) signed]; 22 leaves, pp. 221–264; plate [*1*]

169604 - a1=a2 2L1 an - b1 2M1 it$s [it$f] : *b2 2Q1 $N [DLC]

[**2L1ʳ (221):** DLC]

Copies considered: DLC: collation, fingerprint (a1=a2 from image), plate

Number 221

4°: 2R² 2S–2V⁴ 2X² [$1–2 (-2RX2) signed]; 16 leaves, pp. 265–296; plate [*1*]

169604 - a1=a2 2R1 $A. - *b1 2S2 le$af : b2 2X1 line [DLC]

Fig. 1–8 [**2R1ʳ (265):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 222

4°: 2Y² 2Z–3B⁴ 3C² [$1–2 (-2Y 3C2) signed]; 16 leaves, pp. 297–328 (298–299=398–399); plate [*1*]

169604 - a1=a2 2Y1 lph$ - b1 2Z1 w : b2 3C1 and$ [DLC]

[**2Y1ʳ (297):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 223

4°: 3C² 3D–3F⁴ 3G² [$1–2 (-3CG2; 3E2=3F2) signed]; 16 leaves, pp. 329–360; plate [*1*]

169704 - a1=a2 3C1 tot - b1 3D1 μνειν : b2 3G1 $Inch [DLC]

Fig. 1–2 [**3C1ʳ (329):** DLC]

Copies considered: DLC: collation (pagination from image), fingerprint, plate

Number 224

4°: 3H² 3I–3M⁴ 3N² [$1–2 (-3HN2) signed]; 20 leaves, pp. 361–400

169704 - a1=a2 3H1 ount$ - b1 3I1 f$t : b2 3N1 t$an$I [DLC]

Copies considered: dArber: see entry for v.19 above; **DLC:** collation, fingerprint

Number 225

4°: 3O² 3P–3S⁴ 3T² [$1–2 (-3OT2) signed]; 20 leaves, pp. 401–440; plate [*1*]

169704 - a1=a2 3O1 .A - b1 3P1 ds$the : b2 3T1 us$A [DLC: date "169."]

Fig. 1–2 [**3P1ʳ (401):** DLC]

Copies considered: dArber: see entry for v.19 above; **DLC:** collation, fingerprint, plate

Number 226

4°: 3V² 3X–4B⁴ [$1–2 (-3V2) signed]; 22 leaves, pp. 441–484; plate [*1*]

169704 - a1=a2 3V1 ofth - b1 3X1 cy$to : b2 4B2 ed,$and$ [DLC]

[*map*] [**3V1ʳ (441):** DLC]

Copies considered: dArber: see entry for v.19 above; **DLC:** collation, fingerprint, plate

Number 227

4°: 4C² 4D–4G⁴ 4H² [$1–2 (-4CH2) signed]; 20 leaves, pp. 485–524; plate [*1*]

169704 - a1=a2 4C1 riis.$ - b1 4D1 ingdom : *b2 4G2 exttheS [DLC]

Fig. 1–7 [**4C1ʳ (486):** DLC]

Copies considered: dArber: see entry for v.19 above; **DLC:** collation, fingerprint, plate

Number 228

4°: 4I² 4K–4N⁴ [$1–2 (-4I2) signed]; 18 leaves, pp. 525–560; plate [*1*]

169704 - a1=a2 4I1 .$C - b1 4K1 Your : b2 4N2 that$the [DLC]

Fig. 1–4 [**4I1ʳ (525):** DLC]

Copies considered: dArber: see entry for v.19 above; **DLC:** collation, fingerprint, plate

Number 229

4°: 4O² 4P–4S⁴ [$1–2 (-4O2) signed]; 18 leaves, pp. 557–592 (583=566); plate [*1*]

169704 - a1=a2 4O1 ytheF - b1 4P1 ris$Tri : b2 4S2 nce$30 [DLC]

[**4O1ʳ (557):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 230

4°: 4T² 4V–4Z⁴ 5A² [$1–2 (-4T 5A2) signed]; 20 leaves, pp. 593–632; plate [*1*]

169704 - a1=a2 4T1 Molyn - b1 4V1 gerof : b2 5A1 and [DLC]

Fig. 1–6 [**4T1ʳ (593):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 231

4°: 5a² 5B–5E⁴ 5F² [$1–2 (-5a 5F2) signed]; 20 leaves, pp. 633–672; plate [*1*]

169704 - a1=a2 5a1 oresby, - b1 5B1 $horizo : *b2 5E2 ,$Vettii.$Circa [DLC]

Fig. 1–3 [**5a1ʳ (633):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 232

4°: 5G² 5H–5L⁴ 5M² [$1–2 (-5M2) signed]; 20 leaves, pp. 673–712; plate [*1*]

169704 - a1=*a2 5G1 countoft - b1 5H1 fanInc : b2 5M1 scil.$Area= [ſcil.$Area=] [DLC]

Fig. 1–14 [**5G1ʳ (673):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 233

4°: 5N² 5O–5P⁴ 5Q² [$1–2 (-5NQ2) signed]; 12 leaves, pp. 713–715 [716] 717–736

169704 - a1=a2 5N1 London. - b1 5O1 a$Dozen : b2 5Q1 m$Thun [DLC]

Copies considered: DLC: collation, fingerprint

Number 234

4°: 5R² 5S–5X⁴ 5Y² [$1–2 (-5RY2) signed]; 20 leaves, pp. 737–776; plate [*1*]

169704 - a1=a2 5R1 etruriæ$ - b1 5S1 all$the : b2 5Y1 imento$se [imento$ſe] [DLC]

Fig. 1 [**5R1ʳ (737):** DLC]

Copies considered: dArber: under Miscellanies Nov 1697: "begun by Mr. Oldenburg, are now continued Monthly by Dr. Hans Sloane, Secretary to the Royal Society. Numb. 234 for the last *Nov.* is published; and there is now preparing for the Press No. 235: with a general Table and Index to the preceding Months. Printed for S. Smith and B. Walford, Printers to the Royal Society, at the Prince's Arms in St. *Paul*'s Churchyard; where compleat setts, or any odd numbers may be had.";[352] **DLC:** collation, fingerprint, plate

Number 235

4°: 5Z² 6A–6E⁴ 6F² [$1–2 (-5Z 6F2) signed]; 24 leaves, pp. 777–799 [*25*]; plate [*2*]

169704 - a1=a2 5Z1 e$26th - b1 6A1 s,$he$me : b2 6F1 X$: *b2 6E2 ones.$N.$2 [DLC]

[*View*] [**5Z1ʳ (777):** DLC]

Fig. 1–2 [**5Z1ʳ (777):** DLC]

Copies considered: dArber: see entry for no. 234; under Miscellanies Feb 1698 "this is to give Notice that the Transaction, No. 235, for the month of *Decemb.* is finished: containing. 1.

[352] ibid., 3:41.

Two Observations; one about the death of a Dog on firing a Volley of small shot, the other about a Polypus of the Lungs. 2. An account of a Negro Boy that is dappled in several places of his Body with white spots. 3. An exact relation of the dismal and surprising effects of a terrible and unusual Clap of thunder that fell upon the 'Trumbal' Galley, *Nov.* 26., 1696. 4. Mr. Halley's Observations on the Eclipse of the Moon in *September* last. 5. Joan. Craig *additiones an schedulam de quadraturis*. 6. Mr. [Stephen] Gray's experiments about making *Concave Specula* nearly of a Parabolick figure. 7. Mr. Leeuwenhoek's Letter concerning the eggs of snails, roots and vegetables, teeth, and young oysters. 8. A correct draught of the Gyants Causeway in *Ireland*: with an explication of the same, communicated by Will. Molyneux, Esq.; curiously engraven on a large Copper Plate. With a general Title for the 19th Volume; and an Index to the three last years. Sold by Sam. Smith and Ben. Walford, Printers to the Royal Society, at the Prince's Arms in St. *Paul*'s Churchyard: where may be had compleat sets of the said Transactions.";[353] **DLC:** collation, fingerprint, plate

Volume 20 236--247 (1698)

4^{o}: π^{2}; 2 leaves, [*4*] [UI]

Copies considered: dArber: under Miscellanies Feb 1699, dedicated to John Somers, Lord Somers, the Lord High Chancellor, President of the Royal Society, to be published monthly, by. Dr. Hans. Sloane. Twelves. [*i.e. duodecimo?*], S. Smith and B. Walford; **dL-B:** for 1698, № 236 "beginning the 20th year," pp. 1–468, dedication and index (4 pp.), 12 plates; **UI:** collation.

Number 236

4^{o}: A^{2} B–E^{4} F^{2} [$1–2 (-AF2) signed]; 20 leaves, pp. 1–40 (38=36, 39=29); plate [*1*]
04 - b1 A1 iv : b2 F1 r [UI]

Plate $A1^{r}$ (1)

Copies considered: UI: collation, fingerprint date missing from notes, plate.

Number 237

4^{o}: G^{2} H–I^{4} K^{2} [$1–2 (-GK2) signed]; 12 leaves, pp. 41–63 [64]; plate [engraved, *1*], plate [relief, *2*]
04 - b1 G1 a : b2 *b2 I2 all [UI]

[353] ibid., 3:57.

Engraved plate G1^{r} (41)

Two relief plates H3^{r} (49)

Copies considered: UI: collation, fingerprint date missing from notes, plates.

Number 238

4°: L^{2} M–P^{4} Q^{2} [$1–2 (-LQ2) signed]; 20 leaves, pp. 65–103 [104]; plate [*1*]

04 - b1 L1 , : b2 Q1 ati [UI]

Plate L1^{r} (65)

Copies considered: UI: collation, fingerprint date missing from notes, plate.

Number 239 (April 1698)

4°: R–Z^{4} 2A^{2} [$1–2 (-2A2) signed]; 30 leaves, pp. 105–164; plates [*2*]

04 - b1 R1 i : b2 2A1 on [UI]

Two plates R1^{r} (105)

Copies considered: dArber: under Physick May 1698, reprint of *Carigueya, seu Marsupialo Americanum* by Edw. Tyson: "This Account was published in the Philos. Transactions for *April*, 1698; but to gratify the Curious is sold alon. Price 2s."[354] S. Smith and B. Walford; **UI:** collation, fingerprint date missing from notes, plate.

Number 240

4°: 2B^{2} 2C–2F^{4} 2G^{2} [$1–2 (-2BG2) signed]; 20 leaves, pp. 165–204; plate [*1*]

04 - b1 2B1 .$R : b2 2G1 ph [UI]

Plate 2B1^{r} (165)

Copies considered: UI: collation, fingerprint date missing from notes, plate.

Number 241

4°: 2H^{2} 2I–2M^{4} 2N^{2} [$1–2 (-2HN2) signed]; 20 leaves, pp. 205–244; plate [*1*]

04 - b1 2H1 hen : b2 2N1 Tyc [UI]

Plate 2H1^{r} (205)

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[354] Ibid., 3:65.

Copies considered: **UI:** collation, fingerprint date missing from notes, plate.

Number 242

4°: 2O² 2P–2Q⁴ 2R² [$1–2 (-2OR2) signed]; 12 leaves, pp. 245–268

04 - b1 2O1 in$t : *b2 2O2 eaking [UI]

Copies considered: **UI:** collation, fingerprint date missing from notes.

Number 243

4°: 2S² 2T–2Y⁴ 2Z² [$1–2 (-2SZ2) signed]; 20 leaves, pp. 269–308; plate [*1*]

04 - b1 2S1 fro : b2 2Z1 tel [UI]

Plate 2S1ʳ (269)

Copies considered: **UI:** collation, fingerprint date missing from notes, plate.

Number 244

4°: χ3A² 3A–3D⁴ 3E² [$1–2 (-χ3A2, 3E2) signed, χ3A='*AAA*']; 20 leaves, pp. 309–348

04 - b1 χ3A1 al$a : b2 3E1 in$t [UI]

Copies considered: **UI:** collation, fingerprint date missing from notes.

Number 245

4°: 3F² 3G–3K⁴ 3L² [$1–2 (-3FL2) signed]; 20 leaves, pp. 349–388; plate [*1*]

04 - b1 3F1 $Ma : b2 3L1 mus [UI]

Plate 3F1ʳ (349)

3G in smaller type

Copies considered: **UI:** collation, fingerprint date missing from notes, plate.

Number 246

4°: 3M² 3N–3Q⁴ 3R² [$1–2 (-3MR2) signed]; 20 leaves, pp. 389–428; plate [*1*]

04 - b1 3M1 thur$C : b2 3R1 $\frac{Br}{sF}$& [UI]

Plate 3M1ʳ (389)

Copies considered: **UI:** collation, fingerprint date missing from notes, plate.

Number 247

4°: 3S² 3T–3Z⁴ [$1–2 (-3S2) signed]; 22 leaves, pp. 429–468 [*4*]; plates [*2*]

04 - b1 3S1 cco : b2 3Z2 ste:$T [UI]

Two plates 3S1ʳ (429)

Copies considered: UI: collation, fingerprint date missing from notes, plates.

VOLUME 21: NUMBERS 248--259 (1699)

4°: π² 2π1 (π2='[*Rrr],' 2π1='[*Rrr2]'); 3 leaves, [*6*]

170004 - b1 π2 but$your$: b2 2π1 reisa$very [DLC]

Copies considered: dArber: under Miscellanies May 1700, "Vol. 21., for the year 1699; beginning with *January*, Numb. 248, and ending with *December,* 259. Published by Dr. Hans Sloane, Secretary to the Royal Society. Printed for S. Smith and B. Walford, Printers to the Royal Society, at the Prince's Arms in St. *Paul*'s Churchyard: where are sold entire Setts of the said Transactions; begun by Mr. Oldenburg, and continued to this time, compleat or separately.";[355] **dL-B:** for 1699, pp. 1–442, dedication and preface (4 pp.), index (6 pp.), 11 plates; **DLC:** collation.

Number 248 (January 1699)

4°: A² B–E⁴ F² [$1–2 (-AF2) signed]; 20 leaves, pp. 1–40; plates [*2*]

169804 - a1=a2 A1 ga - b1 B1 Ar : b2 F1 i [DLC]

[*plate*] [**A1ʳ (1):** DLC]

[*letterpress plate*] Tab 1–2 [**G1ᵛ (46)**]

Copies considered: dArber: see entry for v.21 above; **DLC:** collation, fingerprint, plates

Number 249

4°: F² G–I⁴ [$1–2 (-F2) signed]; 14 leaves, pp. 41–68; plate [*1*]

169904 - a1=a2 F1 . - b1 G1 y : b2 I2 k- [DLC]

Fig: 1–8 [**F1ʳ (41):** DLC]

Copies considered: DLC: collation, fingerprint, plate

[355] ibid., 3:188.

Number 250

4°: K² L–O⁴ P² [$1–2 (-KP2) signed]; 20 leaves, pp. 69–108; plate [*1*]

169904 - a1=a2 K1 Ex - b1 L1 al : b2 $0 [DLC]

Fig: 1–6 [**K1ʳ (69):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 251

4°: Q² R–V⁴ X² [$1–2 (-QX2) signed]; 20 leaves, pp. 109–148 (121=112 with '2' reversed); plate [*1*]

169904 - a1=a2 Q1 en - b1 R1 f : b2 X1 p [DLC]

Fig: 1–3 [**Q1ʳ (109):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 252

4°: Y² Z–2C⁴ 2D² [$1–2 (-Y 2D2) signed]; 20 leaves, pp. 149–188; plate [*1*]

169904 - a1=a2 Y1 l. - b1 Z1 ne : b2 2D1 $w [DLC]

Fig: 1–2, III-IIII [**Y1ʳ (149):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 253

4°: 2E² 2F–2I⁴ 2K² [$1–2 (-2EK2) signed]; 20 leaves, pp. 189–228; plate [*1*]

169904 - a1=a2 2E1 for$ - b1 2F1 s$: : b2 2K1 $eac [DLC]

Fig: I–II [**2Eʳ (189):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 254

4°: 2L² 2M–2P⁴ 2Q² [$1–2 (2LQ2) signed]; 20 leaves, pp. 229–268; plate [*1*]

169904 - a1=a2 2L1 g$b - b1 2M1 ay$: b2 2Q2 r$Co [DLC]

A–E [**2L1ʳ (229):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 255

4°: R² 2S–2X⁴ 2Y² [$1–2 (-R 2Y2) signed]; 20 leaves, pp. 269–308; plate [*1*]

169904 - a1=a2 R1 $Sem - b1 2S1 om : b2 2Y1 ,$ [DLC]

fig: 2–4 [**R1ʳ (269):** DLC]

Smaller type in 2Y to fit in the half-sheet.

Copies considered: DLC: collation, fingerprint, plate

Number 256 (September 1669)

4°: a² 3A–3E⁴ [$1–2 (-a2) signed; 3C2='Cce2']; 22 leaves, pp. 310 [*3*] 311–342 ²335–342 [=350] (311–342 ²335–342 in brackets rather than parenthesis); plate [*1*]

169904 - a1=a2 a1 ic - b1 3A1 ere. : b2 3E2 tate$of [DLC]

Schema [**a1ʳ (310):** DLC]

Copies considered: dArber: under Miscellanies Nov 1699, "continued by Dr. Hans Sloane, … Numb. 256 and 257 for the Months of *September* and *October*, 1669",[356] S. Smith and B. Walford, complete sets; **DLC:** collation, fingerprint, plate

Number 257 (October 1669)

4°: 3E² 3F–3I⁴ 3K² [$1–2 (-3EK2) signed]; 20 leaves, pp. 339–366 ²351–362 [=378] (339, 342, 355, ²357, ²362, in parenthesis but rest in brackets); plate [*1*]

000004 - a1=a2 3E1 rall - b1 3F1 $m : b2 3K1 et$the [DLC]

Fig: I–III [**3E1ʳ (339):** DLC]

Copies considered: dArber: see no. 256 above; **DLC:** collation, fingerprint, plate

Number 258

4°: 3L² 3M–3Q⁴ [$1–2 (-3L2) signed]; 22 leaves, pp. 363–406; plate [*1*]

169904 - a1=a2 3L1 ohn - b1 3M1 theſe$: b2 3Q2 $Neck$ [DLC]

Fig: I–II [**3L1ʳ (363):** DLC]

Copies considered: DLC: collation, fingerprint, plate

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[356] ibid., 3:159.

Number 259 (December 1699) and Index

4°: π² 3R-3S⁴ 3U-3X⁴ 3Y1 [$1–2 signed]; 19 leaves, pp. 407–426 431–442 [443–448] [=444]; plate [*1*]
170004 - b1 3R1 $Di : b2 3Y1 t,$N. [DLC]
Fig: 1–11 [**π1ʳ (407):** DLC]
Copies considered: dArber: see entry for v.21 above; **DLC:** collation, fingerprint, plate

Volume 22: Numbers 260--276 (1700--1701)

4°: π²; 2 leaves, [*4*]
Copies considered: dArber: see no. 276 below; **dL-B:** for 1700–1, pp. 443–1050, dedication and index, 14 plates; **DLC:** collation

Number 260

4°: 3Z² 4A–4D⁴ 4E² [$1–2 (-3Z2,+4E2) signed]; 20 leaves, pp. 443–482 ; plate [*1*]
170004 - a1=a2 3Z1 x,$F. - b1 4A1 e$halt : b2 2E2 $will$on [DLC]
fig: 1–7 [**3Zʳ (443):** DLC]
Copies considered: DLC: collation, fingerprint, plate

Number 261

4°: 4F² 4G–4K⁴ 4L² [$1–2 (-4FL2) signed; 4L1='Llll.']; 20 leaves, pp. 483–522 (484=844, 502=102); plate [*1*]
170004 - a1=a2 4F1 lergyin - b1 4G1 for$F : b2 4L1 1158|2 [DLC]
Fig 1–5 [**4F1ʳ (483):** DLC]
Copies considered: DLC: collation, fingerprint, plate

Number 262

4°: 4M² 4N–4O⁴ 4P² [$1–2 (-4MNP2) signed]; 12 leaves, pp. 523–546; plate [*3*]
170004 - a1=a2 4M1 id$Spirits. - b1 4N1 ove$225 : b2 4P1 erly$p [DLC]
fig: 1–2 [**4M1ʳ (523):** DLC]
Tab. 1 [**4M2ᵛ (526):** DLC]
Tab. 2 [**4M2ᵛ (526):** DLC]

Copies considered: DLC: collation, fingerprint, plates

Number 263

4°: 4Q² 4R–4U⁴ 4X² [$1–2 (-4QX2) signed]; 20 leaves, pp. 543–569 ²562–574 [=582] (563=555, 566–7=558–9); plate [*1*]

170004 - a1=a2 4Q1 .$ [*line above*] tu$Cord - b1 4R1 $aliaru : b2 4X1 Animal, [DLC]

fig: 1–8 [**4Q1ʳ (543):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 264

4°: 4Y² 4Z–5C⁴ 5D² [$1–2 (-4Y 5D2) signed; 5C2=5C1]; 20 leaves, pp. 575–614 (576–7=506–7); plate [*1*]

170004 - a1=a2 4Y1 cated$i - b1 4Z1 e,and$t : b2 5D1 almoſt$q [DLC]

[*plate*] [**4Y1ʳ (575):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 265

4°: 5D² 5E–5H⁴ 5I² [$1–2 (-5DI2) signed]; 20 leaves, pp. 615–654; plate [*1*]

170004 - a1=a2 5D1 $feveral$Ax - b1 5E1 kable$E : b2 5I1 $a$met [DLC]

fig: 1–3 [**5D1ʳ (615):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 266

4°: 5K² 5L–5O⁴ 5P² [$1–2 (-5KP2) signed]; 20 leaves, pp. 655 [656] 657–694 (655=665, 658=668); plate [*1*]

170004 - a1=a2 n$Scotla - b1 5L1 $Curl'd$: b2 5P1 often$fly [DLC]

fig: 1–6 [**5K1ʳ (655):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 267 (November, December, 1700)

4°: 5Q² 5R–5U⁴ 5X² [$1–2 (-5QX2) signed]; 20 leaves, pp. 665–668 699–721 ²714–726 [=704] (707=607, 715=607, 718–9=710–1); plate [*1*]

170004 - a1=a2 5Q1 ngland. [*line above*] $neceſſary$ - b1 5R1 s$cuſpi : b2 5X1 abſolvit [DLC]

fig: 1–5 [**5Q1ʳ (665):** DLC]

Copies considered: dArber: under Miscellanies Feb 1701, for Nov. and Dec. 1700, quarto, S. Smith and B. Walford, published by Dr. Hans Sloane, "may be had all, or any single, Transactions since the beginning of the Year 1693. [*i.e. v. 17*]";[357] **DLC:** collation, fingerprint, plate

Number 268

4°: 5Y² 5Z–6C⁴ 6D² [$1–2 (-5Y 6BD2) signed]; 20 leaves, pp. π733–736 729–764 [=772] (763=639); plate [*1*]

170104 - a1=a2 5Y1 ns$ſoluti - b1 5Z1 els$and$: b2 6D1 veſtitur$qua [DLC]

fig: 1–8 [**5Y1ʳ (π733):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 269

4°: [6E]² 6F–6I⁴ [$1–2 (-6I2) signed]; 18 leaves, pp. [*4*] 769–792 [*2*] ²789–794 (²792=788, ²793=785 [*4*] and [*2*] numbered as below); plate [*1*]

170104 - b1 6F1 publiſhed, : b2 6I1 iori$par [DLC]

fig: 1–8,A [**E1ʳ ([*1*]):** DLC]

Pagination: 791 790 [*2*] 769–792 787 792 ²789–791 788 785 794

Copies considered: DLC: collation, fingerprint, plate

Number 270 (March and April 1701)

4°: 5K² 5L–5O⁴ 5P² [$1–2 (-5KP2) signed; 5O2=5N2]; 20 leaves, pp. 795–834; plate [*1*]

170104 - a1=a2 ellowofth - b1 5L1 m$ipſiu : b2 5P1 hepre [DLC]

Fig. I–III [**5K1ʳ (795):** DLC]

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357 Ibid., 3:231.

Copies considered: dArber: under Miscellanies May 1701, "continued to be publish'd Monthly; by Dr. Hans Sloane"[358] number not specified, but this seems to be the right one; **DLC:** collation, fingerprint, plate

Number 271 (May and June 1701)

4°: 5Q² 5R–5U⁴ 5X² [$1–2 (-5QX2) signed]; 20 leaves, pp. 831–850 ²843–862 [=870]; plate [*1*]
170104 - a1=a2 5Q1 ded,$ſome$ - b1 5R1 at$grea : b2 5X1 igro$rufeſ [DLC]
Fig: 1–3 [**5Q1ʳ (831):** DLC]
Half-sheets 5Q and 5X are likely not from the same sheet based on the extra stub on the top of 5Q2.
Copies considered: DLC: collation, fingerprint, plate

Number 272

4°: 5Y² 5Z–6C⁴ 6D² [$1–2 (-5Y 6D2) signed]; 20 leaves, pp. 863–882 ²875–894 [=902]; plate [*1*]
000004 - a1=a2 5Y1 ctneſs. - b1 5Z1 rwards$I$: b2 6D1 kingit(for [DLC]
fig: 1–9 [**5Y1ʳ (863):** DLC]
Copies considered: DLC: collation, fingerprint, plate

Number 273

4°: 6E² 6F–6H⁴ [$1–2 (-6E2) signed]; 14 leaves, pp. 895–922; plate [*1*]
000004 - a1=a2 6E1 ical$obſerv - b1 6F1 ſte$of$th : b2 6H2 nfirm$the$Tr [DLC]
fig: 1–3, 4–10 [**6E1ʳ (895):** DLC]
Copies considered: DLC: collation, fingerprint, plate

Number 274

4°: 6H² 6I–6M⁴ 6N² [$1–2 (-6HN2) signed]; 20 leaves, pp. 923–962; plate [*1*]
170104 - a1=a2 6H1 21ſtofApril, - b1 6I1 Mr$Fox : b2 6N1 he$Cold$ſo [DLC]
[*plate*] [**6H1ʳ (923):** DLC]
Copies considered: DLC: collation, fingerprint, plate

[358] Ibid., 3:246.

Number 275

4°: 6N² 6O–6R⁴ 6S² [$1–2 (-6NS2) signed]; 20 leaves, pp. 963–1002; plate [*1*]

170104 - a1=a2 6N1 ouncl$under$ - b1 6O1 can$affure$u : b2 6S1 $gr.$of [DLC]

[*plate*] [**6N1ʳ (963):** DLC]

Copies considered: DLC: collation, fingerprint, plate.

Number 276 (November and December 1701) and Index

4°: [6T]² 6U–7A⁴ 7B² [$1–2 (-7B2) signed]; 24 leaves, pp. [1003] 1004–1050 (1008–9=1012–13, 1012–13=1008–9)

170204 - a1=a2 - b1 6U1 belwife,$v : b2 7B1 .$p.$624. [*line above*] ion$ofHippo [DLC]

Copies considered: dArber: under Miscellanies Feb 1702, "No. 276. for the Months of *November* and *December*, 1701 : containing, 1. A Letter from Mr. Wilson giving account of the *Lapis Amianthos Asbestos,* or *Linum incumbustible* ; lately found in *Scotland*. 2. An account of Mr. *Sam Brown*'s Fifth Book of *East India* Plants; with their Names, Virtues, Descriptions, etc. By James Petiver, S.R.S. 3. Dr. Wallis his Second Letter relating to Mr. *Sommer*'s Treatise of *Chartham* News ; and some magnetick Affairs. 4. An Account of Books now Printing, and lately printed, in *Italy, France, Germany, Holland, Scotland,* etc., by Dr. Hans. Sloane, Secretary to the Royal Society ; with a general Index and Title to the two last years : being the 22d. Volumn. Quarto. Printed for S. Smith and B. Walford, Printers to the Royal Society, at the Prince's Arms in St. *Paul*'s Churchyard.";[359] **DLC:** collation, fingerprint.

Volume 23: Numbers 277-288 (1702-1703)

4°: π²; 2 leaves, [*4*] [NYPL-RB]

[*page in double ruled border* **centered**] PHILOSOPHICAL | TRANSACTIONS. | Giving ſome | ACCOUNT | OF THE | *Preſent Undertakings, Studies and Labours* | OF THE | INGENIOUS, | In many | Conſiderable Parts of the World. | [*rule*] | VOL. XXIII. For the Years 1702 and 1703. | [*rule*] | *LONDON:* | Printed for *S. Smith* and *B. Walford*, Printers to the | *Royal Society*, at the *Prince's Arms* in St *Paul*'s | Church-yard. MDCCIV. [U in ACCOUNT wrong type?, **π1ʳ:** NYPL-RB, NYPL]

[359] ibid., 3:287.

[**centered**] To | Iſaac Newton, Eſq; | PRESIDENT; | AND TO THE | Council and Fellows | OF THE | ROYAL SOCIETY | OF | LONDON, | For the Advancement of | NATURAL KNOWLEDGE; | This Three and Twentieth Volume | OF THE | Philoſophical Tranſactions, | [**slightly left**] Is humbly Dedicated by | [**slightly right**] Their moſt Obedient Servant, | [**right**] *Hans Sloane*, S. R. Secr. [**$\pi 2^r$:** NYPL-RB, NYPL]

Copies considered: dL-B: for 1702–3, pp. 1051–1523, dedication and index, 14 plates; **NYPL:** collation, transcription; **NYPL-RB:** collation, transcription.

Number 277 (for January and February 1702)

4^o: 7C1 7C*2 7D-7G4 7H4 (-7H4) [$1-2(-7C*2) signed; 7G2=6G2]; 22 leaves, pp. π1051-52 1051-1091 [*1*] [1080-1 as 1060-1, 1084-5 as 1064-5, 1091 lacks left bracket]; plate [*1*]

170204 - a1=a2 7C1 s$Father$dye - b1 7C*1 takes$athwart$: b2 7H2 Which$is$the$ [NYPL-RB,NYPL]

7C1 ≠ 7H4 [NYPL-RB]

7C1 = 7H4 [NYPL]

Plate of tables 1-6 illustrating a Mediterranean waterspout observed by Alex. Stuart (1061 ($6G2^r$)); table 7 illustrating natural curiosities from Ralph Thoresby's museum: vessels from a fish stomach in a tree-like shape (fig. 1, 1071 ($7F1^r$)) and octohedral copper ore (fig. 2, 1072 ($7F1^v$)): [**upper left**] *Philos:Transact :№: 277:* [165x345 (177x373)*engraved,* **facing $7C1^r$ (1051):** NYPL-RB, NYPL]

[*two rules*] | [**right**] (Numb. 277.) | [**centered**] PHILOSOPHICAL | TRANSACTIONS. | [*rule*] | *For the Months of* January *and* February, 1702. | [*rule*] |

[**centered**] The CONTENTS. | [**hanging left**] I. *An account of taking and taming of Elephants* | *in* Zeylan, *by Mr* Strachan, *a Phyſician, who* | *lived* 17 *years there.* | II. *An Account of Mr.* Sam. Brown *his Sixth Book* | *of* Eaſt India *Plants, with their* Names, Ver-|tues, Deſcription, *&c. By* James Petiver, | Apothecary , *and* Fellow *of the* Royal Society. | *To theſe are added ſome Animals*, &c. *which the* | *Reverend Father* George Joſeph Gamel, *very lately ſent him from the* Philippine *Iſles.* | III. *A Letter from Mr* Jonathan Kay, *Chyrurgeon,* | *in* Newport, Shropſhire, *concerning a ſtrange* | *Cancer , of which his Father dyed.* | [*G in Gamel is broken, perhaps intended as C for George Joseph Camel*, **1051 ($7C1^r$):** NYPL-RB]

IV. *Part of a Letter from Mr* Ralph Thoresby, | *F. R. S. to the Publiſher, concerning ſeveral ob-|ſervables in his* Muſæum, *near* Leeds *in* York-|ſhire. | V. *Extracts of two Letters from the Reverend* | *Mr*

Abraham de la Pryme, *F. R. S. to the Pub-|liſher, concerning Subterraneous Trees, the Bi-|tings of Mad Dogs,* &c. | V. *Part of a Letter from Mr* Alex. Stuart *(a Phy-|cian) to the Publiſher, concerning ſome Spouts he | obſerved in the* Mediterranean. | [**centered**] VI. An Account of a Book. *viz.* | ***[left]*** *Edmundi Dickenſoni M. D. Phyſica vetus & ve-|ra, ſive, Tractatus de Naturali veritate hexame-|ri Moſaici. Per quem Probatur in hiſtoria Crea-|tionis cum generationis Univerſæ methodum atq; | modum, tum veræ Philoſophiæ principia, ſtrictim | atq; Breviter tradi. Londini* 1702. *in* 40. [*o in generationis damaged as on p. 1083*, **1052 (7C1^{v}):** NYPL-RB]

I. *An Account of the taking and taming of Elephants | in* Zeylan, *by Mr* Strachan, *a Phyſician, who | lived* 17 *years there.* [**1051 (7C*1^{r}):** NYPL-RB]

[*rule*] | II. *An Account of Mr* Sam. Brown *his Sixth Book | of* Eaſt India *Plants, with their* Names, Ver-|tues, Deſcription, *&c By* James Petiver, | Apothecary, *and* Fellow *of the* Royal Society. | [*gap*] | *To theſe are added ſome Animals,*&c. *which the Reve-|rend Father* George Joſeph Gamel, *very lately | ſent him from the* Philippine *Iſles.* [*G in Gamel seems to be the same as on t.p.*, **1055 (7D1^{r}):** NYPL-RB]

Here follows ſome ANIMALS, &c. *Obſerved in the* | Philippine Iſles, *by that* Reverend *and* Learned *Father* | GEORGE JOSEPH CAMEL, *from whom I | lately received them.* [**1065 (7E2^{r}):** NYPL-RB]

[*rule*] III. *A Letter from Mr* Jonathan Kay, *Chyrurgeon | in* Newport, Shropſhire, *concerning a ſtrange | Cancer , of which his Father dyed.* | [**slightly right**] March *the 4th,* 170$\frac{1}{2}$. [**1069 (7E4^{r}):** NYPL-RB]

[...] | [*rule*] | IV. *Part of a Letter from Mr* Ralph Thoresby, | *F. R. S. to the Publiſher , concerning ſeveral ob-|ſervables in his* Muſæum, *near* Leeds *in* York-ſhire. [**1070 (7E4^{v}):** NYPL-RB]

[*rule*] | V. *Extracts of two Letters from the Reverend | Mr* Abraham de la Pryme, *F. R. S. to the Pub-|liſher , concerning Subterraneous Trees, the bi-|tings of Mad Dogs,* &c. | [**slightly right**] *Thorn, March* 14. 170$\frac{1}{2}$. [**1073 (7F2^{r}):** NYPL-RB]

[...] | [*rule*] | V. *Part of a Letter from Mr* Alex. Stuart, (*a Phy-|cian*) *to the Publiſher*, *concerning ſome Spouts he | obſerved in the* Mediterranean. [**1077 (7F4^{r}):** NYPL-RB]

[**centered**] *The Explication of the Tables.* [**1081 (7G2^{r}):** NYPL-RB]

[*rule*] | [**centered**] VI. An Account of a Book, *viz* | ***[left]*** *Edmundi Dickenſoni M. D. Phyſica vetus & ve-|ra, ſive, Tractatus de Naturali veritate hexame-|ri Moſaici. Per quem Probatur in hiſtoria Crea-|tionis cum generationis Univerſæ methodum atq; | modum, tum veræ Philoſophiæ principia,*

ſtrictim | atq; Breviter tradi. Londini 1702. *in* 40. [*o in generationis damaged as on t.p.*, **1083 (7G3^{r}):** NYPL-RB]

Imprint: [*rule*] | Printed for *S. Smith* and *B. Walford*, Printers to the Royal Society, at | the Princes Arms in St *Pauls* Churchyard, 1702. [**1091 (7H3^{r}):** NYPL-RB]

Copies considered: dArber: under Miscellanies May 1702, "Published by Dr. Hans Sloane, Secretary to the Royal Society. No. 277. For the Months of *January* and *February*, 1702. Containing, 1. An Account of taking and taming Elephans in *Zeylan* [*i.e Ceylon*]. 2. An Account of Mr. *S. Brown*'s Sixth Book of *East India* Plants; with their Names, Virtues, and Descriptions, by James Petiver. With an account of some Animals, communicated by Father Geo. Camel, from the *Phillippine Islands*. 3. A Letter from Mr. John Kay, Chirurgeon in *Shropshire*, concerning a strange Cancer; of which his Father died. 4. Part of a letter from Mr. Ralph Thoresby; concerning several Observables in his Musæum in *York-shire*. 5. Extracts from two Letters from Mr. (Abraham de) La Prime, concerning Subterraneous Trees, the Bitings of Mad Dogs, etc. Part of a Letter from Mr. Alex Stuart concerning some [Water] Spouts observed in the Mediterranean. 6. An Account of Dr. *Dickenson's Physica Vetus et Vera,* etc. Quarto. Printed for S. Smith and B. Walford, Printers to the Royal Society, at the Prince's Arms in St. *Paul*'s Churchyard.";[360] **NYPL:** back of plate soiled; **NYPL-RB:** back of plate soiled as though folded, upper edge of inner 7H too.

Number 278 (for March and April 1702)

4^{o}: 7H^{2} 7I-7M^{4} 7N^{2} [$1-2 (-7HN2) signed]; 20 leaves, 1093-1132 [1108 as 8110]; plate [*1*] 170204 - a1=a2 7H1 orkſhire. - b1 7I1 the$oth : b2 7N1 y$yards$fr [NYPL-RB,NYPL,VaCvJPSA]

Plate of tables 1-2 illustrating Roman inscriptions observed by Christopher Hunter (p. 1131 (7N2^{r}) ff.); table 3 illustrating parhelia observed by Edmund Halley (p. 1127 (7M4^{r})): [**upper right**] *Philos :Transact :№ :278* [194x327 (195x335)*engraved,* **facing 7H1^{r} (1093):** NYPL-RB,NYPL,VaCvJPSA]

[**right**] (Numb. 278 | [**centered**] PHILOSOPHICAL | TRANSACTIONS. | [*rule*] | *For the Months of* March *and* April, 1702. | [*rule*] | [*<8> in 27<8> added in pen in NYPL-RB & NYPL copy, present in VaCvJPSA*]

[**centered**] The CONTENTS. | [**hanging left**] I. *Obſervations made in the Iſland of* Ceilan, *by Mr* | Strachan, *on the ways of catching Fowl and Deer*, | *of Serpents of the antbear and of Cinamon.*

[360] ibid., 3:300.

| II. *A Letter written by Monſieur* Blondel *to a* | *Friend, informing him of what paſſed in the laſt* | *publick Aſſembly of the Academy Royal of Sciences* | *at* Paris, *held* Nov. 12. 1701. *Communicated* | *by Monſieur* Geoffroy, F. R. S. | III. *A Letter of Dr* Wallis *to Captain* Edmund | Halley, *concerning the Captains* Map *of* Mag-|netick Variations ; *and ſome other things re-|lating to the* Magnet. | IV. Methodus quadrandi genera quædam Cur-|varum aut ad Curvas Simpliciores reducendi, | per A. de Moivre, R. S. S. | V. *An account of the appearance of ſeveral unuſual* | *Parhelia of Mock-ſuns, together with ſeveral cir-|cular Arches, lately ſeen in the Air, by* E. Halley. | VI. *Part of ſome Letters from Mr* Chriſtopher | Hunter *to Dr* Martin Liſter, *F. R. S. concern-|ing ſeveral* Roman *Inſcriptions , and other* | *Antiquities in* Yorkſhire. [**1093 (7H1^{r}):** NYPL-RB]

[*rule*] | I. *Obſervations made in the Iſland of* Ceilan, *by Mr* | Strachan *on the ways of catching Fowl and Deer*, | *of Serpents,of the antbear and of Cinamon.* [**1094 (7H1^{v}):** NYPL-RB]

[*rule*] | II. *A Letter written by Monſieur* Blondel *to a* | *Friend, informing him of what paſſed in the laſt* | *publick Aſſembly of the Academy Royal of Sciences* | *at* Paris, *held* Nov. 12. 1701. *Communicated* | *by Monſieur* Geoffroy, F. R. S. [**1097 (7I1^{r}):** NYPL-RB]

[*rule*] | III. *A Letter of Dr* Wallis *to Captain* Edmund | Halley ; *concerning the Captains* Map *of* Mag-|netick Variations ; *and ſome other things re-|lating to the* Magnet. | [**slightly right**] *Oxford, May* 23. 1702. [**1106 (7K1^{v}):** NYPL-RB]

IV. Methodus quadrandi genera quædam Curvarum, | *aut ad Curvas Simpliciores reducendi. per A. De* | *Moivre R. S. S.* [**1113 (7L1^{r}):** NYPL-RB]

[...] | [*rule*] | [**centered**] V. | [**hanging left**] *An Account of the Appearance of ſeveral* Unuſual | Parhelia, *or* Mock-Suns, *together with ſeveral* | *Circular Arches lately ſeen in the Air by* E: Halley. [**1127 (7M4^{r}):** NYPL-RB]

VI. *Part of ſome Letters from Mr* Chriſtopher Hunter *to* | *Dr* Martin Liſter, *F. R. S. concerning ſeveral* Roman | *Inſcriptions, and other* | *Antiquities in* Yorkſhire. | [*gap*] | [**slightly right**] Stockton, Apr. 12. 1702. [**1129 (7N1^{r}):** NYPL-RB]

Imprint: [*rule*] | LONDON, Printed for *S. Smith* and *B. Walford* at the *Princes Arms* | in St *Pauls* Church-yard. 1702. [**1132 (7N2^{v}):** NYPL-RB]

Copies considered: dArber: see no. 279 below; **NYPL: NYPL-RB:** 7L-7M seem to be different type from the rest and 7K4^{v} lacks a catchword, furthermore the headline is presented differently and lacks rules, suggesting if not a different printer, at least a different team; 7N continues with

the smaller type on 7K4 [NYPL-RB], Back of plate soiled as though folded, maybe inner 7N too (not clear); **VaCvJPSA:** With original pamphlet stitching intact, demonstrating that some copies were issued with the plate facing the first page, untrimmed but beaten.

Number 279 (for May and June 1702)

4°: $^{\pi}$7O^{2} 7O-7R^{4} 7S^{2} [$1-2 (-$^{\pi}$7O2,7S2) signed]; 20 leaves, 1133-1172 [1134-36 as 1164-66]; plate [*1*] 000004 - a1=a2 $^{\pi}$7O1 Sir$John$Flo - b1 7O1 gger$than$a$: b2 7S1 ,$both$i [NYPL-RB,NYPL]

Plate with table 1 illustrating sperm from cocks collected by Mr Leewuenhoek (p. 1138 (7O1^{v})); table 2 illustrating pipes designed by Leewuenhoek to administer balsam particles for shortness of breath (p. 1144 (704^{v})): [**upper right**] *Philos : Transact :№ :279.* [234x153 (245x174)*engraved,* **facing 7O1^{r} (1133):** NYPL-RB]

[**right**] (Numb. 279.) | [**centered**] PHILOSOPHICAL | TRANSACTIONS. | [*rule*] | *For the Months of* May *and* June, 1702. | [*rule*] |

[**centered**] The CONTENTS. | [**hanging left**] I. *Obſervations on the Planting and Culture of Tobacco* | *in* Zeylan, *by Mr* Strachan. | II. *Part of ſome Letters from Mr* Anthony van Lew-|uenhoeck, *F. R. S. to the Royal Society, and the* | *Right Honourable the Lord* Somers *their Preſident,* | *containing ſeveral Microſcopical Obſervations and Ex-*|*periments concerning the* Animalcula *in* Semine Maſ-|culino *of Cocks and Spiders, Shortneſs of Breath,* &c. | III. *Another Letter from the ſame Mr* Leewuenhoek, | *concerning his obſervations on Rain Water.* | IV. *Part of a Letter to the Publiſher, concerning ſome* | Roman *Coins, and other matters lately obſerved in* | Lincolnſhire. | V. *Part of a Letter from Mr* Thoresby, *F. R. S. to* | *the Publishers, giving a further account of the ſame.* | VI. *Obſervations on the Claſs of Sweet Taſtes, made by* | *comparing the Taſtes of Sweet Plants with Monſieur* L' Emery's *Chymical Analyſis of them, in his Trea-*|*tiſe of Drugs, by Sir* John Floyer. [*o in from damaged as on p. 1152,* **1133 ($^{\pi}$7O1^{r}):** NYPL-RB]

[*rule*] | I. *Obſervations on the Planting and Culture of Tobacco* | *in* Zeylan, *by Mr* Strachan. [**1134 ($^{\pi}$7O1^{v}):** NYPL-RB]

[*rule*] | II. *Part of ſome Letters from Mr* Anthony van Lew-|uenhoeck, *F. R. S. to the Royal Society, and the* | *Right Honourable the Lord* Somers *their Preſident,* | *containing ſeveral Microſcopical Obſervations and Ex-*|*periments concerning the* Animalcula *in* Semine Maſ-|culino *of Cocks and Spiders, Shortneſs of Breath,* &c. | [*gap*] | [**slightly right**] Delf, Decemb. 1701. [**1137 (7O1^{r}):** NYPL-RB]

[*rule*] | III. *Another Letter from the ſame Mr* Leewuenhoek, | *concerning his obſervations on Rain Water.* | [*gap*] | *Delft, April,* 28. 1701. [*o in from damaged as on t.p.*, **1152 (7P4^{v}):** NYPL-RB]

Copies considered: dArber: under Miscellanies June 1702, "continued to *An.* 1702.",[361] could be 278; **NYPL:** back of plate soiled as though folded, maybe 7S too; **NYPL-RB:** back of plate soiled as though folded, maybe 7S too.

Number 280 (for July and August 1702)

4°: $^{\pi}$7T^{2} 7T-7X^{4} 7Z^{4} 8A^{2} [$1-2 (-$^{\pi}$7T2,8A2) signed]; 20 leaves, pp. 1173-1212; plate [*1*]
170204 - a1=a2 $^{\pi}$7T1 .$S.$conc - b1 7T1 ur$ſatisfact : *b2 7Z2 o$getallthin [NYPL-RB,NYPL]

Plate with figures 1-5 illustrating John Evelyn's prepared tables of the human circulatory system, overall and microscopic (p. 1177 (7T1^{r}) ff.): [**upper right**] *Philosoph: Transact: №. 280.* [**lower right**] *M. Vd^{r}. Gucht Sculp:* [455x296 (458x311+) *engraved,* **facing 7T1^{r} (1173):** NYPL-RB,NYPL]

Plate with figures 6-8 illustrating John Evelyn's prepared tables of the human circulatory system, overall and details (p. 1177 (7T1^{r}) ff.): [**lower right**] Venas has et Humani Corporis | Arterias Geminis Tabulis adpli-|citas Patavio a ſe pridem deduc-|tas: Regali demum Societati de-|dit Iobannes Evelynus ejuſdem So | cius MDCLXVII. – [**below**] *M: vd^{r} Gucht Sculp:* [451x280 (460x296) *engraved,* **facing 7T1^{r} (1173):** NYPL-RB,NYPL]

- Soiling on plate and possibly, outer form of 7U, upper edge of 7T and 8A [NYPL]

Number 281 (for September and October 1702)

4°: 8B^{2} 8C-8F^{4} 8G^{2} [$1-2 (-8BG2) signed]; 20 leaves, pp. 1213-1248 1243-1246 [=1252]; plate [*1*]
170204 - a1=a2 8B1 nofſome$Morbi - b1 8C1 no$Diaſtole$at : *b2 8F2 look$uponbeo [NYPL-RB,NYPL]

Figure 1-4, etc., illustrates the parts of a pocket microscope invented by James Wilson and some items under magnification (1242 (8F1^{v}) ff.) [**upper right**] *Philoſoph. Transact. № 281* [207x237 (216x249) *engraved,* **facing 8B1^{r} (1213):** NYPL-RB,NYPL]

[361] ibid., 3:310.

Number 282 (for November and December 1702)

4°: 7H² 8I-8K⁴ 7L-7N⁴ [$1-2 (-7HL2) signed]; 22 leaves, 1247-1289 [1290] [1266 as 1566, 1276 as 1776, 1282 as 1582]; plate [*1*]

170304 - a1=a2 7H1 $Leedes$in - b1 8I1 ios$Hiſp : b2 7N2 $prevented$ſo$p [NYPL-RB,NYPL]

Figures 1-2 illustrate Thomas Molyneux theory on the Ancient Greek and Roman Lyre with a tortoise and a lyre made from a tortoise shell (p. 1275 (7M1ʳ) ff.); figure 3 a plumb-stone encrusted into a sphere and extracted from a woman's bowels by James Yonge (p. 1283 (7N1ʳ)) [**upper right**] *Philos=Transact=№ =282=* [158x263 (169x286) *engraved,* **facing 7H1ʳ (1247):** NYPL-RB,NYPL]

Copies considered: dArber: under Miscellanies Feb 1703, "No. 282 for the Months of *November* and *December*, which compleats that Year, are newly Published; and sold by S. Smith and B. Walford, ... where may be had single Months; or whole Setts for several Years last past.";[362] **NYPL:** collation, fingerprint, plate; **NYPL-RB:** collation, fingerprint, plate.

Number 283 (for January and February 1703)

4°: 7O² 7P-7S⁴ 7T² [$1-2 (-7OT2) signed]; 20 leaves, pp. 1291-1328 [*2*]; plate [*1*]

170304 - a1=a2 7O1 $Publiſher,$by$ - b1 7P1 l$Enquiries$i : b2 7T1 l$ſtored,$is [NYPL-RB,NYPL]

Figures 1-4 illustrate worms from human skin extracted by Richard Mead (1296 (7P1ᵛ)); figure 5 illustrates a portion of human intestines described by Joanne Shipton (p. 1303 (7Q1ʳ)); figures 6-12 weeds and animals growing in water found by Mr Anthony van Leeuwenhoek (p. 1035 (7Q2ʳ) ff.) [**upper right**] *Philos = Transact=№=283 :* [171x290 (172x311) *engraved,* **facing 7O1ʳ (1291):** NYPL-RB]

- Soiling on upper-edge of 7O(o) and back of plate, NYPL
- 7O and 7T in the same gathering in this copy, suggesting worked together, NYPL

Number 284 (for March and April 1703)

4°: [7U]² 7X-7Y⁴ χ7Z-8B² 8A-8B⁴ 8C² [$1-2 (-χ7Z–8B2,8C2) signed]; 26 leaves, [1329-30] 1331-1360 1357-1376 [=1380]; plate [*1*]

000004 - b1 7X1 uci$poſſunt$: b2 8C1 iſſimorum$nondu [NYPL-RB,NYPL]

362 ibid., 3:338.

Figures A-N illustrates microscopic observations of mites, seeds and insects by Sir C.H.(p. 1359 (8A2^{r}))[193x141 (205x146+)*engraved,* **facing 7U1^{r} (1329):** NYPL-RB]

Number 285 (for May and June 1703)

4^{o}: π^{2} 8D-8G^{4} $^{\chi}$8G^{2} 8H^{2} [$1-2 (-8H2) signed; $^{\chi}$8G1 as 'Cgggggggg']; 22 leaves, pp. 1377-1418 [*2*] [1378-9 as 1372-3]; plate [*1*]

000004 - b1 8D1 the$ſtate$ofher : b2 8H1 h$Camel,$from$wh [NYPL-RB,NYPL]

Figures 1-6 illustrate microscopic views of frog's lungs and feet by William Cowper demonstrating how to prepare animals for anatomical study (p. 1391 (8E2^{r})) [**upper right**] *Philos. Transact. №. 285.* [180x249 (219+x286+) *engraved,* **facing π1^{r} (1377):** NYPL-RB]

Number 286 (for July and August 1703)

4^{o}: [8I]^{2} 8K-8M^{4} 8O^{2} [$1-2 (-8O2) signed]; 20 leaves, pp. 1415-1426 1421-1447 [1448=1454] [1422-3 as 1322-3]; plate [*1*]

000004 - b1 8K1 andmore$: b2 8O1 erable$alteration

Leaf 8O2 is taller than the others to accommodate a table, but is nonetheless conjugate with 8O1. [NYPL-RB,NYPL]

Figures 1-10 illustrations of animals in water and the dissolution of silver by Mr Anthony Leewenhoek[**upper right**] *Philos= Transact=№=286.* [212x164 (227x175) *engraved,* **facing 8I1^{r} (1415):** NYPL-RB]

- Soiling from folding along 8O(i) upper-edge

Number 287 (for September and October 1703)

4^{o}: 8P^{2} 8Q-8U^{4} [$1-2 signed]; 22 leaves, pp. 1449-1492; plate [*1*]

170304 - a1 8P1 ,$M.D.$Coll.$: a2 8P2 $adnaſcentibus$ b1 8Q1 oliata$s.$Bangue : b2 8U2 or$a$foundation. [NYPL-RB, NYPL]

Figures 1-22 illustrations for Anthony van Leuwenhoek's study of the seeds of oranges (1462 (8R1^{v}); figures 23-6 illustrations of flowers and flower reproduction by Sam. Morland (1479 (8T2^{r}))[**upper right**] *Philos:Transac: №:287* = [189x303 (192x307) *engraved,* **facing 8P1^{r} (1449):** NYPL-RB]

- Soiling on back of plate NYPL

Number 288 (for November and December 1703)

4°: π² 8X-8Z⁴ 8Z*² [$1-2 (-8Z*2) signed]; 16 leaves, pp. 1493-1523 [*1*]; plate [*1*]
000004 - b1 8X1 eirEyeexactly$in : b2 8Z*1 N.$227.$|$An [| *here is a vertical rule*, NYPL-RB,NYPL]

Figures 1-2 & 1-6 [**upper, left half**] *The Appearance of the Spots | on the Sun in June & July | 1703. as observed by | W: Derham F.R.S.* (1504 (8X4ᵛ)); figures I-VIII illustrations of sketches from a gentleman of microscopic animals in response to Leuwenhoeck in No 283 (1494 (π1ᵛ) ff.) [**upper right**] *Philos: Transact: №: 288.* [256x430 (280x439) *engraved,* **facing π1ʳ (1497):** NYPL-RB]

Lowthorp's Abridgment

Copies considered: dArber:

"Proposals for printing, The Philosophical Transactions and Collections to the end of the Year 1700, abridg'd and disposed under general Heads; in Three Volumes, by J. Lowthorp, M.A., and F.R.S., and may be had at the Undertakers, Tho. Bennet, R. Knaplock, and R. Wilkin, Booksellers in St. *Paul*'s Churchyard."[363] under Advertisements June 1703.

Under Advertisements Nov 1704, "Whereas, by Approbation of the Royal Society, Proposals were published, *May* 1703., by Thomas Bennet, R. Knaplock, and R. Wilkin, Booksellers in St *Paul*'s Churchyard, for printing the, Philosophical Transactions, disposed under General Heads; and which should have been ready before the End of *Michaelmas* Term: This is to give Notice that (for the Reputation of the Work, and for the full Satisfaction of all Gentlemen that have been Encouragers of it) the Author hath taken so great Care in Methodizing and Correcting the Multitude of Papers contained in it, that the Publication has been delay'd a whole Year beyond the time intended. But now all the Copy is ready; above Two Hundred and Forty Sheets actually printed off (the full Number proposed); and such Gentleman as Desire the Advantage of Subscribing, and who make their first Payment (10s.) before the 20th of *December*, shall have all the Allowance afforded in the first Proposals.

[363] Ibid., 3:363.

N.B. All the Cuts are new Graved; nothing material is left out, nor will the Reader be burthened with any thing that could be spared without Prejudice to the several Ingenious Authors. And altho' the Bulk of it be increased by about Forty Sheets more than were at first intended: yet no Advance will be expected for the Great Addition by the Undertakers."[364]

Under Advertisements May 1705, "This is to give notice, That Mr. Lowthorp's Abridgment of the Philosophical Transactions is now ready to be delivered to the Subscribers; they making their second payment (30s. [*for a total of 40s.*]), according to the Proposals. N.B. Whereas the Number printed is not sufficient to answer the Demands of all who have desired to be admitted as Subscribers, those Gentlemen who have already subscribed, and do not take up their Books before the 22. of *June* will be excluded from that Advantage. To those who are not Subscribers, it will not be sold under 50s. in Sheets. The Undertakers are T. Bennet at the Half Moon, R. Knaplock at the Angel and Crown, and R. Wilkin at the King's Head, in St. *Paul*'s Churchyard."[365]

Under Miscellanies June 1705, 'The Philosophical Transactions and Collections to the end of the Year 1700. Abridg'd and Dispos'd under General Heads. In Three Volumes. By John Lowthorp, M.A., and F.R.S. Quarto. Printed for TN. Bennet at the Half Moon, R. Knaplock at the Angel and Crown, and R. Wilkin at the King's Head, in St. *Paul*'s Churchyard."[366]

dL-B:

Philosophical Transactions, abridged and disposed under general heads, from the commencement to the end of the year 1700. By John Lowthorp. First ed., Lond. 1705; 4th ed, 1731, 4to. 3 vols. plates.

Volume 24: 289--304 (1704-1705)

4^{o}: π^{2}; 2 leaves, [*4*] [DLC]

Copies considered: dL-B: for 1704–5, pp. 1524–2192, dedication and index, 19 plates; **DLC:** collation.

[364] Ibid., 3:433.
[365] Ibid., 3:460.
[366] Ibid., 3:468.

Number 289

4°: 9A*² 9A–9B⁴ χ9B⁴ 9C⁴ 9D² [$1–2 (-9A* D2) signed]; 20 leaves, pp. 1521–1560; plate [*1*]
170404 - a1=a2 9A*1 .$D.$Aſtronomiæ - b1 9A1 any$motion,$th : b2 9D1 ey$verily$thought [DLC]

[*Plate*] [**9A*1ʳ (1521):** DLC]

Copies considered: dArber: see no. 304 below; **DLC:** collation, fingerprint, plate

Number 290

4°: 9F² 9G–9K⁴ χ9I⁴ [$1–2 (-9F2) signed]; 22 leaves, pp. 1561–1603 [1604] (1563–4,1597–1599 in brackets instead of parentheses); plates [*2*]
170404 - a1=a2 9F1 odgſon,$F. [period poorly inked] - b1 9G1$ſome$few$thin : b2 χ9I2 a$Cavernoſa$P [DLC]

Fig. 1–5 [**9F1ʳ (1561):** DLC]

Copies considered: DLC: collation, fingerprint, plates

Number 291

4°: 9M² 9N–9R⁴ 9S² [$1–2 (-9MS2) signed]; 24 leaves, pp. 1565–1611 (1570=1670, 1574=1675; 1599, 1587, 1603 missing left parentheses); plate [*1*]
170404 - a1=a2 9M1 Ann.$1701.$ - b1 9N1 bytheSeaatHigh : b2 9S1 Fromthe [DLC]

Fig. 1–5 [**9M1ʳ (1565):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 292

4°: 9T² 9U-9X⁴ 9Y⁴ (±9Y4) 9Z² 10A (4 ll.) 10B-10C⁴ 10E–10F⁴ [$1–2 (-9T 10A2) signed]; 36 leaves, pp. 1613–1668 1687–1702 [=1684] (1618–19=1614–15, 1622–23=1618=19, 1647=1447); plate [*1*]
170404 - a1=a2 9T1 In$Folio.$ - b1 9U1 tringorArtery : b2 10F2 ſerene,andfree [DLC]

Fig. 1–12 [**9T1ʳ (1613):** DLC]

9Y4ʳ (1639) – 10A4ʳ (1647) have an enlarged text area and fold out beyond the regular leaf size. For example, p. 1627 (9X2ʳ) has an opening of 169.5x107 and 1634 (9Y1ᵛ) has an opening of 168.5x105.5, but in comparison 1641 (9Z1) has an opening of 196.0x155.0, 1645 (10A1) has 197.5x154.0, 1647

(10A4) has a width of 153.2, and when we return to the text measure 1648 (10A4^{v}) has an opening of 168.5x107.7. It is not quite clear what is going on from this one copy (DLC), but it looks like the furniture of the press-bed was rearranged to accommodate more text for this section and returned to the normal size afterward. 10A (4 ll.) may very well be 10A^{4}, but the evidence here seems unclear and the situation odd enough to withhold judgment.

Copies considered: dArber: see entry no. 297 below, still on sale in June 1705; **DLC:** collation, fingerprint, plate

Number 293

4°: 10G^{2} 10H–10N^{4} O1 [$1–2 (+10G2) signed]; 26 leaves, pp. 1703–1756 (1754=1753); plates [*2*]

170504 - a1 10G1 PreparationsofSm : a2 10G2 lant$:$uthosinqua - b1 10H1 viribus$ijſdem$qui : b2 10N2 $of$the$Head$was [DLC]

Tab. 1–3 [**10G1^{r} (1703):** DLC]

Tab. 4–5 [**10G1^{r} (1703):** DLC]

Copies considered: DLC: collation, fingerprint, plates; leaf O1 is clearly wrapped around gathering 10N, not the whole number

Number 294

4°: 10P^{2} 10Q–10T^{4} [$1–2 (-10P2) signed; 10P1=11P1, 10R1=9R1]; 18 leaves, pp. 1755–1790 (1783=1775, 1786–7=1778–9, 1790=1782); plate [*1*]

170504 - a1=a2 10P1 Humelbergij,$Barthij,$& - b1 10Q1 as$inviſible,$and$t : b2 10T2 mayjudge$ho [DLC]

Fig. 1–18 [**10P1^{r} (1755):** DLC]

Copies considered: DLC: collation, fingerprint, plate; 10R1=9R1 missigning is likely just a pulled letter

Number 295 (January 1705)

4°: 10U^{2} 10X–11A^{4} 11B^{2} [$1–2 (-10U 11B2) signed]; 20 leaves, pp. 1783–1810 1803–1814 [=1822]; plate [*1*]

170504 - a1=a2 10U1 co-Catoptricum$Uni - b1 10X1 little$bit$ſticking$ou : b2 11B1 centro$ſpeculi$conſt [DLC]

Fig. 1–10 [**10U1^{r} (1783):** DLC]

Copies considered: dArber: see entry no. 297 below; **DLC:** collation, fingerprint, plate

Number 296 (February 1705)

4°: 11C^{2} 11D–11H^{4} [$1–2 (–11C2) signed]; 22 leaves, pp. 1815–1818 1827–1866 [=1858]; plate [*1*]

170504 - a1=a2 11C1 ociety,byMr.$Fra.$ - b1 11D1 ntris$tineas$pellit,$: b2 11H2 ſo,$thattheEggs$were [DLC]

Tab. 1–2 [**11C1^{r} (1815):** DLC]

Copies considered: dArber: see entry no. 297 below; **DLC:** collation, fingerprint, plate

Number 297 (March 1705)

4°: 11I^{2} 11K–11L^{4} (11L3+1.2) 11M^{4} 11N^{2} [$1–2 (-11I2) signed, 11L(1)=11M1]; 18 leaves, pp. 1867–1876 1879–1885 [1886] 1887–1904 [=1902]; plates [*2*]

170504 - a1=a2 11I1 tionofSound$ - b1 11K1 . [next line:] the$Spotted$Parti : b1 [alternate] 11K2 theyarefull$ripe,$: b2 11N1 y's$Juſtices$of$th [DLC]

Fig. 1–7 [**11I1^{r} (1867):** DLC]

[*letterpress* plate, p. 1877–8] [**11K3^{v} (1876):** DLC]

Copies considered: dArber: under Miscellanies June 1705, cont. Hans Sloane, "There are now published No. 295, 296, 297, for the Months of *January, February,* and *March* 1705. Printed for S. Smith and B. Walford, … Where are likewise to be had Compleat Years from 1691, No. 292, to the end of Year 1704. Quarto."[367] **DLC:** collation, fingerprint, plates

Number 298

4°: 11O^{2} 11P–11Q^{4} 11R–11S^{2} 11T–11U^{4} [$1–2 (-11ORS2) signed]; 22 leaves, pp. 1867 1906–1948 (1924=1916); plate [*1*]

170504 - a1=a2 11O1 ksbee. [next line:] ceiver,$made$at$Greſha - b1 11P1 nſparency,butth : b2 11U2 iniisfui$examinandis, [DLC]

Fig. 1–13 [**11O1^{r} (1867):** DLC]

Copies considered: DLC: collation, fingerprint, plate

[367] Ibid., 3:469.

Number 299

4°: 11X² 11Y⁴ 12A–12C⁴ 12D² [$1–2 (-11X 12D2) signed, 12A1=11A1]; 20 leaves, pp. 1951–1954 ²1953–1988 [=1990]; plate [*1*]
170504 - a1=a2 11Y1 Bononiæ$MDCC - b1 12Y1 j,$ſome$heavier,$but$no : b2 12D1 MrCowper's$Muſculus$ [DLC]

Fig: 1–5 [**11X1ʳ (1951):** DLC]

Copies considered: DLC: collation, fingerprint, plate; paper quality suggests that 11X is the same paper stock used to print gatherings after 12B

Number 300

4°: 12E² 12F–12L⁴ [$1–2 (-12E2) signed]; 26 leaves, pp. 1989–2040; plate [*1*]
170504 - a1=a2 12E1 $Folio. [line above] entem$aliam$ullam$pe - b1 12F1 . [line above] ays$infallible$Gui : b1 12F2 about70years$ago. : b2 12L2 hen$taken,$beca [DLC]

Fig: 1–2 [**12E1ʳ (1989):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 301

4°: 12M² 12N–12Q⁴ 12R² [$1–2 (-12MR2) signed]; 20 leaves, pp. 2041–2080 (2059=2095, 2066=2065, 2078–9=2077–8); plate [*1*]
170504 - a1=a2 12M1 t,$recenſentur$:$*&*'$denique$ - b1 12N1 lentiſſimi$D.$Chriſtin : b2 12R1 $ancient$Oracle$of [DLC]

Tab: 1–2 [**12M1ʳ (2041):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 302

4°: [12S]² 12T–12X⁴ 12Y² [$1–2 (-12Y2) signed]; 16 leaves, pp. [2081] 2082–2083 [*17*] 2101–2112 [=2112] (2101–2108=1101–1108, 2110–11=2111-2110; [*17*] numbered as below); plate [*2*]
000004 - b1 12T1 runt. [*line above*] $Elleboro$albo$$mi : *b1 12T2 arum$ſquamoſum$; : b2 12Y1 ote$hitherto$upon$th [DLC]

Tab: I–IV [**12S1ʳ (2081):** DLC]

[*letterpress plate*] [**12U1^{v} (2083+11)**]

Pagination: [2081] 2082–2083 2184 2043 2072 2069 2041 2080 2076 2073 2077 2043 2072 2069 2041 2080 2076 2073 2077 1101–1108 2109 2111 2110 2112

Copies considered: DLC: collation, fingerprint, plates

Number 303

4°: [12Z]^{2} 13A–13E^{4} [$1–2 signed]; 22 leaves, pp. [2143] 2144–2145 2148 ^{2}2117–2155 [2156] [=2186]; plate [*1*]

170604 - b1 13A1 òd$obſtructionum$idea : *b2 13E1 $them$they$appear$ [DLC]

Fig: 1–4 [**12Z1^{r} (2143):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 304 (November and December 1705) and Index

4°: 13F^{2} 13G–13K^{4} 13L^{2} [$1–2 (-13FL2) signed]; 20 leaves, pp. 2157–2160 ^{2}2157–2192 [=2196]; plate [*2*]

000004 - a1=a2 13F1 ,$near$Bath.ByDr - b1 13G1 intheSea;forhaving : b2 13L1 .$p.$2045. [DLC]

Tab 1 [**13F1^{r} (2157):** DLC]

Tab 2 [**13F1^{r} (2157):** DLC]

Copies considered: dArber: under Miscellanies July 1706, "Numb. 304. for the Months of *November* and *December* last; which compleats the [X]XXIV. Vol. for the Years 1704 and 1705. Continu'd and publish'd by Dr. Hans Sloane, S.R. Secret. Dedicated to his Royal Highness the Prince. Printed for S. Smith and B. Walford.";[368] **DLC:** collation, fingerprint, plates

Volume 25 305--312 (1706--1707)

4°: π^{2}; 2 leaves, [*4*] [DLC]

Copies considered: dL-B: for 1706–7, pp. 2193–2472 (misprinted 1472), dedication and index (8 pp.), 8 plates; **DLC:** collation.

[368] ibid., 3:514.

Number 305

4°: 13M² 13N–13P⁴ 13Q² [$1–2 (-13MQ2) signed]; 16 leaves, pp. 2193–2224; plate [*1*]
170604 - a1=a2 13M1 .$R.$ - b1 13N1 extr : b2 13Q1 ed$fr [DLC]
Fig: 1, f: 2–4 [**13M1ʳ (2193):** DLC]
Copies considered: DLC: collation, fingerprint, plate

Number 306

4°: 13R² 13S–13Y⁴ [$1–2 (-13R2) signed; 13Y1=13X1]; 22 leaves, pp. 2225–2267 [2268]; plate [*1*]
170604 - a1=a2 13R1 uoru - b1 13S1 of : b2 13Y2 itted$p [DLC]
Tab: 1–2 [**13R1ʳ (2225):** DLC]
Copies considered: DLC: collation, fingerprint, plate

Number 307

4°: [13Z]² 14A–14E⁴ 14F² [$1–2 (-14F2) signed]; 24 leaves, pp. 2265–2312 (2267–8=2268–7); plate [*1*]
170604 - b1 14A1 $Leo : b2 14F1 all$ [DLC]
Tab: i, 2 [**13Z1ʳ (2265):** DLC]
Copies considered: DLC: collation, fingerprint, plate

Number 308

4°: 14G² 14H–14L⁴ [$1–2 (-14G2) signed; 14G1='IG,' 14H1–2=H1–2, 14L1=L1]; 18 leaves,
pp. 2313–2347 [2348] (2341 lacks enclosing parentheses); plate [*1*]
000004 - a1=a2 14G1 fhi - b1 14H1 R : b2 14L2 laces. [*line above*] River, [DLC]
Fig: I–III [**14G1ʳ (2313):** DLC]
Copies considered: DLC: collation, fingerprint, plate

Number 309

4°: 14M–14O² 14P–14S⁴ [$1–2 (-14M–O2) signed]; 22 leaves, pp. 2349–2392; plate [*1*]
000004 - a1=a2 14M1 ans$ - b1 14N1 ò$jux : b2 14S2 f$the$ [DLC]
[*plate*] [**14M1ʳ (2349):** DLC]
Copies considered: DLC: collation, fingerprint, plate

Number 310

4°: 14T² 14U–15B⁴ [$1–2 (-14T2) signed; 14U2=14T2]; 26 leaves, pp. 2393–2444 (2413=2313); plate [*1*]
000004 - a1=a2 14T1 F.$R [*possibly:* F.$R.] - b1 14U1 ord$; : b2 15B2 ccurru [DLC]
Fig: 1–2 [**14T1ʳ (2393):** DLC]
Copies considered: DLC: collation, fingerprint, plate

Number 311

4°: 14T² 14U–15A⁴ 15B² [$1–2 (-14T 15B2) signed]; 24 leaves, pp. 2396–2406 2408–2444 [=2443] (2417=1417 2420–1=1420–1, 2424=1424, 2442 lacks left parentheses); plate [*1*]
170704 - a1=a2 14T1 07. - b1 14U1 ere : b2 15B1 tle$ [DLC]
Fig: 1,2–10 [**14T1ʳ (2396):** DLC]
Copies considered: DLC: collation, fingerprint, plate

Number '112' (i.e. 312) and Index

4°: 15C² 15D–15G⁴ [$1–2 (-15C2) signed]; 18 leaves, pp. 2445–2472 [2473–2480] (2449=1449, 2452–3=1452–3, 2456–7=1456–7, 2460–1=1460–1, 2464–5=1464–5, 2468–9=1468–9, 2472=1472); plate [*1*]
170804 - a1=a2 15C1 Aprilis - b1 15D1 n$or : b2 15G2 y$of$Gl [DLC]
Tab: 1–3 [**15C1ʳ (2445):** DLC]
Copies considered: DLC: collation, fingerprint, plate

VOLUME 26 313--324 (1708--1709)

4°: π²; 2 leaves, [*4*] [DLC]
Copies considered: dL-B: for 1708–9, pp. 1–508, dedication and index, 13 plates; **DLC:** collation.

Number 313

4°: A² B–F⁴ [$1–2 (-A2) signed]; 22 leaves, pp. 1–44; plate [*1*]
170804 - a1=a2 A1 a - b1 B1 $: b2 F2 $br [DLC]
[*plate*] [**A1ʳ (1):** DLC]
Copies considered: DLC: collation, fingerprint, plate

Number 314

4°: G² H–L⁴ [$1–2 (-G2) signed]; 18 leaves, pp. 45–80; plates [*2*]

170804 - a1=a2 G1 $D - b1 H1 th : b2 L2 tho [DLC]

fig: 1–6 [**G1ʳ (45):** DLC]

Tables [**G1ʳ (45):** DLC]

Copies considered: DLC: collation, fingerprint, plates

Number 315

4°: M² N–R⁴ [$1–2 (-M2) signed]; 22 leaves, pp. 81–124

170804 - a1=a2 M1 an - b1 N1 et : b2 R2 15. [DLC]

Copies considered: DLC: collation, fingerprint

Number 316

4°: S² T–Z⁴ [$1–2 (-S2) signed]; 22 leaves, pp. 125–167; plate [*1*]

170804 - a1=a2 S1 ch - b1 T1 be : *b2 Z1 h [DLC]

[*plate*] [**S1ʳ (125):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 317

4°: 2A² 2B–2E⁴ 2F² [$1–2 (-2A2 +2F2) signed]; 20 leaves, pp. <169> 170–208; plate [*1*]

170904 - a1=a2 2A1 th$ - b1 2B1 rſt$: b2 2F2 celle [DLC]

Map [**2A1ʳ (169):** DLC]

Copies considered: DLC: collation, fingerprint, plate; upper margin heavily trimmed, so p. '169' is an plausible guess based on evidence

Number 318 (November and December 1708)

4°: 2G² 2H–2L⁴ 2M² [$1–2 (-2GM2) signed]; 20 leaves, pp. 209–248

170904 - a1=a2 2G1 mun - b1 2H1 on$: b2 2M1 ari [DLC]

Copies considered: dArber: under Miscellanies May and June 1709, "Printed for H. Clements at the Half Moon in St. *Paul*'s Churchyard. Quarto. Price 1s.";[369] **DLC:** collation, fingerprint; plate for Number 328 present in this copy 'Fig: 1–4'

Number 319

4°: 2N² 2O–2S⁴ [$1–2 (-2N2) signed]; 22 leaves, pp. 249–292; plate [*1*]

170904 - a1=a2 2N1 d$ - b1 2O1 we : b2 2S2 reſp [DLC]

fig: 1–4 [**2N1ʳ (249):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 320

4°: [2T]² 2U–2Z⁴ *2Z² [$1–2 (-*2Z2) signed]; 20 leaves, pp. 293–331 [332]; plate [*1*]

170904 - a1=a2 - b1 2U1 ts. [*line above*] $of : *b2 2Z1 on$tha [DLC]

fig: 1–4 [**2T1ʳ (293):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 321

4°: π3B² 3B⁴ 3C–3I² [$1–2 (-π3B,3C–I2) signed]; 20 leaves, pp. π341–344 337–358 [359] 360–364 [365] 366–372 [=380] (337, 349, 352–3, 356 lack left parentheses; 358 lacks right parentheses); plate [*1*]

170904 - a1=a2 π3B1 $Mr. - b1 3B1 eaſy : b2 3I1 co [DLC]

Fig: 1–2 [**π3B1ʳ (341):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 322

4°: 3K² 3L–3O⁴ 3P² [$1–2 (-3KP2) signed]; 20 leaves, pp. 373–412; plate [*1*]

170904 - a1=a2 3K1 d$n - b1 3L1 $Me : *b2 3O1 Il.$XI [DLC]

[*plate of "ancient brass instrument," illustrating IV*] [**3K1ʳ (373):** DLC]

Copies considered: DLC: collation, fingerprint, plate

[369] ibid., 3:650.

Number 323

4°: 3Q² 3R–3U⁴ 3X² [$1–2 (-3QX2) signed]; 20 leaves, pp. 413–452; plate [*1*]

170904 - a1=a2 3Q1 f$the - b1 3R1 be : b2 3X1 An : *b2 3U1 outſi [DLC]

Fig: 1, 2–5 [**3Q1ʳ (413):** DLC]

Copies considered: DLC: collation, fingerprint, plate

Number 324 and Index

4°: 3Y² 3Z–4E⁴ 4F² [$1–2 (-4F2, +3Y2) signed]; 28 leaves, pp. 453–508 (454 lacks left parentheses, 480 lacks right parentheses); plate [*1*]

171004 - a1 3Y1 he$fro : a2 3Y2 ot$prod - b1 3Z1 ther : b2 4F1 ſtanc [DLC]

Fig: 1, 2–4 [**3Y1ʳ (453):** DLC]

Copies considered: DLC: collation, fingerprint, plate

VOLUME 27 325--336 (1710--1712)

π⁴ (-π4); 3 leaves, pp. [*3*] [NYPL]

Copies considered: dL-B: for 1710–12, pp. 1–555, dedication and index, 13 plates; **NYPL:** collation.

Number 325

4°: A² B–G⁴ [$1–2 signed]; 26 leaves, pp. 1–52 [in parentheses]; plate [*1*]

000004 - b1 A1 e : b2 G2 .$U [NYPL]

Plate of tables 1–3 of spiders and gems [**1 (A1ʳ):** NYPL]

Copies considered: NYPL: collation, fingerprint, plate location, stabbing in inner margin

Number 326

4°: π1 H–P⁴ [$1–2 signed]; 33 leaves, pp. 51 [52] 53–116

000004 - b1 H1 $b : b2 P2 of [NYPL]

Copies considered: NYPL: collation, fingerprint, stabbing in inner margin, seems to be lacking a plate

Number 327

4°: π1 Q–X⁴ Y² [$1–2 (-Y2) signed]; 27 leaves, pp. [2] 117-168; tables [engraved] 1–4

000004 - b1 Q1 r$: b2 Y1 $c [NYPL]

Table 1 [**154 (U3^{v}):** NYPL]

Table 2 [**155 (U4^{r}):** NYPL]

Table 3 [**157 (X1^{r}):** NYPL]

Table 4 [**164 (X4^{v}):** NYPL]

Copies considered: NYPL: collation, fingerprint, plate location

Number 328

4°: π² Z–2D⁴ [$1–2 signed]; 22 leaves, pp. 169–211 [212]; plate [*1*]

000004 - b1 Z1 i : b2 2D2 rsits [NYPL]

Plate of figures 1–4 [**169 (π1^{r}):** NYPL]

Copies considered: NYPL: collation, fingerprint, plate location

Number 329

4°: π1 2E-2Q² 2R1 [$1–2 signed]; 26 leaves, 213–264 [214=206]

000004 - b1 2E1 t,$r : b2 2R1 or$ [NYPL]

Copies considered: NYPL: collation, fingerprint

Number 330

4°: π² 2S–2Y⁴ [$1–2 signed]; 22 leaves, 265–308; tables [engraved] 1–2

000004 - b1 2S1 gt : b2 2Y2 ch$I$ [NYPL]

Table 1 [**265 (π1^{r}):** NYPL]

Table 2 [**265 (π1^{r}):** NYPL]

Copies considered: NYPL: collation, fingerprint, plate location

Number 331

4°: π² 2Z–3D⁴ [$1–2 signed]; 22 leaves, pp. [309] 310–352; plate [*1*]

000004 - b1 2Z ,$c : b2 3D2 ike$Wor [NYPL]

Plate [**309 (π1^{r}):** NYPL]

Copies considered: NYPL: collation, fingerprint, plate location

Number 332

4°: π^{2} 3E–3I^{4} [$1–2 signed]; 22 leaves, pp. 353-396; plate [*1*]

000004 - b1 3E1 Eart : b2 3I2 ich$t [NYPL]

Plate [**353 (π1^{r}):** NYPL]

Copies considered: NYPL: collation, fingerprint, plate location

Number 333

4°: π^{2} 3K–3N^{4} 3O^{2} [$1–2 (-3O2) signed]; 20 leaves, pp. 397–436 [398=498]; plate [*1*]

000004 - b1 3K1 pear' : b2 3O1 $Wat

Plate [**397 (π1^{r}):** NYPL]

Copies considered: NYPL: collation, fingerprint, plate location

Number 334

4°: π^{2} 3P–3S^{4} 3T^{2} [$1–2 (-3T2) signed]; 20 leaves, pp. 437–476; plate [*1*]

000004 - b1 3P1 s,$bu : b2 3T1 $foll [NYPL]

Plate [**437 (π1^{r}):** NYPL]

Copies considered: NYPL: collation, fingerprint, plate location

Number 335

4°: π^{2} 3U–3Z^{4} 4A^{2} [$1–2 (-4A2) signed]; 20 leaves, 477-516; plate [*1*]

000004 - b1 3U1 $Inu : b2 4A1 .$In [NYPL]

Plate [**477 (π1^{r}):** NYPL]

Copies considered: NYPL: collation, fingerprint, plate location, 3U2.3 (483-486) missing in this copy

Number 336

4°: π^{2} 4B–4E^{4} 4F^{2} [$1–2 (-4F2) signed]; 20 leaves, pp. 517-555 [556]; plate [*1*]

000004 - b1 4B1 $Parts. : b2 4F1 See$| [| is a vertical rule]

Plate [**517 (π1^{r}):** NYPL]

Copies considered: NYPL: collation, fingerprint, plate location, stabbed on inner margin

VOLUME 28, NUMBER 337 ONLY (1713)

4°: π^{2} a^{4} B–I^{4} K^{2} *K^{2} L^{2} *L^{2} M–2P^{4} 2Q^{2} [$1–2 (-K *K L *L 2Q2) signed]; 156 leaves, pp. [*10*] 1–3 [4] 5–300 (270=250, 4 unnumbered for figure, 266 missing right parentheses in DLC); tables [*engraved*] I–VII

171404 - a1 a1 A : a2 a2 sbe - b1 B1 i : b2 2Q1 rds. [DLC, rNHS, NYPL]

Tab.I. of plants [**N4^{r} (95):** DLC, NYPL]

Tab.II. of coins [**U3^{r} (149):** DLC, NYPL]

Tab.III. of profiles of water in glass [**X1^{r} (153):** DLC, NYPL]

Tab.IV. of an inscription [**X3^{r} (157):** DLC, NYPL]

Tab.V. of roots [**2I1^{v} (242):** DLC, NYPL]

Tab.VI. of specimens and a profile [**2M2^{r} (267):** DLC, NYPL]

Tab.VII. of inscriptions [**2O2^{r} (283):** DLC, NYPL]

Copies considered: dL-B: for 1713, pp. 1–300, dedication and index, 5 plates; **DLC:** collation, fingerprint, plates, 266 missing right parentheses; **NYPL:** collation, fingerprint, plates.

VOLUME 29: NUMBERS 338--350 (1714--1717)

4°: π1 π2; 2 leaves, [*4*] [UI]

PHILOSOPHICAL | TRANSACTIONS. | Giving Some | ACCOUNT | OF THE | *Present Undertakings, Studies, and Labours* | OF THE | INGENIOUS, | In Many | Considerable Parts of the WORLD. | [rule] | VOL. XXIX. For the Years 1714, 1715, 1716. | [rule] | *LONDON*: | Printed for W. INNYS, at the *Princes-Arms* in St.*Paul*'s | *Church-Yard.* MDCCXVII. [*double-rule border*, **π1^{r}:** UI]

TO | Sir *Isaac Newton,* Kt. | PRESIDENT, | And to the | Council and Fellows | OF THE | Royal Society | OF | *LONDON* | Instituted for the | Advancement of *Natural Knowledge*; | THIS | Twenty Ninth VOLUME | OF | Philosophical Transactions | IS | HUMBLY DEDICATED, | BY | *Edmond Halley*, R.S. Secr. [**π2^{r}:** UI]

Copies considered: dL-B: for 1714–6, lists only twelve plates, rather than 14, and erroneously places Num. 351 in this v. (cf. index v.30); **UI:** collation, transcription, previously owned by "The R^{t}.

Hon. William L^{d}. Viscount Bateman" [bookplate]–who b. ca. 1695, d. 1744–elected Fellow of the Royal Society in 1733, individual numbers previously independently pamphlet stitched.

Number 338 (Jan. – Feb. 1714)

4^{o}: A^{2} B–F^{4} G^{2} H1 [$1–2 (-AG) signed]; 25 leaves, pp. 1–50

171404 - a1=a2 A1 $ - b1 B1 $: *b2 F2 ider [UI]

Numb. 338. Beginning | the 29th Volume. | PHILOSOPHICAL | TRANSACTIONS. | [rule] | For the Months of *January, February* and *March,* 1714. | [rule] | The CONTENTS. [**A1^{r} (1):** UI]

I) *The Preface to the Reader, giving an* Account *of the Publisher's* Design *and* Method, *and inviting the curious Observers of the* Phænomena, *the diligent Inquirers into the* Powers *and* Operations *of Natural Agents, and the happy Inventors of new Discoveries, to contribute towards the carrying on these Publications with Success, by generously communicating their Observations, Discoveries and Inventions to the Publisher.* — [double rule] | THE | PREFACE. [**A2^{r} (3):** UI]

II) Logometria. Auctore *Rogero Cotes,* Trin. Coll. Cantab. Socio. Astronomiæ & Philosphiæ Experimentalis Professore Plumiano, & R. S. S. — LOGOMETRIA | Auctore | ROGERO COTES, | Trin. Coll. Cantab. Soc. | Astr. & Ph. Exp. Professore Plumiano, & R. S. S. [**B1^{r} (5):** UI]

III) *An Extract from the* Acta Eruditorum, *for the Month of* March, 1713. ~~*p.*~~ [*Pag.*] 111. [De Contagiosâ Epidemiâ [...] *Patavii,* 1712. in 8vo.] ~~*Being*~~ *a Dissertation concerning the dreadful contaigious Distemper, seizing the Black Cattle in the* Venetian *Territories, and more especially about* Padua. [**G2^{r} (46):** UI]

IV) *A* Recipe: *Or the Ingredients of a Medicine for the ~~late~~ spreading [mortal] Distemper amongst Cows.[:] ~~Sent~~ ~~lately~~ [Lately sent over] from* Holland, *where ~~it~~ ~~was~~ ~~made~~ ~~use~~ ~~of~~ ~~with~~ ~~Success.~~ where a like Distemper raged amongst the Black Cattle.* [**H1^{v} (50):** UI]

ERRATA. Pag. 43. Lin.2. for *Cc,* read 4*CS*. [loc. cit.]

LONDON, Printed for William Innys, at the *Prince's Arms* in St. *Paul*'s Church-yard, 1714. [loc. cit.]

Copies considered: UI: collation, fingerprint, transcription is done in an eccentric way showing changes between contents and heading, Plate from Num. 342 incorrectly facing A1^{r} (1) in this copy, stitching marks throughout.

Number 339

4^{o}: χI^{2} I–M^{4} [$1–2 (-$\chi$I2) signed, I2=C2]; 18 leaves, pp. 50–86; plate [*1*]

171404 - a1=a2 χI1 be - b1 I1 h : b2 M2 $sol [UI]

Philosoph. Trans.^{act} №. 339. Fig. 3. [] M. V^{dr}. Gucht Sculp [193x144, *engraved*, **χI1^{r} (51):** UI]

Numb. 339. | PHILOSOPHICAL | TRANSACTIONS. | [rule] | For the Months of *April, May* and *June,* 1714 | [rule] | the CONTENTS. [**χI1^{r} (51):** UI]

I) A *New Method for making* Logarithms, *and* vice versâ, *for finding the Number corresponding to a* Logarithm *given, by help of ~~a small~~ [the following] Table. Communicated by Mr.* John Long, S. Theol. Bacc. *and Fellow of* Corp. Christi *Coll.* Oxon. [**χI1^{v} (52):** UI]

II) *An Extract of a Letter from Mr.* Anthony van Leewenhoek, F. R. S. [*Dated* October *the 12th,* 1713.] ~~*Containing his Observations on*~~ *[Concerning] the* ~~small~~ Fibres *of the* Muscles ~~*In several Animals.*~~ [&c.] [**I1^{r} (55):** UI]

III) [To these Observations of Mr. *Leewenhoeck* I shall join,] *An Extract from the* Journal Literarie, ~~&c.~~ [*Publish'd at the* Hague, *for the Months of* January *and* February, 1714. Pag. 238. Being,] ~~*giving*~~ *an Account of several Observations ~~of~~ [concerning] the* [Frame *and*] Texture *of the* Muscles, *by Mr.* Muys, ~~Professor of Anatomy at~~ [of] Franequer. [**I3^{r} (59):** UI]

IV) *An Extract of several Letters from* Cotton Mather, *D. D.* ~~F. R. S.~~ *to* John Woodward, *M. D.* ~~S. R. S. & Prof. Med. Gresh.~~ *and ~~to~~* Ric.[ard] Waller, *Esq*; S.R. Secr. [**I4^{v} (62):** UI]

V) *A Letter from* Emanuel Timone, Philos. & Med. D. in Univers. Oxon. & Patav. S. R. S. *containing the Method of Inoculating the* Small Pox; *practis'd with Success at* Constantinople, *&c. — An Account, or History, of the Procuring the* SMALL POX *by Incision, or Inoculation; as it has for some time been practiced at* Constantinople. *Being the Extract of a Letter from* Emanuel Timonius, Oxon. & Patav. M. D. S. R. S. *dated at* Constantinople, December

1713. *Communicated to the* Royal Society *by* John WOodward, M. D. Profes. Med. Gresh. *and* S. R. S. [**L1^{v} (72):** UI]

VI) Theoremata quædam infinitam Materiæ divisibilitatem Spectantia, ~~*&c.*~~ [*que ejusidem raritatem & tenuem compositionem demonstrant, quorum ope plurimæ in Physica tolluntur difficultates.*] A Johanne Keill, M. D. [Profes.] Astron. ~~Profes.~~ Savil. Oxon. & S R. S.

ERRATA, iu the *Philos. Trans.* Numb. 337. PAG. 80. lin. 3. lege *Societatis à secretis.* P. 88. I. 6. l. *rotundo*. P. 158 l. 25. l. *suspicor, agnoscam*. P. 159.l.9. l. *præstari*. P. 285.l.25.l. *Legions* P. 288. l. 1. instead of N N there should be a Ligature [NN digraph], with the last Line raised a little higher than the first. [**χI1^{r} (51):** UI]

London, Printed for W. Innys, at the *Princes'-Arms* in St. *Paul*'s *Church-yard.* 1714. [**M4^{v} (86):** UI]

Copies considered: UI: collation, fingerprint, plate, stitching marks throughout.

Number 340

4°: N^{2} O–R^{4} S^{2} χ1 [$1–2 (-NS2) signed]; 21 leaves, pp. 87–127 [128] (127=117); plate [*1*]
171504 - a1=a2 N1 ;$ - b1 O1 m : b2 S1 of [UI, rNHS]

Philosoph: Transact: №. 340 [] I. Senex Sculp.^{t} [188x-134, *engraved*, **N1^{r} (87):** UI]

Copies considered: UI: collation, fingerprint missing date in notes, plate, stitching marks throughout; **rNHS:** fingerprint.

Number 341

4°: T–2E^{2} [$1–2 (-Y2) signed]; 20 leaves, pp. 129–168; plate [*1*]
171504 - b1 T1 a : b2 2E2 t. [UI: U1 ssi]

Plate of mathematical figures of another general solution to the preceding problem using combinatorics and infinite series by D. Abr. de Moivre on page 145 No. 1 – 12 [*centered*] Tabula II [*right of center*] *Philosoph: Transac: №. 341* [*right corner*] Page 145 [*Lower right*] *L. Senex Sculp.^{t}* [192x145, *engraved*, **Z1^{r} (145):** UI]

Copies considered: UI: collation, fingerprint missing date in notes, plate, stitching marks throughout. **rNHS:** collation, fingerprint, plate

Number 342

4°: 2F² 2G–2M⁴ 2N² [$1–2 (-2FN2, +2GH3–4, 2KM3) signed]; 28 leaves, pp. 169–224; plate [*1*]
000004 - a1=a2 2F1 y$ - b1 2G1 tin : b2 2N1 es$ [UI, rNHS]

Cursûs Cometæ Anni 1680 Observali | ones primæ, Coburg: Saxoniæ a D.no | Gottfried Kirch habitæ. [] Philosophi Transact. №. 342 | Fig. I. [] Engrav'd by I. Senex [149x188, **2F1r (169):** UI]

Copies considered: UI: collation, fingerprint missing date in notes, plate, stitching marks throughout, plate misbound facing A1r (1) in this copy; **rNHS:** fingerprint.

Number 343

4°: 2O² 2P–2S⁴ 2T² [$1–2 (+2PR3) signed, 2S1–2=3S1–2]; 20 leaves, pp. 225–264; plate [*1*]
000004 - a1 2O1 si,$: a2 imadv - b1 2P1 Gar : b2 2T2 he$ha [UI]

Plate illustrating D. Gothofredi Kirchii observations on the Cygnus constellation p. 225 [*upper right*] Philosoph. Trans. | №. 343 [144x186, *engraved*, **2O1r (225):** UI]

Copies considered: UI: collation, fingerprint missing date in notes, plate, stitching marks throughout; **rNHS:** fingerprint.

Number 344

4°: 2U² 2X–2Y⁴ 2Z² 3A-3C⁴ [$1–2 (-2Z2, +3BC3) signed]; 24 leaves, pp. 265–312 (305 uses broken 9 for 0)
171504 - a1 2U1 $th : a2 2U2 21 - b1 2X1 $t : b2 3C3 nfusion [UI, rNHS]

Copies considered: UI: collation, fingerprint missing date in notes, stitching marks throughout; **rNHS:** fingerprint.

Number 345

4°: 3D² 3E–3H⁴ 3I² [$1–3 (+3D–G3) signed]; 20 leaves, pp. 313–352; plate [*1*]
000004 - a1 3D1 1714.$: a2 3D2 theSun - b1 3U1 ut$the : b2 3I2 st$of$ [UI]

'Philosoph. Transac. | №. 345' [186×153 **3D1r (313):** UI]

Copies considered: UI: collation, fingerprint, plate, pen correction to "saw opened a young man" (326).

Number 346

4°: 3I² 3K–3N⁴ 3O² [$1–2 signed]; 20 leaves, pp. [π]353–356 353–388; plate [*1*]

000004 - a1 3I1 ert : a2 3I2 fter$ - b1 3K1 $never : b2 3O2 a$privat [UI]

'Philosoph. Transact. №. 346' [183×~316 **3I1ʳ (353):** UI]

Copies considered: UI: collation, fingerprint, plate, first plate from Num. 347 facing 3I1ʳ (353) in this copy.

Number 347

4°: 3P² 3Q–3T⁴ 3U² [$1–2 signed]; 20 leaves, pp. 389–428; plates [*2*]

000004 - a1 3P1 om.$: a2 3P2 $a$sma - b1 3Q1 nuò$a : b2 3U2 sing$th [UI]

'Philos. Transact №. 347' a nebula [mezzotint 194×300 **3P1ʳ (389):** UI]

'Philos. Transact. №. 347. | Plate. II.' [185×152+ **3P1ʳ (389):** UI]

Copies considered: UI: collation, fingerprint, plates, first plate facing 3I1ʳ (353) of Num. 346 in this copy.

Number 348

4°: 3X² 3Y–4B⁴ [$1–2 (-3X2) signed]; 18 leaves, pp. 429–464; plates [*2*]

000004 - a1=a2 3X1 .$ejusde - b1 3Y1 n$cam : b2 $tempori [UI]

'Philosoph. Transact. №. 348 Fig. I. | I. Senex Sculp.ᵗ' [190×311 **3X1ʳ (429):** UI]

'№. 348 Fig. II. pag. 462' [107×~399 **3X1ʳ (429):** UI]

Copies considered: UI: collation, fingerprint, plates.

Number 349

4°: 4C² 4D–4G⁴ 4H² [$1–2 (-4CH2) signed]; 20 leaves, pp. 465–504; plate [*1*]

171704 - a1=a2 4C1 polæ$E - b1 4D1 bout$hal : b2 4H1 s$reduc' [UI]

'Phil. Trans. №. 349' [**4C1ʳ (465):** UI]

Copies considered: UI: collation, fingerprint, plate.

Number 350

4°: [4I]² 4K–4N⁴ 4O² [$1–2 (-4O2) signed]; 18 leaves, pp. 505–541 [*3*]; plates [*2*]

000004 - a1 : a2 - b1 4K1 e$stoke : b2 4O1 ad$bee [UI]

'Philosophical Transact. №. 350. Tab. I. | M. V^dr. Gucht Sculp:' [296×194 **4I1^r (505):** UI]

'Philosoph. Transact №. 350. Tab. II. | V:^dr Gucht Sculp: [154×193+ **4I1^r (505):** UI]

Copies considered: UI: collation, fingerprint, plates.

VOLUME 30: 351--363 (1717--19)

4°: π²; 2 leaves, pp. [*4*]

PHILOSOPHICAL | TRANSACTION. | Giving Some | ACCOUNT | OF THE | *Present Undertakings, Studies and Labours* | OF THE | INGENIOUS, | In Many | Considerable Parts of the WORLD | [rule] | VOL. XXX. For the Years 1717. 1718. 1719. | [rule] | *LONDON:* | Printed for W. and J. INNYS, at the *Princes-Arms,* | at the West Corner of St. *Paul*'s Church-Yard. | MDCCXX. [double-rule border, π1^r]

To the Right Honourable | *THOMAS* | Lord *PARKER*, | Baron of *Macclesfield*; | Lord High Chancellor | Of *Great-Britain*: | By INCLINATION as well as OFFICE, | First PATRON of Useful Arts and | Discoveries. | This THIRTIETH Volume | OF THE | Philosophical Transactions | (As a *small* Acknowledgment for | *very Great* Favours) | Is Humbly Inscrib'd by | *His Lordship's most obliged Servant*, | *Edmund Halley*, R.S. Secr. [π2^r]

Copies considered: dL-B: for 1717–19, dedication and index (4 pp.), 8 plates, see entry for v.29 regarding no. 351; **UI:** collation, previously owned by The R^t. Hon. William L^d. Viscount Bateman.

Number 351

4°: [4P]² 4Q–4T⁴ 4U² [$1–2 (-4U2) signed]; 20 leaves, pp. 545–584; plate [*1*]

000004 - a1=a2 - b1 4Q1 ommon$: b2 4U1 k$some [DLC, UI]

'Philosoph. Transact. №. 351.' [**4P1^r (545):** DLC, UI]

Copies considered: dL-B: see entry for v. 29; **DLC:** collation, fingerprint, plate; **UI:** collation, fingerprint, plate.

Number 352

4°: 4X² 4Y–5C⁴ [$1–2 (-4X5C2) signed]; 22 leaves, pp. 585–628 (583=593)

171704 - a1=a2 4X1 r.PerA - *b1 4Y2 $Oceanus : *b2 5B2 ial$Series,$ [UI, rNHS]

Copies considered: UI: collation, fingerprint; **rNHS:** fingerprint.

Number 353

4°: 5D² 5E1 χ1 5F–5S² 2χ1 [$1–2 (-5DF–S2) signed]; 31 leaves, pp. 629 [630] 631–689 [690]
171704 - a1=a2 5D1 ec. - b1 5E1 m.$Nume : b2 5S1 b × x + c [UI, rNHS]
Copies considered: UI: collation, fingerprint; **rNHS:** fingerprint.

Number 354

4°: 5T² 5V–6A⁴ [$1–2 (-5T2) signed, 5Z2=5Y2]; 22 leaves, pp. 691 [692] 693–734 (694=692); plate [*1*]
171804 - a1=a2 5T1 eſaguli - b1 5V1 criptæ. : b2 6A2 tobuwiſht [UI, rNHS]
'Philosoph. Transaction №. 354 | Fig. II.' [142×209 **5T1ʳ (691):** UI]
Copies considered: UI: collation, fingerprint, plate; **rNHS:** fingerprint.

Number 355

4°: 6A² 6B–6E⁴ 6F² [$1–2 (-6AF2) signed]; 20 leaves, pp. 735–774; plate [*1*]
171804 - a1=a2 6A1 d,$R.$S.$ - b1 5B1 ike$mann : b2 6F1 4°.$21ʰ.$ [UI, rNHS]
'Philosoph. Transact. №. 355.' [**6A1ʳ (735):** UI]
Copies considered: UI: collation, fingerprint, plate is photographic facsimile; **rNHS:** fingerprint.

Number 356

4°: 6G–6L⁴ [$1–2 signed]; 20 leaves, pp. 775–814
171804 - a1=a2 6G1 M.$D.$and$ - b1 6H1 audiushis : b2 6L2 est2m+ [UI, rNHS]
Copies considered: UI: collation, fingerprint; **rNHS:** fingerprint.

Number 357

4°: 6M² 6N–6Q⁴ 6R² [$1–2 (-6MR2) signed]; 20 leaves, pp. 819–858 [826] 827–858
171804 - a1=a2 6M1 rentecumReg.$ - b1 6N1 at$Road$: *b2 6Q2 liorea5′$30″. [UI, rNHS]
Integral engraving: 'Philosph: Transact №. 357.' [169×115 **6N2ᵛ (826):** UI]
Copies considered: UI: collation, fingerprint, plate; **rNHS:** fingerprint.

Number 358

4°: 6S² 6T–6Y⁴ 6Z² [$1–2 (-6SZ2) signed]; 20 leaves, pp. 859–898; plate [*1*]

171904 - a1=a2 6S1 Royal$S - b1 uc̈ti$&$f : b2 6Z1 $Air,$and [UI, rNHS]

'Philosoph. Transact №. 358' [183×174 **6S1ʳ (859):** UI]

Copies considered: UI: collation, fingerprint, plate; **rNHS:** fingerprint.

Number 359

4°: 7A² 7B–7F⁴ 7G² [$1–2 (-7AG2) signed]; 24 leaves, pp. 899–946; plate [*1*]

000004 - a1=a2 7A1 n$Harris,$R. - b1 7B1 uare$Towe : b2 7G1 l$nulla$niſi [UI, rNHS]

'Philosoph: Transact №. 359' [219+×171 **7A1ʳ (899):** UI]

Copies considered: UI: collation, fingerprint, plate, 7F2 has short outer edge; **rNHS:** fingerprint.

Number 360

4°: 7H² 7I–7M⁴ 7N² [$1–2 (-7HN2) signed]; 20 leaves, pp. 947 952–990; plates [*2*]

000004 - a1=a2 7H1 retary - *b1 7K1 n.Itlay,$t : b2 7N1 $m [UI, rNHS]

'Philosoph: Tranſac: №. 360. Tab. I. page 968' [**7K3ʳ (968):** rNHS]

'Philoſoph: Tranſact: №. 360: Tab. II: pag. 970.' [**7K4ᵛ (970)**]

Copies considered: UI: collation, fingerprint, plates absent; **rNHS:** fingerprint, plates.

Number 361

4°: 9O² 9P–9S⁴ 9T² 9U² [$1–2 (-9OTU2) signed]; 22 leaves, pp. 991–1034; plate [*1*]

171904 - a1=a2 9O1 oun - b1 9P1 im : *b2 9S2 ous$ [UI, rNHS]

'Philosoph. Transact. №. 361' [228×100 **9O1ʳ (991):** UI]

Copies considered: UI: collation, fingerprint, plate; **rNHS:** fingerprint.

Number 362

4°: 9X² 9Y–10C⁴ [$1–2 (-9X10A2) signed]; 22 leaves, pp. 1035–1078; plate [*1*]

000004 - a1=a2 9X1 $D. - b1 9Y1 ioni : b2 10C2 e$taken [UI, rNHS]

'Philosoph: Transact №. 362' [121×69 **9X1ʳ (1035):** UI]

Copies considered: UI: collation, fingerprint, plate; **rNHS:** fingerprint.

Number 363

4°: 10D² 10E–10H⁴ 10I² [$1–2 (-10DI2) signed]; 20 leaves, pp. 1079–1114 [*4*]; plate [*1*]
000004 - a1=a2 10D1 es$A - b1 10E2 osphe : b2 10H2 $.$50$| - c1=c2 10I1 erl[UI, rNHS]

'Philosoph. Transact №. 363' [199x-155 **10D1ʳ (1079):** UI]

Index [10I1ʳ (1114+1): UI, rNHS]

Copies considered: UI: collation, fingerprint, plate; **rNHS:** fingerprint.

Abridgments

B. Motte, Lond, 1721, 4to. 2 vols.

Henry Jones

2nd ed. Lond. 1731, 4to. 2 vols, plates, forming vols. 4 and 5 with Lowthorp

Volume 31: 364--369 (1720--21)

4°: π²; 2 leaves, pp. [*4*] [UI]

PHILOSOPHICAL | TRANSACTIONS. | Giving Some | ACCOUNT | OF THE | *Present Undertakings, Studies and Labours* | OF THE | INGENIOUS, | In Many | Considerable Parts of the WORLD. | VOL. XXXI. For the Years, 1720, 1721. | *LONDON:* | Printed for W. and J. Innys, at the *Princes-Arms,* | at the *West* Corner of St. *Paul*'s Church-Yard. | Mdccxxiii. [double-ruled border, π1ʳ]

TO | Sir *Isaac Newton*, Kt. | PRESIDENT | And to the | COUNCIL and FELLOWS | OF THE | *Royal Society* of *London*, | FOR | Improving Natural Knowledge, | This THIRTY FIRST Volume | OF | Philosophical Transactions | Is Humbly Dedicated | BY | *Their most Obliged,* | *and most Obedient Servant,* | *James Jurin*, R. S. Secr. [π2ʳ]

Copies considered: dL-B: for 1720–21, pp. 1–469, dedication and index (4 pp.), 8 plates; **UI:** collation, transcription, previously owned by The Rᵗ. Hon. William Lᵈ. Viscount Bateman.

Number 364

4°: χ1 A² B–E⁴ F⁴ (-F4) [$1–2 (-A2) signed]; 22 leaves, pp. [*2*] 1–42; plates [*2*]
172204 - a1=a2 - b1 A1 f : b2 F2 pl [UI, rNHS]

'Philosoph Transact: №. 364 | Dublin | Tuesday Jan. 12, $17\frac{19}{20}$. | 40 minutes after 11 at night | G. V^{dr}. Gucht Sculpt:' [324×209 **χ1^{r}:** UI]

'Philosoph: Transact: №. 364 | G. V^{dr}. Gucht. Sculpt.' [208×311 **χ1^{r}:** UI]

Copies considered: UI: collation, fingerprint, plates; **rNHS:** fingerprint.

Number 365

4°: G^{2} H–M^{4} [$1–2 (-G2) signed]; 22 leaves, pp. 43–86; plate [*1*]

172204 - a1=a2 G1 e - b1 H1 $: b2 M2 ace [UI, rNHS]

'Philosoph Tra^{n}sact: №. 365' [181×161 **G1^{r} (43):** UI]

Copies considered: UI: collation, fingerprint, plate; **rNHS:** fingerprint.

Number 366

4°: N^{2} O–R^{4} S^{2} [$1–2 (-NS2) signed]; 20 leaves, pp. 87–124 [*2*]; plates [*2*]

000004 - a1=a2 N1 y - b1 O1 f : b2 S1 wi [UI, rNHS]

'Philosoph. Transact №. 366. | J. Sturt Sculp.' [204+×184 **N1^{r} (87):** UI]

'Philosoph. Transact. №. 366. | I Sturt. Sculp.' [189×233 **N1^{r}(87):** UI]

Copies considered: UI: collation, fingerprint, plates; **rNHS:** fingerprint.

Number 367

4°: T^{2} U–Z^{4} 2A^{2} [$1–2 (-T 2A2) signed]; 20 leaves, pp. 125–163 [164]; plates [*3*]

000004 - a1=a2 T1 r$ - b1 U1 c : b2 2A1 $e [UI, rNHS]

'Philosoph. Transact. №. 367 | J. Sturt Sculp.' [302×177 **T1^{r} (125):** UI]

'Philosoph: Transact: №. 367 | Pla:II' [187×153 **T1^{r} (125):** UI]

'Philosoph. Transact. №. 367 | Pla: III.' [177×151 **T1^{r} (125):** UI]

Copies considered: UI: collation, fingerprint, plates; **rNHS:** fingerprint.

Number 368

4°: π^{2} 2π1 2B–2F^{4} [$1–2 signed]; 23 leaves, pp. [*2*] 165–208; plate [*1*]

000004 - b1 2B1 e$: *b2 2F1 han [UI, rNHS]

'Philosoph: Transact № 368' [[149×175 **π1^{r}:** UI]

Copies considered: UI: collation, fingerprint, plate; **rNHS:** fingerprint.

Number 369

4°: π1 2G–2L⁴ 2M–2N² [$1–2 (-2MN2) signed]; 25 leaves, pp. [*2*] 209–251 [252] [*4*]; plate [*1*]
000004 - b1 2G1 d$a : b2 2M1 e$O - c1=c2 2N1 nſion [UI, rNHS]

'Philosoph: Transact №. 369' [-218×179+ **π1ʳ: UI**]

pp. 249–251 lack bracketing parentheses.

Copies considered: UI: collation, fingerprint, plate; **rNHS:** fingerprint.

Volume 32: 370--380 (1722--23)

4°: π²; 2 leaves, pp. [*4*] [UI]

PHILOSOPHICAL | TRANSACTIONS. | Giving Some | ACCOUNT | OF THE | *Present Undertakings, Studies,* and *Labours* | OF THE | INGENIOUS, | IN MANY | Considerable Parts of the WORLD. | [rule] | VOL. XXXII. For the Years 1722, 1723. | [rule] | *LONDON:* | Printed for W. and J. Innys, *Printers* to the *Royal* | *Society*, at the West End of St. *Paul*'s. 1724. [double rule border, π1ʳ]

TO | Sir *HANS SLOANE*, Barᵗ. | PRESIDENT of the | College of *PHYSICIANS*, | And VICE-PRESIDENT of the | *ROYAL SOCIETY*, | This Thirty Second Volume of | Philosophical Transactions | is Humbly Dedicated | BY | *His Most Obliged, and* | *Most Humble Servant,* | James Jurin, *R. S. Secr.* [π2ʳ]

Copies considered: dL-B: for 1722–23, pp. 1–469, dedication and index (4 pp.), 12 plates; **UI:** collation, transcription, previously owned by The Rᵗ. Hon. William Lᵈ. Viscount Bateman.

Number 370

4°: A² B–G⁴ [$1–2 (-A1) signed]; 26 leaves, pp. [1] 2–52; plates [*2*]
172204 - a1=a2 A2 e$ - b1 B1 t : b2 G2 'd$ [UI, rNHS]

'Philosoph: Transact: №. 370 | Plate I.' [210×175 **A1ʳ (1): UI**]

'Philoso: Trans: №. 370. | Plate II' [380×219 **A1ʳ (1): UI**]

Copies considered: UI: collation, fingerprint, plates; **rNHS:** fingerprint.

Number 371

4°: M² N–Q⁴ [$1–2 (-M2) signed]; 18 leaves, pp. 53–88; plate [*1*]

000004 - a1=a2 M1 on - b1 N1 y : b2 Q2 $tog [UI, rNHS]

'Philosoph. Transact. | Sturt Sc.' [305×332 **M1ʳ (53):** UI]

Copies considered: UI: collation, fingerprint, plate; **rNHS:** fingerprint.

Number 372

4°: R–2A⁴ 2B1 [$1–2 signed]; 33 leaves, pp. [*4*] 89–150; plates [*2*] (116 with broken ascender to 6)

000004 - a1=a2 R1 r - b1 r : b2 2B1 avi [UI, rNHS]

'Philosoph: Transact: №. 372. | Senex sculpᵗ.' [**R1ʳ:** UI]

another [**R1ʳ:** rNHS]

Copies considered: UI: collation, fingerprint, plate; **rNHS:** fingerprint.

Number 373

4°: π1 2C–2G⁴ 2H² (-H4) [$1–2 signed]; 24 leaves, pp. [*2*] 151–196; plate [*1*]

000004 - b1 2C1 $Va : b2 2H2 o$all$P [UI, rNHS]

'Philos. Transact. №. 373 [] J. Sturt. sculp.' [$_{205+x}$225 **π1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plate; **rNHS:** fingerprint.

Number 374

4°: 2I1 2K–2N⁴ 2O² [$1–2 (-2O2) signed]; 19 leaves, pp. [*2*] 197–232; plate [*1*]

000004 - a1=a2 2I1 g - b1 K ſ : b2 2O1 it$6 [UI, rNHS]

'Philos. Trans. №. 374 | J. Sturt. sculp.' [**2I1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plate; **rNHS:** fingerprint.

Number 375

4°: 2P² Q–U⁴ X² [$1–2 (-2PX2) signed]; 24 leaves, pp. [233–4] 235–279 [*1*]; plate [*1*]

000004 - a1=a2 2P1 ain - b1 Q1 ′$: b2 2X1 ere [UI, rNHS]

'Philosoph. Trasact. №. 375' [181×139 **2P1ʳ (233):** UI]

Copies considered: UI: collation, fingerprint, plate; **rNHS:** fingerprint.

Number 376

4°: 2Y–3C⁴ [$1–2 signed]; 20 leaves, pp. [2] 279–316; plates [2]

000004 - a1 2Y1 Br : a2 2Y2 Speci - *b1 2Z2 umbe : b2 3C2 move, [UI, rNHS]

'Philosoph: Transac: №. 376. Pl: I.' [178×143 **2Y1ʳ:** UI]

'Philos. Trans. №. 376. Pl. 2ᵈ. | I Sturt sculp.' [319×193 **2Y1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plate; **rNHS:** fingerprint.

Number 377

4°: 3D1 3E–3H⁴ 3I⁴ (-3I4) [$1–2 signed]; 20 leaves, pp. [2] 317–354; plates [4]

000004 - a1=a2 3D1 &$Re - b1 3E1 $ver : b2 3I2 y$Part [UI, rNHS]

'Phil: Trans: №. 377' [212×164 **3D1ʳ:** UI]

'Philosoph: Transact №. 377.' [248×140 **3D1ʳ:** UI]

'Philosoph: Transact. №. 377.' [274×220 **3D1ʳ:** UI]

'Philosoph: Transact №. 377.' [$_{245}$×208 **3D1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plate; **rNHS:** fingerprint.

Number 378

4°: 3K1 3L–3O⁴ 3P² χ1 [$1–2 signed]; 20 leaves, pp. [2] 355–390 [2]; plates [2]

000004 - a1=a2 3K1 flectin - b1 3L1 $veſt : b2 3P2 is. [UI, rNHS]

'Philosoph: Trans: | №. 378.' [209×292 **3K1ʳ:** UI]

'Philos. Trans: №. 378. | Plate .II.' [287×200 **3K1ʳ:** UI]

χ1ʳ (390+1) is an advertisement for inoculations against small pox.

Copies considered: UI: collation, fingerprint, plate; **rNHS:** fingerprint.

Number 379

4°: *1 3Q–3U⁴ χ1 [$1–2 signed]; 22 leaves, pp. [2] 391–431 [432]; plate [1]

000004 - a1=a2 *1 $& - b1 3Q1 asp : b2 3U2 gitos$&$ [UI, rNHS]

'Philos. Trans. №. 379.' [334×219 ***1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plate; **rNHS:** fingerprint.

Number 380

4°: π1 3X–4A⁴ 4B⁴ (-4B4) 3C² [$1–2 (-3C2) signed]; 22 leaves, pp. [2] 433–469 [5]; plate [1]
172404 - b1 3X1 th$a$pl : b2 4B2 t$very$Ye - c1=c2 ²3C ,$ibid.$ [UI, rNHS]

'Philosoph: Transact: №. 380.' [**π1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plate; **rNHS:** fingerprint.

VOLUME 33: 381--391 (1724--25)

4°: π²; 2 leaves, pp. [4] [UI]

PHILOSOPHICAL | TRANSACTIONS. | GIVING SOME | ACCOUNT | OF THE | *Present Undertakings, Studies,* and *Labours* | OF THE | INGENIOUS, | IN MANY | Considerable Parts of the WORLD. | [rule] | VOL. XXXIII. For the Years 1724, 1725. | [rule] | *LONDON:* | Printed for W. and J. INNYS, *Printers* to the *Royal* | *Society*, at the West End of St. *Paul*'s. 1726. [double-ruled border, π1ʳ]

TO | Dr. *RICHARD MEAD*, | VICE-PRESIDENT of the | *ROYAL SOCIETY*, | And FELLOW of the | Royal COLLEGE of *Physicians*, | This Thirty-Third VOLUME of | Philosophical Transactions | is Humbly Dedicated | BY | *His Most Obliged, and* | *Most Humble Servant,* | JAMES JURIN, *R. S. Secr.* [π2ʳ]

Copies considered: dL-B: for 1724–5, pp. 1–432, dedication and index (4 pp.), 12 plates; **UI:** collation, pamphlet stitching inconsistently throughout, previously owned by The Rᵗ. Hon. William Lᵈ. Viscount Bateman, transfers clear by virtue of chain lines, wire & felt side, and order of impression: perhaps a wrap-around design? **UIC:** collation, supports some transfers and does not contradict others, plates sometimes bound within issues out of order, Num. 384 soiled indicating separate issue.

Number 381

4°: A1 [=F4] B–E⁴ F⁴ (-F4) [$1–2 (-E2) signed]; 20 leaves, pp. [2] 1–37 [38]; plate [1]
000004 - a1=a2 A1 $ - b1 B1 m : b2 F2 143 [UI, ICU, rNHS]

'Philosoph: Transact. №. 381 [] Tabula, praecipue Altitudinem fere Singulis Horis BAROMETRI, totius Anni decursu 1723 Stylo Veteri, digitis | Londinensib; ut et ^ pro parte Pluvias; Plagas,

Violentiasque Ventorum; nec non Coeti faciem, Lugduni Observata exhibens.' [418×326 **A1^{r} ():** UI, ICU]

Copies considered: UI: collation, fingerprint, plate; **ICU:** collation, fingerprint, plate; **rNHS:** fingerprint.

Number 382

4°: G1 [=N4?] H–M^{4} N^{4} (-N4) [$1–2 signed]; 24 leaves, pp. [39–40] 41–84 [85–86]; plate [*1*]
000004 - a1=a2 G1 d - b1 H1 f : b2 N2 $vol [UI, ICU, rNHS]

'Philosoph. Transact. №. 382.' [181×183 **G1^{r} (39):** UI, ICU]

Copies considered: UI: collation, fingerprint, plate; **ICU:** collation, fingerprint, plate; **rNHS:** fingerprint.

Number 383

4°: π1 P–T^{4} [$1–2 signed]; 21 leaves, pp. [*2*] 87–125 [126]
000004 - b1 P1 $N : b2 T2 $be [UI, ICU, rNHS]

Copies considered: UI: collation, fingerprint; **ICU:** collation, fingerprint; **rNHS:** fingerprint.

Number 384

4°: π1 U–Z^{4} [$1–2 signed]; 17 leaves, pp. [*2*] 127–158; plates [*3*]
000004 - b1 U1 Ru : b2 Z2 af [UI, ICU, rNHS]

'Philosoph: Transact: №. 334 [i.e. 384] [] plate. 1' [243×239 **2x1^{r}:** UI, ICU]

'Philosoph: Transact: №. 334. [i.e. 384] [] plate. 2.' [185×153 **2x1^{r}:** UI, ICU]

'Philosoph: Transact: №. 334 [i.e. 384] [] plate. 3. [107×173] With a second plate glued underneath a flap illustrating gynecological surgery: [16×19]' [**2x1^{r}:** UI, ICU]

Copies considered: UI: collation, fingerprint, plates; **ICU:** collation, fingerprint, plates, soiling indicates separate issue though no stitching is apparent; **rNHS:** fingerprint.

Number 385

4°: π1 [=2F2?] 2A–2E^{4} 2F^{2} (-2F2) [$1–2 signed]; 22 leaves, pp. [*2*] 159–200; plate [*1*]
000004 - b1 A1 o : b2 2F1 ll$I [UI, ICU, rNHS]

'Philosoph: Transact: №. 385.' [**πɪ^{r}:** UI, ICU]

Copies considered: UI: collation, fingerprint, plate; **ICU:** collation, fingerprint, plate; **rNHS:** fingerprint.

Number 386

4°: πɪ [=2L4] 2G–2K^{4} 2L^{4} (-2L4) [$1–2 signed]; 20 leaves, pp. [*2*] 201–238; plates [*2*]

000004 - b1 2G1 eed : b2 2L2 3′$40″ [UI, ICU, rNHS]

'Philos. Trans. №. 386. [] Plate I. [] Parker sculp.' [205×207 **πɪ^{r}:** UI, ICU]

'Plate. 2^{d}. [] Philos: Trans. №. 386.' [323×208 **πɪ^{r}:** UI, ICU]

Copies considered: UI: collation, fingerprint, plate; **ICU:** collation, fingerprint, plate; **rNHS:** fingerprint.

Number 387

4°: πɪ [=2Q4?] 2M–2P^{4} 2Q^{4} (-2Q4) [$1–2 signed]; 20 leaves, pp. [*2*] 239–276; plate [*1*]

000004 - *b1 2N1 and : b2 2Q2 it,$vi [UI, ICU, rNHS]

'Philos. Transact .№. 387. [] S. Parker Fecit' [348×205 **πɪ^{r}:** UI, ICU]

Copies considered: UI: collation, fingerprint, plate; **ICU:** collation, fingerprint, plate; **rNHS:** fingerprint.

Number 388

4°: πɪ [=2X4] 2R–2U^{4} 2X^{4} (-2X4) [$1–2 (+2X3) signed, 2X3=X2]; 20 leaves, pp. [*2*] 277–314; plate [*1*]

000004 - b1 2R1 nſ.$: *b1 2R2 u'd$n : *b2 2X1 bſer : b2 2X3 .des [UI, ICU, rNHS]

'Philos. Transact .№. 388. [] S. Parker Sculp^{t}.' [241×183+ **πɪ^{r}:** UI, ICU]

Copies considered: UI: collation, fingerprint, plate; **ICU:** collation, fingerprint, plate; **rNHS:** fingerprint.

Number 389

4°: πɪ [=3C1] 2Y–3B^{4} 3C^{4} (-3C1) [$1–2 signed, 3C2=3C1]; 20 leaves, pp. [*2*] 315–352; plate [*1*]

000004 - b1 2Y1 I$in : b2 3C1 apes$ [UI, ICU, rNHS, CSmH(B.Newton)]

'Philos Transact. №. 389. | S. Parker Sculp^{t}' [171.5×128.9 (178–8.5×153–4, sheet 224×169.7 **π1^{r}:** UI, ICU, CSmH(B.Newton)]

[*Upper right:*] Numb. 389. | PHILOSOPHICAL | TRANSACTIONS. | [*broken rule*] | For the Months of *July* and *Auguſt*, 1725. | [*broken rule*] | The CONTENTS. | [...] [**π1^{r}:** CSmH(B.Newton)]

> [*Word centered:*] ERRATA.
>
> N^{2}O. 387. Page 263. line 20. for *June*, read *February*. p. 268.
>
> l. 3. for *Shelves*, r. *Shells*. p. 269. l. 3. for *Tail*, r. *Tackle*.
>
> №. 389. p. 318. l. 7. r. *Degrees*. p. 324. l. 30. r. *in ſatis magna*. [**π1^{v}:** CSmH(B.Newton)]

[...] | [*broken rule*] | LONDON: *Printed for* W. *and* J. Innys, | *Printers to the* Royal Society, *at the Weſt End of* | *St.* Paul's Churchyard. [**352 (C3^{v}):** CSmH(B.Newton)]

Copies considered: UI: collation, fingerprint, plate; **ICU:** collation, fingerprint, plate; **CSmH(B.Newton):** collation, fingerprint, plate, red pencil '221' on upper cover, disbound from a larger volume, Burndy 700753; **rNHS:** fingerprint.

Number 390

4^{o}: π1 [=3I2] 3D–3H^{4} 3I^{2} (-3I2) [$1–2 signed]; 22 leaves, pp. [*2*] 353–394; plate [*1*]
000004 - b1 3D1 .$p.$m. : *b2 3H2 $and,$b [UI, ICU, rNHS]

'Philos Trans №. 390. [] Agnus Scythicus vegetabilis, Borametz dictus, ex Museo Breyniano.' [174×144 **π1^{r}:** UI, ICU]

Copies considered: UI: collation, fingerprint, plate; **ICU:** collation, fingerprint, plate; **rNHS:** fingerprint.

Number 391

4^{o}: π1 [=O4] 3K–3N^{4} 3O^{4} (-O4) 3P^{2} [$1–2 (-3P2) signed]; 20 leaves, pp. [*2*] 395–432 [*4*]; plates [*3*]
000004 - b1 3K1 Sout : b2 3O2 erefore - c1=c2 3P1 1,$50 [UI, ICU, rNHS]

'Philos: Trans: №: 391. [] S Parker Sculp' [166×195 **π1^{r}:** UI, ICU]

'Philos: Trans:^{t} №. 391 [] S Parker Sculp^{t}' [192×164 **π1^{r}:** UI, ICU]

'Philos: Trans №: 391 [] S Parker Sculp^{t}.' [198×167 **π1^{r}:** UI, ICU]

Copies considered: UI: collation, fingerprint, plates, plates for this copy misbound V. 34 Num. 395; **ICU:** collation, fingerprint, plates; **rNHS:** fingerprint.

VOLUME 34: 392--399 (1726 -- JUNE 1727)

4°: A² [$1–2 (-A1) signed]; 2 leaves, pp. [4]

172804 - b1=b2 A2 migh [UI]

PHILOSOPHICAL | TRANSACTIONS. | GIVING SOME | ACCOUNT | OF THE | *Present Undertakings, Studies* and *Labours* | OF THE | INGENIOUS, | IN MANY | Considerable Parts of the World. | [rule] | VOL. XXXIV. For the Year 1726, and *Jan. Febr. March,* | *April, May* and *June* 1727. | [rule] | *LONDON,* | Printed for W. and J. INNYS, *Printers* to the *Royal* | *Society*, at the West End of St. *Paul*'s. 1728. [double-rule border, π[A]1ʳ]

TO | Martin Folkes, *Esq*; | *Vice-President of the Royal Society.* | *Honoured Sir,* | I shall not, I presume, need any other Apo- | [continues in prose, A2ʳ]

[... cont.] | highest Esteem and Respect, Sir, | *Your most Obliged and most Faithful Servant,* | *J.* JURIN, R. S. *Secr.* [A2ᵛ]

Copies considered: dL-B: pp. 1–331, dedication and index (4 pp.), 6 plates; **UI:** collation, fingerprint, bookplate for "Richard Bateman ESQ." with glue residue on top of it which differs from the books before, stitching varies, 392 is not, 393 is; dirt on X2ᵛ; all suggesting a combination of individual binding and storage, preliminaries for v.35 incorrectly bound after 203 [2D2].

Number 392

4°: π1 A–E⁴ F² [$1–2 signed, A2=3Q2]; 23 leaves, pp. [1–2] 3 4 435–440 9-44 [=44]

172704 - b1 A1 $q : b2 F2 $of [UI, rNHS]

Copies considered: UI: collation, fingerprint, stitching holes and soiling suggesting individual issue, **rNHS:** fingerprint.

Number 393

4°: π1 G–K⁴ L⁴ (-L1) [$1–2 signed]; 20 leaves, pp. [2] 45–82; plate [1]

000004 - b1 G1 .$: b2 L2 lod [UI, rNHS]

'Philos. Transact. | №. 393. [] S. Parker <Sculpt' [252×183+ **π1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plate, unlike preceding Num. 392 no stitching or soiling indicating separate issue; **rNHS:** fingerprint.

Number 394

4°: π1 M–Q⁴ [$1–2 signed, M2=L2]; 21 leaves, pp. [83-84] 85–123 [124]; plate [*1*]

000004 - a1=a2 - b1 M1 ow : b2 Q2 $on [UI]

'Philos. Transact<> | №. 394' [**π1ʳ (83):** UI]

Copies considered: UI: collation, fingerprint, plate.

Number 395

4°: π1 R–V⁴ X² [$1–2 (-X2) signed]; 19 leaves, pp. [*2*] 125–159 [160]; plate [*1*]

000004 - b1 R1 ns : b2 X1 r [UI]

'Philos. Trans. №. 395' [138×97 **π1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plate.

Number 396

4°: π1 Y–2C⁴ 2D² [$1–2 (-2D2) signed]; 23 leaves, pp. [*2*] 161–203 [204]; plate [*1*]

000004 - b1 Y1 t : b2 2D1 pit. [UI]

'Philos. Trans. 396' [183×109 **π1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plate.

Number 397

4°: π1 2E–2I⁴ [$1–2 signed]; 21 leaves, pp. [*2*] 205–243 [244]; plates [*2*]

000004 - b1 2U1 at$: b2 2I2 rnoth [UI, CSmH(B.Newton)]

'Philos Trans. 397.' [227.8×182.1 (235+×193, sheet 261×207.2) **facing π1ʳ:** UI, CSmH(B.Newton)]

'Philos Trans. 397' [154+×216+ **facing π1ʳ:** UI]

[*Upper right:*] Numb. 397. | PHILOSOPHICAL | TRANSACTIONS. | [*broken rule*] | For the Months of *January*, *February*, and *March*. 1727. | [*broken rule*] | The CONTENTS. | [...] [**π1ʳ:**CSmH(B.Newton)]

[*One word centered:*] *ERRATA.*

Page 223. line 23. r. *Fig.* 2. ibid. lin. 31. r. *Fig.* 3.

FINIS. [**243 (2I4ʳ):** CSmH]

[*blank*] [**243+1 (2I4ᵛ):** CSmH]

Copies considered: UI: collation, fingerprint, plates; **CSmH(B.Newton):** collation, fingerprint, lacking second plate, disbound from a larger volume, Burndy 700754.

Number 398

4°: π1 2K–2P⁴ [$1–2 signed]; 25 leaves, pp. [2] 245–291 [292]; plate [1]

000004 - b1 2K1 ed$c : b2 2P2 f$Parti [UI]

'Phil: Trans: №. 398.' [$_{264×}$217+ **π1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plate.

Number 399

4°: π1 2Q–2V⁴ 2X² [$1–2 (-2X2) signed]; 23 leaves, pp. [2] 293–331 [5]; plate [1]

000004 - b1 2Q1 oan.$: b2 2V2 ing$dr - c1=c2 2X1 n's$S [UI]

'Philo: Trans: [] №. 399.' [190×157 **π1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plate.

Volume 35: 400--406 (July 1727 -- 1728)

4°: a² [$1–2 (-a1) signed]; 2 leaves, pp. [4]

000004 - b1=b2 a1 no [UI]

PHILOSOPHICAL | TRANSACTIONS, | GIVING SOME | ACCOUNT | OF THE | *Present Undertakings, Studies, and Labours* | OF THE | INGENIOUS, | IN MANY | Considerable Parts of the World.. | [rule] | Vol. XXXV. For *July, August, September, Octo-* | *ber, November* and *December* 1727, and for the | Year 1728. | [double rule] | *LONDON:* | Printed for W. Innys, Printer to the *Royal Society,* at | the *West End* of St. *Paul*'s. | [rule] | M. DCC. XXIX. [double-rule border, a1ʳ]

[double rule] | TO HIS | ROYAL HIGHNESS | *FREDERICK* | Prince of *WALES.* | *SIR,* | SINCE your Royal Highness | [continues in prose, a2ʳ]

[cont.] | ly, of the profound Respect, with which | I am, | *Your* Royal Highness's | *Most Devoted, Obedient,* | *and Humble Servant,* | William Rutty, *R. S. Secr.* [a2ᵛ]

Copies considered: dL-B: pp. 333–661, dedication and index (4 pp.), 14 plates; **UI:** collation, fingerprint, transcription.

Number 400

4°: 2a1 2Y–3C⁴ 3D1 [$1–2 signed]; 22 leaves, pp. [*2*] 335–376; plate [*1*]

000004 - a1=a2 2a1 ed. - b1 2Y1 por : b2 3D1 li$De [UI]

'Philo: Trans: [] №. 400.' [100×117 **2a1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plate.

Number 401

4°: 2b1 3E–3H⁴ 3I⁴ (-3I4) [$1–2 signed]; 20 leaves, pp. [*2*] 337–414; plates [*2*]

000004 - a1=a2 2b1 ,$ - b1 3E1 $then : b2 3I2 stralis [UI]

'Plate 1. [] Philo: Trans: №. 401.' [163×138 **2b1ʳ:** UI]

'Plate 2. [] Philo: Trans: №. 401.' [199×311+ **2b1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plates, chainlines on 2b1 suggest not transferred.

Number 402

4°: 3a1 3K–3O⁴ 3P1 [$1–2 signed]; 22 leaves, pp. [*2*] 415–456; plates [*3*]

000004 - a1=a2 3a1 lome - *b1 3L2 rected : b2 3P1 $non [UI]

'Philo: Trans. №. 402. [] Plate 1. [] Part of a Roman Mosaick Pavement found in Denton fields Febʳ. 172$\frac{7}{8}$.' [128×265 **3a1ʳ:** UI]

'Plate II. Philo: Trans: №. 402.' [206+×165 **3a1ʳ:** UI]

'Philo: Trans: 402. [] Plate 3.' [130×199 **3a1ʳ:** UI]

P. 415 in square brackets, 416–424 on shoulder in different face along with headline.

Copies considered: UI: collation, fingerprint, plates, plate 3 has stitch marks across the top indicating a previous form as a pamphlet.

Number 403

4°: π1 3Q–3T⁴ 3U⁴ (-3U4) [$1–2 signed]; 20 leaves, pp. [*2*] 457–494; plates [*3*]

000004 - b1 3Q1 entio : b2 3U2 ature$ [UI]

'Philō. Transˉ 403. [] Plate 1.' [237+×189 **π1ʳ:** UI]

'Philō. Transˉ №. 403. [] Plate 2.' [224+×182 **π1ʳ:** UI]

'Philō: Transō: №. 403 [] Sorasi Eclipsis observata Romæ die 15 September. 1727 . N. S. [] Plate 3.' [201×311 **π1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plates, chainlines suggest π1 not transferred.

Number 404

4°: π1 3X–3B⁴ [$1–2 signed]; 21 leaves, pp. [495–496] 497–535 [536]; plate [*1*]

000004 - a1=a2 - b1 3X1 nd$al : *b2 4B1 has$x : *b2 4B1 + [UI]

'Plate 1. [] Philos. Trans. №. 404. [] Philos: Trans: №. 404. Plate 2.' [181×202 **π1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plate, π1 short outer edge, plate folded as though stored on top, plate seems to be two plates that were not cut apart.

Number 405

4°: π1 4C–4F⁴ 4G⁴ (-4G4) [$1–2 signed]; 20 leaves, pp. [*2*] 537–574; plates [*2*]

000004 - b1 4C1 yclicæ$Th : b2 4G2 e$of$an [UI]

'Philo: Trans: №. 405.' [213×128 **π1ʳ:** UI]

'TABLES of the Height of the Atmosphere to given Altitudes of *Mercury*.' [letterpress 369×161 **π1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plates, chainlines suggest π1 not transferred.

Number 406

4°: π1 4H–4R⁴ 4S⁴ (-4S4) 4T² [$1–2 (-4T2) signed, π1=a2]; 46 leaves, pp. [575–576] 577–661 [662] [*4*]; plates [*2*]

000004 - a1=a2 'a2' agu - b1 4H1 135.$&$E : b2 4S2 hither - c1=c2 4T1 n.$339. [UI]

'Philo: Trans №. 406.' [239+×187, sheet at least 241×382 **π1ʳ (575):** UI]

'Philo: Trans: №. 406.' [236×184 **π1ʳ (575):** UI]

Copies considered: UI: collation, fingerprint, plate.

Volume 36: 407--416 (1729--30)

4°: π²; 2 leaves, pp. [*4*]

173104 - l in Obliged on π2ʳ under , [rNHS]

PHILOSOPHICAL | TRANSACTIONS. | GIVING SOME | ACCOUNT | OF THE | *Present Undertakings, Studies,* and *Labours* | OF THE | INGENIOUS, | IN MANY | Considerable Parts of the WORLD. | [rule] | VOL. XXXVI. For the Years 1729, 1730. | [rule] | *LONDON:* | Printed for W. Innys, *Printer* to the *Royal Society,* | at the West End of St. *Paul*'s. 1731. [double-rule border, $\pi 1^{r}$]

TO | Sir *HANS SLOANE,* Bar^{t}. | PRESIDENT, | AND TO THE | COUNCIL and FELLOWS | OF THE | *ROYAL SOCIETY* | Of *LONDON,* for | Improving Natural Knowledge, | This Thirty-sixth Volume of | *Philosophical Transactions* | is humbly Dedicated | BY | *Their most Devoted,* | *And most Obliged Servant,* | Cromwell Mortimer, *R. S. Secr.* [$\pi 2^{r}$]

Copies considered: dL-B: pp. 1–465, dedication and index (10 pp.), 12 plates; **UI:** collation, fingerprint, transcription.

Number 407

4^{o}: [A]1 [=F4?] B–E^{4} F^{4} (-F4) [$1–2 (-F2) signed]; 20 leaves, pp. [*2*] 1–38; plate [*1*]

000004 - a1=a2 - b1 B1 t : b2 F1 n [UI]

'Philo: Trans: №. 407.' [173+×124 **A1^{r}:** UI]

Copies considered: UI: collation, fingerprint, plate.

Number 408

4^{o}: $\pi 1$ G–N^{4} O1 [$1–2 signed]; 30 leaves, pp. [*2*] 39–96; plate [*1*]

000004 - b1 G1 P : b2 O1 |^{r}$ [UI]

'Philo: Trans: 408.' [238×174 **$\pi 1^{r}$:** UI]

Copies considered: UI: collation, fingerprint, plate.

Number 409

4^{o}: $\pi 1$ P–S^{4} T^{4} (-T4) [$1–2 signed]; 20 leaves, pp. [*2*] 97–134; plate [*1*]

000004 - b1 P1 l : b2 T2 f$t [UI]

'Philo: Trans: №. 409.' [199×159 **$\pi 1^{r}$:** UI]

Copies considered: UI: collation, fingerprint, plate, chainlines suggest $\pi 1$ is not a transfer, though has stitching marks matching the rest.

Number 410

4°: π1 U–2A⁴ [$1–2 signed]; 21 leaves, pp. [135–136] 137–176

000004 - b1 U1 $: b2 2A2 us. [UI]

Copies considered: UI: collation, fingerprint.

Number 411

4°: π1 2B–2F⁴ 2G1 [$1–2 signed]; 22 leaves, pp. [2] 177–218; plates [2]

000004 - b1 2B1)$i : b2 2F2 e$Con [UI]

'Philo Trans №. 411 | Tab. I. [] To the Honourable | S^r. Hans Sloane Bart^t. President of | the Royal Society &c. This Map of the | KINGDOM of TUNIS | is with all Respect dedicated | by his most obedient | and humble Servant | Thomas Shaw | Algier July 7^th. 1729.' [445×366 **π1^r:** UI]

'Philo: Trans: №. 411. | Tab. II' [316×190 **π1^r:** UI]

Copies considered: UI: collation, fingerprint, plates, chainlines suggest 2G1 not conjugate with π1, though the gatherings are pamphlet stitched, Tab. II facing 2C1^r (185).

Number 412

4°: π1 2H–2L⁴ 2M⁴ (-2M4) [$1–2 signed]; 20 leaves, pp. [2] 219–256; plates [2]

000004 - b1 2H1 ea : b2 2M2 Deg.$ [UI]

'Plate 1. [] Philo: Trans: №. 412.' [188×143 **π1^r:** UI]

'Plate 2. [] Philo: Trans: №. 412.' [203×155+ **π1^r:** UI]

Copies considered: UI: collation, fingerprint, plates.

Number 413

4°: π1 2N–2Q⁴ 2R⁴ (-2R4) [$1–2 signed]; 20 leaves, pp. [2] 257–294; plates [2]

000004 - b1 2N1 nte : b2 2R2 om$ [UI]

'Philo: Trans: №. 413.' [360×434 **π1^r:** UI]

'Philo: Trans: №. 413.' [242×212+ **π1^r:** UI]

Copies considered: UI: collation, fingerprint, plates, 2N1.4 has soiling along top edge suggesting storage, 2P short on bottom with deckle.

Number 414

4°: π1 2S–3C⁴ 3D⁴ (-3D4) [$1–2 signed]; 40 leaves, pp. [*2*] 295–372; plate [*1*]

000004 - b1 2S1 ns : b2 3D2 es$&$S. [UI]

'Philo: Trans №. 414.' [212×195 **π1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plate bound in so as to be unopenable.

Number 415

4°: π1 3E–3L⁴ 3M⁴ (-3M4) [$1–2 signed]; 32 leaves, pp. [*2*] 373–434; plates [*3*]

000004 - b1 3E1 $hav : b2 3M2 st$of$Am [UI]

'Philo: Trans. №. 415. [] C M. delin.' [173×230 **π1ʳ:** UI]

'Tab. II. [] Philo: Trans: №. 415.' [200×200 **π1ʳ:** UI]

'Tab. III. [] Philo: Trans: №. 415.' [205×301 **π1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plates, 3E2.3 soiled on upper edge suggesting bundles, Tab. II facing 3E3ʳ (377), Tab. III. facing 3G3ᵛ (394).

Number 416

4°: b1 3N–3R⁴ 3S1 [$1–2 signed]; 22 leaves, pp. [*2*] 435–465 [466] [*10*]; plate [*1*]

000004 - a1=a2 b1 r - b1 3N1 t$passe : b2 3Q2 enopide$ - c1 3R1 158. : c2 3S1 ptio [UI]

'Philo: Trans: №. 416.' [153×188 **b1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plate.

VOLUME 37: 417--426 (1731--32)

4°: π²; 2 leaves, pp. [*2*]

173304 - m of meet on π2ʳ o [rNHS]

PHILOSOPHICAL | TRANSACTIONS. | GIVING SOME | ACCOUNT | OF THE | *Present Undertakings, Studies,* and *Labours* | OF THE | INGENIOUS, | IN MANY | Considerable Parts of the WORLD. | [rule] | VOL. XXXVII. For the Years 1731, 1732. | [rule] | *LONDON:* | Printed for W. INNYS and R. MANBY, *Printers* to the | *Royal Society,* at the West End of St. *Paul*'s. 1733. [double-rule border, π1ʳ]

To His Grace | *CHARLES* | Duke of Richmond and Lenox, &c. | My Lord, | I Beg Leave to present to Your | [continues in prose, π2^{r}]

[cont.] | I therefore gladly take this Oppor- | tunity of acknowledging that I am, | With the greatest Submission, | My Lord, | Your Grace's, | Most Obedient, and | Most Humble Servant, | Cromwell Mortimer, *M. D.* | *R. S. Secr.* [π2^{v}]

Copies considered: dL-B: pp. 1–459, dedication and index (10 pp.), 14 plates; **UI:** collation, fingerprint, transcription, previously owned by Richard Bateman, inserted note from ca. 1757 listing years and volumes to be acquired, goes up to v.49 (1756), but not v.50 (1757-1760); according to the note "Vol 37,38, & 39 are scarce vol & not to be had seperate fr<om?> the preceding ones" addressed to "For M^{r} Greffon" [Gretton?]; says "come immediately to L^{d} Wentworth Saville Row" perhaps William Wentworth, 2nd Earl of Strafford (1722–1791).

Number 417

4°: π1 A–F^{4} G^{4} (-G4) [$1–2 signed]; 28 leaves, pp. [*2*] 1-54; plates [*2*]

000004 - b1 A1 $v : b2 G2 I [UI]

'Philo: Trans: №. 417. | TAB. I. [] Hen. Beighton delin' [194×266 **π1^{r}:** UI]

'Philo: Trans: №: 417. | TAB. II' [142×215 **π1^{r}:** UI]

Copies considered: UI: collation, fingerprint, plates, F1.4,2.3 backmarks, G & π1 different paper stocks.

Number 418

4°: π1 H–M^{4} N^{4} (-N4) [$1–2 signed]; 24 leaves, pp. [*2*] 55–100; plate [*1*]

000004 - b1 H1 $: b2 N3 uch$ [UI]

[not seen] [**π1^{r}**]

Copies considered: UI: collation, fingerprint, stub of plate facing π1 remains.

Number 419

4°: π1 O–S^{4} T^{4} (-T4) [$1–2 signed]; 24 leaves, pp. [*2*] 101–145 [146]; plate [*1*]

000004 - b1 O1 y : b2 T2 $su [UI]

'Philo: Trans: №. 419.' [193×191 **π1^{r}:** UI]

Copies considered: UI: collation, fingerprint, plate, T2.3 watermarked.

Number 420

4°: π1 U–Z⁴ 2A⁴ (-2A4) [$1–2 signed]; 20 leaves, pp. [2] 147–184; plates [2]
000004 - b1 U1 ct : *b2 2A1 geb [UI]
'Philo: Trans: №. 420' [200×204 (222+×332+) **π1ʳ:** UI]
'Philo: Trans: №. 420.' [200×259 **π1ʳ:** UI]
Copies considered: UI: collation, fingerprint, plates, 2A1 & 4χ1 not conjugate although they both have watermarks, 2A1 is thicker and they're not perfectly aligned suggesting that they both part of the same imposition scheme on the same part of two different sheets of paper.

Number 421

4°: π1 [=2F4?] 2B–2E⁴ 2F⁴ (-2F4) [$1–2 signed]; 20 leaves, pp. [2] 185–222; plates [2]
000004 - b1 2B1 ath : b2 2F2 ers,$i [UI]
'Philosoph. Transact. №. 421. [] Fig. I [] DORSTENIA Dentariæradice, Sphondylii folio, placenta ovali. [] J. Mynde Sc' [350×245 **π1ʳ:** UI]
'Philosoph. Transact. №. 421. [] Fig. II [] DORSTENIA Dentariæ radice, folio minus laciniato, placenta quadrangulari et undulata. [] J. Mynde Sc.' [352×229 **π1ʳ:** UI]
Copies considered: UI: collation, fingerprint, plates.

Number 422

4°: π1 2G–2K⁴ 2L⁴ (-2L4) [$1–2 signed]; 20 leaves, pp. [2] 223–260; plate [1]
000004 - b1 2G1 $To : b2 2L2 You [UI]
'Philosoph: Transact: №. 422. [] J. Mynde Sculp.' [215×166 **π1ʳ:** UI]
Copies considered: UI: collation, fingerprint, plate, 2G2.3 soiled on upper edge suggesting bundling or backmarks.

Number 423

4°: π1 2M–2P⁴ 2Q⁴ (-2Q4) [$1–2 signed]; 20 leaves, pp. [2] 261–298; plate [1]
000004 - b1 2M1 th$|| : b2 2Q2 $up$$\frac{3}{4}$,$ [UI]
'Philos. Trans. №. 423. [] P. Walter delinᵗ. [] P. Fourdrinier Sculp.' [187×264 **π1ʳ:** UI]
Copies considered: UI: collation, fingerprint, plate.

Number 424

4°: π1 2R–2X⁴ 2Y1 [$1–2 signed]; 22 leaves, pp. [2] 299–340; plate [1]

000004 - b1 2R1 ust : b2 2Y1 ran [UI]

'Philosoph: Trans. №. 424. [] J. Mynde Sc.' [188×221 **π1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plate, π1 and 2Y1 different paper stocks.

Number 425

4°: π1 2Z–3F⁴ [$1–2 signed]; 29 leaves, pp. [2] 341–396; plates [2]

000004 - b1 2Z1 $be : b2 3F2 $Reme [UI]

'EPHEMERIDES METEORO = TAB. I. | Philosoph. Transanct. №. 425. [] J. Mynde Sc.' [153×201 (221+×315+) **π1ʳ:** UI]

'Philosoph. Transact. №. 425. TAB. II. [] J. Mynde Sc.' [155×199 (220+×313+) **π1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plates.

Number 426

4°: π1 3G–3O⁴ [$1–2 signed]; 33 leaves, pp. [2] 397–450 [10]; plate [1]

000004 - b1 3G1 en$: b2 3O2 ,$p.$217. [UI]

'Philosoph. Transact. №. 426 [] J. Mynde Sculp.' [198×265 (221+×341+) **π1ʳ:** UI]

Copies considered: UI: collation, fingerprint, plate.

Eames and Martyn Abridgment

Copies considered:

dL-B:

The Philosophical Transactions from 1719 to 1733, abridged. By John Eames and John Martyn. Lond. 1734, 4to. 2 vols. (bound in 3), plates. Forming vols. 6 (in 2 parts) and 7. Followed by a General Index to the seven volumes.

Volume 38: 427--435 (1733--34)

4°: π², [427:]χ1 A-F⁴ G⁴ (-G4), [428:]2χ1 H-M⁴ N², [429:]3χ1 O-S⁴ T⁴ (-T4), [430:]4χ1 [2C4?] U-2B⁴ 2C⁴ (-2C4), [431:]5χ1 2D-2L⁴ 2M², [432:]6χ1 2N-2S⁴ 2T², [433:]7χ1 2U-3B⁴ 3C1, [434:]8χ1 3D-3H⁴ 3I⁴ (-3I4),

$^{435:}$9χ1 3K-3R^{4} 3S^{2} [$2 (-N2MT3S2) signed]; 252 leaves, pp. [*4*], $^{427:}$[*2*] 1-54, $^{428:}$[*2*] 55-98, $^{429:}$[*2*] 99-144, $^{420:}$[*2*] 145-198, $^{431:}$[*2*] 199-366, $^{432:}$[*2*] 267-318, $^{433:}$[319-320] 321-370, $^{434:}$[*2*] 371-416, $^{435:}$[*2*] 417-470 [*14*] (358 in square brackets)

1. Philosoph. Transact. №. 427 [] I. Mynde Sc. [191x284, facing χ1^{r}]
2. Philosoph. Transact. №. 428 [196+x176, sheet 211+x345+, facing 2χ1^{r}]
3. Philosoph. Transact. 430. [] C.M. ad nat. delin. [] J. Mynde Sc. [174x207,facing 4χ1^{r}]
4. Philosoph: Transact. №. 431. [] J. Mynde Sculp. [176x198, facing 5χ1^{r}]
5. Phil. Transact. №. 432.[two color: black outlines, green and orange shading; 2nd plate 342x201, facing 6χ1^{r}]
6. Philosoph. Trans. №. 433. [137x148, facing 7χ1^{r}]
7. Philo. Trans. №. 434 [] A Perspective of M^{R}. Churchman's Engine for raising Water. [362x510, facing 8χ1^{r}]
8. Philosoph. Trans. №. 435. [155x214, sheet 210+x345+, facing 9χ1^{r}]

427: 000004 - b1 A1 o : b2 G2 ral
428: 000004 - b1 H1 n : *b2 M2 1
429: 000004 - b1 O1 a : b2 T2 ome
430: 000004 - b1 U1 nt : b2 2C2 he$E
431: 000004 - b1 2D1 rut : b2 2M2 e$o
432: 000004 - b1 2N1 dres : b2 2T1 ian
433: 000004 - b1 or$c 2U1 : b2 3C1 n$nul
434: 000004 - b1 3D1 s$qu : b2 3I2 sopr
435: 000004 - b1 3K1 ur;$: b2 3S1 .
UI-R 506 RO v.38

- R. Manby shows up as printer at № 433
- 2U1.4 backmarks, 2U2.3 soiling as though folded or backmarked
- 2X2.3 short on bottom
- backmarks 3K, 3L, 3M, 3N, 3O
- plate is around the time that Jacob Christoph Le Blon was in England and perhaps involves him? Other copies?

PHILOSOPHICAL | TRANSACTIONS. | GIVING SOME | ACCOUNT | OF THE | *Present Undertakings, Studies,* and *Labours* | OF THE | INGENIOUS, | IN MANY | Considerable Parts of the WORLD. | [rule] | VOL. XXXVIII. For the Years 1733, 1734. | [rule] | *LONDON:* | Printed for W. Innys and R. Manby, *Printers* to the *Royal Society,* at the West End of St. *Paul*'s. 1735. [double-rule border, $\pi 1^r$]

TO | *ROGER GALE,* Esq; | Vice-President and Treasurer | OF THE | ROYAL SOCIETY | OF | *LONDON,* | FOR Promoting Natural Knowledge, | *This Thirty-Eight* Volume *of* | *Philosophical Transactions* | Is humbly Dedicated by | *His most obedient, and* | *Most humble Servant,* | Cromwell Mortimer, *R.S. Secr.* [$\pi 2^r$]

Copies considered: dL-B: pp. 1–470, dedication and index (14 pp.), 11 plates; **UI:** notes lost

Manuscript source in UkLoRS: L+P/121/1/1–5 Derham, W. Abstract of the Meteorological

[*attached at top:*]
[*lower right of attachment:*]
part.1. vid. Transact
no. 423.
[*upper right of leaves in pencil:*] 4
[*remainder of attachment:*]

II. An Abstract of the *Meteorological Diaries* communicated to the *Royal Society*, with Remarks upon them by *W. Derham D.D.* Canon of Windſor. & F.R.S. — part. II. containing,

[*text on leaves, p. 1:*]
A Journal of *Meteorological Obſervations* made at *Peterſburgh* by the *Rev*nd *M*^{r} *Tho: Conſett* from Nov. 24. 1724 to Jun. 23. 1725. Abſtracted for the uſe of the R.S. by *W. Derham* F. R. S.

This Journal conteins Obſervations, three times in the day, of the Barometer, the Winds & their strength, the Weather, & (after Apr. 15) of the Thermometer. Which Obſervations (although very curious & uſe-

full) yet being too long [*struck out* for, &] would be
tedious to be read at the Societies Meetings,
I therefore desire the following Extract
may be acceptable.

_M^r^ Consett [*struck out* notes], from the beginning, [*next two words inserted with caret above line*] noteth down the
Barometrical Variations, but I know not
his Divissions, & Degrees, till Dec. 18, at 3^h^. p.m,
& then the Barom^r^ was at 30,66, Wind NE^1^,
& Fair.

From Nov^r^ 24 to the end of y^t^ Month,
the Weather was Cloudy, w^th^ Snow, & a deep [*catchword* Snow]
[*p. 2:*]
Snow on the last day, & Fair on the 28^th^, The
Winds were Easterly, & NE, of 2 & 3 degrees
strength, till y^e^ 29^th^ & 30^th^, & there SE^3^, S^4^, & SW^3^.

In *Dec*^r^ it was Cloudy, w^th^ some Snow, till Dec. 8^th^ & 9^th^, w^ch^ were Fair days. Then
Cloudy on the 10^th^ & 11^th^, & Rain in the Evening.
Afterwards, some Cloudy & Moist air;some Fair,
till Dec 23, & then Hail, Wind SW^3^: y^e^ next
day Snow; & the rest of the Month some
Cloudy & Dark, w^th^ Snow, & some Fair. The
Barom^r^ ever since the 18^th^, hath been above
30 inches, & on Dec^r^ 26^th^ it was 30,84, on Dec^r^
30^th^, 30,96 & 31-00: & lastly on Dec. 31, it was
31,12, w^ch^ is the highest Range of the Quick-
silver in all the Observations, & if I mistake
not, the highest I ever met w^th^ anywhere, & at any time.

And now having mentioned the Highest
Ranges, I shall take notice of the Lowest: w^ch^
was on Jan. 21^st^, at 28,36, Wind W^4^, & Snow.

In *Jan*. $172\frac{4}{5}$. the Barom^r^ was above 30
inches all the beginning of the month, till [*catchword* the]
[*p. 3:*]
the 18^th^, & then it gradually fell to 28,36
as I said, The Winds, for the most part, were
in some Westerly Points, till Jan. 11, & then SE^2^,

with Fair, & an Hard Froſt for a week;
the Weather, before the 11th, being Cloudy and
Moisst, wth ſome Snow [*next word inserted with caret above*] now & then, & a little Rain
on Jan. 5. All the reſt of the Jan. was, for ye
moſt part, Cloudy wth Snow, & but little
Rain, & yt attended wth Froſt.

In *Feb.* the Barometer continued high, untill, by a gradual Desscent, it came
to 28,98 on Feb. 15 *17, Wind Weſterly 3 &
4. Likewiſe on Feb. 25, it fell to 28,28,
Wind W4. The greateſt part of this month, the Weather was Cloudy, ſometimes wth
thick Darkness, frequent Snow, & now & then Fair with ſharp Froſt.

All *March* the Barometer was above
29 inches, ſometimes above 30. The greateſt
part of the Month was Cloudy, wth frequent
Snow, & ſome Fair wth [*next word inserted above*] ſharp Froſts: the Winds
were Variable, & their Strength about 1 & 2 [*catchword* degrees]
[*p.4*]
degrees all the month, and ſeldome [*struck through* riſher]
at 3 degrees, nor Calm at any time.

All *April* the Baromr was above 29 inches,
and under 30. In the beginning of ye Month, Snow & Clouy, wth ſome Fair, & ſharp Froſts, till Apr. 13,
when *Mr Conſett* ſaith the con-
tinual Winter Froſts were thawed; & that
on the 15th, they left off their Fires, After
this, ſome Cloudy, ſome Rain, & ſome Fair. The Winds were Variable, cõmon. [*i.e. commonly*]
by 1 & 2 ſtrength, now & then [*blot*] 3, & not
any day, 0.

From *Apr.* 16, he obſerved the Ther-
mometer: but by reaſon I know not its
Gradiation, & had no obſervations of it in
the Colder Months, to let us into the know-
ledgs of it, therefore I think it of no uſe
to take [*next word inserted with caret above*] farther notice of it.

All *May* the Ranges of the Baro-
meter was between 28 & 29 inches; & for
the moſt part, above 29,50. This month had [*catchword* much]
[*P. 5*]

much more Rain,

VOLUME 39: 436--444 (1735--36)

4^{o}: π1 $*^{2}$ [$1 signed]; 3 leaves, pp. [*6*]

436: χ1 A-E^{4} [$2 signed]; 21 leaves, pp. [*2*] 1-40

437: 2χ1 [=K4] F-I^{4} K^{4} (-K4) [$2 signed]; 20 leaves, pp. [*2*] 41-78

438: 3χ1 L-P^{4} [$2 signed]; 20 leaves, pp. [*2*] 79-118

439: 4χ1 [=Y4?] Q-X^{4} Y^{4} (-Y4) [$2 signed]; 28 leaves, pp. [*2*] 119-172

440: 5χ1 Z-2C^{4} 2D^{4} (-2D4) [$2 signed]; 20 leaves, pp. [*2*] 173-210

441: 6χ1 2E-2K^{4} [$2 signed]; 25 leaves, pp. [*2*] 211-258 (pp. 211-218,227-234,243-258 in square brackets rather than parentheses)

442: 7χ1 [=2P4?] 2L-2O^{4} 2P^{4} (-2P4) [$2 signed; 2N1-2 on outer edge]; 20 leaves, pp. [*2*] 259-296 (pp. 259-266, 283-290 in square brackets rather than parentheses)

443: 8χ1 2Q-2Z^{4} [$2 signed]; 33 leaves, pp. [*2*] 297-360 (all in square brackets rather than parentheses)

444: 9χ1 3A-3H^{4} [$2 signed]; 33 leaves, pp. [*2*] 361-405 [406] [*18*] (square brackets)

1. Philo. Transact. №. 43.6. [] The Configurations of Jupiter's Satellites, at the times when such of their | Eclipses, as are Visible at London, will happen in the Year 1736. By James Hodgson F.R.S Master of the Royal Mathematical School [353x233, facing $χ1^{r}$]
2. Philosoph Transact №.437. [] I. Mynde Sculp. [174x174, facing $2χ1^{r}$]
3. Philosoph. Transact. №. 438 [] J. Mynde sc. [194x209, sheet 218+x321+, facing $3χ1^{r}$]
4. TAB. I. [] Philosoph. Transact. №. 439. [-212x186, facing $4χ1^{r}$]
5. TAB. II. [] Philosoph. Transact. №. 439. [218+x179+, sheet 218+x333+, facing $4χ1^{r}$]
6. TAB. I. [] Philosoph. Transact. №. 440. [] The Configurations of Jupiter's Satellites, at the Times when such of | their Eclipses as are Visible at London, will happen, in the Year 1737. by James Hodgson F.R.S. Master of the Royal Mathematical School. [368+x228+,facing $5χ1^{r}$]
7. TAB. II. [] Philosoph. Transact. №. 440. [] J. Mynde Sc. [] A Bony Substance found in the Womb of a Woman Aged 57 Years. [296+x189, facing $5χ1^{r}$]
8. Philosoph. Transact. [] №. 441. [318x157, facing $6χ1^{r}$]
9. Philosoph. Transact. N. 442. [] J. Mynde Sc. [213x186, facing $7χ1^{r}$]

10. Philosoph. Transact. №. 443. [] J. Mynd Sculp. [198x312, facing 8χ1[r]]
11. Philosoph. Transact. №. 414.[251+x261, facing 9χ1[r]]

prelim: 000004 - b1=b2 *1 Y
436: 000004 - b1 A1 er : b2 E2 er$
437: 000004 - b1 F1 P : b2 K2 f$th
438: 000004 - b1 L1 n$: b2 P2 not
439: 000004 - b1 Q1 o : b2 Y2 the
440: 000004 - b1 Z1 i : b2 2D2 f10
441: 000004 - b1 2E1 S. : b2 2K2 ;$fruc
442: 000004 - b1 2L1 $Tr : b2 2P2 lf$a$
443: 000004 - b1 2Q1 et : b2 2Z2 cie$ja
444: 000004 - b1 3A1 obser : b2 3H2 p.$319,
UI-R 506 RO v.39

- 5χ1 not conjugate with 2D4, as the chainlines don't match, but seem to be from the same paper stock
- 3χ1, i.e. title page for 438, and accompanying plate misbound facing 258
- 9χ1 and accompanying plate misbound at beginning of volume, 9χ1 before χ1 and the plate facing p. 25
- 2Q1, 9χ1 soiling from bundle
- 3U3 witness
- Richard Bateman's copy (fifth child of James Bateman and William Bateman's brother)
- soiling on back of plate facing № 436 suggesting a bundle

UIC

- 5χ1 and 2D4 chainlines do match

PHILOSOPHICAL | TRANSACTIONS. | GIVING SOME | ACCOUNT | OF THE | *Present Undertakings, Studies,* and *Labours,* | OF THE | INGENIOUS, | IN MANY | Considerable Parts of the WORLD. | [rule] | VOL. XXXIX. For the Years 1735, 1736. | [rule] | *LONDON:* | Printed for T. Woodward, at the *Half-Moon,* between | the *Two Temple Gates* in *Fleetstreet*; and C. Davis |

the Corner of *Pater-noster-row,* next *Warwick-lane*; | Printers to the Royal Society. | [rule] | M.dcc.xxxviii. [double-rule border, $\pi 1^r$]

[double rule] | TO | *HERMAN BOERHAAVE,* | A.L.M. Philos. and M. D. | PROFESSOR of PHYSICK | IN THE | University{} *of LEYDEN,* | President of the College of Chirurgions | in that City. | Fellow *of the* Royal Society | *of LONDON,* | AND | Member *of the* Royal Academy{} *of* | Sciences{} *at PARIS,* &c. | *Honoured SIR,* | AN Address to You in *English* needs no | [continues in prose, $*1^r$]

[cont.] | gard, which I shall ever retain of You, being, | *SIR,* | *Your most obliged,* | *and most devoted,* | *humble Servant,* [left of these three lines: *LONDON,* | *Aug.* 1. 1738.] | Cromwell Mortimer,{} *M.D.* | *Secretary* to the Royal Society, and | *Fellow* of the Royal College of | Physicians,{} *LONDON.* | [catchword:] N° 436. [$*2^v$]

Copies considered: dL-B: pp. 1–405, dedication and index (18 pp.), 11 plates; **UI:** notes lost

Volume 40: 445--451 (1737--38) (UI)

4^o: [A]^2 b^4 (-b4) [$2 (-A1) signed: A2 as A]; 5 leaves, [*10*]

1. Philos. Trans. №. 445. TAB. I. [] J. Mynde Sculp. [191x167, facing $\chi 1^r$]
2. Philos. Trans. №. 445. TAB. II. [] J. Mynde Sc. [195x167, facing $\chi 1^r$]

445: $\chi 1$ [=K4?] A-I^4 K^4 (-K4) [$2 signed]; 40 leaves, pp. [*2*] 1-78

3. Pl. I. [] Philosoph. Transact. №. 446 [] J. Mynde Sc. [157x 225, sheet 217+x334+, facing $2\chi 1^r$]
4. Pl. II. [] Philosoph. Transact. №. 446. [] J. Mynde. Sc. [175x223, sheet 218+x330+, facing $2\chi 1^r$]
5. Pl. III. Philosoph. Transact. №. 446. [173x223, sheet 217+x330+, facing $2\chi 1^r$]

446: $2\chi 1$ [=S4?] L-R^4 S^4 (-S4) [$2 signed]; 32 leaves, pp. [*2*] 81-142

6. TAB. I. [] Philosoph. Transact. №. 447 [] J. Mynde Sc [178x223, sheet 216+x343+, facing $3\chi 1^r$]
7. TAB. II. [] Philosoph. Transact. №. 447 [] J. Mynde Sc. [181x223, sheet 217+x332+, facing $3\chi 1^r$]

447: 3χ1 T-2F⁴ [$2 signed]; 45 leaves, pp. [2] 143-230

8. Philosoph. Transact. №. 448. [] J. Mynde Sc. [192x239, sheet 218+x335+, facing 4χ1ʳ]

448: 4χ1 [=2M4?] 2G-2L⁴ 2M⁴ (-2M4) [$2 signed]; 24 leaves, pp. [2] 231-276

9. Philosoph. Transact. №. 449. TAB. I. [] J. Mynde Sc. [206+x175, sheet 217+x338+, facing 5χ1ʳ]

10. TAB. II. [] Philosoph. Transact. №. 449 [] J. Mynde Sculpt. [175x327, facing 5χ1ʳ]

449: 5χ1 2N-2X⁴ 2Y1 [$2 signed]; 38 leaves, pp. [2] 277-350

11. Philosoph. Transact. №. 450. [] J. Mynde Sc. [148x210, sheet 219+x304+, facing 6χ1ʳ]

450: 6χ1 [=3G4?] 2Z-3F⁴ 3G⁴ (-3G4) [$2 signed]; 32 leaves, pp. [2] 351-412

12. Tab. I [] Philos. Trans. №. 451. [] J. Mynde Sc. [274x262, facing 7χ1ʳ]

451: 7χ1 3H-3S⁴ [$2 signed]; 45 leaves, pp. [2] 413-478 [22]

13. Natura caute paulatim detegitur, [] I. Fayram Inven. deli et Sculp [190x154, facing [a]²]

14. Tab. 1. [] J. Mynde Sc. [187x290, facing ²a1ʳ]

15. Tab. 2. [] J. Mynde Sc. [352x226, facing ²a1ʳ]

16. Tab. 3. [] J. Mynde sc. [183x182, sheet 218+x347+, facing ²a1ʳ]

Lec: [a]² b⁴ c1, ²a-g⁴ [$2 signed; b-c in square brackets]; 35 leaves, pp. [4] i-x, ²i-liv [2] (ii-x on shoulder rather than centered)

prelim: 174104 - b1 A1 e : b2 b2 w-E

445: 000004 - b1 A1 m : b2 K2 $15

446: 000004 - b1 L1 ; : b2 S2 be$

447: 000004 - b1 T1 $L : b2 2F2 $$\frac{7}{10}$$0

448: 000004 - b1 2G1 hi : b2 2M2 Yo

449: 000004 - b1 2N1 t$th : b2 2Y1 it

450: 000004 - b1 2Z1 urbi : b2 3G2 $Fact$t

451: 000004 - b1 3H1 ,$suc : b2 3S2 $veno

Lec: 173904 - a1 b1 $fro : a2 c1 obse - b1 ²a1 $t : b2 ²g2 t$b

UI-R 506 RO v.40

- № 451 and plate proceeding № 445
- stub between b1 and b2
- Dedication mentions John Winthrop as a founder of the RS and Harvard
- Description of Roman printing (388)

PHILOSOPHICAL | TRANSACTIONS. | GIVING SOME | ACCOUNT | OF THE | *Present Undertakings, Studies,* and *Labours,* | OF THE | INGENIOUS, | IN MANY | Considerable Parts of the WORLD. | [rule] | VOL. XL. For the Years 1737, 1738. | [rule] | With a SUPPLEMENT, being the *Croonean* LECTURES | on *Muscular Motion*, for the Year 1738. | [rule] | *LONDON:* | Printed for T. WOODWARD, at the *Half-Moon,* between the | *Temple-Gates* in *Fleetstreet*; and C. DAVIS in *Pater-* | *noster-row*; PRINTERS to the ROYAL SOCIETY. | [rule] | M.DCC.XIL. [double-rule border, [A]1^{r}]

[thick-think rule] | TO THE | HONORURABLE | John Winthrop, *Esq*; | FELLOW of the ROYAL SOCIETY, | *&c. &c.* | *SIR,* | PERSONAL Friendships and Favours | [continues in prose, A2^{r}]

[cont'd.] | greatest Sincerity, | *SIR,* | *Your mos affectionate Friend,* | *and obliged humble Servant,* [to the left of these two lines: *Dartmouth-street,* | *WESTMINSTER,* | *August* 15. 1741.] | CROMWELL MORTIMER,{} *M. D.* | *Secretary* to the ROYAL SOCIETY, and | *Fellow* of the ROYAL COLLEGE of | PHYSICIANS, *LONDON.* [b3^{v}]

Copies considered: dL-B: pp. 1–478, followed by three Croonean Lectures by Alex. Stuart, M.D., being a Supplement, etc. (54 pp.), index (21 pp.), 15 plates; **UI:** notes lost

VOLUME 41: 452--461 (1739--41) [ICU]

4^{o}: π1 A^{2} [$2 signed]; 3 leaves, [*6*]

452:

χ1 A-H^{4} 2χ1 [$2 signed]; 34 leaves, [*2*] 1-64 [*2*]
000004 - b1 A1 $: b2 H2 l.

1. 1 (A1^{r})
2. 1 (A1^{r})

453:

3χ1 I-R^4 S^4 (-S4) [$2 signed]; 40 leaves, pp. [*2*] 65-142
000004 - b1 I1 nd : b2 S2 e;
3χ1 [=S4]

- UIC tranchfile indicates transfer 3χ1 [=S4]

454:

4χ1 T-2F^4 2G^4 (-2G4) [$2 signed]; 48 leaves, pp. [*2*] 143-236
000004 - b1 T1 r : b2 2G2 ey$c

3. 143 T1^r
4. 143 T1^r

4χ1 [=2G4?]

455:

5χ1 2H-2N^4 2O^4 (-2O4) [$2 signed]; 28 leaves, pp. [*2*] 237-290
000004 - b1 2H1 $D : b2 2O2 uberc

5. 237 2H1^r

5χ1 [=2O4?]

456:

6χ1 2P-3A^4 [$2 signed]; 41 leaves, [*2*] 291-370
000004 - b1 2P1 $lat : b2 3A2 hangin

6. 291 2P1^r
7. 291 2P1^r

457:

π^2 3B-3L^4 3M^4 (-3M4) [$2 signed]; 45 leaves, pp. [*4*] 371-455 [456]

174304 - b1 hero : b2 3M2 fmaybe

8. 371 3B1[r]
9. 371 3B1[r]

- 3M4 cannot be a transfer
- UIC: 3B2.3 soiled as though bundled

Copies considered: dL-B: in two parts, pp. 1–873, dedication and index (21 pp.), 32 plates; **UI:** notes lost

Volume 41 Part 2 [ICU and UI-R]

4^{o}: π1; 1 leaf, [*2*]

458:

χ1 3N-4A[4] 4B1 [$2 signed]; 50 leaves, [*2*] 457-553 [554]
000004 - b1 3N1 $Whe : b2 4B1 mingæ,

1. 457 3N1[r]
2. 457 3N1[r]
3. 457 3N1[r]
4. 457 3N1[r]

χ1.4B1?

- UIC copy chainlines match χ1.4B1

459:

2χ1 4C-4P[4] 4Q1 [$2 signed]; 54 leaves, [*2*] 555-660
000004 - b1 4C1 an)$it : b2 4Q1 though

5. 555 4C1[r]
6. 555 4C1[r]
7. 555 4C1[r]

8. 555 4C1^{r}
9. 555 4C1^{r}

460:

3χ1 4R-5C^{4} 5D^{4} (-5D4) [$2 signed]; 44 leaves, pp. [*2*] 661-745 [746]
000004 - b1 4R1 unge, : b2 5D2 n,$t

- UIC copy: 3χ1 ≠ 5D4 because of chainlines

11. 661 4R1^{r}
12. 661 4R1^{r}
13. 661 4R1^{r}
14. 661 4R1^{r}
15. 661 4R1^{r}
16. 661 4R1^{r}

461:

4χ1 5χ1 5E-5Y^{4} 5Z^{2} [$2 (-5Z2) signed]; 76 leaves, [*4*] 747-873 [*21*]
000004 - b1 5E1 yo : b2 5Z1 .$46

17. 747 5E1^{r}
18. 747 5E1^{r}
19. 747 5E1^{r}
20. 747 5E1^{r}
21. 747 5E1^{r}
22. 747 5E1^{r}
23. 747 5E1^{r}
24. 747 5E1^{r}

4χ1.π1?

New Abridgment

Copies considered:

dL-B:

Memoirs of the Royal Society, or a new Abridgment of the Philosophical Transactions, by M. Baddam. Lond. 1738–41, 8vo. 10 vols. 1£. 1s.

Volume 42: Numbers 462--471 (1742--43)

4^{o}: π^{2}; 2 leaves, pp. [*4*]

Copies considered: dL-B: pp. 1-641, dedication and index (20 pp.), 19 plates; **NYPL:** collation

Number 462

4^{o}: π1 A–G^{4} [$1–2 signed]; 29 leaves, pp. [*2*] 1–56 [all in brackets]; plate [*1*]

174204 - *b1 A2 inſt$: b2 G2 ty. [NYPL]

Plate of "the Bladder cut open" [**14 (B3^{v}):** NYPL]

Copies considered: NYPL: collation, fingerprint, plate location

Number 463

4^{o}: π1 H–L^{4} M1 [$1–2 signed]; 18 leaves, pp. [*2*] 57–90

174204 - b1 H1 a : b2 M1 bſ [NYPL]

Copies considered: NYPL: collation, fingerprint, stabbing on outer margin of M1 with soiling that seems to indicate a bundle

Number 464

4^{o}: π1 N–U^{4} [$1–2 signed]; 33 leaves, pp. [*2*] 91–154; plate [*1*]

174204 - b1 N1 ſt : b2 U2 aks$ [NYPL]

Plate of deformed child [**152 (U3^{v}):** NYPL]

Copies considered: NYPL: collation, fingerprint, plate location

Number 465

4^{o}: π1 X–2A^{4} 2B1 [$1–2 signed]; 18 leaves, pp. [*2*] 155–188; plate [*1*]

174204 - b1 X1 r : b2 2B1 he$ [NYPL]

Plate of a telescope for measuring distance [**2 (π1^{v}):** NYPL]

Copies considered: NYPL: collation, fingerprint, plate location

Number 466

4°: π1 2C–2I⁴ 2K–2M² 2N⁴ 2O⁴ 2P² [$1–2 (-2KLM 2P2) signed]; 45 leaves, pp. [2] 193–280; plate [1]

174204 - b1 2C1 tur, : b2 2P1 xu [NYPL]

Plate of constellation, arm sore, bore [**misbound:** NYPL]

Copies considered: NYPL: collation, fingerprint, plate location

Number 467: Papers on Polypus

4°: π1 a–b⁴ c1 [$1–2 signed]; 16 leaves, pp. [2] [1] ii–xvii [xviii]

174304 - b1 a1 nly$a : b2 c1 N [NYPL]

Copies considered: NYPL: collation

Number 468

4° (π, 2Q–3B, 3C1) and 2° (3C2): π1 2Q–3B⁴ 3C1 3C2 [$1–2 signed]; 43 leaves, pp. [2] 299-381 [382]; tables [engraved] 1–3

1743 - b1 2Q1 doc : b2 3C1 .$" - c1=c2 3C2 Cory [NYPL]

Table 1 of pendulum and a growth [**300 (2Q1^{v}):** NYPL]

Table 2 of a hammock for patients [**365 (3A2^{r}):** NYPL]

Table 3 of another view of the hammock for patients [**367 (3A3^{r}):** NYPL]

Copies considered: NYPL: collation, fingerprint, plate locations

Number 469

4°: π1 3D–3M⁴ 3N1 [$1–2 signed]; 38 leaves, pp. [2] 383-456 [434=134]; tables [engraved] 1–4, plates [2]

174304 - b1 3D1 great$: b2 3N1 heory [NYPL]

Table 1 of a sea-calf [**383 (3D1^{r}):** NYPL]

Table 2 of an Ambe of Hippocrates [**390 (3D4^{v}):** NYPL]

Table 3 of parts of above Ambe [**394 (3D2^{v}):** NYPL]

Table 4 demonstrating the use of Ambe [**398 (3E4^{v}):** NYPL]

Plate illustrating Polypus [**435 (3K3^{r}):** NYPL]

Plate also illustrating Polypus [**436 (3K3^{v}):** NYPL]

Copies considered: NYPL: collation, fingerprint, plate location, bundle creases on π, stitching on inner margin 3N1; plates (not tables) perhaps belong with the previous number based on content

Number 470

4°: π1 3O–4C^{4} 4D^{2} [$1–2 (-4D2) signed]; 55 leaves, pp. [*2*] 457–563 [564] (516=116); tables [engraved] I–4

174404 - b1 3O1 uocu : b2 4D1 orno [NYPL]

Table 4 of bone and Ambe of Hippocrates [**520 (3X4^{v}):** NYPL]

Table 1 of a rhinoceros [**538 (4A1^{v}):** NYPL]

Table 2 another of a rhinoceros [**539 (4A2^{r}):** NYPL]

Table 3 of rhinoceros horns [**540 (4A2^{v}):** NYPL]

Copies considered: NYPL: collation, fingerprint, plate location, p. 564 is a catalog of publications

Number 471

4°: π1 4E–4Q^{4} [4R1] [$1–2 signed]; 50 leaves, pp. [*2*] 565–641 [*21*]; tables [engraved] I–III

000004 - b1 4E1 ſpond : b2 4Q2 462,$p.$4 [NYPL]

Table I of geometric figures [**570 (4E3^{v}):** NYPL]

Table II of a stone monument [**589 (4H1^{r}):** NYPL]

Table III of a mushroom and a tide-pool [**596 (4H4^{v}):** NYPL]

Copies considered: NYPL: collation, fingerprint, plate location

Volume 43: 472--477 (1744--45) [ICU]

4°: π^{2}; 2 leaves, [*4*]

Number 472 (January–April 1744):

4°: π1 A–M^{4} N^{4} (-N4) [$1–2 signed]; 52 leaves, pp. [*2*] 1–101 [102]; plates [*4*]

174404 - b1 A1 f : b2 N2 $m [UI, ViU]

[*plate*] [**π1ʳ:** UI]

'*Philos. Trans. №. 472.* TAB.II.' Fig. 1–10 [173–175×221–223 (235×347) **π1ʳ:** UI, ViU]

'*Philos. Trans. №. 472*, TAB.III. [*lower right:*] *J. Mynde ſc.*' Fig. 1–2 [185×192 (235×364) **π1ʳ:** UI, ViU]

'*Philos. Trans. №. 472* [*upper right:*] TAB.IV. [*lower left:*] *C.J. Rollinus M.D.del. ad. Nat.* [*lower right:*] *J. Mynde ſc.*' [190–191×167–169 (235×354**π1ʳ:** UI, ViU]

PHILOSOPHICAL | TRANSACTIONS. | [*rule 96.3*] | For the Months of *Ꝼanuary, February, March,* | and *April,* 1744. | [*rule 96.3*] |

The CONTENTS. | [...] [**π1ʳ:** ViU]

Imprint: [*rule 96.1*] | Printed for C. Davis, over-againſt *Gray's-Inn Gate* | in *Holbourn*, Printer to the Royal Society, | M.ddc.xliv. [**π1ᵛ:** Viu]

Errata: *ERRATUM.* | [...] | [*rule 95.1*] | *ERRATUM.* | [...] [**N3ᵛ (102):** ViU]

Copies considered: UI: collation, fingerprint, plate, L4 has witness, paper suggest π1=N4; **ViU:** collation, fingerprint, plates, original stitching intact without wrap-around, suggesting a transfer, lacks first plate, tranchfiles contradict π1=N4, numeration for p. 102 added in pen, press figures throughout.

473:

2χ² A-K⁴ [$2 signed]; 42 leaves, [4] 1-78 [2]

174504 - b1 A1 0 : b2 K2 e$v

- UIC copy: catalog of books after K4: χ²; 2 leaves, pp. [4] (double check this?)

5. 1 A1ʳ
6. 1 A1ʳ

474:

3χ1 L-2G⁴ [$2 (-N2) signed]; 81 leaves, [2] 79-238

000004 - b1 L1 $: b2 2G2 $and

7. 79 L1ʳ
8. 79 L1ʳ

475:

4χ1 2H-2T⁴ 2U⁴ (-2U4) [$2 signed]; 52 leaves, pp. [*2*] 239-340
000004 - b1 2H1 ior : b2 2U2 wards
4χ1 [=2U4?]

9. 239 2H1ʳ
10. 239 2H1ʳ
11. 239 2H1ʳ

476:

5χ1 2X-3O⁴ 3P² [$2 signed]; 71 leaves, pp. [*2*] 341-480
000004 - b1 2X1 $b : b2 3P2 at$Gentlem

12. 341 2X1ʳ
13. 341 2X1ʳ
14. 341 2X1ʳ
15. 341 2X1ʳ

477:

6χ1 3Q-4B⁴ [$2 signed]; 41 leaves, pp. [*2*] 481-560
000004 - b1 3Q1 ing$: b2 4B2 $Work:$

16. 481 3Q1ʳ
17. 481 3Q1ʳ

Lec:

π1 A-L⁴ M⁴ (-M4) [$2 signed]; 48 leaves, pp. [*4*] [iii] iv-viii 1-86
174504 - a1 A1 d : a2 A2 ch$ - b1 B1 th : *b2 M1 s

1. 1 B1ʳ
2. 1 B1ʳ
3. 1 B1ʳ

index:

4C-4D⁴ 4E² [$2 (-4E2) signed]; 10 leaves, pp. [*20*]
000004 - b1 4C1 agility : b2 4E1 a,$by

- probably issued with 477

Copies considered: dL-B: pp. 1–560, dedication and index (20 pp.), followed by Croonean Lectures by J. Parsons, M.D. (86), 91 plates; **UI:** notes lost

Volume 44: 478--484 (1746--47) [ICU]

4°: π^2; 2 leaves, pp. [*4*]

478:

χ1 A-L⁴ M⁴ (-M4) [$2 signed]; 48 leaves, pp. [*2*] 1-93 [94]
χ1 [=M4?]
000004 - b1 A1 i : b2 M2 $†

1. 1 A1ʳ
2. 1 A1ʳ

479:

2χ1 N-Y⁴ [$2 signed]; 40 leaves, pp. [*2*] 95-174 (144-45 as 148-49, 148-9 as 144-5)
000004 - *b1 N2 .$22 : b2 Y2 ,$th

3. 95 N1ʳ
4. 95 N1ʳ
5. 95 N1ʳ
6. 95 N1ʳ

480:

3χ1 Z-2H⁴ [$2 signed]; 37 leaves, pp. [*2*] 175-245 [246]

000004 - b1 Z1 p : b2 2H2 ment

7. 175 Z1^{r}
8. 175 Z1^{r}
9. 175 Z1^{r}
10. 175 Z1^{r}
11. 175 Z1^{r}

481:

4χ1 2I-2T^{4} [$2 (-2L2) signed]; 45 leaves, pp. [*2*] 247-333 [334]
000004 - b1 2I1 0 : b2 2T2 lybe

12. 289 2O2^{r}
13. 289 2O2^{r}
14. 303 2Q1^{r}

Lec:

[a]^{4} b^{4} c^{2} B-M^{4} [$2 (-c2) signed]; 54 leaves, pp. [*4*] i-viii [*8*] 1-82 [*6*]
174704 - a1 b1 r : a2 c1 0 - b1 B1 be : b2 M2 9,$

1. 49 H1^{r}
2. 51 H2^{r}
3. 53 H3^{r}
4. 65 K1^{r}
5. 73 L1^{r}

Copies considered: dL-B: in two parts, pp. 1–749, dedication and index (26 pp.), 24 plates, after pt. 1, Croonean Lectures on Human Physiognomy by James Parsons, M.D. (82 pp.) with 2 indexes (3 pp.) and 5 plates, after pt. 2 on Muscular Motion by Browne Langreish, M.D. (66 pp.) and 3 plates, 24 plates; **UI:** notes lost

Volume 44 Part 2 [ICU]

4^{o}: πι

482:

χι 2U-3I^{4} 3K^{2} [$2 (-3H2) signed]; 55 leaves, pp. [2] 335-358, $^{\chi}$351, $^{\chi}$356-357, $^{\chi}$354-5, $^{\chi}$352-3, $^{\chi}$358, 359-434 (359 as 351, 392-3 as 384-5,396-7 as 388-89, 404-5 as 405,404)
000004 - b1 2U1 e$B : b2 3K2 oken$off$;

1. 343 2X1^{r}

483:

2χ^{2} 3L-4C^{4} 4D^{4} (-4D4) [$2 (-4D2) signed]; 69 leaves, pp. [4] 435-560 [561] 562-566 [567-8]
000004 - b1 3L1 e,$h : b2 4D1 &c.$st

1. 447 3M3^{r}
2. 451 3N1^{r}
3. 465 3O4^{r}
4. 499 3T1^{r}
5. 509 3U2^{r}
6. 511 3U3^{r}
7. 515 3X1^{r}
8. 517 3X2^{r}
9. 547 4B1^{r}
10. 549 4B2^{r}

engraved illustration [561 4C4^{r}]

484:

3χ^{2} 4E-5D^{4} [$2 (-4H2) signed]; 94 leaves, pp. [4] 567-718 711-718 [=726] 727-749 [750] (735 missing right square bracket)

000004 - b1 4E1 ament : b2 5D2 vis$densa$et$d

1. 575 4F1^{r}
2. 685 4T4^{r}
3. 727 5B1^{r}

Lec:

π (3 ll.) A-H^{4} I1 [$2 signed]; 36 leaves, pp. [*4*] [i] ii 1-66
174804 - b1 A1 $: b2 I1 $

- UIC copy: π, B-I have vertical chainlines suggesting finishing a paper stock

Index:

a-c^{4} d1 [$2 signed]; 13 leaves, [*26*]
000004 - b1 a1 on : b2 d1 i

- UIC copy: a-b vertical chainlines, c-d horizontal chainlines

Volume 45: 485--490 (1748) [ICU]

4^{o}: π^{2}; 2 leaves, pp. [*4*]

485:

χ1 A-B^{4} C (3 ll.) D-Q^{4} R1 [$2 signed]; 65 leaves, [*2*] 1-16 19-130 [=128]
000004 - b1 A1 $: b2 R1 t

1. 129 (R1^{r})

486:

π1 2χ^{2} S-M^{4} 2N1 [$2 signed]; 76 leaves, [*6*] 131-275 [276]
174904 - b1 S1 m. : b2 2N1 obed

1. 2χ1^{r}

π1.2N1?

487:

π1 3χ² 2O-3C⁴ 3D1 [$2 signed]; 56 leaves, pp. [*6*] 277-381 357 [=382]
174904 - b1 2O1 ing : *b2 3C2 15$33

1. 3χ1ʳ

π1.3D1

488:

π² 3E-3R⁴ 3S² [$2 (-3S2) signed]; 56 leaves, pp. [*4*] 383-489 [490] (480-1 as 481,480, 484-5 as 485,484)
174904 - b1 3E1 r$Cl : *b2 3R2 purp

489:

χ² 3T-4F⁴ [$2 signed]; 46 leaves, [*4*] 491-578
000004 - b1 3T1 d$0 : b2 4F2 quoted,

1. χ1
2. χ1
3. χ1
4. χ1

490:

χ1 4G-4K⁴ 4L² *-10*⁴ 11*² [$2 (-4L2) signed]; 61 leaves, [*2*] 579-614 [615-654] 655-674 [*24*] (615-654 as brackets without numbers)
000004 - b1 4G1 bey,$a : b2 11*1 he$

1. 579 (4G1ʳ)
2. 579 (4G1ʳ)
3. 579 (4G1ʳ)

4. 579 (4G1^{r})
5. 579 (4G1^{r})

- 4L^{2} must be a half-sheet

Copies considered: dL-B: pp. 1–674, dedication and index (24 pp.), 10 plates; **UI:** notes lost

VOLUME 46: 491--497 (1749--50) [ICU]

4^{o}: π1; 1 leaf, [*2*]

491:

π1 χ1 A-K^{4} L^{4} (-L4) [$2 signed]; 46 leaves, [*6*] 1-85 88 [=86] (82-3 as 84-5, 86 as 88)
175004 - x1 A1 $Q : b2 L2 atio

1. 7 (A4^{r})
2. 38 (E3^{v})
3. 79 (K4^{r})

π1 [=L4]

492:

π1 χ^{2} M-Z^{4} 2A^{4} (-2A4) [$2 signed]; 54 leaves, [*6*] 89-189 [190]
175004 -b1 M1 $v : b2 2A2 eam$

1. 97 (N1^{r})
2. 121 (Q1^{r})
3. 129 (R1^{r})
4. 143 (S4^{r})

π1 [=2A4]

493:

χ^{2} 2B-2N^{4} 2O^{2} [$2 (-2O2) signed]; 52 leaves, [*4*] 193-292

000004 - b1 2B1 p.$1 : *b2 2N2 41$3

1. 203 (2C2^{r})
2. 215 (D4^{r})
3. 241 (2H^{r})
4. 251 (2I2^{r})
5. 257 (2K1^{r})

494:

π1 χ^{2} 2P-3D^{4} 3E^{4} (-3E4) [$2 signed]; 58 leaves, [*6*] 293-402
175104 - b1 2P1 . : b2 3E2 $that$

1. 293 (2P1^{r})
2. 341 (2X1^{r})

π1 [=3E4]

495:

χ^{4} 3F-3U^{4} [$2 signed]; 64 leaves, [*8*] 403-522
175104 - b1 3F1 t.$R : *b2 3U1 the$

1. [letterpress] 434 (3I4^{v})
2. 443 (3L1^{r})
3. 479 (3P3^{r})
4. 515 (3U1^{r})
5. 517 (3U2^{r})

- 495: 3I1 repaired

496:

χ^{2} 3X-4G^{4} *4G^{2} [$2 (-*4G2) signed]; 44 leaves, [*4*] 523-604 [605-6] (588-9 as 592-3, 592-3 as 588-9, 601-4 prefixed with *)

000004 - b1 3X1 e$b : b2 *4G1 ectio

1. 535 (3Y3^{r})
2. 599 (3G3^{r})

497:

a^{4} 4H-5B^{4} 5C^{4} (-5C4) [$2 signed; a in square brackets, i.e. '[a]']; 79 leaves, [*8*] 601-750
000004 - a1 a1 D.$: a2 a2 8.$1 - b1 4H1 ad. : b2 5C2 tisa

index:

5D-5F^{4} 5G^{2} [$2 (-5G2) signed]; 14 leaves, [*28*]
Copies considered: dL-B: pp. 1–750, index (26 pp.), 19 plates; **UI:** notes lost

Abridgment

Copies considered: dL-B:
The Philosophical Transactions from 1732 to 1750, abridged. By John Martyn. Lond. 1747 to 1756, 4to. 3 vols (bound in 4 vols.), plates. Forming vols. 8, 9, and 10 (in 2 parts). The whole series (excluding Motte's) being bound in 12 or 13 vols.

Volume 47 [ICU, UI]

4^{o}: π1 a-b^{4} χ1 A-3H^{4} 3I^{4} (3I3 + 2χ1) 3K-4D^{4} 4E^{2} [$2 (-3IZ4E2 +3Z4 signed; 3Z4 as 3Z2)]; 305 leaves, pp. [*20*] 1-438 *438-*439 439-571 [*17*] (546-7 as 550-1, 550-1 as 546-6)

1. 3 A2^{r}
2. 35 E2^{r}
3. 104 N4^{v}
4. 105 O1^{r}
5. 107 O2^{r}
6. 120 P4^{v}
7. 150 T3^{v}
8. 217 2E1^{r}

9. 229 2F3^{r}
10. 267 2L2^{r}
11. 298 2P1^{v}
12. 299 2P2^{r}
13. 299 2P2^{r}
14. 321 2S1^{r}
15. 326 2S3^{v}
16. 333 2T3^{r} [letterpress]
17. 343 2U4^{r}
18. 370 3A1^{v}
19. 435 3I2^{r}
20. 488 3P4^{v}
21. 498 3R1^{v}

175304 - a1 a1 r$: a2 b2 ir- - b1 A1 . : b2 4E1 berd

[*within double ruled border:*] PHILOSOPHICAL | TRANSACTIONS, | GIVING SOME | ACCOUNT | OF THE | Preſent Undertakings, Studies, *and* Labours, | OF THE | INGENIOUS, | IN MANY | Conſiderable Parts of the WORLD. | [*rule*] | VOL. XLVII. For the Years 1751 and 1752. | *LONDON:* | Printed for C. Davis, Printer to the Royal | Society, over-againſt *Gray's-Inn-Gate* in *Holbourn*. | [*small rule*] | M. DCC. L III. [**π1^{r}:** rNHS]

[*blank*] [**π1^{v}:** rNHS]

[*One word centered:*] ADVERTISEMENT.

T²HE Committee appointed by the *Royal Society* to direct the publication of the *Philoſophical Tranſactions*, take this opportunity to acquaint the public, that it fully appears, as well from the council-books and journals of the Society, as from the repeated declarations, which have been made in ſeveral former *Tranſactions*, that the printing of them was always, from time to time, the ſingle act of the reſpective Secretaries, till this preſent XLVII. volume. And this information was thought the more neceſſary, not only as it has been the common opinion, that they

were publiſhed by the authority, and under the direc- [*t in 'by the' missing top: rNHS*]
tion, of the Society itſelf; but alſo, becauſe ſeveral au-
thors, both at home and abroad, have in their writings
called them the *Tranſactions of the Royal Society.*
Whereas in truth the Society, as a body, never did
intereſt themſelves any further in their publication,
than by occaſionally recommending the revival of
them to ſome of their ſecretaries, when, from the par-
ticular circumſtances of their affairs, the *Tranſactions*
had happened for any length of time to be intermit-
ted. And this ſeems principally to have been done
with a view to ſatisfy the public, that their uſual
meetings were then continued for the improvement
of knowledge, and benefit of mankind, the great
ends of their firſt inſtitution by the royal charters, and
which they have ever ſince ſteadily purſued.

But the Society being of late years greatly inlarged,
and their communications more numerous, it was
thought adviſeable, that a Committee of their Mem-
bers ſhould be appointed to reconſider the papers read
before them, and ſelect out of them ſuch, as they
ſhould judge moſt proper for publication in the future [**a1r**: rNHS]
Tranſactions; which was accordingly done upon the
26 of March 1752. And the grounds of their choice
are, and will continue to be, the importance or ſingu-
larity of the ſubjects, or the advantageous manner of
treating them; without pretending to anſwer for the
certainty of the facts, or propriety of the reaſonings,
contained in the ſeveral papers ſo publiſhed, which
muſt ſtill reſt on the credit or judgement of their re-
ſpective authors.

It is likewiſe neceſſary on this occaſion to remark,
that it is an eſtabliſhed rule of the Society, to which
they will always adhere, never to give their opinion,
as a body, upon any ſubject, either of nature or art,
that comes before them. And therefore the thanks,
which are frequently propoſed from the chair, to be

> given to the authors of ſuch papers, as are read at their accuſtomed meetings, or to the perſons, thro whoſe hands they receive them, are to be conſidered in no other light, than as a matter of civility, in return for the reſpect ſhewn to the Society by thoſe communications. The like alſo is to be ſaid with regard to the ſeveral projects, inventions, and curioſities of various kinds, which are often exhibited to the Society; the authors whereof, or thoſe who exhibit them, frequently take the liberty to report, and even to certify in the public news-papers, that they have met with the higheſt applauſe and approbation. And therefore it is hoped, that no regard will hereafter be paid to ſuch reports, and public notices; which in ſome inſtances have been too lightly credited, to the diſhonour of the Society. [**a1^{v}:** rNHS]

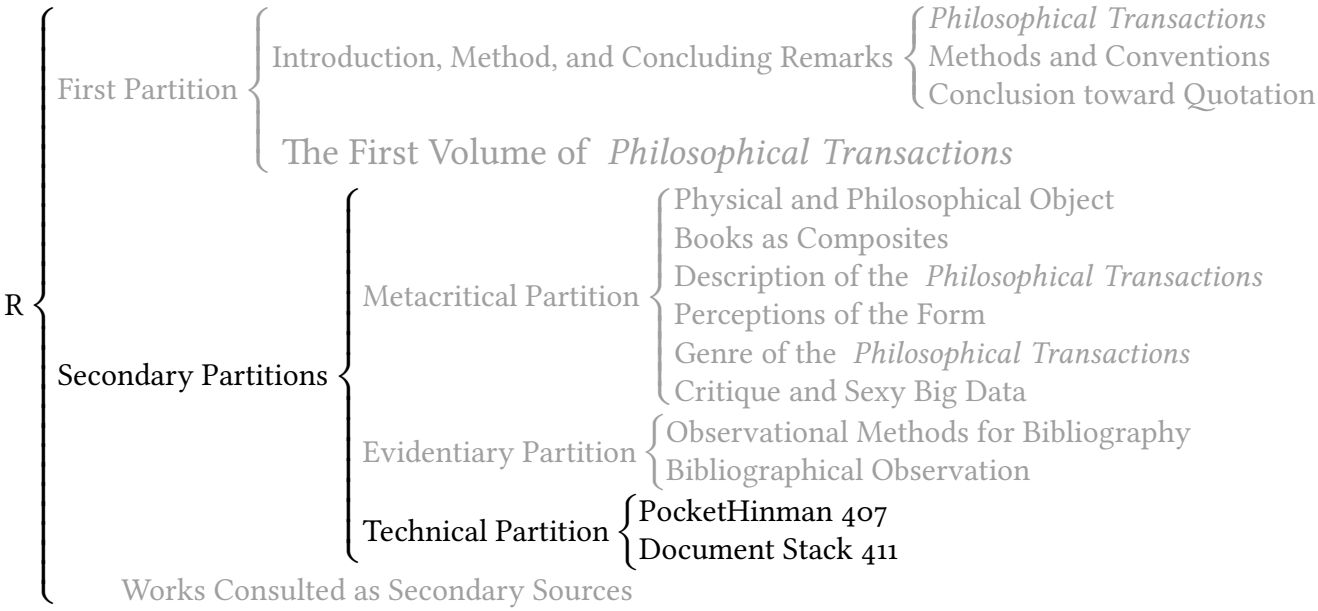
[*two double rules*] | CONTENTS. [... **a2^{r}:** rNHS]

Copies considered: dL-B: "After vol. 46 the volumes cease to run by numbers, and were published annually, but sometimes two volumes in one year." **UI:** notes on ICU Q41.L72 v.47 lost

- π1 may be conjugate to χ1, check in other copies
- unreplaced cancellans after p. 424: 3H(3H1).3G(3G2) [pictures taken in order 3G, cancellans, 3H]

Technical Partition

This partition explains the thoughts behind the technical structures underlying the appearance of this document. Design is a form of thought, but disappears when done right, so I try to explain here what I hope was invisible to the reader earlier on. It expects the reader to have understood at least the first partition, the fruit of this work, but refers to contents within all the other partitions as well. Within the overall structure, its place thus comes last.



As this dissertation commits itself to understanding the invisible springs that assemble texts in quotations, it also documents its own historical moment within the history of quotation. Rather than merely accepting our current systems for producing texts, I imagined what an improved system might be. I thought: what documentation did I wish remained of the seventeenth-century materials that I study? How might I provide that kind of documentation for my writing along the way? This partition explains how this dissertation answers those questions as a document itself.

These days, the newest discipline with substantial commitments to tracking changes lives within computer science. Software, the code that makes computers do things, is daily updated while supporting much of our day-to-day lives. Errors that break software, or let people use it in ways that we do not desire can ruin far more than a pleasant movie night at home. They can disrupt power grids, poison water supplies, and reallocate fortunes across

borders. So the builders of software must account for errors to remain credible and thence viable to those in power. For example, IBM must show itself trustworthy for national banks to adopt their technologies. That adoption drives financial firms who use their reports, thus far more than just one big bank. Without robust systems to manage and explain changes, these complicated digitized bureaucratic systems cannot prove themselves because neither IBM nor any other automation company can sell enterprise software without demonstrating that they can change and correct errors to the bosses of enterprise. So our state of the art solutions to tracking changes has been adopted by those communities. The most widely available and used tool for managing changes is Git.

Developed in 2005 by Linus Torvalds to support the development of the Linux kernel of the GNU/Linux system, Git adopted ideas from BitKeeper and Concurrent Versions System (CVS) to track changes to the text of the code for that kernel. It needed to keep track of who made what change, when, how, and why, while being able to run on hundreds of computers and synchronize their changes when they connected to each other. To achieve this, Git keeps lists of each changed or added line of a text, requires an explanation, and has a flexible system for merging different changes together. A particularly copy of a project consists of a collection of computer files, each with a list of all previous changes, who made them, when, and why. This approach has been wildly successful and the tool has become so essential to how people build big, computerized systems that Microsoft purchased the most well-known repository for storing these changes, GitHub, for seven and a half billion dollars in 2018. The critical role that this repository and the free software, Git, plays in technology is hard to overstate, but two critical features that changed how software developed by communities could be trusted are `git blame` and branches. Blame identifies, when, who and why a change was made, so if something goes wrong you know why. Branches allow another version of something to be modified without altering the trunk. So developers can add a new feature, test it, and modify it without disrupting the working version in the central trunk. In software managed with Git, if a new change works, that change can be `pull`ed into the mainstream project. In this way, software can prove itself reliable and still change.[370]

[370] Wikipedia contributors, "Git — Wikipedia, the Free Encyclopedia" ([Online; accessed 10-April-2021], `https://en.wikipedia.org/w/index.php?title=Git&oldid=1016534202`, 2021); I cite Wikipedia here rather than Git's technical

Turning these techniques to writing, they give a complete accounting of the development of a document. Every rough draft, revision, correction, deletion, and reorganization is recorded automatically in voluminous digital records. A future historian looking at this document can not only know exactly when I wrote these words, but when I changed them and to what. Relying on a system profoundly important to the way our post-industrial societies function also means that the skills of deciphering those changes and records—not without its own challenges—will remain a core skill for subsequent and future generations who will need it to maintain the systems they inherit. Git provides a detailed system of word-level stemmata that we can use for free, if we merely learn how. This is the happy accident of the fact that software is made of code which is, after all, just words in a special form.

So this whole project is available on GitLab, which stores all the changes for those who want to look, `https://gitlab.com/cacology/dissertation`

Those who are familiar with such tools can go there now and read the code, which accounts for everything in public. Version control like this can be done without public writing, but if someone considers the opportunity to see me stumbling on my way to this dissertation an inducement to learn Git, then I accept the embarrassment in service of their improvement, and the larger good that their accomplishment will bring. If you know enough to find my mistakes there, then I hope you will see in them our common humanity. You will see me struggling to make arguments, improving my commas, gaining ground, losing hope, regaining hope, writing new sections, and throwing away old sections. Some old sections were too precious and do not appear here, but can be found in the "old" directory on GitLab. They represent ideas not fully pursued and shadows of research begun.

This partition, after outlining the philosophy behind my design, explains the development of a tool, the PocketHinman, and the development of my document stack, the system that produces my dissertation's distinct structure and look. By explaining these, they enter into the discussion of the history of quotation and show an otherwise hidden part of my context.

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documentation because I'm interested *particularly* in the generally accepted role it plays within a technologically-focused community. Wikipedia, rather than being a general encyclopedia, documents the consensus of that prominent community, which is what I write about here.

Working openly also contributes to knowledge if you believe Karl Popper in thinking that something that can be tested has a better claim on being a fact. The Royal Society's motto, *nullius in verba*: nothing in words, points to a similar valuing of testing.[371] As producers of a great amount of printed text in words, they mean here "do not take someone else's word for it, find out yourself." My commitment to that results in my "Evidentiary Partition" and what you see here. It is worth noting too that Git records the evidence in that partition and GitLab stores the changes, so if you find something new, you can review when and where my observation occurred. This evidence and these changes do little good, however, if the tools to access them no longer exist when someone wants to consult them. Printed words stick around, but bits rot and tools disappear. My choice of tools, then, cannot be certain or perfect, but a best guess as to what will remain. As I have for Git, I needed to consider the other tools that would assemble this document. I considered three characteristics: a long, stable history of development and use; current use by people who work on widely used mainstream technology; and a legal and ethical commitment to remaining available to people who want to use it. I found this in the philosophy of The Free Software Foundation, who list their fundamental freedoms as,

- The freedom to run the program as you wish, for any purpose (freedom 0).
- The freedom to study how the program works, and change it so it does your computing as you wish (freedom 1). Access to the source code is a precondition for this.
- The freedom to redistribute copies so you can help others (freedom 2).
- The freedom to distribute copies of your modified versions to others (freedom 3). By doing this you can give the whole community a chance to benefit from your changes. Access to the source code is a precondition for this.[372]

Another way of phrasing these principles is to say that software should give you a right to repair. That is, if something does not work, you can fix it, but also your fix must be available

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[371] Karl Popper, *The Logic of Scientific Discovery*, Harper Torchbook Ed. (New York: Harper & Row, 1965), 33, his language is "empirical" and "falsifiable," but his basic question is whether or not theories represent reality and he argues that testing validates those theories. As he is writing of a discipline with stable "problem-statements," these appeals can be external, but mine needs the projection of a potential discipline: the history of quotation.

[372] Free Software Foundation, "What Is Free Software?" February 3, 2021, `https://www.gnu.org/philosophy/free-sw.html`.

on the same terms. For me, this right to repair is central. Even if I am wrong in predicting what software will remain in use, the right to repair means that anyone motivated enough to fix it can use it. Unlike commercial software, which succeeds by becoming essential while preventing other software from filling the same role, free software cannot become irreplaceable. Its standards have to be so accepted, and so far from proprietary, that its products can be used by whatever tools are available. It succeeds, then, by becoming so useful that all other software must work with it, somewhat like the opposite of proprietary. For this reason, my writing tools aim for this high ethical standard. It is my best guess as to what may still be usable in the future.

One exception, however, is PocketHinman. Intended to make the Hinman optical collator available wherever you are, it relies on a widely adopted—but unfortunately proprietary—technology: smartphones. The software itself adheres to a free-software license, but relies on a host of non-free libraries. A better version would allow future users to modify or repair any part, but that purity of freedom is at odds with availability of the hardware. When I explained PocketHinman's aims to my developer, the story was one of a typical, western graduate student traveling internationally for research with a backpack, laptop, and smartphone. Only the smartphone could provide the flexibility needed to compare two printed surfaces. Before hiring a developer, I had conceived of this plan.

A Plan for a Hand-Held Optical Collator that Became PocketHinman

Steven Escar Smith analyzes the common features of mechanical collators—or as he calls them interchangeably "optical collators." Each of these machines places the image of one version of a book with the image of a second book in a way that shows differences. In a Hinman collator, two images are overlaid on the same screen with lights blinking between the two; the changes flicker. The "Lindstrand Comparator utilizes stereoscopic principles," putting one version of a book before one eye and the other version before the other eye; the viewer's mind sees variations as disturbances in a three-dimensional image. The McLeod produces stereoscopic images in the same way, but with an arrangement of mirrors on stands. The Hailey's Comet simplifies the McLeod by putting mirrors on Anglepoise lamp bases. The one-off and spin-offs operate either by overlaying images as in John Horden's televised collator, or by alternating between images at different rates, sometimes requiring the user to move their

eyes as in the Houston Editing Desk and Rotating Vertical Collation Aids. Yet each of these faces the same problems: combining two images somehow and giving the viewer enough aid to discern differences. I propose that an alternative can be made that is more portable and cheaper using hand-held digital technology.[373]

What would this digital technology need to do? Let's take the example of the Hinman, which is still considered by many the most well designed from a user's perspective and merely inferior because of its ponderous weight, cost, and unavailability. At first blush, it appears to have only four variables for aligning the images and one for comparing them. The left platform can be moved along the x- and y-axis by operating a knob. Twisting the knob rotates that platform, giving us three variables for alignment. The remaining variable is the elevator for the right platform which can be moved up and down to change the apparent size of the image of the right book. With those four variables set, the user pushes a lever to make the machine blink at a rate that allows them to see the differences. Five variables at first seem to be sufficient for operating the machine to compare two printed surfaces. Yet this count overlooks a crucial component, the transparent plastic plate that pushes down on the surface of the page.

The pages of books of handmade paper are not always even surfaces, so this transparent plastic plate smooths out imperfections. Using an ersatz Hailey's Comet I built at CU Boulder without these smoothing sheets, I had to move the mirrors and objects to compensate for the unevenness of the pages. Even when using a Hinman, it is sometimes impossible to align the page perfectly over the whole surface and the user must adjust the four alignment variables for several different parts and this soon multiplies the incident surfaces. To determine the number of variables to smooth the sheet, we can imagine modeling them using Bézier surfaces.

These surfaces in their two-dimensional version, Bézier curves, are widely used in graphic design and are simple to explain. A Bézier curve draws a line between two points, say *a* and *b*, where the slope of the curve is *c* at point *a* and *d* at point *b*. The line's slope changes smoothly from *c* to *d* over the course of the curve and the rate at which it changes from *c* to *d* is the only remaining factor in defining the shape. Donald Knuth describes this technique of drawing in *The METAFONTbook* as defining four points in two dimensional space. A series

373 Steven Escar Smith, "'Armadillos of Invention': A Census of Mechanical Collators," *Studies in Bibliography* 55 (2002): 133–70, 133–170.

of approximations are drawn with lines between each successive point, then their midpoints, then the midpoints of those lines, which converges quickly to the Bernshteĭn polynomial.[374] This same technique is used in Photoshop and a simplified version is used in rendering digital TrueType fonts. The importance to our analysis is that these curves use four points in a plane, eight variables, to define an infinitely flexible curve that has one bend between two points.

The three dimensional version operates in much the same way, a grid of points define a Bézier surface and their location in three-space defines a two-dimensional manifold, or surface. Each cluster of four points defines a surface with a bend. The number we need to model the deformation of a sheet of paper varies with the size of the sheet, but if we assume a realistic worst-case scenario of an untrimmed large folio, Gaskell's largest size of super royal, folded once, gives us 43 x 57.5 cm or 430 x 575 mm.[375] From my observations of books, deformations on the sheets tend to be at the centimeter size, which would require 44 x 58 control points to define a Bézier surface. In three dimensions this is 7,656 variables to level the surface. However, it might be objected by some that deformations of the sheet occur at an even smaller scale, so we can find an upper bound by recalling that wirelines occur roughly every millimeter. Thus if we place control points for the Bézier surface at less than every millimeter, we would be compensating for the forming of the paper and not the printing surface, which was already uneven at the time of printing. Evening out the surface of paper that was uneven while being printed would distort the image, not improve it, so every millimeter is close to an effective highest limit of the usefulness of modeling distortion, which gives 431 x 576 control points in three dimensions, so 744,768 variables to model a more refined surface. No wonder it has been difficult to find a computer solution to optical collation, it would require tweaking somewhere between a few thousand to nearly a million variables, work that is done by a sheet of transparent plastic in the Hinman and with minor adjustments in other collators, rather than thousands of knobs.

This multitude of variables needed to compensate for uneven surfaces explains why human viewers are often necessary in collation and why computer programs do not easily optically collate images. Before a computer program can look for differences between images,

---

374 Donald E. Knuth, *The METAFONTbook* (1986; Incorporates all corrections known in 2017, Upper Saddle River, NJ: Addison—Wesley, 2017), 14.

375 Philip Gaskell, *A New Introduction to Bibliography* (Oxford: Oxford University Press, 1972), 73.

they must be aligned and this takes some exceptional tweaking. At its simplest, aligning two sheets of paper requires a mind-boggling feat of graphic manipulation, which human intuition can quickly compensate for.

Human optical collation intuitively accommodates these small variations by small adjustments. In the earlier model, if each square centimeter is deformed, then each square centimeter becomes a instance of human optical collation with its familiar four variables. In practice, it typically takes only one to four adjustments to collate a page, so we have far less work than the thousands of variables necessary. These tweaks can be facilitated in a hand-held device.

Consider a fixed digital image being compared to one on a movable, hand-held, camera. The camera can move along the x- and y-axis, can move up and down on the z-axis, can be pitched forward and backward, and can be rolled side to side. Additionally the camera can be rotated, giving six variables. As the metaphor of digital cameras is one of a window, you look at the screen as though through it, these six variables are quickly and intuitively manipulated, more easily than the four variables of the Hinman for those who take selfies regularly. Add a seventh variable for flickering or combining images and the ability to adjust the fixed image to overcome small screens, and the process should be able to compensate for deformation in the surface.

In addition, the device can store images from books in other repositories. Collections of headlines could be stored and compared easily and like John Horden's televised optical collator, the collation sessions could be recorded for review. Large digital collections of aligned images could be presented alongside of the results of the collation.

Such a program is easy to design. The program would load a base image, taken from the camera or a library of images, and overlay it with an image from the camera. When the images are aligned, a button could be pushed to flicker between the two or a slider could be manipulated to fade one or the other in. If the device had a touch screen, the fixed image could be manipulated by pinching, twisting, and shifting using conventional ways of moving an image. I proposed designing such a program for the iPhone, merely because I own one.[376]

---

[376] The original plan continued "Were the semester longer, I would have designed and presented a final version, but while learning to code on an iPhone is easy, it is not trivial. I've currently begun learning the basic image manipulation techniques of the phone and how distribution of programs works (they are ultimately sold on the Apple Store). As such a tool—at least a proof-of-concept version—would be useful in my research, I plan on working on it over the

With this plan, I approached Ross Harding with funding from the Institute of the Humanities and Global Cultures and produced an iPhone and Android app that made it so I could work with copies of the *Philosophical Transactions* at the Royal Society, in London, who did not possess an optical collator of any sort.

The PocketHinman collates external texts, but what if you run across another version of this dissertation? How are you to understand that? In particular, the version submitted to ProQuest's commercial dissertation database to satisfy the requirements for my doctorate does not include all the revisions. To see the most up-to-date version, you must retrieve it from GitLab, which I can continue to update as time passes, and which records all the versions for you. However, to understand how Git documents the textual changes, you need to understand the document stack.

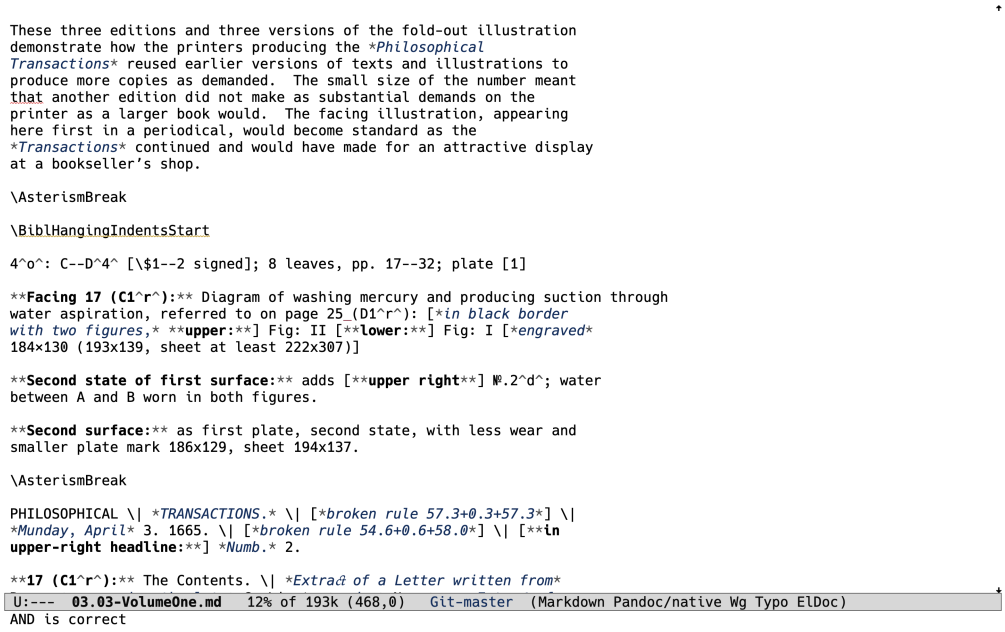
Document Stack

The document you are reading now embodies a different set of compromises. Very stable and established tools come from Unix and The Portable Operating System Interface (POSIX), so the text is typed on GNU Emacs, processed with makefiles, pandoc, and ConTeXt, itself a platform build on TeX. The digital font I needed to capture glyphs was forked from Peter Baker's Junicode by adding glyphs to represent the missing typographical sorts, which I reference using OpenType since they do not correspond to conventional Unicode code points. Alan Liu calls such an layered assemblage a stack and argues that attention to their construction teaches us the range of activities that a tool can apply to.[377] To understand, let us work through an example, Number 2 again from the *Philosophical Transactions*, to see how my documents are typed. The entry begins with a header,

---

break. The first milestone is to produce a program that overlays an image with an image from the camera that lets the user fade easily between the two. This should be sufficient to do real work, but a later project must include a system of folders to store images. I'd be surprised if anyone would like to see the records of a collation task, but if it was demanded, that would make a third milestone for the project. Simply, it should be easy to make a simple program that turns a researcher's portable phone into an optical collator that can be brought to any reading room that allows such devices. While the history of optical collators is one of custom devices, it moves towards reusing commercial devices, such as Carter's Anglepoise lamps, so a continuation of the project to use the powerful computer in many student's and scholar's pockets seems like a natural extension."

377 Alan Liu, "Toward a Diversity Stack: Digital Humanities and Diversity as Technical Problem," *PMLA* 135, no. 1, Varieties of Digital Humanities (2020): 130–51, though he argues in the other direction, toward a human stack. Yet part of my point here is that every procedure and tool results from the activity of humans trying to make something, so to argue that the lower levels are invisible to the human upper levels ignores a whole range of contributions.



Screen shot of Emacs working on Number 2

```
### \bfa{} Number 2 (Monday, April 3, 1665)
```

which gives the text, but is preceded by three hash marks, or octothorps, that tell my parser to treat the text that follows as a heading, three levels down. The document system itself keeps track of the numbering and how this should be formatted, however, the prefixed code `\bfa{}` says make it just a smidgen bigger. The entry proceeds to prose,

```
\BiblHangingIndentsStop


John Martyn and James Allestry produced the second number in three
editions, each including illustrations on a fold-out plate.
One engraved copperplate surface produced two different states of the
illustrations; another subsequently engraved copperplate surface
produced a third version.  The second state of the impressions from
the first engraved surface has visible wear along with textual
additions.  The impressions from the subsequently engraved surface
reproduce the first state of the printings along with the textual
additions from the second state.  The first plate that references the
accompanying number in its initial state illustrates number 26, 3 June
```

1667, a approximate date for when the decision to number plates was made. Thus the textual addition to this first engraved surface and the creation of the second engraved surface probably date from around that period as well.

The second edition of the letterpress text alters the line breaks and the spacing throughout. Of particular note, it alters the spacing preceding punctuation, suggesting that pre-punctuation spacing relates to justification, rather than to grammatical rules. The first two editions use the same large, five-line ttall, initial woodcut of the letter *I^5^* to begin the text, which suggests that the reprints were done by the same printer and close together in time before the Great Fire, early in September 1666.[^43] The third edition of the letterpress text follows the line breaks of the second edition, but also alters spacing, indicating that its copy-text was the second edition. The first two editions usually, but not exclusively, include one of the first two versions of the illustrations.

[^43]: See Numbers 17 and 18.

These three editions and three versions of the fold-out illustration demonstrate how the printers producing the *Philosophical Transactions* reused earlier versions of texts and illustrations to produce more copies as demanded. The small size of the number meant that another edition did not make as substantial demands on the printer as a larger book would. The facing illustration, appearing here first in a periodical, would become standard as the *Transactions* continued and would have made for an attractive display at a bookseller’s shop.

```
\AsterismBreak


\BiblHangingIndentsStart
```

The prose section begins with a command to the typesetting system `\BiblHangingIndentsStop`, which tells it to stop formatting the next passage as though it is a bibliography with hanging indents, but to format it as normal prose. The text itself uses asterisks, `*`, to signal text in italic and marks footnotes, `[^43:]`, with the note further on. Starting the hanging indents and formatting for bibliographical data, the collational paragraph comes next,

```
4^o^: C–D^4^ [\$1–2 signed]; 8 leaves, pp. 17–32; plate [1]
```

Like the asterisks, the circumflex accent—often erroneously called a caret and accessed on most keyboards by hitting the shift key and numeral six at the same time—signals special formatting, here that the enclosed text should be reduced in sized and raised off the baseline. That is it should be a superscript. This typesets genuine small *o* characters rather than degree symbols for the quarto abbreviation. The dollar sign, $, has a special meaning to the parser, so prefixing it with a slash means a literal dollar sign.[378] Next, the contents continue,

```
**Facing 17 (C1^r^):** Diagram of washing mercury and producing suction through
water aspiration, referred to on page 25(D1^r^): [*in black border
with two figures,* **upper:**] Fig: II [**lower:**] Fig: I [*engraved*
184×130 (193×139, sheet at least 222×307)]


PHILOSOPHICAL \| *TRANSACTIONS.* \| [*broken rule 57.3+0.3+57.3*] \|
*Munday, April* 3. 1665. \| [*broken rule 54.6+0.6+58.0*] \| [**in
upper-right headline:**] *Numb.* 2.
```

[378] This is a specialized form of quotation, in a way, to quote something to a computerized reader in an explicit way. Like a human reader, the quotes are not needed where the situation is obvious. A parser looks for a matching syntax for the dollar sign to have a special meaning, but the parser may misunderstand literal dollar signs in the unlucky situation where the writing mimics its syntax. The basic problem of parsing language comes from Chomsky's early work on context-free grammars, which hoped to address languages, but turned out to describe computer programs and not human languages. See Noam Chomsky, *Cartesian Linguistics: A Chapter in the History of Rationalist Thought*, Studies in Language (New York: Harper & Row, 1966).

```
**17 (C1^r^):** The Contents. \| *Extract of a Letter written from*
```

The style of marking this text, called markdown, should be clear from the previous examples.[379] The double asterisks signal bold and the pipe character, |, also has a special meaning to the parser so I prefix it with a backslash. One point of note, however, is that the letters *c* and *t* have a ligature between them. The code in the markdown does not display or use ligatures, which the typesetting system normally inserts in conventional prose. However, I wished to account for ligatures carefully, and so disabled automatic ligaturing within the bibliographical typesetting and inserted them where they actually existed. The typesetting engine, thus, renders ligatures, or their absence, as they appear on the item. My transcriptions proceed similarly,

```
\StartTranscription


  I herewith offer to your *Society*a ſmall parcel of my\
*Virginian* ſilk.   What Ihave obſerved in the ordering of\
Silk-worms,contrary to the received opinion, is:


[*… observations continue*]


\StopTranscription
```

The transcription settings require explicit ligatures and explicit spacing. The character preceding "I herewith" is an em-quad, since that is the space character apparently used in the text. Likewise, the backslash here precedes the ends of lines, instructing the parser that there is a literal new line. The backslash character traditionally, as it does here, tells the parser that the next character should be taken literally, rather than as a bit of code. Thus `*italic*` renders *italic* but `\*italic\*` renders *italic* (and `\**italic*\*` renders **italic*, but `\**italic\**` renders **italic*, with the second asterisk itself in italic; parsing is messy business). Preceding the colon is a narrow non-breaking space and the absence of spacing indicates the absence of typeset space in the object. Notice how the space around the comma is closed up, which is how the text

[379] Compare page 42 to page 198.

presents this line. Not all characters have equivalents within Unicode, but I can represent them with special codes. Consider the imprint on page 44,

```
**Imprint, 32 (D4^v^):** [*rule 100.0*] \| London, Printed with Licence
for *\swashJ{}ohn Martyn,* and *\swashJ{}ames \| Allestry*, Printers to
the *Royal Society.*
```

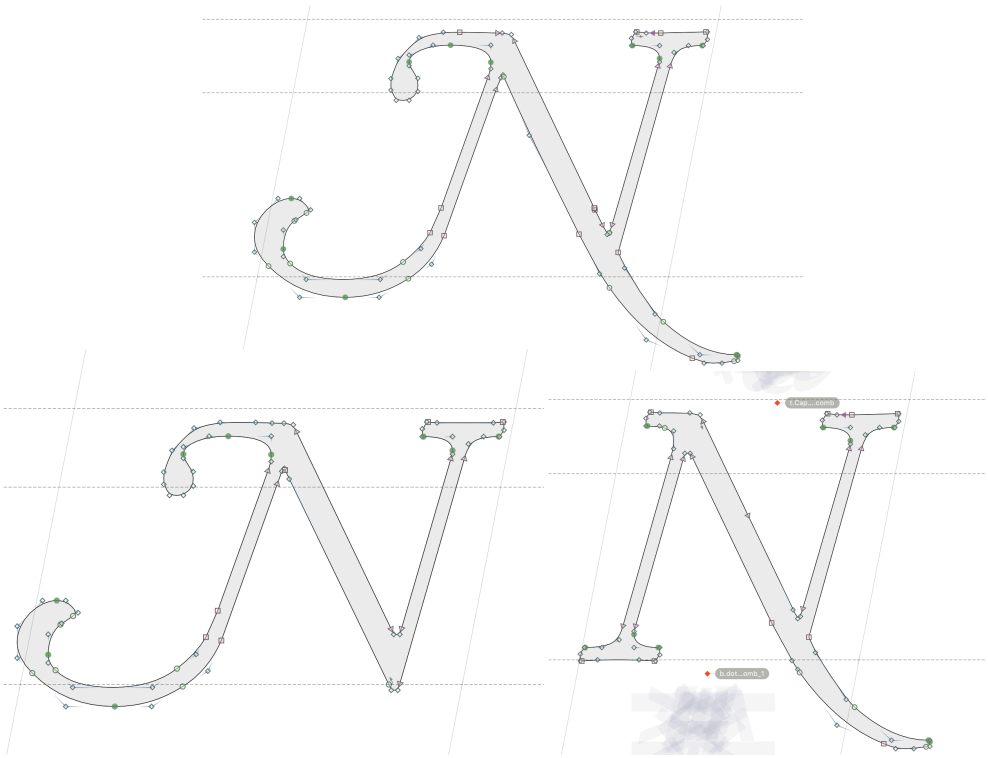
The string `\swashJ{}` selects the character $\mathcal{J}$ from the JunicodeRX glyph following the definitions in the style file,

```
\definefontfeature[swashes][always][swsh=yes]
\definefont[itgaramond][AGaramondPro-Italic*swashes]
\definefont[itwarnock][WarnockPro-It*swashes]
\definefont[itjunicodeRX][file:JunicodeRX-Italic.ttf*swashes]
\definefont[ithoefler][HoeflerText-Italic]
\def\swash{\feature[+][swashes]}
\def\swashA{{\itjunicodeRX A}}
\def\swashB{{\itjunicodeRX B}}
\def\swashC{{\itjunicodeRX C}}
\def\swashD{{\itjunicodeRX D}}
\def\swashG{{\itjunicodeRX G}}
\def\swashJ{{\itjunicodeRX J}}
\def\swashK{{\itjunicodeRX K}}
\def\swashk{{\itjunicodeRX k}}
\def\swashM{{\itjunicodeRX M}}
\def\swashN{{\itjunicodeRX N}}
\def\leftswashN{{\getnamedglyphdirect{name:JunicodeRX-Italic}{N.leftswash}}}
\def\rightswashN{{\getnamedglyphdirect{name:JunicodeRX-Italic}{N.rightswash}}}
\def\swashP{{\itjunicodeRX P}}
\def\swashQ{{\itjunicodeRX Q}}
\def\swashR{{\itjunicodeRX R}}
\def\leftswashR{{\getnamedglyphdirect{name:JunicodeRX-Italic}{R.leftswash}}}
```

```
\def\rightswashR{{\getnamedglyphdirect{name:JunicodeRX-Italic}{R.rightswash}}}
\def\swashT{{\itjunicodeRX T}}
\def\swashv{{\itjunicodeRX v}}
\def\swashV{{\itjunicodeRX V}}
\def\swashY{{\itjunicodeRX Y}}
\def\swashz{{\itjunicodeRX z}}

\def\ligas{\getnamedglyphdirect{name:JunicodeRX-Italic}{a_s}}
\def\ligis{\getnamedglyphdirect{name:JunicodeRX-Italic}{i_s}}
\def\ligus{\getnamedglyphdirect{name:JunicodeRX-Italic}{u_s}}
```

The `\def` command begins a definition and each of these glyphs can have a different approach. For example, the italic *J* in JunicodeRX has the correct swash with the OpenType feature `swsh=yes` enabled. However, the swashed *N* has swashes both on the left and right, so the named glyphs `N.leftswash` and `N.rightswash` have to be selected directly using their OpenType name.



Varying Swashed *N* Glyphs

Likewise, many of the ligatures needed new glyphs drawn and codes to select them directly. On the bottom you can see the definitions for ligatures of *a* and *s*, *i* and *s*, and *u* and *s*. These conventions become more involved in producing the "Evidentiary Partition," where several copies are overlaid explicitly,

```
PHILOSOPHICAL \| *TRANSACTIONS.* \| [*broken rule 46.9+0.2+56.0,
57.2+0.2+57.2 CU-BANC, CSmH {rule 111.0 DLC UkLoRS(D), 112.0 UkLoRS, 112
CLU-SC, CSmH(B), CSmH(B.2)} {{56.8+0.1+56.9}}*] \| *Munday{{}}, April* 3. 1665. \|
[*broken rule 54.6+0.7+58.1 CU-BANC, CSmH
{rule 110.9 DLC, 111.9 UkLoRS, 112.2 UkLoRS(D), 112.2 CLU-SC} {{54.1+0.8+57.9}}*] \|
[**in upper-right headline:**] *Numb. {Num.} {{Num.}}* 2.

The Contents. \| *Extract of a Letter written from* Rome, *concerning
the late* Co-\|met{{}}, *and a* New *one. Extract of another Letter from*
Paris, \| *containing ſome Reflexions {\swashR{}eflections} on the
precedent* Roman *letter. {Letter.} {{Letter. An}} \| An {{\|}} Obſervation concerning
ſome
particulars, further conſide-\|ra{-\|}ble in {{\|}} the* Monſter, *that was
mention'd in the firſt Papers of \| theſe* {\|} Phi{{-\|}}loſophical
Tranſactions. *Extract of a Letter written \| from {\|} {{\|}}*
Venice,{  }*concerning the Mines of* Mercury *in* Friuly. {*Friuly*.}
*Some \| Ob{-\|}{{-\|}}ſervations ,{{◌,}} made in the ordering of* Silk-worms. *An
Ac-\|count of {\|} {{\|}} Mr.* Hooks Micrographia{}{{}}, *or the Phyſiological
deſcri-\|ptions of {\|} {{\|}}* Minute Bodies,{ }*made by* Magnifying
Glaſſes. \| [*broken rule 50.0+0.2+59.7, 49.8+1.0+59.9 CU-BANC {rule
112.2 DLC, 113.2 UkLoRS, 112.4 UkLoRS(D), 113.0 CLU-SC} {{rule 111.9}}*] [*note swash
variant of
Reflections in B*] \|

*Extract of a Letter, lately written from* Rome, *touching the \| late
Comet, and a New one.* [**17 (C1^r^):** A=rNHS, PU-Sp {B=rUCM, NYPL, DLC,
```

```
UkLoRS, UkLoRS(D), CLU-SC} {{C=NcU}}]
```

Here the curly braces indicate different editions, but each transcription precedes the list of where that part of the transcription was observed. The typeset version, I fear, is somewhat less clear than these, which make the variants very explicit and is very useful for doing the research. I suspect that someone wishing to check the evidence might be best served by working with the raw files. Nonetheless I reproduce them here since I cannot guarantee any digital system will continue to exist.

An important part of this description relies on taking notes over years that cover the same area. Within Emacs, `yas-snippets` creates reusable templates that both remind which elements to record and create a uniform approach. For example,

```
# -*- mode: snippet -*-
# name: markdown-brief-entry-PT
# key: 4^
# —
4^o^: $1—$3^4^ $4^${5:2}^ [\\\$1—${6:2} signed]; $7 leaves,
pp. $8; plate [*$9*]\
${10:}04 - b1 $13 : b2 $14 [UI]

‘$15’ [$16**$17^r^ ($18)**: UI]

**Copies considered:**
**UI:**
collation, fingerprint, plate.
```

This code gives the basic form for entering the initial observations of a new number of the *Philosophical Transactions*. It is activated by typing “4^” and then pushing the tab key, which fills in all the text and places the cursor on `$1` to be filled in. Filling in the first signature mark, hitting tab again moves to the next number up `$3`, then `$4`, then `${5:2}`. The two in that location gives a default value of two, which can be changed. This snippet fills in the details of what I was consulting at the University of Illinois during my weeks there, but others can specify different

elements that I'm consulting. After getting the entry mostly correct, I edit it to remove parts that are not needed.

Emacs also includes `typo-mode` which enables custom characters to be typed on a normal keyboard. Thus,

```
(define-typo-cycle jpsa/typo-cycle-spaces
  "Cycle through various spaces"
  (" " ; SPACE
   "  " ; TWO SPACES
   ;;" " ; NO-BREAK SPACE
   ;;"" ; THIN SPACE
   ;;"" ; ZERO WIDTH NON-JOINER
   ;;"" ; ZERO WIDTH JOINER
   ;;" " ; MEDIUM MATHEMATICAL SPACE
   ;;"" ; HAIR SPACE
   "" ; NARROW NO-BREAK SPACE
   "  " ; EM SPACE
   ;;" " ; PUNCTUATION SPACE
   ;; " " ; EN SPACE
  ))
(define-typo-cycle jpsa/typo-cycle-latin-small-x
  "Cycle through small Latin x to cross"
  ( "x" "×"))
```

describes special behavior for the space bar. The semicolon indicates that certain lines of code are disabled, so hitting the space bar once yields a normal space character. The second time gives a second space character. The third time, however, changes those two spaces to a narrow non-breaking space, and the fourth an em space. The disabled lines are skipped over, but I leave them there because at some point I used them with my document, but decided against them. The partially disabled code documents the history of writing the text and what was tried, and abandoned.

These documents pass through a makefile, which has instructions for turning them into more conventional documents. Pandoc can make Word or ConTeXt files. ConTeXt can create PDF files with my specialized typography, but Word lacks some of the many of the features. Since I cannot alter that software, legally or in actuality, its shortcomings block my research. For this reason, I consider this makefile core to my thinking on the historiography of quotation,[380]

```
mdxtargets := $(patsubst %.md,%.mdx,$(wildcard *.md))

%.mdx : %.md
    pandoc -t markdown-citations -f markdown-latex_macros –citeproc -o $@ $<

assemblage.tex : $(mdxtargets)
    pandoc -s –file-scope -f markdown-latex_macros+fenced_code_blocks+fenced_code_attributes
-t context -o assemblage.tex headers.yaml $(mdxtargets)

assemblage.docx : $(mdxtargets)
    pandoc -s –file-scope -f markdown-latex_macros+fenced_code_blocks+fenced_code_attributes
-t docx -o assemblage.docx headers.yaml $(mdxtargets)

%.tex : %.md
    pandoc -s -f markdown+fenced_code_blocks+fenced_code_attributes -t context
–citeproc -o $@ headers.yaml $<

%.pdf : %.tex
    context $<

%.docx : %.md
    pandoc -s -f markdown+fenced_code_blocks+fenced_code_attributes -t docx –citeproc
-o $@ headers.yaml $<
```

[380] This is slightly simplified for the partition. A curious reader is invited to visit GitLab to see the full version.

Each section of writing has an extension of `.md`, which this makefile explains can be turned into files with extensions `.mdx` or `.docx` by calling the `pandoc` command with various options. The `.mdx` format and `mdxtargets` describe an ad hoc intermediate format that converts references into correctly formatted markdown. This is needed so that footnotes behave correctly, but also allow me to correct errors in citation created by the citation system. I had to rely on `citeproc` which reads CSL files developed originally for Zotero, but which are deliberately broken for the Chicago-style citations used in this dissertation.[381] Part of the importance of free software in this work is demonstrated by my custom style sheet. Because I had a right to alter the code, I could make it work. If the code had been forbidden to me, I could not have done this research.

While this partition has been technical, it is the beginning of a more comprehensive approach to the historiography of quotation. I've had to assemble these tools for my work and I've done my duty to those who gave me the tools to work with by contributing my modifications. Part of my aim in writing this partition is so that someone who wants to understand why I had to work the way I did. I am also laying bare the device for those who may be unfamiliar with the underlying technology to understand some of the philosophical questions involved. I find these deeper than critical code studies in their application to an immediate

[381] Chicago citation style allows quite flexible notes within a citation so that you can specify if something is a reprint, the occasion of the reprint, editors, scholarly editions, etc. it is a fairly sophisticated and famously difficult to implement. BibLaTeX and Biber seem to be the only good automated versions that try to support all of the 16th edition, so I follow BibLaTeX's metadata model. Pandoc, however, doesn't always do the right thing. It fails because it uses `citproc-hs`, which uses CSLs (which Zotero, and everything else under the sun also uses) to process the metadata. Continuous integration, open source, and good community means I can fix it and give it back to everyone. I spent an afternoon carefully reading BibLaTeX's standards and about CSLs and came up with a pull request, `https://github.com/citation-style-language/styles/pull/4578`
You can follow the discussion of the rejected pull request (of course, I've now got my own local fork that works just fine for me.) and the rationale. I admit I was being a little disingenuous at the end when I asked Sebastian to clarify the relationship between BibLaTeX and CSL.
But, as it turns out, CSL is deliberately incompatible with Chicago and BibLaTeX because Mendely uses the note field in their own special way internally, even though it doesn't export it that way. So a closed-source project, funded by Elsevier, is preventing basically everyone who uses ANY major citation management systems from thinking carefully about their sources.
For example, there's a citation in a recent volume of *Book History* to Sir Thomas Moore's comments on William London's *Most Vendible Books*, it–curiously–published after Moore had died. If you trace it down, it turns out that it was Thomas Frognall Dibdin–famous bibliomaniac–commenting manically in the footnotes to his edition. Because of how these citation systems work, even if that person wanted to make it clear they were citing the editor's footnotes–a perfectly useful thing to cite, Dibdin's opinions are quite useful–they cannot. What sources does this deliberate limitation of all citation styles to a Mendely-approved restricted subset of CSL work well with?
Articles in commercial databases with DOIs–wait, do you mean the overpriced databases of Elsevier?
I bring this up because Elsevier has been funding CSL for awhile now so it all makes a sort of perverse, if not paranoid, sense.

problem: presenting the facts of history. When we attend to the machinery of quotation in the past, we notice that we can pay attention to the machinery of quotation today. The tools may change, but the machinery has similar levers.

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