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Notes on Recent Work in Descriptive Bibliography

by

G. THOMAS TANSELLE

DURING A FORTY-YEAR PERIOD, FROM 1966 THROUGH 2006, I published a series of essays covering every aspect of descriptive bibliography. Taken together, these essays form a comprehensive treatise on the subject. Although this consolidated work significantly revises Fredson Bowers's *Principles of Bibliographical Description* (1949) and stands on its own, I regard it not simply as a replacement for the *Principles* but as a companion piece to that book. After all, a classic can never be entirely superseded, and the *Principles* will always be worth reading for many specific passages and for the attitude it displays: every detail is a reflection of the view that descriptive bibliography is a form of historical scholarship. No one can come away from the book without understanding that descriptive bibliography is not just a guide to the identification of first editions (though it serves that purpose) but is rather a history of the production and publication of the books taken up and thus a contribution to the broader annals of printing and publishing.

Nevertheless, any work from as long ago as 1949 is likely to require some adjustments, and my essays provide a rethinking and redefinition of some basic concepts, particularly *ideal copy*, *issue*, *state*, and *format*. I have also proposed a simpler and more logical system for noting inserted leaves in collation formulas and have offered more detailed suggestions for describing paper, type, non-letterpress material, and publishers' bindings. Two matters barely commented on by Bowers are given extensive discussion in two of my essays: the incorporation of the results of bibliographical analysis (that is, analysis of typesetting and presswork) into a descriptive bibliography, and the considerations involved in the overall organization of a bibliography (along with the numbering of its entries and the recording of copies examined). I have tried throughout to express, more fully than he did, the rationale lying behind the inclusion of every element in a description and the manner of presenting such features. (My detailed criticisms of certain proposals, both by him and by others, are meant to illustrate these rationales in practice.)

Another important difference between Bowers's and my treatments is that he segregates his discussions of fifteenth-, eighteenth-, and nineteenth-/twentieth-century books into three separate (and relatively short) sections, whereas my organization (according to the elements in a description) reflects the view that basic principles and procedures apply to all periods, regardless of the changing book-production details that have to be reported. His emphasis on sixteenth- and seventeenth-century books emerged from his own experience at the time (he later became thoroughly acquainted with eighteenth- and nineteenth-century books), but it leaves the *Principles* somewhat unbalanced. A prominent feature of his work is the fifty-eight-page treatment of the formulary notation for recording a book's structure, which is impressive in the quantity and range of situations that it cites. This full account, however, has caused many people to think of the collation formula as complex and difficult, and my own discussion of it emphasizes how very simple it is. (Some books do have a complex structure, and analyzing it may be difficult; but once that result has been achieved, constructing the formula to represent it is straightforward.) Despite the differences between Bowers's and my guides to the subject, I hope that mine is like his in showing how descriptive bibliography is an essential pursuit of scholarship in the humanities.

My essays do not call for revision, in the sense that I still believe in the approach and suggestions expressed in each one. But a considerable amount of work has been done in this field since most of the essays were written, and a knowledge of that work would usefully supplement the essays. Accordingly, I am gathering here some notes on recent activity—"recent" referring, for each topic, to anything published in the years since my essay on that topic first appeared. These notes are not meant to be comprehensive surveys but only accounts of the publications that I consider most worth discussing or mentioning. Sometimes I have to disagree with points that have been made, and at other times I am glad to welcome ideas that are valuable additions to what I wrote. (Further items through 2002 can be found in the 2002 revision of my *Introduction to Bibliography: Seminar Syllabus*, available as a Book Arts Press paperback and on the Rare Book School website.)

My notes below are grouped under fourteen headings. First come five dealing with general matters: introduction to the field and its history (pp. 3–11); its relation to library cataloguing (pp. 11–14); the concept of *ideal copy* (pp. 15–21); the meanings of *edition*, *impression*, *issue*, and *state* (pp. 21–25); and tolerances in reporting details and the necessary equipment for doing so (pp. 25–27). The remaining nine cover more specific subjects: quasi-facsimile transcription of title pages and other text (pp. 27–29); collations of gatherings, pages, non-letterpress insertions, and contents (pp. 29–34); format (pp. 35–37); paper (pp. 37–50; typography and layout (pp. 50–58); typesetting and presswork (pp. 58–64);

non-letterpress material (pp. 64–69); publishers' bindings, endpapers, and jackets (pp. 69–89: color, pp. 71–74; patterns, pp. 75–88; jackets, pp. 88–89); and overall arrangement, including the list of examined copies (pp. 89–93). Although the designation of format often precedes the collation of gatherings, this order otherwise approximates the sequence conventionally followed in a description.

INTRODUCTION TO THE FIELD

My general introduction to descriptive bibliography, entitled "A Description of Descriptive Bibliography," was delivered as an Engelhard Lecture on the Book at the Library of Congress on 13 September 1991. It was published in 1992 both as a pamphlet in the Viewpoints Series of the Center for the Book in the Library of Congress and as an article in *Studies in Bibliography* (45: 1–30); and it was republished in 1998 in my *Literature and Artifacts* (pp. 127–156). Four years before my lecture, David L. Vander Meulen had delivered an impressive Engelhard Lecture, *Where Angels Fear to Tread: Descriptive Bibliography and Alexander Pope*, which, like mine, provides a rationale for the activity of describing books, showing its role as history and biography, and thus its place in humanistic scholarship. (In 2014 I pointed out the classic status of his lecture in an introduction to a new edition of it.) Since the time of these two lectures, nothing comparable has been published, and very few general accounts of any kind have appeared. The most important is by Vander Meulen himself, "Thoughts on the Future of Bibliographical Analysis" (*Papers of the Bibliographical Society of Canada*, 46 [2008], 17–33); although its emphasis is on analytical bibliography, analysis and description are inextricable, since the former must underlie the latter, and Vander Meulen's humanistic approach provides the best kind of grounding. (See also my *Bibliographical Analysis: A Historical Introduction*, 2009.) My 2014 Winship lecture, *A Bibliographer's Creed*, is not primarily about descriptive bibliography, but it includes a section (number 14) that offers a concise statement of what makes descriptive bibliography a genre of historical study and why it is a basic one.

David J. Supino's 2007 Breslauer Lecture (for the American Trust for the British Library), *Collecting Henry James: A Transatlantic Journey* (2008), complements Vander Meulen's Engelhard Lecture in being another account of the connections between collecting and descriptive bibliography, by a person who sees that variants and non-firsts are essential to the story that publishing history tells about an author's relation to the reading public. Other collector-bibliographers have also written about their experiences and made the same points. One of them, Jack W. C. Hagstrom, in "Thoughts about Contemporary Author Bibliographies" (*Gazette of the Grolier Club*, n.s., 50 [1999], 27–34), stresses the value of

publishers' archives and of obtaining information from authors while they are alive. For similar reflections, see Steven E. Smith's "Roy Fuller: A Bibliographer's Thoughts on Collecting (or Vice Versa?)" (*The Private Library*, 4th ser., 5 [1992], 35–47); and B. C. Bloomfield's *Brought to Book: Philip Larkin and His Bibliographer* (1995). All these accounts, though not comprehensive (or intended to be), do admirably convey a sense of what descriptive bibliography is for and what goes into the making of a bibliography. Another commendable essay, published the same year as my lecture, is T. H. Howard-Hill's "Enumerative and Descriptive Bibliography," in *The Book Encompassed*, ed. Peter Davison (1992), pp. 122–129; it provides a reliable survey of some of the developments in the field in the second half of the twentieth century. (In the same volume, my essay called "Issues in Bibliographical Studies since 1942," pp. 24–36, covers similar ground in its section on descriptive bibliography, pp. 25–29; this essay is reprinted in my *Essays in Bibliographical History* [2013], pp. 53–67.)

I should perhaps mention that I commented on descriptive bibliography in *The Life and Work of Fredson Bowers* (1993), pp. 40–48 and 134–137, and wrote an introduction to the 1994 printing of Bowers's *Principles of Bibliographical Description* (reprinted in my *Portraits and Reviews* [2015], pp. 325–333). B. J. McMullin also discussed the influence of the *Principles* in "Bowers's *Principles of Bibliographical Description*" (*Bibliographical Society of Australia and New Zealand Bulletin*, 15 [1991], 53–59); and I commented briefly on its historical place in "Bowers's *Principles* at Fifty" (*Studies in Bibliography*, 52 [1999], 213–214). Anyone using the *Principles* should be aware of the variants reported by Vander Meulen in "Revision in Bibliographical Classics: 'McKerrow' and 'Bowers'" (*Studies in Bibliography*, 52 [1999], 215–245). The relation of descriptive to enumerative bibliography (touched on in note 52 of my lecture)—including the role of description in the research for the great "short-title catalogue" projects (culminating in the online *English Short-Title Catalogue*)—is discussed in detail in my "Enumerative Bibliography and the Physical Book," published in *Scholarly Publishing in Canada and Canadian Bibliography* (volume 15 of *Canadian Issues*), ed. Paul Aubin et al. (1993), pp. 145–159, and reprinted in my *Literature and Artifacts* (1998), pp. 186–199.

One might expect that the Oxford and Cambridge "companions" to book history would offer dependable brief introductions to descriptive bibliography, but that is unfortunately not the case. *The Oxford Companion to the Book*, ed. Michael F. Suarez and H. R. Woudhuysen (2010), finds no place in its two volumes for an essay on descriptive bibliography (though there is one on textual criticism). Instead, the subject is treated only in short scattered entries in its alphabetical section—entries that are often of little use, as when *issue* is said to be "distinct from the basic form of the ideal copy" and *state* to comprise "variants from the ideal copy not cov-

ered by issue.” *The Cambridge Companion to the History of the Book*, ed. Leslie Howsam (2015), does contain an essay by Suarez called “Book History from Descriptive Bibliographies” (pp. 199–218); but despite its inclusion of some good points, it turns out to be unsatisfactory. That a descriptive bibliography tells the story of a literary career and provides a partial history of publishing in the period it covers has been widely understood since Michael Sadleir’s bibliography of Trollope in 1928. This observation cannot be made too often, however, and Suarez effectively conveys an enthusiasm for descriptive bibliographies and shows how they can be a “highly addictive” genre for reading. It is regrettable, therefore, that he begins with slighting comments on collation formulas as “weird” and uncongenial to humanists who may have trouble with mathematics; and he says he will not discuss such formulas in his essay. As a result, he leaves out what is the heart of every description, the detailed report of a book’s physical structure. Although he recognizes how format relates to a book’s “expressive form,” he misses the opportunity to draw out the textual and production implications of collations of gatherings, especially when read in conjunction with lists of contents and associated pagination. (See below under “Collation.”) Furthermore, Suarez’s title, with its preposition “from,” is troubling in its suggestion that descriptive bibliographies are not themselves book history but rather are a source for it. This idea permeates the essay in repeated expressions such as “what descriptive bibliography can do for book historians” (p. 201). When he speaks of “bibliographical information turned into book-historical knowledge” (p. 204), he is depicting descriptive bibliographies as repositories of facts (“information”) that can become “knowledge” in the narratives that book historians write. Yet this view is at odds with his emphasis on how one can read bibliographies as literary and publishing histories. His piece fails to make clear that descriptive bibliographies, like all other historical writings, are not mere assemblages of data but are the shaped products of informed judgment.

Several manuals of bibliographical and textual study that include short treatments of descriptive bibliography have done somewhat better in explaining the field, but none is entirely satisfying. For example, D. C. Greetham’s chapter “Describing the Text: Descriptive Bibliography” (pp. 153–168) in his *Textual Scholarship: An Introduction* (1992, 1994) is limited to title-page transcription, signature collation, pagination register, and list of contents; and the discussion of format in the previous chapter (pp. 119–132) is not always clear and includes diagrams that are sometimes useless (figure 18) or misleading (figures 24 and 27). Mark Bland’s *A Guide to Early Printed Books and Manuscripts* (2010) gives intelligent attention to book structure but falters in dealing with attachments and non-letterpress material in collation formulas (see “Collation” below). Better than these two is the chapter on “Descriptive Bibliography” (pp. 36–56)

in the fourth (corrected) edition (2009) of William Proctor Williams and Craig S. Abbott's *An Introduction to Bibliographical and Textual Studies* (first published in 1985), though its treatment of type, paper, and binding is perfunctory. A fourth general manual, Neil Harris's *Analytical Bibliography: The Alternative Prospectus* (2002, 2004, 2006; published only online in connection with a course at the Institut d'Histoire du Livre at Lyon), deserves mention here, despite its brief attention to descriptive bibliography (in comments on Bowers's collation formulas), for its unusual insights, engagingly presented.

It is a good sign that two recent books aimed at rare-book librarians have given serious attention to descriptive bibliography. Steven K. Galbraith and Geoffrey D. Smith's *Rare Book Librarianship: An Introduction and Guide* (2012) includes in its second chapter ("Rare Books as Texts and Historical Artifacts") a discussion of matters relevant to descriptive bibliography (especially "Basic Descriptive Bibliography," pp. 76–96 of the online version). But Sidney E. Berger's comprehensive *Rare Books and Special Collections* (2014) gives far more instruction in descriptive bibliography, both in chapter 4 ("The Physical Materials of the Collection," pp. 77–172), which includes extensive discussions of paper, type, and binding, and in chapter 9 ("Bibliography," pp. 249–296), which deals with format, transcription, and collation, among other topics. His thorough treatment (which surpasses the accounts in the manuals mentioned in the preceding paragraph) deserves a wider audience than just rare-book librarians.

In my Engelhard Lecture, I commented on many examples of descriptive bibliographies (and cited numerous others), and those references could now of course be supplemented from the extensive work that has been accomplished since then. Pride of place in such a listing should probably go to *A Catalogue of Books Printed in the XVth Century Now in the British Library: BMC, Part XI: England* (ed. Lotte Hellinga, 2007), the triumphant conclusion to the series that began publication under A. W. Pollard's direction in 1908. Although it is a *catalogue*—describing a single collection—it deserves inclusion here for its masterly technique of bibliographical description, particularly notable for the use it makes of Paul Needham's analysis of the paper of incunables. Another outstanding descriptive catalogue is *A Catalogue of Books Printed in the Fifteenth Century Now in the Bodleian Library* (by Alan Coates et al.; 6 vols., 2005), which is distinctive for its attention to textual matters. One more excellent catalogue to be singled out is John Meriton's *Small Books for the Common Man* (with Carlo Dumontet, 2010), which provides detailed and illustrated descriptions of 761 eighteenth- and nineteenth-century chapbooks in the National Art Library, London. It is a model for dealing with ephemeral publications, supplemented with an extensive account of the bibliographical practices employed (giving careful thought to format and paper); it also offers a lengthy essay gener-

alizing about “book-making and book-trade patterns” on the basis of the physical details in the descriptions (documented with sixteen tables).

A further major accomplishment is Stanley Boorman’s *Ottaviano Petrucci: Catalogue Raisonné* (2006), which includes a long discussion of bibliographical method. Mention should be made of four other large works, impressive even though their entries are often not as fully descriptive as one might wish (sometimes reflecting the large number of items to be accommodated): David Hunter’s *Opera and Song Books Published in England, 1703–1726* (1997), Carol Fitzgerald’s “*The Rivers of America*”: *A Descriptive Bibliography* (ed. Jean Fitzgerald, 2001), David N. Griffiths’s *The Bibliography of the Book of Common Prayer, 1549–1999* (2002), and Roger E. Stoddard’s *A Bibliographical Description of Books and Pamphlets of American Verse Printed from 1610 through 1820* (ed. David R. Whitesell, 2012). (For critical comments on the Griffiths work, see B. J. McMullin’s extensive review in *The Library*, 7th ser., 6 [2005], 425–454.)

In author bibliography, five new landmarks for the pre-1850 period are Jean S. Yolton’s *Locke* (1998), William B. Todd and Ann Bowden’s *Sir Walter Scott* (1998), David Adams’s *Diderot* (2000), J. D. Fleeman’s *Samuel Johnson* (ed. James McLaverty, 2000), and Mark L. Reed’s *Wordsworth* (2013). All these extraordinary works have successfully met the considerable challenges posed by those authors; among their varying excellences is the significant attention paid to press figures. Yolton even provides, in a few instances, tables showing the distribution of figures in outer and inner formes (though it must also be noted that sometimes, for sizable books with a great many figures, only generalizations, rather than full records, are given). Impressive works inspire remarkable reviews, which are themselves valuable contributions to the literature of the field. The most notable examples are Paul Needham’s of the Bodleian catalogue in *Papers of the Bibliographical Society of America*, 101 (2007), 359–409 (the climax of his series of lengthy analyses of other incunabular catalogues [80 (1986), 500–511; 87 (1993), 93–105; 91 (1997), 539–555; 95 (2001), 173–239]); B. J. McMullin’s of the Todd-Bowden *Scott* in *Bibliographical Society of Australia and New Zealand Bulletin*, 23 (1999), 78–106; and David L. Vander Meulen’s of the Fleeman *Johnson* in *The Age of Johnson*, 13 (2002), 389–435.

Anthony James West’s project for describing all copies of the Shakespeare First Folio, as finally carried out by Eric Rasmussen and five assistants in *The Shakespeare First Folios: A Descriptive Catalogue* (2012), is essentially an exhaustive record of copy-specific information; it must be accounted a greatly flawed landmark, despite the sound basis established by West (see especially his piece in *The Library*, 6th ser., 21 [1999], 1–49), because those to whom he entrusted the work were not up to the task (see the devastating review by Ian Jackson in *Papers of the Bibliographical Society*

of America, 108 [2014], 243–254). The volume does not supersede West's two-volume *The Shakespeare First Folio: The History of the Book* (2001–03), though it does contain many additional details. Another book that calls attention to itself by its size and the importance of its subject is Ann Jordan Laeuchli's *A Bibliographical Catalog of William Blackstone* (ed. James E. Mooney, 2015). Although it serves by default as a bibliography of Blackstone, it is not one; instead, as the title indicates, it is a catalogue—of Yale's collection, supplemented with items from other collections. It lacks many of the features expected in a bibliography, but on the level of a catalogue it is commendable (and includes collations of gatherings, though generally without identification of formats).

Of the numerous descriptive bibliographies of later nineteenth- and twentieth-century authors published since 1991, I wish first to cite six dealing with major authors because they illustrate with particular force what can emerge from the hands of serious collectors—who continue to be, as they always have been, a major source of author bibliographies (as indeed are some of those mentioned above, such as Reed). Two of these six bibliographies are outstanding three-volume works: Kenneth Blackwell and Harry Ruja's *Bertrand Russell* (with the assistance of Bernd Frohmann, John G. Slater, and Sheila Turcon; 1994) and Ronald I. Cohen's *Churchill* (2006). The other four, in single volumes, also treat extensive bodies of work: Joel Myerson's *Whitman* (1993), Jack W. C. Hagstrom and Bill Morgan's *James Merrill* (2009), David A. Richards's *Kipling* (2010), and the 2014 revision of David Supino's *Henry James: A Bibliographical Catalogue of a Collection of Editions to 1921* (first published in 2006). All were written by collectors, but the *Russell* shows the results of cooperative activity in connection with an editorial project and archive (the Russell Archive at McMaster University)—a “symbiotic” relationship, according to the introduction to the bibliography. Of the five Russell bibliographers, one, John G. Slater, formed the major Russell collection now at the Fisher Library of the University of Toronto; the other four participated over a quarter-century in filling out the other great collection, at McMaster University. Both the *Russell* and the *Churchill* are notable for the depth and intelligence of their coverage of every aspect of a vast oeuvre and are especially rich in their contribution to publishing history and biography. The level of understanding is indicated by this statement in the introduction to the *Russell*: “Compiling the formula, and examining it for irregularities, can be informative of the final stages of a book's composition, in both the authorial and book-making senses of the word” (p. xxxiii).

Kipling was also prolific, and the Richards bibliography uses an inserted CD for certain categories of material and for color illustrations. The inconvenience of this arrangement is outweighed by the wealth of information that apparently could not feasibly have been provided in print,

although the *Russell* and *Churchill* manage to do so. The thoroughness of the Hagstrom-Morgan *Merrill* is shown by its inclusion of dust-jacket blurbs written by Merrill, quotations from him in writings by others, and a section of "Inscriptions in Books Recorded in Book Dealers' or Auction Catalogues"; and Myerson's *Whitman* is notable for its handling of later printings and its use of copyright records and deposit copies. Supino's work, as its modest title indicates, claims only to be a catalogue of his James collection; but the collection includes multiple copies, variants, and non-first editions and impressions, and he has added to his descriptions extensive accounts of printing and publishing history based on research in the publishers' archives. In this instance, a descriptive catalogue of a collection supersedes the previous bibliographies of its subject. Dealers, as well as collectors, are in a privileged position for access to the copies needed for a descriptive bibliography, and perhaps the most impressive example of a recent bibliography written by a dealer is Jon Gilbert's *Ian Fleming* (2012); it is a monumental book of 692 very large pages, providing detailed treatment of later printings and publishing history, along with many color illustrations of bindings and jackets.

Among the other post-1991 bibliographies worth singling out for particular features are Wayne G. Hammond's *Tolkien* (with the assistance of Douglas A. Anderson, 1993) and Pierre Coustillan's *Gissing* (2005), both of which contain many narrative accounts. George Miller and Hugoe Matthews's *Richard Jefferies* (1993) is noteworthy for its thorough treatment of typography, layout, binding, and periodical contributions, its record of copies with dated inscriptions, and its prefatory discussion of the scarcity of some nineteenth-century editions—which includes a statement that should be widely publicized: "Variation is the rule, not the exception, in books of the nineteenth century and well beyond. . . . Sometimes it is difficult to find two [copies] exactly alike in all respects." One noticeable trend in recent years has been the increased attention to dust-jackets (which some bibliographers formerly refused to treat at all). A few examples (out of many), in addition to the bibliographies already cited, that contain thorough jacket descriptions are Wayne G. Hammond's *Arthur Ransome* (2000), Brian Hubber and Vivian Smith's *Patrick White* (2004), and Jack De Bellis and Michael Broomfield's *Updike* (2007).

Of the major series of descriptive bibliographies—Soho, Pittsburgh, and St. Paul's—the first publishes new titles only rarely; the second ceased publication in 2002; and the third, St. Paul's, was purchased in 1997 by Oak Knoll Press, which is now the leading publisher of descriptive bibliographies. Some of the Oak Knoll titles bear a joint imprint with St. Paul's (as they had since 1991); some are advertised as being part of the "Winchester Bibliographies of Twentieth Century Writers"; and some have a joint imprint with the British Library. A few of Oak Knoll's

bibliographies constitute in effect a mini-series of their own, though not designated as such, for they are uniform in having a large page size and a CD inserted in a pocket at the back; examples are the *Updike* just mentioned, Steven Abbott's *Gore Vidal* (2009), George W. Crandell's *Arthur Miller* (2011), and C. Edgar Grissom's *Hemingway* (2011). An unfortunate characteristic of this "series," however, is that in most cases signature collations are not included.

Some of the post-1991 bibliographies in the major series are the following:

SOHO: Neil Brennan and A. R. Redway's *Graham Greene* (1992) and William S. Peterson's *Bejeman* (2006);

PITTSBURGH: Joseph R. McElrath, Jr.'s *Frank Norris* (1992), George W. Crandell's *Tennessee Williams* (1995), Rodger L. Tarr's *Marjorie Kinnan Rawlings* (1996), Richard J. Schrader's *Mencken* (1998), and Matthew J. Bruccoli and Park Bucker's *Joseph Heller* (2002), plus Myerson's *Whitman*, already cited;

ST. PAUL'S and OAK KNOLL: Leila Luedeking and Michael Edmonds's *Leonard Woolf* (1992), Sylvia Harlow's *W. H. Davies* (1993), George P. Lilley's *Anthony Powell* (1993), Robert Cross and Michael Perkin's *Elsbeth Huxley* (1996), John J. Walsdorf's *Julian Symons* (1996), Gillian Fenwick's *Orwell* (1998), John Windle and Karma Pip-pin's *Dibdin* (1999), Donald D. Eddy's *Richard Hurd* (1999), Robert Cross and Ann Ravenscroft Hulme's *Vita Sackville-West* (1999), Peter J. Mitham's *Robert Service* (2000), M. Clark Chambers's *Kay Boyle* (2002), William Baker and John C. Ross's *George Eliot* (2002) and *Pinter* (2005), Philip W. Errington's *Masefield* (2004), Eugene LeMire's *William Morris* (2006), William Baker and Gerald N. Wachs's *Stoppard* (2010), Maura Ives's *Christina Rossetti* (2011), Jack W. C. Hagstrom and Joshua S. Odell's *Thom Gunn* (vol. 2, 2013), and Michael Broomfield's *Robinson Jeffers* (2013), plus several already mentioned (those on Hemingway, Kipling, Merrill, Miller, Ransome, Tolkien, Updike, Vidal, and White).

A few other worthy bibliographies, not in these series, are Bill Morgan's *Allen Ginsberg* (1995), Steven E. Smith's *Roy Fuller* (1996), Walter Smith's *Elizabeth Gaskell* (1998), Carl Spadoni's *Stephen Leacock* (1998), Robert W. Mattila's *George Sterling* (2004), Rand Brandes and Michael J. Durkan's *Seamus Heaney* (2008), Catherine M. Parisian's *Frances Burney's "Cecilia"* (2012), and Carl Spadoni and Judith Skelton Grant's *Robertson Davies* (2014), with its extensive production details.

All these post-1991 titles obviously constitute only a selective record, intended to supplement the one in my 1991 Engelhard Lecture (primarily in notes 33–47 and related text). A few fuller, though more specialized, accounts have appeared. For earlier work, I referred in my lecture to my 1968 survey of descriptive bibliographies of American authors (note 41) and my 1975 one on eighteenth-century books (note 37)—both reprinted since then in my *Essays in Bibliographical History* (2013), pp. 137–160 and

283–302. A more recent survey was provided by Rodger L. Tarr in the *Dictionary of Literary Biography Yearbook: 1995* (1996), pp. 220–234. Entitled “Primary Bibliography: A Retrospective,” it assesses eight series (including Soho, Pittsburgh, and St. Paul’s, along with some that offer only enumeration, not description) and provides convenient lists of titles in each series. In the 2002 revision of my *Introduction to Bibliography*, I included a selective list of some 125 descriptive bibliographies published between 1908 and 2002 (section 4C, pp. 176–179)—as well as a list of writings about descriptive bibliography (4B, pp. 168–175). The most extensive listings (as I noted in 1992) appear in my *Guide to the Study of United States Imprints* (1971) and T. H. Howard-Hill’s *Index to British Literary Bibliography* (1969–2009).

I have held any reference to Paul Needham’s *Galileo Makes a Book* (2011) until my concluding comment because it serves as a model of what descriptive and analytical bibliography at the highest level can accomplish. It is a book-length account of a single edition, Galileo’s *Sidereus Nuncius* of 1610. Besides an exemplary physical description, accompanied by notes on eighty-three examined copies, it provides a detailed narrative of the composition of the work and the production of the book, using (and carefully explaining) the relevant techniques of bibliographical analysis. It demonstrates not only how analysis and description are intertwined but also how the two together contribute to intellectual history.

RELATION TO LIBRARY CATALOGUING

I published “Descriptive Bibliography and Library Cataloguing” in *Studies in Bibliography*, 30 (1977), 1–56; it was reprinted in my *Selected Studies in Bibliography* (1979), pp. 37–92. Also in 1977 I published a more general discussion, which includes some comments on cataloguing: “Bibliographers and the Library,” *Library Trends*, 25 (1976–77), 745–762; reprinted in my *Literature and Artifacts* (1998), pp. 24–40. I have treated the question of the relation between references to physical books and references to verbal works much more extensively in “Enumerative Bibliography and the Physical Book,” in *Scholarly Publishing in Canada and Canadian Bibliography* (volume 15 of *Canadian Issues*), ed. Paul Aubin et al. (1993), pp. 145–159, which is reprinted in my *Literature and Artifacts* (1998), pp. 186–199. (This subject was also briefly discussed by D. W. Krummel in his guide to preparing checklists, *Bibliographies: Their Aims and Methods* [1984]: see “The Physical and Intellectual Book,” pp. 34–36.)

Since the time of my 1977 essay there has been a great deal of discussion in the library world about the requirements for cataloguing “rare books,” and in 1986 the Association of College and Research Libraries (ACRL) began publishing a journal called *Rare Books and Manuscripts*

Librarianship (renamed *RBM: A Journal of Rare Books, Manuscripts, and Cultural Heritage* in 2000). Its contents naturally impinge from time to time on matters taken up in my essay, and three articles can be singled out as particularly relevant.

The first, by Laura Stalker and Jackie M. Dooley, is "Descriptive Cataloging and Rare Books" (7 [1992], 7–22), a careful historical account of the thinking involved in the various revisions of the cataloguing rules that had occurred in the preceding fifteen years. (It also, in footnote 11, credits my essay with the change made in the title of the rules for special-collections cataloguers from "Bibliographic Description" to "Descriptive Cataloging.") The second article is Michael Winship's "'What the Bibliographer Says to the Cataloger'" (7 [1992], 98–108)—part of a special issue on "Descriptive Cataloging of 19th-Century Imprints for Special Collections," ed. Stephen J. Zietz. Winship sensibly points out the overlappings among traditional branches of bibliography and notes that library cataloguers' work similarly bridges these divisions; and he properly recognizes that the amount of detail in a catalogue entry is not as important a consideration as the quality of judgment involved in deciding what details are the most significant for a given class of material. His aim, like mine, is "to raise issues that may help to improve the catalog as a tool for research"; and he believes, as I do, that "our work, both as catalogers and as bibliographers, would be better if we were to talk to each other more." The third article I wish to note here is James P. Ascher's "Progressing toward Bibliography; or: Organic Growth in the Bibliographic Record" (10 [2009], 95–110). As his title makes clear, Ascher proposes a process of "progressive description" (made feasible by the computer), in which records are continually enhanced as more information turns up, or certain physical features begin to attract greater interest, or the need for particular digital links becomes clearer. Implementation of this promising idea would allow "bibliographical awareness in cataloging" not to be frozen at the time of the initial record but to grow along with scholarship.

My 1977 essay, which includes a criticism of chapter 6 of the *Anglo-American Cataloguing Rules* (AACR), appeared a year before AACR was revised and four years before a manual specifically designed for special collections, *Bibliographic Description of Rare Books* (1981), was published under the supervision of the Office for Descriptive Cataloging Policy of the Library of Congress. A decade after that, the manual was revised (with the collaboration of the Rare Books and Manuscripts Section of ACRL) as *Descriptive Cataloging of Rare Books* (1991), and a third edition appeared in 2007 under the title *Descriptive Cataloging of Rare Materials (Books)*—one of a series of manuals for different classes of "rare materials." Although the 2007 manual poses somewhat fewer problems (from the point of view

of the descriptive bibliographer) than those I identified in my analysis of *AACR*, the same kind of confusion is still present.

For example, in the chapter on "Physical Description Area" (pp. 101–118), the first rule for recording "Extent" suggests that the emphasis will be on "physical description" by focusing on the length of the physical book rather than that of the verbal work: the rule is to "account for every leaf . . . including leaves of text, leaves of plates, and blank leaves"; and the leaves are to be reported by giving "the last numbered page or leaf of each numbered sequence" in the same style of numbering as that used in the book itself, with a bracketed arabic total for unnumbered pages, as in "iii, [1], 88, [2] p." One immediately wonders why this degree of specificity is needed if the aim is simply to show "extent"—especially since the system does not fully concentrate on the practice of the book, as shown not only in this simple example (is p. 1 numbered?) but also in several other rules, such as this one: "If it is not practical to record all the sequences (e.g., if they are exceedingly numerous)," then one may "Record the total number of pages or leaves followed by 'in various pagings' or 'in various foliations.'" The treatment of blank leaves raises a fundamental problem: "include in the count blank leaves at the beginning of the first gathering or at the end of the final gathering when they are present in a copy in hand or known to be present in other copies." Aside from the practical question of how often a cataloguer can be expected to undertake the bibliographical research involved in learning about "other copies," there is a basic theoretical question: should not a catalogue entry always refer to the "copy in hand"? In the section on "Size and format," precision in physical description is again not the focus. One example: "when the height of the publication differs by 3 centimeters or more from the height of the binding, specify both." And the brief paragraph on "bibliographical format" says to record it for hand-press books "whenever the format can be determined" (and speaks incorrectly of "quarto and octavo sheets"). There is no reason to extend this discussion: enough has been said to show that the standard approach to "descriptive" cataloguing in libraries remains internally inconsistent and, for the details selected for reporting, at odds with the expectations of descriptive bibliography.

Shortly after my 1977 piece appeared, I received a letter from a Texas librarian complaining that I had not given cataloguers sufficient credit for dealing with the physical book. But one of her own statements illustrates the problem I was concerned with: "a monograph cataloger catalogs from a single copy of a book, but the card in the catalog stands for any number of copies which may be on the shelf." This kind of wavering between the physical object and the verbal work is what I was criticizing, not the fact that cataloguers focus on fewer physical details than bibliographers

do. But it does underlie the considerable debate that has occurred in the library-cataloguing world over whether the emphasis should be on the work or the “item”—a debate that seems unnecessary to bibliographers, for whom the subject of an entry must obviously be a physical item, since only through physical items can verbal works and their variants be apprehended. After the Texas librarian’s imprecision, it is a pleasure to note Paul Needham’s careful distinctions among *work*, *edition*, and *copy* in “Copy Description in Incunable Catalogues,” *Papers of the Bibliographical Society of America*, 95 (2001), 173–239 (especially “General Remarks,” pp. 203–238).

This is the place to mention a recent extensive study of “fingerprinting,” since in footnote 86 I described and criticized that practice—which, like institutional library cataloguing, involves the concise reporting of a few selected features of an examined copy. The idea is that a record of the letters (in words of the text) that appear in specified positions can serve as a first step in distinguishing one edition from another. But obviously such fingerprints are not very precise indicators, for they cannot identify impressions, line-for-line resettings, or resettings of any pages (or indeed any lines) not sampled. Only a full bibliographical analysis of multiple copies could result in a shorthand notation that might reliably distinguish editions (and reveal impressions) in cases where the title-page details are insufficient. Nevertheless, the idea has had a long history, and Neil Harris has now provided a thorough historical account and assessment of it: “Tribal Lays and the History of the Fingerprint,” in *Many into One: Problems and Opportunities in Creating Shared Catalogues of Older Books*, ed. David J. Shaw (2006), pp. 21–72 (the essay was reprinted in 2007 as a pamphlet with two pages of errata). A variety of fingerprinting—noting the first words on the second leaf recto—is described by James Willoughby in “The *Secundo Folio* and Its Uses, Medieval and Modern” (*The Library*, 7th ser., 12 [2011], 237–258).

Finally, I wish to note two recent articles, addressed to library cataloguers, that will be heartily applauded by bibliographers: Carlo Dumontet’s “Nineteenth-Century Bookcloth Grain Classification and the Special Collections Cataloguer” (*Papers of the Bibliographical Society of America*, 104 [2010], 105–112), which holds that “the description of bookcloth grains ideally ought to become a standard and integral part of catalogue records” (p. 106) and makes suggestions accordingly (see further below, under “Patterns” in “Publishers’ Bindings”); and Paola Puglisi’s “‘The Day Has Not Yet Come . . .’: Book-Jackets in Library Catalogs” (*Cataloging & Classification Quarterly*, 53.3 [2015], 1–14), which proclaims “the necessity for access to the information about a single book’s book-jacket directly from the library catalog.” It is to be hoped that these articles reflect a trend.

IDEAL COPY

"The Concept of *Ideal Copy*," was published in *Studies in Bibliography*, 33 (1980), 18–53, and was reprinted, in a translation by Katia Lysy, in *Filologia dei testi a stampa*, ed. Pasquale Stoppelli (1987), pp. 73–105. As I complained there, the phrase "ideal copy" is unfortunate, and I can only reiterate, even more emphatically, that it should never have been invented. My essay does not appear to have affected, to any significant extent, the way the term has been used since 1980; and countless bibliographies and bibliographical discussions have continued to spread confusion by assuming that the concept has something to do with textual correctness and that any given impression or issue can have only one ideal copy. The basic point underlying Fredson Bowers's discussion was simply that a descriptive bibliography (as opposed to a catalogue of a collection) should not include in its basic descriptions any features of books that result from their post-publication lives. To put the matter the other way round, the descriptive bibliographer does record in a basic description all the forms that were published (as defined in the next paragraph). The variant forms of an impression (including its stop-press alterations) are its "ideal copies"—though they should not be called that. If we were to say that a description focuses on "copies as published," not on a single "ideal copy," most of the problems would go away.

Defining what "as published" means is straightforward for books published in edition-bindings (that is, most books from the early nineteenth century onward, first in boards with labels, meant to be temporary, and then in cloth): it simply refers to whatever forms the finished product (printed sheets and insertions plus binding) took—even when certain leaves were expected to be removed (as in Frances Ann Kemble's *Records of Later Life* [1882], where the second leaf is headed "Slips for Librarian to paste on Catalogue Cards"). But for books not published in edition-bindings (including most books before the nineteenth century), the descriptive bibliographer's focus must be, as I stated in 1980, on the structure "specifically called for by the evidence of the sheets." In the former case (books published in edition-bindings), intention plays no role, since the finished product may not have fully conformed with what the printer or publisher intended; in the latter (books not published in edition-bindings), the object to be described has to be the sheets (and insertions) in their intended structure, rather than in whatever arrangements resulted from the work of the various binders employed by the printers, publishers, or booksellers (not always different persons) or by the owners of specific copies.

The role of intention in these matters can perhaps be clarified by considering a passage in David McKitterick's *Print, Manuscript, and the*

Search for Order, 1450–1830 (2003). One of his concerns is to show how the printing process leads to variability in the printed results, and he therefore questions the bibliographer's focus on something as seemingly fixed as an "ideal copy" (pp. 136–138). Although he speaks of my definition as "careful," he says that it "cannot embrace one of the fundamental points about early printed books: that they can remain physically uncompleted after they have left the printer's or publisher's control." But my definition does embrace this fact because it refers simply to the forms that "were released to the public by their producers," however variant or "uncompleted" those forms were. Printers, he says, expected and accepted variations among copies, and he thus finds the idea of printers' intentions to be "unrealistic" (unless defined as "heterogeneous compromises"). Printers, however, clearly did have intentions: to carry out the publishers' intentions (a point discussed further below), if indeed the printers and publishers were not the same people. Those intentions were evidenced by clues in the printed sheets (both as to the expectation of a particular structure and as to the acceptance of textual variants). Printers and publishers obviously recognized that they could not control what would happen to those sheets in the hands of other people; but it does not follow that bibliographers are being unrealistic when (for the period before publishers' bindings) they follow the printed marks of intended structure as a way of distinguishing forms as meant to be published (including, of course, stop-press variants) from forms as modified later. Making this distinction does not deny the variability among copies or the continuity of the whole process (from printer to reader).

Internal evidence for an intended structure generally takes the form of signatures, supplemented by lists of contents (including illustrations) and indications of insertion points on separately printed material. In most cases what the bibliographer describes differs from the bundles offered by printers (to publishers, booksellers, binders, or the public) only in the placement of cancels (whether printed on the text sheets or separately from them) and plates printed by intaglio processes (or, occasionally, separately printed letterpress charts or tables). Sometimes, however, there is another source of evidence: printed instructions to binders. They call for some comment that I did not provide in 1980.

The main situations in which such instructions occurred have been surveyed, with most interesting examples, by B. J. McMullin in "Printers' Instructions to Binders" (*Papers of the Bibliographical Society of America*, 104 [2010], 77–104). Besides giving the locations of plates and cancels (or any other matter to be inserted), these instructions were used when the sequence of signatures was unclear or complex and when the components of a volume were distinct units without an obvious order. (In a supplementary note the same year, on pp. 353–359, McMullin gives an

eighteenth-century German example of binding instructions placed along the edge of a cancellans.) The subject of “ideal copy” naturally comes up in McMullin’s discussion, and he concludes (pp. 103–104) that each bibliographer must decide whether to describe “the printer’s ideal copy” or “the publisher’s ideal copy.” This conclusion, however, by separating the printer’s and the publisher’s intentions, is at odds with the generally accepted (and I think correct) view that the entities to be described are either (a) copies as printed, bound, and published (if in edition-bindings) or (b) copies as intended by the printer and publisher to be formed from the published materials (if not in edition-bindings).

Furthermore, his statement is misleading in suggesting that the postulated decision for bibliographers has a wider area of application than it actually has. If, along with McMullin, one were to define the printer’s ideal copy as “the collection of leaves that the printer intended to supply the publisher with (and thence the binder),” there are only two ways this assemblage of leaves (that is, sheets) would differ from the materials for the “publisher’s ideal copy”: (1) in its inclusion of binders’ instructions printed either on an integral leaf that carries no other text (except possibly a binding label) or on a separate piece of paper; and (2) in its inclusion of any leaves to be canceled, along with their replacements. (Incidentally, the last phrase of McMullin’s definition should properly read “to supply the binders with, sometimes by way of publishers, booksellers, or individual owners”—in order to make clear that more than one binder would have been involved, and to accommodate the variety of possible sequences, given the overlapping of the printing/publishing/bookselling functions.) When binders’ instructions are printed on a leaf containing other text (such as a title page, a table of contents, an errata list, and so forth), that leaf clearly is part of the copy intended by the printer and publisher (or printer-publisher). But when copies survive with either of the kinds of leaves mentioned just above (numbered 1 and 2), the bibliographer would be justified in not including them in a basic description (reporting them instead in appended notes).

In summary it must be said that McMullin’s definition of “printer’s ideal copy” makes the printer’s intention more restricted than it clearly was. Printers (as their instructions to binders show) were looking ahead, just as much as the publishers/booksellers, to the form that readers were to receive. In his Foxcroft Lecture of 2012 (*What Readers Should Ignore on the Printed Page: Communication within the Book Trade*, published in 2014), McMullin at first recognizes this point: “the ultimate aim of both parties [printers and binders],” he says, was “to ensure that the purchaser/reader obtained what the bibliographer would call an ‘ideal’ copy” (p. 5). But near the end, when he asks whether printed instructions to binders “form part of the ideal copy,” he again says that “from the printer’s point

of view they do, from the bookseller's or reader's they don't" (p. 19). It is not helpful to use *ideal copy* in two ways, especially since the kind of "ideal copy" that bibliographers are concerned with is the same for printers, binders, publishers, booksellers, and readers. Binders' instructions thus pose no challenge to the standard procedure for dealing with books that were not published in edition-bindings.

One must remember that, in the period before edition-bindings, books could appear in a kind of publisher's binding, for booksellers can be assumed to have offered books in a variety of forms in addition to batches of sheets—that is, in full bindings or in gatherings, sewn or not, and with or without some form of attached wrappers or boards. This much has long been recognized in a general way; but the first person to give the matter systematic attention and to search extensively for surviving evidence is Nicholas Pickwoad, who publicized his research in a lecture, "Unfinished Business," delivered several times in 2012–15. He has located some 130 examples of what he calls "incomplete" or "unfinished" bindings, dating from 1485 though the eighteenth century. These are book blocks that are sewn in a permanent fashion and sometimes have boards attached to them but have not been finished with any covering material (though they are ready for that operation). Pickwoad distinguishes them from the "temporary" bindings that were already well known—book blocks with intact deckle edges, inexpensive sewing structures, and simple wrappers (or cheap boards) meant only to protect the sheets until they could be given permanent structures and conventional covers. (See Jonathan E. Hill, "From Provisional to Permanent: Books in Boards, 1790–1840," *The Library*, 6th ser., 21 [1999], 247–273.) Pickwoad suggests the possibility that these two categories of "binding" may have constituted standard practice for the initial offerings of books in the hand-press period. Aaron T. Pratt has also suggested that books of all genres with short texts (especially quartos with fewer than about 96 pages) were generally sold in stab-stitched form in shops (see "Stab-Stitching and the Status of Early English Playbooks as Literature," *The Library*, 7th ser., 16 [2015], 304–328).

Examples of unfinished or temporary bindings are understandably difficult to locate, since most were not left in their original state. (Some of the structural results of the binding process are discussed by Pickwoad in "Binders' Gatherings," *The Library*, 7th ser., 15 [2014], 63–78.) But when they can be identified, the makeup of their sheets can be regarded as one of the forms of ideal copy for the books concerned. However, given their scarcity (aside from the late-eighteenth- and early-nineteenth-century boards-and-label instances)—as well as the possibility that their makeup may not differ very often from what the bibliographer would have defined

as ideal copy in any case—the insights resulting from Pickwood's and Pratt's important research may not affect the collation and contents paragraphs in most bibliographical descriptions (though they may sometimes cause a paragraph on binding to be added).

Understanding these points is all the background one needs in order to see how pointless most of the discussions of *ideal copy* are. But the three most extensive post-1980 treatments should perhaps be mentioned. First is Rolf E. Du Rietz's "Buyer's Emissions and Ideal Copies" (*Text* [Uppsala], 5.1 [1994], 2–38), which focuses on books from the period before edition-binding became standard. In the language of his classification scheme, "buyer's emissions" are primarily the bound copies whose contents were arranged by binders for individual owners. Because "original emissions" (the forms released by publishers) rarely survive (or can be identified) from this period, bibliographers must use "buyer's emissions" as sources for ideal-copy descriptions. Du Rietz apparently believes that this fact undercuts my idea that *ideal copy* does not encompass decisions made by individual owners or binders. But the precise forms of "buyer's emissions" are not what bibliographers would describe (except in notes on examined copies); rather, they would use the evidence available in those copies in order to determine the order of contents that was intended by the publisher—a pre-publication event. (Indeed, even if some "original emissions" survived, only those in temporary or unfinished bindings would constitute varieties of ideal copies, and the bibliographer's procedure would otherwise remain the same.) Du Rietz is correct, when trying to understand my definition of *ideal copy*, to suggest that my phrase "evidence of the sheets" may involve, among other things, understanding (in his words) the "generally accepted contemporary conventions"; but even so his discussion finally blurs the crucial distinction between the forms of extant copies and the forms to be described in bibliographers' basic entries. Perhaps the most useful part of his article is his detailed consideration of the binding up of serials and of works published in parts or fascicles—though he does not make clear that these situations (where the publisher has two intentions, one or both of which are often fully carried out by the publisher) are very different from the one that is his primary concern.

The second extended treatment of *ideal copy* occurs in Stanley Boorman's *Ottaviano Petrucci: Catalogue Raisonné* (2006), an extremely thorough account of this early sixteenth-century printer of music. In the 400-page introductory section (which discusses Petrucci's life and the printing and publishing conditions of his time), there is a chapter entitled "Ideal Copy: Petrucci's View of the Book, Its Character, Function, and Destination" (pp. 247–264). It begins with the "bibliographical concept," which "exists

to distinguish the individual copies as they survive . . . from the form of a copy as it was intended to be issued by the printer or publisher" (p. 248). This definition at first seems excellent, until one learns what "intended" covers for Boorman. Intention is central to the chapter: as its subtitle suggests, his use of *ideal copy* is not primarily bibliographical but rather refers to all the aspects of text and design that the printer felt were essential "to make people like his books." In a later chapter, "Bibliographical Concepts and Terminology," the definition of *ideal copy* embodies this point: "an ideal copy represents a book as issued by the printer and publisher, once they were satisfied that the details of appearance and content were as they wished to see them" (p. 450). (Their satisfaction, of course, does not mean that they had noticed everything they would have liked to notice; to bring about such an ideal copy, at least as far as the text is concerned, would require a critical edition.) One clue to the printer/publisher's intention is any in-house corrections (stop-press, handwritten, or stamped), and thus those corrections become, for Boorman, part of *ideal copy* (even though, as he later notes [pp. 448, 449], the direction of some kinds of changes is not always clear). He recognizes that he is using the term "in a slightly idiosyncratic manner." What his usage amounts to is an expansion of the concept to encompass a corrected text in addition to (for books not in edition-bindings) an intended structure. The practical consequence is simply that a record of in-house corrections appears earlier in each description (preceding the listing of contents) than is conventional. But the basic description does what any description of an ideal copy must do (for books not in edition-bindings): it sets forth the structure that complete copies should consist of, drawing on the evidence of the surviving copies, all of which may be incomplete or aberrant; and Boorman carefully supplements it with detailed accounts of the individual copies. Despite the problem with his concept of *ideal copy*, therefore, the descriptions themselves are admirable.

The third discussion is in Joseph A. Dane's *Abstractions of Evidence in the Study of Manuscripts and Early Printed Books* (2009), which contains a chapter called "'Ideal Copy' vs. 'Ideal Texts': The Application of Bibliographical Description to Facsimiles" (pp. 77–94). (Dane has commented on *ideal copy* elsewhere, in this book and others, but this chapter is his most thorough examination of it.) Although his discussion includes a number of questionable pronouncements, he does show some of the inconsistencies in Bowers's treatment of *ideal copy* and in comments by Charlton Hinman and Michael Warren about their Shakespeare facsimiles (which bring together pages from different copies). He is properly critical of Hinman's notion that his facsimile of the First Folio presents "what the printers of the original edition would themselves have considered an ideal copy" and of Warren's belief that his *King Lear* shows the text "as the printer might

have conceived it ideally.” But Dane’s criticism could have gone farther: a “corrected” forme is not necessarily more correct at the points of alteration, and in any case a forme (corrected or not) is likely to contain unnoticed errors that a printer would not “ideally” intend. The concept of *ideal copy* (in either Bowers’s or my formulation) has nothing to do with textual correctness. Dane recognizes this fact here (as he did not in a passage of his 2003 book, *The Myth of Print Culture*, where “missing quires” and “printing errors” are equally to be “filtered out” in describing an ideal copy [p. 187]). But a greater use of this recognition would have made his discussion more acute (and considerably more concise). That composite facsimiles can be regarded as critical editions is an obvious point scarcely worth extensive comment, though the fact that the editors may think they have produced ideal copies is of some interest (if irrelevant to the users). Despite Dane’s criticism of some of the ways in which the term *ideal copy* has been employed, one leaves his discussion feeling that the usefulness of the concept has not been clarified.

But the concept itself—when understood as a way of defining which features of extant books are to be excluded from descriptions because they result from the independent actions of individual owners or the vicissitudes of time—is fundamental to the work of bibliographers.

EDITION, IMPRESSION, ISSUE, AND STATE

My discussion of the basic classificatory terms in descriptive bibliography, entitled “The Bibliographical Concepts of *Issue* and *State*,” was published in *Papers of the Bibliographical Society of America*, 69 (1975), 17–66. I concentrated on *issue* and *state* because they have been frequently misunderstood and less consistently employed than *edition* and *impression*, which did not seem to require further definition beyond what was generally recognized. As explained in the first few pages, *edition* refers to all copies resulting primarily (if not always entirely) from a single job of typographical composition; and *impression* (or *printing*) denotes all copies of an edition printed in one continuous (even if multi-day) operation. (It might be a good idea for bibliographers to use “exemplars” instead of “copies,” since the latter implies lack of variation.) But no such clear-cut distinction between *issue* and *state* had been (or has been even yet) regularly accepted by bibliographers, though the two refer to equally discrete situations, which can be simply stated: an *issue* is a group of copies of an impression that give evidence of forming a consciously planned publishing unit, whereas *state* refers to the kind of correction that does not call attention to itself as a marketing effort and that can only categorize an individual part of a book (such as a page or a binding), not a book as a whole (since any given book may contain mixed states).

This formulation was meant as a clarification of the essential distinction between the two concepts that underlay Bowers's complex definitions, and it has received some degree of acceptance. The Library of Congress and the Association of College and Research Libraries (ACRL) adopted my approach for their rare-book cataloguing manual (see above, under "Relation to Library Cataloguing"), in which the headnote to the glossary says that the definitions of *issue* and *state* use my wording. The ACRL also commended my definitions in its *Printing and Publishing Evidence: Thesauri for Use in Rare Book and Special Collections Cataloguing* (1986). Other parts of the book world, however, still do not employ these definitions consistently. The introductions to bibliographies continue to display a multiplicity of variant definitions, and it is common to find *state* used to refer to whole copies of books. Of course, almost any definition, if carefully worded, can be usable, but confusion is bound to arise when statements from bibliographies are cited without the prefatory definitions.

The same kinds of variation in usage also occur in bibliographical essays. Rolf E. Du Rietz, for example, in "Buyer's Emissions and Ideal Copies" (*Text* [Uppsala], 5.1 [1994], 2–38), argues that *state* must sometimes apply to an entire book, as when a plate or leaf is inserted or deleted "without any kind of substitution or correction being directly involved" (p. 10). But the presence or absence of a plate or leaf may affect only one point in a book, just as much as a stop-press alteration or a cancel does; and when, on occasion, it affects the whole book, as an inserted dedication might, it would produce an issue. The kind of situation Du Rietz postulates provides no reason for blurring the sharp line between *issue* and *state*. And Lotte Hellinga, in "Analytical Bibliography and the Study of Early Printed Books with a Case-Study of the Mainz Catholicon" (*Gutenberg-Jahrbuch*, 1989, pp. 47–96), asserts that "'issue' always means re-setting of a substantial section of text" and that "the terms *state*, *impression*, *issue*, and *edition* . . . represent not only a rising scale of quantity of change, but also express an increasingly deliberate involvement of the printer" (p. 51). However useful these definitions may be for her discussion, they are not appropriate for general use.

Another nonstandard use of *issue* occurs as part of Stanley Boorman's rethinking of the terms of classification in his *Ottaviano Petrucci* (2006), pp. 446–449. He states, "A single issue comprises all the copies of a book that were put on sale under the same arrangements." By saying "a book" (meaning a work) rather than "an edition," he is able to make *edition* subordinate to *issue* in some situations, as when later resettings with the same date "were intended to be sold under the same arrangements as the earlier." Those editions "were, therefore, part of the same issue." The fact that printing history and publishing history do not necessarily coincide

has often been remarked on, and it is at the heart of the problem here. To make *issue* (a publishing term) sometimes subordinate to *edition* (a printing term) and sometimes not can only produce confusion. In this instance, for example, "arrangements" is not a term that reflects physical evidence: there is no way to tell from the books themselves whether or not the later editions were "put on sale under the same arrangements." Bibliographical classification, by definition, emerges from the evidence within the physical object being classified, and resetting of type must be taken as the most fundamental level. If one has external evidence for linking two editions as a publishing effort, one can make a statement to that effect; but *issue* must be reserved for one kind of physical change within an edition. (How extensive a portion of text needs to be reset in order to call the result a different edition is, as Boorman recognizes, a separate question, and one about which opinions may vary; but he unfortunately chooses to call an individual reset sheet "a second impression of that part of the book.") As for *state*, Boorman understands that "the concept of a single 'state' for a whole book is meaningless," and he admirably explains the reason.

One prolific bibliographer, Joel Myerson, has explicitly rejected my approach to *issue* in favor of Bowers's. In "Some Comments on the Bibliographical Concept of 'Issue'" (*South Central Review*, 5.1 [Spring 1988], 8-16), he takes up four "troublesome" kinds of situations, all of which can in fact be easily handled under my definitions. His first class of examples involves publishers' casings (bindings) and wrappers: copies of a single impression put on sale simultaneously in cloth and wrappers, or published with different series designations or publishers' names on the casings, or released with either British or American prices on the wrappers, or made available with different styles (not simply colors) of binding, such as cloth, half-calf, or full leather. The fact that there are no changes to the sheets in any of these instances should not give one pause (as it does Myerson) because all the differences clearly identify copies that belong to separate marketing units. Myerson's second class of examples deals with dust-jackets. He cites instances where only a jacket or a box shows that the copies so housed are part of a series; but such indications are no different from those on casings. In connection with a paste-over cancel of a publisher's name on a jacket, Myerson says, "The label on the jacket spine represents as clear a decision to *issue* the book by another publisher as would be changing the stamping on the casing or cancelling the title page, but do we really want to call this an issue of the book?" Why not? His third category concerns special-paper copies, and he is correct to point out that sometimes such copies constitute an impression, not an issue. But the fact that at other times they can be issues (as when the trimming of some copies creates two leaf sizes) is not altered. His final category is

signed copies. When a certain number of copies are signed by the author and marketed as such, it is hard to see how they could be regarded as anything other than an issue (in contrast to the copies that are signed for particular bookstores or publication parties).

Myerson feels that his examples show how some publication practices "put a strain on any definition of *issue*." Every classification scheme naturally has to deal with borderline cases, but they do not "strain" it; rather, the classification facilitates a course of thinking that makes the particular situation stand out clearly. Myerson prefers Bowers's approach because, "by restricting *issue* to the sheets of a book," he "requires other evidences of marketing decisions . . . to be verbally described rather than definitionally categorized." Yet Myerson recognizes that my system also "allows . . . descriptive or explanatory notes." Indeed, I have always maintained (and not only in this essay) that bibliographers should never hesitate to add discursive explanations in order to make a situation clear, which after all is the goal. In the end it hardly matters whether one labels a book "first impression, second issue" or "first impression, binding B," for example, as long as the significance of either one is explained. Since Myerson understands that "casings and dust jackets must be considered as part of the marketing process," it is odd that he favors an approach "restricting *issue* to the sheets of a book" simply because it "requires" an attached account of the other parts of a book that provide evidence about marketing. (Four years earlier he had held a different view, allowing casings to determine issues, in a review in *Papers of the Bibliographical Society of America*, 78 [1984], 48.) He is thus sacrificing the coherence of the concept of *issue* to a presumed advantage in presentation; but any label may at times benefit from an explanation, and the label itself should encompass the whole range of relevant possibilities. (Matthew J. Bruccoli, in his "Editorial" for the *Dictionary of Literary Biography Yearbook 1996* [1997], pp. 285–286, also fails to think through the concept when he asserts that *issue* cannot relate to bindings because "bindings have no connection with text" and claims that the "description of a book and its dust jacket are independent of each other.")

In 1991, B. J. McMullin (in "Bowers's *Principles of Bibliographical Description*," *Bibliographical Society of Australia and New Zealand Bulletin*, 15: 53–59) argued that *issue*, which in the *Principles* seems to be largely restricted to reissue, should be expanded to include distinct "planned units" that were published simultaneously, such as copies with different booksellers' imprints or copies printed on different qualities of paper (sometimes labeled with printed paper-quality marks on the first pages of gatherings). (He also referred in passing to *states* being formed by "corrections.") This recognition of simultaneous issues coincides with a point I had made in my 1975 essay (though I explicitly enlarged the concept to cover publish-

ers' bindings as well). That so thoughtful a bibliographer as McMullin came independently to the same conclusions confirms the suitability of the definitions I have proposed and continue to advocate. Some years later McMullin reinforced his view when he studied the phenomenon of books in colonial series being converted (or converted back) to domestic issues: he advocated a fuller description of the paper, leaf dimensions, and bindings of such books as an aid to identification when there are no verbal changes ("Domestic—Colonial—Domestic," *Biblionews and Australian Notes & Queries*, 361/362 [March/June 2009], 29–37).

The implications of my definitions for the arrangement (and thus the entry numbering) of a bibliography, as well as for the uses of the important concept of *subedition* (and its relation to geography), all of which are taken up in section IV of the 1975 essay, were further discussed in 1984 in my essay on "Arrangement" (see below). In that later discussion, I also explained why I think the concept of *subedition* is preferable to that of *plating* (proposed by James L. W. West III) as a classification between *edition* and *impression*. And the brief treatment of *ideal copy* in 1975, which serves its purpose in that context (but which does not explore the problems present in Bowers's handling of the concept), was greatly expanded five years later in my essay on that subject (see above). In the end, despite various complications that may arise in certain instances, it is important to keep in mind the essential simplicity and distinctness of the concepts underlying the four basic terms of classification.

TOLERANCES

In "Tolerances in Bibliographical Description" (*The Library*, 5th ser., 23 [1968], 1–12; reprinted in *Readings in Descriptive Bibliography*, ed. John Bush Jones [1974], pp. 42–56), I attempted to provide a rationale for thinking about the degree of accuracy and the quantity of detail appropriate for descriptive bibliographies. These two basic matters required discussion because not many bibliographers had given them systematic thought, and bibliographers still need to be reminded of their importance. The number of details covered in a given bibliography can obviously be seen by examining the bibliography, whether or not the bibliographer has thought coherently about the relative proportions of detail devoted to each described feature. (The question of "degressive" bibliography—that is, the practice of reducing the quantity of detail for certain categories of material—which is mentioned in note 1, is discussed more fully in my 1984 essay "The Arrangement of Descriptive Bibliographies" [see "Arrangement" below].) In contrast, the degree of accuracy in measurements cannot be known unless it is indicated in an introduction. Including some statement like "measurements are made to the nearest sixteenth of an

inch” is an obvious (and undemanding) requirement. Yet in the decades since I wrote this piece, very few bibliographers have regarded such a statement as a necessity. Among those few are David L. Vander Meulen, in his bibliography of Pope’s *Dunciad* (1981 dissertation); David Hunter, in *Opera and Song Books Published in England 1703–1726* (1997); and Roger E. Stoddard in *A Bibliographical Description of Books and Pamphlets of American Verse Printed from 1610 through 1820* (2012). But in most bibliographies, one still looks in vain for an indication of tolerances.

A topic that naturally came up in my essay was what system of measurement to use, and I stated that the bibliographer who employs the metric system would be “clearly on the side of the future.” In the nearly half-century that has elapsed since then, the United States government seems to have lost whatever interest it once had in joining most of the rest of the world in officially adopting the metric system for general purposes. (The story has been told in John Bemelmans Marciano’s 2014 book, *Whatever Happened to the Metric System?: How America Kept Its Feet*.) So one reason for bibliographers to use it has apparently vanished (though a candidate for the 2016 American presidential election brought the matter up). In any case, there is no question about the metric system’s greater logic, and most people, I believe, find it more convenient to work with. If one wishes, or needs, to go beyond the nearest millimeter, it is easy for the eye to detect quarters or thirds of millimeters. My suggestion in this essay of using thirds of millimeters for measuring type faces was endorsed by Vander Meulen in his *Dunciad* bibliography (1981 dissertation). A simple solution to the quandary of what system to use would be for bibliographers to report figures in both systems (to accommodate users all over the world), placing one figure in parentheses following the other one. If one works in the metric system, one can simply divide the number of millimeters by 25.4 (or the number of centimeters by 2.54) to obtain the figure in inches; or if one works in inches, one can multiply by 25.4 (for millimeters) or 2.54 (for centimeters).

Perhaps this is the place to say that bibliographical description does not require the use of elaborate equipment (mainly just a ruler, a magnifying glass, and a micrometer), as Vander Meulen has noted in several places, such as “The Low-Tech Analysis of Early Paper” (*Literary Research*, 13 [1988], 89–94). In his Engelhard lecture, *Where Angels Fear to Tread: Descriptive Bibliography and Alexander Pope*, published the same year (and printed in a new edition in 2014), he summed the matter up this way:

Though modern devices such as the cyclotron have added exciting new possibilities to analysis, I, like most bibliographers, had no access to such aids. My approach was distinctly low-tech, but with tools that not enough bibliographers have learned to use well: a clear plastic ruler; a magnifying glass, with which I got a free dictionary;

later, a wallet-size Fresnel lens [flat magnifier], which has served me as well as the glass; a loupe with a printed scale for measuring type size; a small flashlight; and a micrometer for recording paper thickness.

One might also mention outside calipers, for measuring paper thickness or bulk at the center, and the Arthur Seibert Emoskop, for greater magnification. Other useful equipment, such as the NoUVIR Inner-Page Transilluminator or the Howard Eaton Pocket Viewlight (for examining paper; see "Paper" below) and collators (for comparing text and other features of two copies of an edition), can be expensive and not easily portable and should be supplied in special-collections reading rooms. Two post-1968 (but now somewhat outdated) discussions are Warner Barnes, "Optical and Mechanical Instruments for the Study of Rare Books and Manuscripts," *Direction Line*, 10 (Winter 1980), 21; and Paul S. Koda, "Scientific Equipment for the Examination of Rare Books, Manuscripts, and Documents," *Library Trends*, 36 (1987–88), 39–51. See "Paper" below for a few comments on Ian Christie-Miller's equipment for examining paper (and hidden text); and for a few further points about micrometers, see my 1971 essay on paper (cited under "Paper" below), in note 70 and the surrounding text. For a fuller listing of related articles, see my *Introduction to Bibliography* (2002 revision), section 9K, pp. 339–343.

In my 1968 essay I briefly discussed title-page transcription, type measurement and identification, and color specification to illustrate the idea of levels, and I referred to the description of paper and of publishers' cloth. Two of these topics (type and color) I had previously treated at greater length in separate essays, and the others I took up in later essays, all of which are cited below. A system of alternative levels, within which one can select an appropriate degree of accuracy and quantity of detail, is important for helping one to maintain equable proportions throughout all the parts of a description—which in turn reflects an understanding of a description as a piece of historical writing.

TRANSCRIPTION

The first part of my "Title-Page Transcription and Signature Collation Reconsidered" (*Studies in Bibliography*, 38 [1985], 45–81) explained why title-page transcriptions are not superseded by photographic reproductions and indeed why quasi-facsimile transcription is a form of quoting that is appropriate for dealing with other parts of books besides title pages, whether or not they also happen to be reproduced. Quasi-facsimile transcription differs only slightly in any case from ordinary quoting (primarily by noting line-ends), and it can helpfully be employed, for example, in quoting copyright notices, printers' imprints, and section- or head-titles

in the paragraph that lists the contents of the book being described. It not only gives more information than ordinary quoting about the physical presentation of the text but also can promote the discovery of variants by providing more text for comparison. Bowers's treatment of the contents paragraph—which recognizes alternative approaches that produce more compressed listings, not always involving quotation at all—is in line with my general view that different levels of detail are appropriate on different occasions (see “Tolerances” above). Nevertheless, my 1985 comments show why quasi-facsimile quoting is strongly to be preferred.

The point about the complementary relationship between transcriptions and photographs applies of course to any form of reproduction, and therefore it can now be extended to digital images (regardless of their quality or the fact that they can easily be magnified). My 1985 piece alluded briefly to the limitations of all reproductions, and four years later I published a detailed examination of this matter in “Reproductions and Scholarship” (*Studies in Bibliography*, 52 [1989], 25–54).

B. J. McMullin, in his 1999 review of the Todd-Bowden Scott bibliography (*Bibliographical Society of Australia and New Zealand Bulletin*, 23: 78–106), made a useful suggestion (pp. 85–86) regarding the printing of quasi-facsimile transcriptions of title pages: that they not be set with justified right margins, so that no line-end hyphens would intrude into the transcription. Indeed, one could extend it further—to any quotation, whether in quasi-facsimile or not. (To say this is to raise the whole question of line-end hyphens, for the point applies to the bibliographer's own prose as well as quotations from the books being described. In many scholarly editions, there is a list of those line-end hyphens in the edited text that should be retained in quotations; but it is not realistic to expect that this practice might ever be extended to all books, though it would be logical to do so.)

One other refinement in quasi-facsimile transcriptions should be reported here, since my reference to it in my 1985 essay could well be overlooked (at the end of note 26): David L. Vander Meulen's practice, in his *Dunciad* bibliography (1981 dissertation), of citing the type-face measurements of the type faces used on each title page. Measuring to the nearest third of a millimeter, he reports full height (with ascenders and descenders), capital height, and x-height, placing whichever measurements apply to a given line in brackets at the end of the line. When more than one apply, they are given in the above order, without further labeling; and when the same measurements apply to more than one consecutive line, the report comes at the end of those lines. This approach can obviously be extended to any other instances of quasi-facsimile transcription that involve typographic layout not covered in the paragraph on typography (where many recurrent features, such as the type faces used in the body

of the text and in running titles, chapter heads, and footnotes, would be described). Anything that increases the visual information conveyed by quasi-facsimile transcription is to be embraced.

COLLATION

In the second part of my 1985 essay on transcription and collation (see above), I pointed out the importance of a record of gatherings (whether signed or not) for books of all periods, since the physical structure of a book is the most fundamental aspect of its description. I have frequently used the term “signature collation” only because it is a conventional one, even though what the collation formula deals with is gatherings, not signatures, as I said in note 63. (A true signature collation would be a complete register of signing—a fuller one than the kind that has typically followed the formula in the past.) The synecdochic use of “signature” to mean “gathering” is common among printers but is not (and should not be) among bibliographers, despite their tolerance of this phrase. Clearly a book without printed signatures still has a structure, and a formula representing its structure can still be constructed by assigning consecutive numbers to the gatherings. Sometimes, indeed, there are printed signatures that are not related to the actual gatherings; and if there are no other printed signatures that do relate to them, the formula would again have to be made from assigned numbers. (There are also instances where more than one set of printed signatures are present, and if one of them corresponds to the actual gatherings, it would of course be used.) A note should then be appended referring to the irrelevant printed signatures (irrelevant for this purpose). These points probably go without saying (and I did not mention them in 1985), but they may be worth noting explicitly since some attention has recently been given to the phenomenon of unused signatures by B. J. McMullin, in “Gatherings and Signatures in Conflict” (*Script & Print*, 39 [2015], 241–247)—though McMullin is not here concerned with the collation formula. (For the bibliographical uses of these signatures, see under “Typesetting and Presswork” below.)

Also in the 1985 essay I made a suggestion to correct the only serious flaw in Bowers’s thorough treatment of the collation formulary: his handling of insertions, where he complicated matters unnecessarily by attempting to report the signing of insertions along with their placement. My suggestion was simply to assign the number “1” to any inserted leaf and to number consecutively the inserted multiple leaves at any given point (using the conventional comma to indicate disjunct leaves and period for conjugate leaves). (The signing of inserted leaves would then be noted as part of the regular statement of signing.) This approach has been well received, as is indicated, for example, by B. J. McMullin’s approval

in the *Bibliographical Society of Australia and New Zealand Bulletin*, 15 (1991), 58. As a way of testing the system, he asked how one would note "an insertion consisting of an odd number of leaves where the one disjunct leaf is found in the middle." My answer, eight years later in the same journal (p. 108), was "1.5, 2.4, 3."

Another matter relating to insertions: in note 52, I stated that an insertion of letterpress text between gatherings should be treated as an independent element and not be associated with the preceding or following gathering; but I added (based on Bowers), "except when the link is definitely established, as with the same signature." I think it would be better to say that a signature is normally the only acceptable link, since other links would be likely to involve excessive reliance on intellectual content, and the formula is not primarily concerned with content but with structure. This is not to say that content and structure are unrelated, for often one does learn something about the content from the structure (see below); and the content may be a help in deciding what belongs in the formula (see the next paragraph) and may even sometimes be the only way (in books not published in bindings) of determining the correct order of the gatherings. But the job of the collation formula is to record the structure of the "sheets," which are usually defined for this purpose as the folded letterpress gatherings plus any insertions (normally letterpress) that contain part of the continuous text. Thus non-letterpress insertions, which can be structurally identical to letterpress insertions, are not normally included in the collation formula but instead are recorded in a separate line (see "Non-Letterpress Material" below). By separating the letterpress sheets from engraved (or lithographed) insertions, the bibliographer is further clarifying a book's structure.

Although distinguishing letterpress from non-letterpress is normally clear-cut, there are situations that call for the bibliographer's judgment in deciding which insertions belong in the basic formula. Because I did not comment on this matter in 1985, and because Bowers's discussion of it (*Principles*, pp. 287–289) is unclear, I shall say a word about it here. To begin with, there can be insertions that contain both letterpress and non-letterpress, and in these cases one could take the nature of the letterpress into account. If it is a caption for, or commentary on, the non-letterpress part, one could treat the insertion like any other non-letterpress insertion and list it separately from the formula. But if the insertion includes some letterpress text that connects with the adjacent text on the integral leaves, it could appropriately be treated as an element in the formula. (It would be no different from an integral leaf that contains both letterpress and an engraving, in instances where a sheet of letterpress was subsequently run through a rolling press.) Similarly, in the case of a wholly letterpress insertion that was clearly a separate production (and possibly of a different for-

mat), such as a chart or a table, one might well decide that its inclusion in the formula would not be in line with the function of the formula, despite the fact that it is letterpress. The presence of pagination on any insertion is not enough to settle the matter, even though the resulting pagination record would sometimes show a gap that is in fact filled by information in the collation line for insertions. This approach seems sensible, but a fixed rule would probably be less satisfactory in some instances than reliance on the bibliographer's judgment. What is finally most important is that the bibliographer make absolutely clear, in an appended comment, what the situation is.

The question whether there can ever be odd superscript numbers in a collation formula continues to come up, even though it is hard to see how the answer can be anything but an unequivocal "no" (see footnote 38 in my essay). If the function of the formula is to show book structure (as it unquestionably is), then an odd superscript does not serve the purpose because it does not show the placement of the disjunct leaf. Yet even so careful a bibliographer as J. D. Fleeman sometimes uses odd superscripts in his great *Samuel Johnson* (2000). The best case for odd superscripts in certain situations has been made by B. J. McMullin in "The Description of Volumes Gathered in Nines" (*Script & Print*, 37 [2013], 32–39). The situation arises mainly when an eighteenmo forme is imposed for gathering in nines rather than sixes—an arrangement that does occur in rare instances, especially in the late eighteenth and early nineteenth centuries. McMullin argues that an insertion planned as a regular part of a volume should be treated differently from leaves inserted occasionally to rectify a problem (which he calls "genuine" insertions); he also believes, since the inserted fifth leaf is often signed with a "5", that it would be unwise to treat the leaf following it as the regular fifth leaf in the gathering simply because it is conjugate with the fourth leaf. His recommendation, therefore, leads to a formula on this model: "A-F⁹ (\$5 inserted after \$4)." I do not, however, find this argument persuasive. The fact that the fifth leaf of every gathering is a singleton (and was planned to be so) does not make the structural situation any different from the one that exists for all insertions; and it would seem to be productive of confusion to say that a planned insertion after \$4 should be called \$5 (with the following leaf \$6), whereas an unplanned one should be called \$4+1 (with the following leaf \$5). I believe the best approach for an eighteenmo in nines is to say "A-F⁸ (\$4+1)." (The actual signing would of course be recorded separately.) In this way the clarity and uniformity of the formula does not have to be diluted, without any compensating advantages.

An interesting problem for the construction of a formula arises in connection with Renaissance music partbooks, all of which for a given title were sold together as a unit, though each had its own title page and may

or may not have had a separate alphabet of signatures. Stanley Boorman thoroughly investigated this matter in "Bibliographical Aspects of Italian Printed Music of the Sixteenth and Seventeenth Centuries" (*Studies in Bibliography*, 56 [2003–04], 195–242). His sensible solution is to use a bracketed letter and colon preceding the sequence of signatures for each part, thus producing a single formula for the whole series of parts but allowing the individual parts to be easily identified. A formula might begin "[C:] A-D⁴; [T:] E-H⁴ . . ." (with "C" and "T" referring to "canto" and "tenor"). When the parts are signed with separate alphabets, the order of parts would remain the same (for it was a conventional order): "[C:] A-D⁴; [T:] A-D⁴ . . ." (the bracketed letters allowing one to distinguish the identically signed gatherings without the use of prefixed index figures, which would not be unambiguous since the order of the parts is not self-evident). Boorman's article gives 92 examples of his system in use, and he employed it in his bibliography of Ottaviano Petrucci (2006). His work illustrates how the standard formulary can be imaginatively adapted to different situations.

Another example is Anthony S. Drennan's suggestion for handling volvelles (woodcut diagrams with attached circular paper disks that the reader can rotate), in "The Bibliographical Description of Astronomical Volvelles and Other Moveable Diagrams" (*The Library*, 7th ser., 13 [2012], 316–339). The movable parts of a volvelle were printed on a separate leaf from the base diagram and were meant to be cut out and attached to the page where the base diagram was located. Uncut leaves printed with volvelle parts rarely survive, and generally they have no obvious location in a collation formula; but Drennan feels that the formula should somehow note the fact that such leaves were once present (even though they were not intended to be part of the structure of the book after it was bound). One might see an analogy between an uncut volvelle leaf and a cancellans, since both were meant to be removed and relocated; the important difference, of course, is that the cancellans replaced another leaf, whereas the cut-out volvelle parts were attached to another leaf. Drennan understands that it would be unwise to try to account for the added pieces in the formula, and he properly recommends listing the completed volvelles separately. (For this purpose he has created an elaborate set of symbols for constructing a "collation formula" for each volvelle, showing its completed structure, and he appends additional commentary in words; some bibliographers may choose to avoid the formula and place the whole account in words.) The question is how to indicate in the letterpress collation formula that one or more uncut volvelle leaves originally accompanied the unbound sheets. Drennan chooses the Greek letter lambda, which he places at the end of the collation, along with an indication of the

number of leaves involved or, when the number is unknown, a superscript zero. (The choice of lambda is unfortunate, since Allan Stevenson used it to signify a letterpress leaf that was meant to be inserted to accompany an engraved plate.) In cases where leaves with uncut volvelle parts were printed as part of the main block of letterpress sheets, the use of lambda (or some symbol) to explain certain cancellations may be helpful, as in " B^4 ($- B_4 = \lambda_1$)."

But simply attaching " λ_1 " or " λ^0 " to the end of a formula may not serve much purpose, since the record of completed volvelles (and their locations) makes clear that the book is one that incorporates cut-out pieces. Still, it takes up little space and is worth considering.

A less successful way of dealing with volvelles is Mark Bland's proposal (in *A Guide to Early Printed Books and Manuscripts*, 2010) to use the Greek letter rho to indicate paper that is attached to a printed page and thus to create such an impossible expression as " $P_4^r + \rho_1$ " (p. 64). He also misuses chi to refer to inserted engravings, even though the practice of treating engraved and letterpress material separately is by now well established (see above). A similarly unwise suggestion (again involving attachments) is Patrick Spedding's idea that a full-page paste-over cancel might be recorded in the formula with reference only to one side of the leaf, as in " $(A_1^v + \chi_1^v)$ ", as if a leaf can be split between its recto and verso sides. But the size of a paste-over cancel is irrelevant: any patches (regardless of their size) affixed to leaves (or meant to be) should not be included in the collation formula but rather noted in a separate explanation. (See Spedding's "Cancelled Errata in *John Bunce, Junior, Gentleman*," *Script & Print*, 38 [2014] 115–121; and the responses to it by Carlo Dumontet, B. J. McMullin, John Lancaster, Richard Noble, and me on pp. 249–252.)

An idiosyncratic collation system used by Robert Dawson in *The French Booktrade and the "Permission Simple" of 1777* (1992) is effectively dismissed by B. J. McMullin in "Dawson Described" (*Script & Print*, 30 [2006], 174–180). Another proposal that is unhelpful—in this case because what it advocates is already standard—is in R. B. Williams's "Victorian Book Printing: A Rare Supernumerary Signature" (*Journal of the Printing Historical Society*, n.s., 18/19 [Summer/Winter 2012], 75–79). Williams notes that Charles Williams's *Silver-Shell* (1856) includes the signature "J" and then recommends interrupting the formula to indicate the presence of "J" (" $B-I^8 J^8 K-L^8$ "), since the normal practice in formulas is to assume the absence of "J," "U" (or "V"), and "W". This practice is obviously necessary and already well accepted. A brief discussion of some formulaic details occurs in Anthony James West's "A Model for Describing Shakespeare First Folios, with Descriptions of Selected Copies" (*The Library*, 6th ser., 21 [1999], 1–49), where he reviews a few minor differences among the usages of Greg, Hinman, and Blayney (without saying what Bowers's

recommendations are); the alternatives he notes are of little significance, but his preference for a colon rather than a period to signify conjugacy seems an unnecessary departure from standard practice.

Although the word "collation" is generally used by descriptive bibliographers to refer to a report of the structure of the gatherings, there are other kinds of collation (in the general sense of a verification of the order and completeness of a series of items) that enter into a description. For example, it is conventional, following the formulaic record of the gatherings, to state the number of leaves represented by the formula and then to provide a record (a collation) of pagination, showing unambiguously which pages have page numbers and what style of number is used (as in "pp. [i–iv] v [vi], [I] 2–4 [2] 5–11 [12]," where the bracketed italicized "2" indicates how many unnumbered pages whose pagination cannot be inferred are present at this point). For books that have inserted non-letterpress material, a separate collation of those insertions comes next (perhaps in its own "Collation" paragraph). The next paragraph in most descriptions is one headed "Contents," which indicates (preferably in quasi-facsimile quotation: see above) the intellectual content printed on every page (or group of pages), using signature notation and/or pagination for reference. Because of the frequent irregularity of pagination in pre-nineteenth-century books, one should follow Bowers's advice to use signature notation instead of pagination for this period. An added benefit (pointed out by Bowers) is that studying the relationship between production and content is thereby facilitated. (A good recent example of such a study is John Barnard's "Dryden's *Virgil* (1697): Gatherings and Politics," *Papers of the Bibliographical Society of America*, 109 [2015], 131–139.) As a result of this advantage offered by signature references, I would recommend using them for books of all periods, perhaps accompanied by page numbers. Thus the "Collation" and "Contents" paragraphs are complementary, the first collating physical makeup and the second collating intellectual content; when used together they help to indicate how manufacturing and meaning interact.

Because I commented briefly in my 1985 essay on the relation of the gathering-collation formula to format (since both relate to structure, and a format designation often precedes the formula), I should mention that later (in 2000) I discussed the concept of format at length (see "Format" below). The most important post-1985 discussion of the collation formula itself is in the appendix to Paul Needham's Hanes lecture, *The Bradshaw Method* (1988), pp. 24–33. Although he does not propose alterations to the presently accepted style of the collation formula, his account of its history and the principles behind it will enrich any bibliographer's understanding.

FORMAT

"The Concept of Format" was published in *Studies in Bibliography*, 53 (2000), 67–115. In it I offered a new definition of *format* based on the number of page-units selected to fill each side of a piece of paper or parchment of a given size; this formulation makes the concept applicable to manuscripts as well as printed matter of all kinds and periods. A few years after my essay appeared, B. J. McMullin provided what he called "an extended, if somewhat discursive, footnote" to it: "Some Notes on Paper and Format," *Bibliographical Society of Australia and New Zealand Bulletin*, 28.4 (2004), 92–104. He summarizes my arguments and gives several illustrative examples, and I appreciate his careful consideration of the points I made. I especially like his observation that, in cases where the format is uncertain and requires explication, "we should not agonise over ascribing a particular notation to the volume." His discussion does not require any modification in my essay, but readers will benefit from following his line of thinking about specific books.

I do wish, however, to comment on his final paragraph. Since there are cases where the designation of format varies according to the bibliographer's way of approaching it (as when double-size paper is cut before printing), he asks, "If format is an intrinsic characteristic should it ever be subject to variant designations, dependent on how it is defined?" He raises here a basic philosophical point, which relates to all description. If we grant that objects do have intrinsic qualities (as opposed to what we project onto them), those qualities can only be apprehended and reported as filtered through our individual perceptions and judgments. Every part of a bibliographical description necessarily involves analysis and interpretation, and the format statement is no exception. Nor is there reason to believe that, by devising a comprehensive concept of format, we might be "trying to force discrepant items into a uniform mould." The fact that we may not be able (or at least so far have not been able) to determine with certainty the format of many nineteenth- and twentieth-century books does not mean that the concept has failed. Indeed, a single concept is necessary to make clear how situations differ.

The difficulty of determining the format of books printed on unwatermarked wove paper (which became increasingly common during the second half of the eighteenth century) has long been recognized, and recent research on the transitional period before and after 1800 provides the major analytical techniques to be added to those mentioned in my essay. McMullin, in another article ("Watermarks and the Determination of Format in British Paper, 1794–*circa* 1830," *Studies in Bibliography*, 56 [2003–04], 295–315), shows that format can be established for hand-

made wove paper manufactured after early 1794 because it does contain a watermark as a result of a legal requirement. A refund of part of the paper tax for exported books was available if a date-watermark were easily visible; thus moulds were constructed with such marks along edges, usually one or both of the longer edges, sometimes in opposite corners and sometimes in all four corners, and often with the maker's name as well. McMullin provides diagrams showing the positions of these marks in various formats, and by reference to these diagrams (which form a useful supplement to Gaskell's diagrams in *A New Introduction to Bibliography* [1972, 1974]) one can determine the format of books printed on such paper. (A further diagram, showing edgemarks along the shorter sides of the mould, is given by Carlo Dumontet in "An Unrecorded Position of Watermarks in Early Nineteenth-Century English Paper," *Script & Print*, 35 [2011], 111–113.) That the dates in these watermarks must be used with caution was made clear in an earlier article by Hilton Kelliher ("Early Dated Watermarks in English Paper: A Cautionary Note," in *Essays in Paper Analysis*, ed. Stephen Spector [1987], pp. 61–68): some papermakers did not change the "1794" watermark in later years, and it could happen that a mark would be postdated.

McMullin also discusses another development of the same period: the growing use of machine-made paper. Although he indicates some ways of distinguishing machine-made from handmade paper, along with the possibility in some instances of identifying format by examining the pattern of original edges in uncut copies, he notes that the cutting of paper in edition-binding eliminates that possibility for most books beginning in the 1820s. One clue that remains, however, is the seam marks (that is, the imprint left in the paper by the seams joining the ends of the wire-mesh conveyor belt that replaced the hand-held mould); and Catherine M. Rodriguez has explained how the pattern of occurrences of these seam marks can sometimes enable one to learn the format (see "The Use of Web Seam Evidence to Determine Format," *Bibliographical Society of Australia and New Zealand Bulletin*, 28.3 [2004], 122–124).

A few years later, McMullin pursued this point in an impressive article that should be read by every bibliographer dealing with pre-1850 books printed on machine-made paper ("Machine-Made Paper, Seam Marks, and Bibliographical Analysis," *The Library*, 7th ser., 9 [2008], 62–88). He gives a clear description of the process of producing paper by machine and the resulting characteristics of the paper (not only seam marks and evidence of wire-belt repairs but also a thinning along the original edges as a result of slippage of the pulp under the deckle straps). Seam marks may be either vertical or horizontal in the leaves of books, or approximately so—but sometimes at angles that cause them not to run through

contiguous leaves in an unfolded sheet (as McMullin shows in three diagrams). The pattern of occurrences of seam marks in a book, when studied with the help of these diagrams and the standard imposition diagrams, can occasionally enable the bibliographer to determine the format—but, as McMullin cautions, additional evidence is usually needed to make a conclusive determination (except when a seam mark spans two or three gatherings). One must remember, in dealing with seam marks, that they may be present in some, but not all, copies of a gathering and thus that their pattern of occurrence will vary among the copies of an edition. (McMullin also discusses a few other analytical uses of seam marks: see below, under “Paper.”)

Another difficulty related to format in books from the later eighteenth and the early nineteenth century is posed by the increasing use of eighteenmo (see above, under “Collation”), which raises the question of how to tell whether a book gathered in sixes is duodecimo or eighteenmo. Pamela E. Pryde has answered it by summarizing three imposition schemes for duodecimo in sixes and two for eighteenmo in sixes, established by drawing information from eight printers’ manuals (plus Gaskell); and she adds two more for eighteenmo in sixes, with diagrams (“Determining the Format of British Books of the Second-Half of the Eighteenth Century Gathered in Sixes,” *Bibliographical Society of Australia and New Zealand Bulletin*, 23 [1999], 67–77 [cited for a different purpose in note 42 of my essay]).

All the imposition diagrams mentioned above supplement those referred to in note 82 of my essay. The relevant lists in my *Introduction to Bibliography* (2002 revision) are sections 9D6, 9F3–4, 9G6, and 9H5 (pp. 267–268, 291–293, 309–310, and 315, respectively). My *Bibliographical Analysis* (2009) briefly summarizes the primary means for determining format on pp. 38–39, 47, 53, 57–58, and 100–101 (note 12). Since format is a basic fact about every book, bibliographers should employ all available techniques for trying to discover it; thus the progress that is being made in learning how to use the evidence in machine-made paper is particularly welcome.

PAPER

My essay on “The Bibliographical Description of Paper” was published in *Studies in Bibliography*, 24 (1971), 27–67, and reprinted in *Readings in Descriptive Bibliography*, ed. John Bush Jones (1974), pp. 71–115, and in my *Selected Studies in Bibliography* (1979), pp. 203–243. I was pleased that my approach was approved by the great scholar of paper, Allan Stevenson, whom I had consulted shortly before the end of his life, when we were

both doing research at the Newberry Library. Since that time four scholars have made the most significant advances in the study of paper from a bibliographical point of view: David L. Vander Meulen, Paul Needham, B. J. McMullin, and John Bidwell.

Of their publications, the one with the widest applicability to bibliographical description, and a fundamental essay for the analysis of paper, is Vander Meulen's "The Identification of Paper without Watermarks: The Example of Pope's *Dunciad*," in *Studies in Bibliography*, 37 (1984), 58–81. (Three years earlier he had discussed and illustrated the various techniques taken up here in his pioneering 1981 dissertation, a descriptive bibliography of Pope's *Dunciad*; see pp. 47–58 for his general account and pp. 72–77 for one outstanding example.) Most previous bibliographical work on paper (including mine) had emphasized watermarks and the chainline spaces close to them and had either stated or implied that all the other chain spaces were equal to each other. But Vander Meulen points out that the spaces between chains in handmade paper vary within a given mould (and from one mould to another) and that the sequence of the distances between chainlines can identify the sheets produced in a single mould. Although for various reasons a given space may not be consistent in all those sheets, the variation is slight and the overall pattern is not affected.

In describing books printed on handmade paper, therefore, it is not sufficient simply to say, for example, "chainlines 23 mm. apart." Instead, the whole sequence across a sheet ought to be recorded, and Vander Meulen has supplied a system that bibliographers should adopt. He uses vertical lines to separate chain-space measurements (extending the practice Stevenson follows near watermarks), with three further conventions: parentheses indicate an estimated or incomplete measurement (at a gutter or when a sheet was cut between chainlines); ellipsis dots signify an incomplete sequence (for a partial sheet); and the percentage sign stands for a deckle edge (in parentheses when the deckle is inferred). A record (with measurements to the nearest half-millimeter, taken at the middle of the sheet) might look like this:

% (9) | 19 | 29.5 | 27.5 | 31 | (29) | 29.5 | 30 | 28.5 | 20 | (13) %

(One desirable modification suggested by John A. Lane is to use a vertical wavy line instead of the percentage sign: see "Arthur Nicholls and His Greek Type for the King's Printing House," *The Library*, 6th ser., 13 [1991], 297–322 [p. 318].) When there is a watermark, its position in the sequence should be shown, using Stevenson's system (explained in my essay); and the sequence should reflect the sheet as viewed from the mould side with the watermark right side up (the standard orientation for bibliographical use: see below for Needham's use of it). Obviously one

could also view the paper from the felt side, but it usually seems easier to work with the side showing the obverse of the image. When a watermark is not present, the orientation is not significant, since the sequence serves its purpose whether read forward or backward. The great value of giving all the chain-space measurements is that all handmade papers can thereby be identified, even when they have no watermarks or when only an unwatermarked part-sheet is present (as in some half-sheet gatherings). In the first of the two sample descriptions near the end of my essay, the identification of the watermark and countermark should include only the height and width measurements and should be followed (after a semicolon) by the chain-space sequence, incorporating a notation of the watermark position.

The most extensive use, thus far, of Vander Meulen's observations has been made by David L. Gants and R. Carter Hailey. Although their methods of collecting data differ (Gants's is high-tech and Hailey's low-tech), they both make chain-space sequences the center of their paper descriptions—accompanied by indications of wireline density (see below) and measurements of watermarks, with digital photographs (Gants) or freehand drawings (Hailey) of the watermarks. Both follow Vander Meulen's plan of using vertical lines to separate chain-space measurements, but each makes some modifications. Gants, when explaining his approach to building a database, says that he records the sequence for every sheet (not a representative one for any sheet from the same mould) and that he takes his measurements from either side of the watermark (not the center of the sheet), as a location accessible in a variety of formats. See "Identifying and Tracking Paper Stocks in Early Modern London," in *Papers of the Bibliographical Society of America*, 94 (2000), 531–540. However, in his online "A Digital Catalogue of Watermarks and Type Ornaments Used by William Stansby [1614–1618]" (2005), he does not report the sequence for each sheet individually, and he gives two chain-space sequences per mould, from the "top" and "bottom" of the sheet (that is, near the two longer edges, when the watermark is viewed in upright position). He also uses different symbols from Vander Meulen's: parentheses for chainlines that intersect watermarks, braces for deckle edges, double slashes for gaps in measurement, and square brackets for trimmed edges. Hailey makes fewer alterations to Vander Meulen's form of report, the chief one being to print in bold-face italics the figures for the space(s) where a watermark is located; and each of his chain-space measurements is an average of the measurements from several sheets, the result being a "composite chain-space model." (In using this approach, one must be careful not to obscure differences between paper stocks.) His method is set forth in detail on pp. 156–165 of "The Shakespearian Pavier Quartos Revisited" (*Studies in Bibliography*, 57 [for 2005–06; 2008], 151–195); he had previously

described his approach less fully in “The Bibliographical Analysis of Antique Laid Paper: A Method” (in *Teaching Bibliography, Textual Criticism, and Book History*, ed. Ann R. Hawkins [2006], pp. 149–154) and in “The Dating Game: New Evidence for the Dates of Q₄ *Romeo and Juliet* and Q₄ *Hamlet*” (*Shakespeare Quarterly*, 58 [2007], 367–387 [see pp. 372–373, 376–377]).

Vander Meulen’s 1984 essay also discusses several other ways to identify paper, none of which is covered in my essay. Their inclusion in a bibliographical description, however, is not necessarily required. The one most likely to qualify is a measurement of wireline density—expressed (as Vander Meulen suggests) in the number of wires per three centimeters. (A recent use of the three-centimeter measurement, reported to me by Vander Meulen, occurs in Agnieszka Helman-Ważny’s *The Archaeology of Tibetan Books* [2014], as on pp. 35, 177, and 231–248.) Since paper can be identified by the chainline sequences alone, the addition of wireline density may not be of further help, though it can sometimes be useful in making tentative discriminations among paper varieties and in determining which varieties come from the same pair of moulds. In any case, a thorough description is of course not limited to details necessary for identification, and the inclusion of wireline density obviously adds to the completeness of the description. Another identifying characteristic is the precise location of any tranchefiles (a tranchefile is an extra chain that sometimes occurs, at one or both ends of the mould, between the last regular chain and the frame of the mould); but since these lines would be part of the records of chain-space sequences (and recognized by the smaller intervals they usually create), they do not normally need separate attention.

Still another feature of laid paper is the “shadow” centered on many chainlines, caused by the supporting wooden ribs under the chains (except for most tranchefiles). Sometimes, apparently when chains are not directly aligned over the ribs (as they normally are), there is an effect of double chainlines, one of which in each pair is less distinct than the other. Vander Meulen does not include these secondary chainlines in his chain-space sequences, nor does he report the location of shadows in relation to the secondary chainlines. Although the presence of these features should perhaps be mentioned in general terms in a bibliographical description, they do not usually call for detailed reporting. A further article of Vander Meulen’s, published four years after this major one, should be mentioned here as a footnote to it: “The Low-Tech Analysis of Early Paper” (*Literary Research*, 13 [1988], 89–94), which conveniently sums up the techniques for analyzing paper and the literary and historical uses to which such analysis can be put.

Paul Needham has published an important series of essays on the history of paper and the analytical uses of paper evidence. Of these, the two that are perhaps most directly relevant to bibliographical description are "The Paper Supply of the Gutenberg Bible" (*Papers of the Bibliographical Society of America*, 79 [1985], 303–374) and "Allan H. Stevenson and the Bibliographical Uses of Paper" (*Studies in Bibliography*, 47 [1994], 23–64). The former includes the following example of a form for recording a paper stock (p. 317), which is repeated with further explanation and commentary in the latter (pp. 32–33, and with the addition of the "a" and "b"):

Royal: Bull's Head

a. mR₄ | 19 | 14 chains (ave. 42.1 mm) | 18 | (6+)
 b. mL₄ (3+) | 21 | 14 chains (ave. 42.3 mm) | 18 | (1+)

The heading shows the common name for the size of the sheet (Royal), along with a descriptive term for the type of watermark (Bull's Head), without further specification of the dimensions of either one. Needham feels that precise leaf measurements of handmade paper are not useful even for an example with surviving deckle edges, given the variations that would exist between measurements taken at different points and the difficulty of estimating how much is inaccessible in the fold. As long as the approximate nature of such measurements is clear, however, there is no harm in providing them as evidence for the extrapolation to the named size. The "a" and "b" lines in the description refer to the twin moulds of the particular paper stock; and "mR" and "mL" give the location of the watermark as being in the right or left half of each mould, with the attached number indicating which chain-space it is in (here, the fourth from the nearest short edge). For "right" and "left" to be meaningful, of course, the paper must be consistently viewed from the same side and with the watermark image upright. Needham recommends looking at the mould side; and if in certain instances the felt side seems more appropriate, the designation "(f.s.)" can be added. When a watermark design has no obvious top or bottom, the position of some arbitrary feature can sometimes be used and noted (though totally symmetrical abstract designs defeat the system altogether).

The remainder of each "a" and "b" line gives, at each end in parentheses, the distance from the deckle edge to the tranchefile; then, moving in from each end, the number between the vertical rules is the measurement from the tranchefile to the nearest regular chain; and finally, in the center, is the number of chainlines with the average distance between them. (One possible ambiguity—whether or not the stated number of chains includes the two apparently represented by the second and

third vertical lines—could be avoided if reference were made to “chain spaces” and not to “chains.”) Needham acknowledges that this statement of chainline numbers is “a very crude ‘measurement,’” but he believes it is usually sufficient for paper-stock identification when used in conjunction with the other details. He recognizes, however, that noting the size of every chainline interval, as suggested by Vander Meulen (see above), may sometimes be needed, especially in connection with unwatermarked paper. The tabular form of Needham’s presentation is obviously not essential: his notation can be made to fit within the general scheme I suggested at the end of my essay.

One notices that Needham’s description does not include an indication (using Stevenson’s system or any other) of the exact position of a watermark in relation to the adjacent chainlines. The reason is that Needham feels the information conveyed by such measurements is “so inferior to that supplied by actual-size reproductions” that he cannot regard them as “a fundamental element of paperstock description” (p. 34)—though he notes that they can indeed be helpful, as Vander Meulen has shown. In any case, reproductions cannot always be supplied; and, even when they are, some bibliographers will feel that they should be supplemented by measurements. But it is true, of course, that reproductions will always provide details not covered by verbal accounts. Needham’s essay on Stevenson includes other criticisms, but they are subordinate to the admiration expressed for Stevenson’s overall achievement. Reading Needham’s assessment of Stevenson should be an important part of any bibliographer’s preparation for thinking about paper. Several other essays of his also make basic contributions to this process: “Res papirea: Sizes and Formats of the Late Medieval Book,” in *Rationalisierung der Buchherstellung im Mittelalter und in der frühen Neuzeit*, ed. Peter Rück and Martin Boghardt (1994), pp. 123–145; “Concepts of Paper Study,” in *Puzzles in Paper: Concepts in Historical Watermarks*, ed. Daniel W. Mosser, Michael Saffle, and Ernest W. Sullivan II (2000), pp. 1–36; and his superb survey “The Paper of English Incunabula,” in *Catalogue of Books Printed in the XVth Century Now in the British Library*, ed. Lotte Heltinga (2007), pp. 311–334.

B. J. McMullin’s articles of 2003–04, 2004, and 2008 (cited above, under “Format”) are basic for the study of handmade wove paper in the late eighteenth and early nineteenth centuries and machine-made paper in the first half of the nineteenth century. They provide historical background and explain some analytical techniques applicable to those papers. In addition to outlining clues regarding format (see “Format” above), he shows (in the 2008 paper) how seam marks in machine-made paper can be used for dating (paper with seam marks is probably between 1810 and 1850) and for identifying cancels and other irregularities in the

makeup of a gathering (signaled by any breaking of a seam-mark pattern). An unanswered historical question that hampers some analysis is whether the printer gathered and collated sheets before sending them to the binder or whether, in the era of publishers' bindings, the binder took on this job; if the latter, random combinations of part-sheets in finished books might be more likely, thus rendering more doubtful the determination of the particular imposition used. The point most relevant to writing a bibliographical description is his suggestion of two alternative plans for recording seam marks (pp. 78–79):

seam marks horizontal: B₁ 2 7 8 F₃ 4 5 6 H₃ 4 5 6 M₁ 2 7 8
 seam marks vertical: C₅ 8 G₆ 7 K₆ 7 N₅ 8 R₁ 4 U₂ 3 Z₂ 3

seam marks horizontal: \$₁ 2 7 8 BM, \$₃ 4 5 6 FH
 seam marks vertical: \$₁ 4 R, \$₂ 3 UZ, \$₅ 8 CN, \$₆ 7 GK

As he points out, however, the pattern will not necessarily be the same in every copy of the edition; and if one therefore inserts library sigla (or copy numbers) in parentheses to identify individual copies, he feels that the first system would probably be clearer—though I believe that the preferable one might vary in different situations, since each has a different focus. In any case, they are both usable; and, though other schemes could be devised (especially to give more information about the exact positioning of the seam marks), there would seem to be no reason in most instances to do so.

I do, however, think there is reason to question the point McMullin makes next: that “one might well allow the record to stand unqualified [with copy sigla], to be understood as indicating that a seam mark of a particular orientation is to be found in the specified gathering in at least one copy from within the edition.” One could, of course, adopt an abbreviated form of paper description and omit the locations of seam marks entirely (saying simply “machine-made paper with seam marks”); but if one is going to specify a sample location, the copy (or copies) used to obtain that information should be specified. The situation is analogous to the recording of locations of other features that vary from copy to copy. In the case of handmade paper, for example, all the sheets of a book may have the same watermark and countermark, but those marks may not appear on the same leaves in every copy, depending on how the paper was turned before printing and how the printing and handling of half-sheet gatherings were carried out; furthermore, the small variations in the papers coming from twin moulds (variation in watermark placement and in chainline and tranchefile spacing) may not be identically distributed in every copy. In all such cases, therefore, one ought to cite not only signature locations but also the specific copies used—and normally to do so in

the basic description, rather than including the information in the list of copies examined (see “Arrangement” below), since what is being recorded is a feature of the edition as published, not a post-publication alteration. A justifiable exception to this last recommendation, however, can be illustrated by Stanley Boorman’s bibliography of Ottaviano Petrucci (2006), where he (remarkably) records the locations of watermarks throughout each copy examined (that is, not simply sample locations); this information (along with his thorough notes on other variable features, such as in-house corrections) is much more efficiently placed in the accounts of examined copies, which thus form the largest element in his descriptions.

One other matter that McMullin has written about is the paper-quality mark—the symbol that may appear in the direction line on the first page of a gathering to identify the paper when two issues on different papers are produced. The presence of such marks should obviously be noted in the paragraph on paper in a description. An example of these marks is illustrated by McMullin in *What Readers Should Ignore on the Printed Page* (2014), p. 7; see also his “Paper-Quality Marks and the Oxford Bible Press, 1682–1717,” *The Library*, 6th ser., 6 (1984), 39–49, and “Cowper’s *Complete Poetical Works*, 1837 (Russell, 166),” *Script & Print*, 40 (2016), 45–54 (esp. pp. 51–53).

John Bidwell’s contributions deal primarily with the history of papermaking and thus provide useful background for descriptive bibliographers, even if they are not always relevant to the practice of description. (For an excellent overview, see especially his “The Study of Paper as Evidence, Artefact, and Commodity,” in *The Book Encompassed*, ed. Peter Davison [1992], pp. 69–82.) But descriptive bibliographers will be glad to find in his extraordinary *American Paper Mills, 1690–1832: A Directory of the Paper Trade, with Notes on Products, Watermarks, Distribution Methods, and Manufacturing Techniques* (2013) a list of watermark attributions, citing each watermark and naming the mill that used it (pp. lxx–lxxiii). They will also be happy to find in “The Size of the Sheet in America: Paper Moulds Manufactured by N. & D. Sellers of Philadelphia” (*Proceedings of the American Antiquarian Society*, 87 [1977], 299–342) a table headed “Some Names for Anglo-American Paper Sizes and Their Measurements.” What makes this table more useful than others of its kind is that, for each of fifteen named sizes, the dimensions reported at nine specified times (from 1713 to 1952) are given.

Bidwell’s principal exercise in actual description of paper occurs in his *Fine Papers at the Oxford University Press* (1999), where (after an excellent historical account of the manufacture and sale of handmade paper) he provides fascinating commentaries on the forty specimens that are included in the book. Besides identifying these papers, he gives a concise

description of each one, citing primarily the characteristics that the Press would have recorded in its ledgers (but recognizing that such descriptions did not have to be self-sufficient because papermakers would have been shown samples of what was desired). Each of his descriptions consists of seven elements: weight (per ream of 480 sheets), texture (laid or wove), dimensions, substance (grams per square meter), thickness (caliper measurements in thousandths of an inch), color, and watermark. Here is an example: “28–pound hand-made antique laid, 16¼ x 22½ ins: 106 gsm, caliper .005 in., cream, *watermarked near each of the four corners*: W [flower] M (felt side)” (p. 46). Clearly two of these features, weight and substance, could not be reported from direct observation in descriptions of books since they require loose sheets (though they might be provisionally noted from external sources); but the other five are part of the standard I suggested in 1971, though presented differently. Bidwell recognizes that the thickness of a sheet of handmade paper is likely to vary from one part of the sheet to another, and thus the significance of the thickness figures he gives is not clear (a point made by David L. Vander Meulen in his review of this book in *Papers of the Bibliographical Society of America*, 97 [2003], 589–595). In my 1971 essay I suggested that such figures should be expressed either as a range or as an average; I would now add that, in the latter case, the word “average” or the abbreviation “avg.” should be appended to emphasize the status of the figure. (An article that may be regarded as a supplement to Bidwell, though published earlier, is John Purcell’s “The Availability of Hand-Made, Mould-Made and Fine Machine-Made Papers,” *Matrix*, 3 [1983], 67–75, which includes a three-page table giving specifications for twenty-nine papers that were available at that time.)

One of Bidwell’s services to descriptive bibliographers is to have written a thorough review of Peter F. Tschudin’s *Grundzüge der Papiergeschichte* (2002) for *Papers of the Bibliographical Society of America* (98 [2004], 105–109). Because Tschudin recommends describing paper and watermarks in terms of the *International Standard for the Registration of Paper with or without Watermarks* (first proposed by the International Association of Paper Historians [IPH] in 1992 and last revised in 2013 [text available on the IPH website]), Bidwell had occasion to assess that system—a task that most bibliographers have not undertaken. The system is designed to produce machine-readable records, each of which has potentially a hundred fields, sometimes involving intricate coding. As an example, Bidwell notes that a watermark consisting of a crown over CLK in script would be reported as “R₃/1—{b:(i:X)CLK}”—and this is far from being one of the more complex possibilities. Although a large database constructed in this way could indeed be searched productively, the effort involved in

writing such descriptions is a deterrent to their widespread use. Bidwell comes to the sensible conclusion that descriptive bibliographers may justifiably feel that their purposes are adequately served by readily understood verbal watermark descriptions (including, as Stevenson suggested, quasi-facsimile transcriptions).

A more detailed criticism of the IPH system (referred to by Bidwell) has been provided on the website produced at Bates College by Robert W. Allison and James A. Hart, "The WWW Watermark Archive Initiative," which is aimed at developing guidelines for online databases: see the section entitled "Commentary and Interpretation of the IPH Standard." In their comments on watermarks, they say, "Our objective is to use straightforward standardized language and eliminate the codes." This website also contains links to several online databases of watermark images, such as the University of Delaware's "Thomas Gravell Watermark Collection," containing some 8500 records as of early 2015; and the IPH website lists more than a dozen such links. (See below for some further references to discussions of online databases.)

The next year after my essay, Philip Gaskell (whose important earlier studies of paper are mentioned there) published *A New Introduction to Bibliography* (1972, 1974), which discusses the history and analysis of paper in two chapters. The one on paper in the hand-press period (pp. 57–77) has a page on description (pp. 76–77), and that on the machine-press period (pp. 214–230) has two pages (pp. 226–228). The former chapter includes the point, which cannot be stated too often, that handmade paper varies from sheet to sheet and that any edition may have been printed on two or more paper stocks, which may not be consistently represented in a given copy (emphasizing once again the necessity for examining a large number of copies). But the main contribution to paper description that Gaskell makes in this book has to do with machine-made paper. He enumerates five simple tests for distinguishing the characteristics of different stocks: (1) assess the feel (surface texture) and color in a good light; (2) identify, with a raking light, the belt side and notice the wove pattern; (3) measure the pattern (in wires per centimeter) and, if it is oblong or diamond-shaped (rather than square), notice whether its longer dimension is parallel to the grain (which is also the machine direction); (4) measure the thickness with a micrometer; and (5) establish the relative densities of papers in two books by weighing them (though it should be added that there are often too many variables here to make this test of much use). He then lists seven additional tests that, because they involve damaging the paper (by folding or applying chemicals), would not normally be of use to descriptive bibliographers. Tables of standard paper sizes are given for the hand-press period (pp. 73–75; provided in my essay as well) and the machine-press

period (p. 224). (A short list of handmade paper sizes also appears in J. D. Fleeman's bibliography of Samuel Johnson [2000], p. xxxvii.)

Besides Gaskell, another summation of basic information about paper (far more extensive than Gaskell's), incorporating original research and with fresh observations, is Neil Harris's *Paper and Watermarks as Bibliographical Evidence* (2010, 2017, on the website of the Institut d'Histoire du Livre in Lyon; a pdf of the second edition can be printed out as a document of 155 very full pages). It is a learned treatise on many aspects of paper study, presented in a "snappy" and "punchy" way (his words), with frequent jocular asides. (This style is not to everyone's taste, but the work does contain some memorable sentences.) The most relevant parts for descriptive bibliographers are embedded in the fourth and fifth chapters: "The Shape of Paper" (pdf pp. 32–44), which deals with size and format; and "Dillying and Dallying with Watermarks" (pp. 45–59), which includes comments on describing, reproducing, and classifying watermarks. Bibliographers who have occasion to consult published collections of watermark designs will benefit from the fascinating chapter on Briquet (pp. 60–75), which takes up his life, methods, and followers, as well as how to employ his great work. In using any of Harris's discussions, one would be well advised to read, at the same time, the corresponding sections of his impressive seventy-page analytical record of the international literature, full of references not easily found elsewhere and advice not available anywhere else—see especially sections 7–23 (pp. 112–131, on size, format, and watermark description and reproduction), 30–31 (pp. 136–144, on analytical bibliography and watermark collections), and 35 (pp. 150–152, on websites).

What may be regarded as a supplement to Gaskell's and McMullin's work on nineteenth-century paper is Chris Elmore's "Describing Nineteenth-Century Papers" (*Script & Print*, 40 [2016], 5–28), though its emphasis is on writing papers rather than printing papers (it should certainly be consulted by those dealing with handwritten letters and journals). Of the points relevant to bibliographers of printed books, two are worth repeating here, even though they are obvious to anyone who understands that paper made with the Fourdrinier machine has a wove pattern, imparted by the moving woven-wire belt on which the pulp is placed, and that any chainlines or watermarks result from the action of a dandy roll pressing into the other side of the pulp. Knowing this process, one can tell whether paper with a laid pattern is machine-made by noting whether it has a wove pattern as well as a laid pattern—the former of course indented into one side of the paper, and the latter indented into the other. (The indentations from the wove belt were deeper and closer together than those resulting from hand-held moulds, but this point,

being comparative, is difficult to make use of.) Second, machine-made watermarked paper (even without laid lines) can naturally be detected by the presence of the watermark indentations on the opposite side from the wove-pattern indentations; but one can also note that the indentations of the lines of the watermark design (and lettering, if any) are intersected by the indentations of the wove pattern from the belt—whereas in handmade wove paper the watermark, being on top of the wire mesh, covers the mesh pattern at the points of contact. (One must recognize that these facts about paper made with the Fourdrinier machine do not apply to so-called mechanical mould-made paper, in which a rotating cylinder mould deposits each sheet on a moving woolen felt, and in which all patterns and watermarks are therefore indented from the same side; another difference between such paper and Fourdrinier paper is that its fibers are distributed randomly in the sheet rather than solely in the belt direction.) Employing contemporary paper-trade sources, Elmore says that “laid” and “wove” were the standard nineteenth-century terms for printing papers. As for dimensions, he gives tables of writing-paper sizes (and size names), but he does not add anything to Gaskell’s table of machine-made paper sizes. Although he suggests that bibliographers might use some of the trade terms for other characteristics (such as finish, bulk, and opacity), he also indicates that they were somewhat impressionistic, reflecting the judgment of professionals who handled paper every day, and that they should therefore be used with caution—or, I would add, probably not be used at all (or only as ordinary adjectives, not as technical terms).

Among the many other post-1971 publications on the history and analysis of paper, several may be mentioned as particularly useful for descriptive bibliographers (and see the references in “Format” above). Published collections of watermark reproductions have improved since 1971 as a result of the use of beta-radiography and several photographic and digital processes. (See David E. Schoonover, “Techniques of Reproducing Watermarks: A Practical Introduction,” in *Essays in Paper Analysis*, ed. Stephen Spector [1987], pp. 154–167; A. de la Chapelle, C. Monbeig-Goguelle, and A. Prat, “Les filigranes des dessins anciens et les relèves betaradiographiques,” *Annals of Radiology*, 37 [1994], 249–258; David L. Gants, “The Application of Digital Image Processing to the Analysis of Watermarked Paper and Printers’ Ornament Usage in Early Printed Books,” in *New Ways of Looking at Old Texts, II*, ed. W. Speed Hill [1998], pp. 133–147; and Neil Harris, *Paper and Watermarks as Bibliographical Evidence* [2017], pp. 54–57, 128–131.) For example, there are Thomas L. Gravell and George Miller’s two volumes (*A Catalogue of American Watermarks, 1690–1835* [1979; rev. with Elizabeth Walsh, 2002] and *A Catalogue of Foreign Watermarks Found on Paper Used in America, 1700–1835* [1983]);

see the related article by Daniel W. Mosser and Ernest Sullivan II, "The Thomas L. Gravell Watermark Archive on the Internet," in *Puzzles in Paper: Concepts in Historical Watermarks*, ed. Mosser, Sullivan, and Michael Saffle (2000), pp. 211–228. A notable publication by a great cartographic scholar, David Woodward, is his *Catalogue of Watermarks in Italian Printed Maps ca. 1540–1600* (1996). A number of collections of watermarks are now available online, and two websites that conveniently provide links to many of them are those of the International Association of Paper Historians and of the "Bernstein: The Memory of Paper" consortium; see also Harris (cited three sentences earlier), pp. 150–152.

The two anthologies just cited, Spector (1987) and Mosser (2000), include a number of other pieces relevant to the description and recording of watermarks. The Spector contains Phillip Pulsiano's extremely useful list, "A Checklist of Books and Articles Containing Reproductions of Watermarks" (pp. 115–153). The Mosser presents three articles on watermark reproduction: Carol Ann Small's "Phosphorescence Watermark Imaging" (pp. 169–181), Rolf Dessauer's "DYLUX, Thomas L. Gravell, and Watermarks of Stamps and Papers" (pp. 183–185), and Daniela Moschini's "La Marca d'Acqua: A System for the Digital Recording of Watermarks" (trans. Conor Fahy; pp. 187–192). Also in the Mosser is Robert W. Allison's "An Automated World Wide Web Search Tool for Papers and Watermarks: The Archive of Papers and Watermarks in Greek Manuscripts" (pp. 201–210), which describes the Bates College archive mentioned above; and Ted-Larry Pebworth's "Towards a Taxonomy of Watermarks" (pp. 239–242), which offers a computer-oriented system based on a "flexible grid pattern" for describing locations of parts of watermarks.

A third anthology, *Looking at Paper: Evidence & Interpretation*, ed. John Slavin et al. (2001), emphasizes paper in prints, drawings, and manuscripts and has less of relevance for descriptive bibliography; but it does include Ruby Reid Thompson's "Historical and Literary Papers and the Application of Watermark Descriptions" (pp. 142–153), which makes use of the Nottingham University Library Watermark Database, and Ian Christie-Miller's "Digital Imaging" (pp. 139–141), on the "Bookmark" reflected-light system. A later article on Christie-Miller's approach is his "New Tools for Old Paper" (*The Book Collector*, 58 [2009], 383–389), which describes his Advanced Paper Imaging System, using both frontlighting and backlighting and showing conjugate leaves together. The equipment that Christie-Miller has devised is illustrated on his website (www.early-paper.com); the battery-powered one-millimeter-thick electroluminescent source for viewing paper structure and watermarks, which is a part of his system, has been marketed as "Pocket Viewlight" by Howard Eaton Lighting Ltd.

The series of articles reporting on the use of the Davis (California) cyclotron to analyze the makeup of paper and ink is most conveniently represented by Richard N. Schwab, Thomas A. Cahill, Bruce H. Kusko, and Daniel L. Wick's "Cyclotron Analysis of the Ink [and paper] in the 42-Line Bible," *Papers of the Bibliographical Society of America*, 77 (1983), 285-315. Two good general articles on the usefulness of watermark evidence, both published in 1978, are Bruno Scarfe's "A Role for Watermarks in Bibliographical Description, with Special Reference to a Collection of Spanish Dramatic Items," *Bibliographical Society of Australia and New Zealand Bulletin*, 12: 85-101; and Stephen Spector's "Symmetry in Watermark Sequences," *Studies in Bibliography*, 31: 162-178. Further references can be found in my *Introduction to Bibliography* (2002 revision), part 5, pp. 181-193, and sections 9D5, 9F2, 9G5, and 9H4 (pp. 205-207, 290-291, 307-309, and 314).

To summarize: the main points to be added to my 1971 recommendations are that one would be well advised to record the sequence of chain-line intervals in a stock of paper; that any indication of the location of a watermark should specify which half of the sheet it is in; that any citation of a given leaf as a source of evidence should indicate the particular copy of the book used; and that specifications of thickness of handmade paper should note that the figure is an average. These additions will make the treatment of paper both more comprehensive and more precise.

TYPOGRAPHY AND LAYOUT

I published "The Identification of Type Faces in Bibliographical Description" in *Papers of the Bibliographical Society of America*, 60 (1966), 185-202, and reprinted it (with a "Postscript") in *Journal of Typographic Research*, 1 (1967), 427-447; it was reprinted in a French translation in *Arts et techniques graphiques*, 86 (septembre-octobre 1972), 41-55. My suggestions for classifying or naming a type design (on various levels of specificity) and for measuring type faces (not type bodies) were followed by an example of how one might report features of layout such as the size of the type-page and the typography of running titles and headings. The idea of measuring faces rather than bodies has been advocated even in a professional printing journal: Eugene M. Ettenberg, writing in *Inland Printer/American Lithographer* for January 1969 (162.4) on the possibility of switching to metric measurements, said, "it is to be hoped that a newer method for designating type size, should it come, would not repeat the mistake with which we have lived so long, that of making the type size the size of body. Type should truly be graded by its optical size rather than by its metal size" (p. 48).

In supplementing my essay half a century later, I wish to call attention first to Harry Carter's *A View of Early Typography up to about 1600* (1969; reprinted in 2002 with an introduction by James Mosley)—not only because Carter is always worth reading but also because he takes Bowers as a starting point. His aim is to show how, given present knowledge of typographic history, one can respond to Bowers's doubts about how far a bibliographer can go in identifying a type face. At the outset, he says that a face is "sufficiently identified" by the name of the punch-cutter (that is, the design), the body size, and the "style" as described by standard adjectives. The second chapter opens with this passage (which includes a comment on measuring faces that could be extended to later periods):

Why should it be so difficult to do what Professor Bowers thought would be desirable, if it were possible: to particularize the type used in a book? If you measure it, and find that 20 lines set in it take up, say, 85 mm., you restrict it to a class of a particular body—a property of a typefounder's mould. It remains to describe the face, which might be cast on a variety of bodies. I had rather name typefaces for size by the conventional body that would best fit them, Pica, Long Primer, Minion, and such, than by numbers, qualifying these terms if necessary by adding "large" or "small". Some time in the early part or the middle of the sixteenth century these names acquired fixed meanings. Until it becomes appropriate to use them it is safest to measure the face of a fount, which you can do if you have a powerful magnifying-glass and a fine scale and measure from the top of b to the bottom of p or the extent of an *Italic f*. This, called the gauge of the face, cannot vary. (p. 23)

Carter proceeds to discuss the value of naming the designer-cutter (which sums up "all manner of information as to place and time, circumstances and relationships"), and he notes the inadequacy of the usual terms of classification. "It is evident," he says (and bibliographers should take note), "that in considering the face of a fount of type we are in a world of art, styles, difficulty of saying what styles, inherited forms, human hands" (p. 24). But although he concludes that this "humble art" is not "susceptible of scientific treatment," he clearly believes that rigorous historical description is possible.

The next book that should be mentioned, because of its prominence, is Philip Gaskell's *A New Introduction to Bibliography* (1972, 1974), though unfortunately its section called "Type Sizes; and Description" (pp. 12–16) makes recommendations that raise some questions. To begin with, Gaskell says that a twenty-line measurement (from the top of an ascender in one line to the same point in the twenty-first line below) gives one (after division by twenty) the "apparent body-size," though he adds, "It is important to make sure that the lines measured are set solid." He says that if the vertical gap between the bottom of a descender in one line and the top of an ascender in the next line is half a millimeter or less,

the lines are “probably” set solid; but if the space is greater, the lines are “either leaded or printed from a fount cast on an oversize body.” How, then, has the body size been made “apparent”? This is precisely the difficulty that caused me to recommend not referring to the body size but focusing instead on what is actually visible, and I continue to believe that my suggestion is sound (giving the vertical size and the x-height of the face combined with a multiple-line measurement). The specific number of lines to be measured is a less important matter, and Gaskell’s choice of twenty is traditional; but he should at least have indicated that a twenty-line measurement is not the only responsible possibility, since the greater convenience of ten (which I pointed out) was recognized as long ago as McKerrow’s time (p. 306 of his 1927 *Introduction*), and later by Allan Stevenson in his 1961 volume of the Hunt catalogue (p. clxxxii). Another problem with Gaskell’s discussion is the form of report he stipulates. After the vertical dimension of the face is measured, he says, “the x-height and the capital height are measured in millimetres and the result is presented in the form: ‘[face height X 20] X [x-height] : [capital height]’”; his example is “Body 82. Face 80 X 1.7 : 2.5.” Although this system is “adapted” from one “introduced” by H. D. L. Vervliet in *The Type Specimen of the Vatican Press 1628* (1967), it is not in any sense an established standard. He should have made clear that he is simply recommending this form but that other plans are plausible; it is regrettable that his prescriptive assertion (“the result is presented in the form . . .”) will mislead the very people that such an introduction is meant to instruct.

Gaskell’s treatment does, however, make two points that usefully supplement my discussion. First, he notes how measurements are complicated by paper shrinkage and ink seepage. His guideline is that shrinkage (as the dampened paper dried after printing) reduced the type-face dimensions “by about 1 per cent, and occasionally by as much as 2½ percent.” One must certainly keep this point in mind; all one can do is to take multiple measurements in different copies and caution the reader about the problem in an introduction. As for the ink spread that occurs when the type sinks into the paper, one must be sure to measure (using magnification) only the indented impression, not the total ink smear. This point was effectively made in 1988 by Adrian Weiss in explaining why photographic reproductions are not useful for making type measurements (“Reproductions of Early Dramatic Texts as a Source of Bibliographical Evidence,” *Text*, 4: 237–268). (Cf. Joseph A. Dane’s discussion of reproductions and shrinkage in relation to type measurement in *The Myth of Print Culture* [2003], pp. 75–82.) The other helpful point in Gaskell’s discussion is that the height of a capital should be given as well as the total height (ascender to descender) and the x-height. David L. Vander Meulen, in his *Dunciad*

bibliography (1981 dissertation), explains the value of all three measurements for revealing the proportions of a design, and he suggests simply giving the three figures (measured to the nearest third of a millimeter) with virgules separating them (e.g., “face 4.0/2.7/1.7”).

There are two other matters that I wish to add to what I wrote in 1966. First, the indication of the number of lines on a typical page is meaningful only for books of prose or long narrative poems. For books of short poems, where few (if any) pages have text extending down to the point where the last line would occur—and where even those pages may have stanza breaks of more than a single line space—the bibliographer will have to depart from the formulaic statement I suggested and explain precisely what the situation is (indicating, for example, the amount of space between stanzas, altering the multi-line measurement to something smaller than ten lines if all the stanzas in the book are shorter than that, and noting whether each poem begins on a new page).

The second matter is that there may be times, especially in the hand-press period, when it would not be objectionable to give the type-body size as well as the type-face size. When the multi-line measurement comes close to what it would be at a specific time for a particular standard type (pica, long primer, etc.) if set solid (always allowing for paper shrinkage), one may be justified in concluding that this type was the one used. Gaskell provides a table (p. 15) giving the names of the nine most common body sizes in the hand-press period and the twenty-line measurements of each at varying times. (Carter gives a similar list of twelve sizes on p. 127; and J. D. Fleeman gives a list of thirteen sizes, important for not being based on multi-line measurements but rather on such combinations as “ly”, in his Samuel Johnson bibliography [2000], p. xxxvii.) A much more comprehensive table was published by John Richardson, Jr., in “Correlated Type Sizes and Names for the Fifteenth through Twentieth Century” (*Studies in Bibliography*, 43 [1990], 251–272). This fourteen-page table records twenty-line measurements in millimeters, inches, and points (pica, fournier, and didot), along with the type names in seven countries. Although he is careful to measure the type impressions under magnification and recognizes the problem of paper shrinkage, one may still feel that some of his measurements are unrealistically precise.

Indeed, this table has been severely criticized by James Mosley (in “Type Bodies Compared,” *Journal of the Printing Historical Society*, n.s., 23 [2015], 49–58) for “indiscriminately” bringing together measurements from “sources that are unevenly reliable” (p. 56); he regards it as a “useful reminder of the problems involved”—problems that to some extent affect the other published tables as well. Mosley’s main point is that size names varied in the sizes they signified in different geographical locations and

at different times. He provides a pioneering table (pp. 50–51) indicating the various sizes (measured to hundredths of a millimeter) that certain names could refer to in ten specimens from about 1585 to 1768. Although one can use the earlier tables for giving a general sense of relative sizes, Mosley has made it clear that one must be aware of local traditions at different times. Furthermore, anyone concerned with measuring type and naming the body sizes in pre-eighteenth-century books should read two detailed reviews of W. Craig Ferguson's *Pica Roman Type in Elizabethan England* (1989): one by Adrian Weiss in *Papers of the Bibliographical Society of America*, 83 (1989), 539–546; the other by John A. Lane in *The Library*, 6th ser., 14 (1992), 357–365. Ferguson's book, which is intended to help date books and identify their printers, uses a brief checklist of features for identifying types, but they are not adequate for determining the specific type stock owned by a given printer (see the comments on font analysis below).

In my account of levels of specificity for identifying type faces, the highest one involves recourse to specimen books, and there is one bibliography that can be singled out for its excellence in performing this task for post-Renaissance books. David Gilson's *Jane Austen* (1982) includes type descriptions supplied by Nicolas Barker in the following form (this one for *Northanger Abbey and Persuasion*, 1818):

Printing: type: Vols.1 and 2 were printed by Roworth, Vols.3 and 4 by Davison. In Vol.1 the 'Biographical notice' is set in Caslon Small Pica, the 'Small Pica No.2' from the Caslon and Catherwood specimen in Stower's *Printer's grammar* 1808, with figures from 'Small Pica No.1'; the 'Advertisement' is in a Caslon Pica roman, identical with the 'Pica No.1' in Caslon and Catherwood's 1819 *Specimen*, apart from some letters which are of a different cut, perhaps slightly earlier. The text of Vols.1 and 2 is set in Caslon Pica roman, the first in the Stower Caslon and Catherwood specimen. The text of Vols.3 and 4 is set in a Caslon Pica roman, between the second pica roman shown in the Stower Caslon and Catherwood specimen, and 'Pica No.4' in Caslon and Catherwood's 1821 *Specimen*. . . . (p. 81)

Barker also contributed "A Note on the Typographical Identifications" (pp. xi-xiv), which is worth reading for its comments on the difficulties of using typefounders' specimens and the particular problems associated with the 1780–1830 period. He notes that the work requires "an eye accustomed to the minute details that distinguish the cut of one letter from its equivalent in another fount." This point illustrates why Gilson was wise to turn to a specialist—and suggests that other bibliographers might do the same.

For classifying type faces into broad categories, my suggestion of the DIN system (the initials standing for Deutsches Institut für Normung since 1975), as presented by James Mosley in 1960, remains appropriate in my view—especially the terms "Renaissance," "Baroque," and "Neo-

Classic," which also appear in Gaskell's adaptation of the DIN plan in his *New Introduction* (p. 16). Robert Bringhurst, known for his thoughtful discussion of typographic matters, has provided one of the best statements of the reasons to use such historically allusive terms. In his often reprinted *The Elements of Typographic Style* (1992), after mentioning research on "scientific descriptions," he says:

But letterforms are not only objects of science. They also belong to the realm of art, and they participate in its history. They have changed over time just as music, painting and architecture have changed, and the same historical terms—Renaissance, Baroque, Neoclassical, Romantic, and so on—are useful in each of these fields. . . . Typography never occurs in isolation. Good typography demands not only a knowledge of type itself, but an understanding of the relationship between letterforms and the other things that humans make and do. (p. 111)

He then presents a historical classification using these headings: Renaissance, Mannerist, Baroque, Rococo, Neoclassical, Romantic, Realist, Geometrical modernism, Lyrical modernism, and Postmodern (pp. 111–123).

There will never be an end, however, to the construction of classification systems, and many other discussions of the subject have been published since 1966. Most of Alexander Lawson's *Printing Types: An Introduction* (1971, 1990), for example, is devoted to classification. After a brief summary of four systems (Vox, Association Typographique Internationale, British Standards Institution [BSI], and DIN), he offers "An Attempt to Formulate a Rational System" (pp. 45–119); although it is useful for its numerous examples of designs and its historical discussion of each, the system itself uses the traditional "old style," "transitional," and "modern," which are widely thought to be inadequate. Bringhurst himself offered a "scientific" approach in "On the Classification of Letterforms" (*Serif*, 1 [Fall 1994], 30–39); it amounts to an extensive analogy with biological classification (using such terms as *phylum*, *class*, *order*, *family*, *genus*, and *species*) and seems unlikely to become widely employed. (His discussions of some individual period styles followed in the next several issues of *Serif*.) Lesser examples are J. Ben Lieberman's *Types of Typefaces and How to Recognize Them* [1967] and Gordon Atkins's *The Classification of Printing Types* [1975]. Among the helpful treatments of earlier systems are Walter Tracy's "Type Design Classification," *Visible Language*, 5 (1971), 59–66 (on Vox, BSI, and DIN); John Dreyfus's "The Typographical Importance of Maximilien Vox," *Matrix*, 17 (1997), 1–11; and Craig Eliason's "A History of the 'Humanist' Type Classification," *Printing History*, n.s., 18 (July 2015), 3–26. A criticism of the DIN system is Gerrit Noordzij's "Broken Scripts and the Classification of Typefaces," *Journal of Typographic Research*, 4 (1970), 213–240.

In connection with naming specific type designs, my 1966 essay noted several listings of specimen books and several anthologies of type faces; some of the most important works in both categories have been published since that time. As for lists of specimens, there are Maurice Annenberg's *Type Foundries of America and Their Catalogs* (1975, 1994) and James Mosley's *British Type Specimens before 1831: A Handlist* (1984). Mosley also edited facsimiles of the 1766 Caslon specimen (1983) and the 1796 Stephenson specimen (1990), and John A. Lane edited facsimiles of the 1768 and 1773 Enschedé specimens (1993). In the category of anthologies of faces, the two outstanding ones are *Rookledge's International Type-Finder* by Christopher Perfect and Gordon Rookledge (1983) and *A Manual of Comparative Typography: The PANOSE System* by Benjamin Bauermeister (1988). Both are very helpful, with their cross-reference charts and "earmark" tables, but the PANOSE system is more complicated to use and the book displays many fewer faces. Another worthy work is Albert Kapr's *The Art of Lettering* (trans. 1983), which shows a large number of "typefaces of the present" (and includes a brief comparative discussion of classification schemes). A few other examples are James Sutton and Alan Bartram's *An Atlas of Typeforms* (1968, 1988) and *Typefaces for Books* (1990), Mac McGrew's *American Metal Typefaces of the Twentieth Century* (1986, 1993), *Centennial's Typeidentifier* (1986, with its "Typographical Sleuthing" sections), Lawrence W. Wallis's *Modern Encyclopedia of Typefaces, 1960–1990* (1990), Michael Mitchell and Susan Wightman's *Book Typography: A Designer's Manual* (2005), and Alan Bartram's *Typeforms: A History* (2007).

Descriptive bibliographers need a vocabulary for talking about type designs (in addition to classifying and naming them), and my 1966 comments (which deal primarily with weight and width) should now be supplemented with Philip Gaskell's excellent "A Nomenclature for the Letter-Forms of Roman Type" (*The Library*, 5th ser., 29 [1974], 42–51). Other glossaries are *Type Evidence: A Thesaurus for Use in Rare Book and Special Collections Cataloging* (Association of College and Research Libraries, 1990); Robert Bringhurst's "Sorts & Characters" and "Glossary of Terms" in his *The Elements of Typographic Style* (1992), pp. 214–240; and Theodore Rosendorf's *The Typographic Desk Reference* (2009, 2016). (See also S. J. M. Watson, "Three Notes on Nomenclature," *Printing Historical Society Bulletin*, 46 [Winter 1998–99], 9–10.) The nomenclature and classification of printers' ornaments are taken up by Roger Burford Mason in "A Note on Type Ornaments, Borders and Flowers" (*Albion*, 20 [Summer 1983], 5–9), and by Jim Mitchell in "The Taxonomy of Printers' Ornaments" (*Bibliographical Society of Australia and New Zealand Bulletin*, 9 [1985], 45–60).

Near the end of my essay, I mentioned the possibility of identifying the individual font owned by a particular printer—that is, the specific col-

lection of types in a given printer's set of cases, recognizable through its idiosyncrasies, such as damaged and wrong-font types. Although Charlton Hinman in 1963 did some work of this kind (in *The Printing and Proof-Reading of the First Folio of Shakespeare*), it was Adrian Weiss who showed in detail how to pursue such analysis and use it to identify printers—in several brilliant articles: "Font Analysis as a Bibliographical Method: The Elizabethan Play-Quarto Printers and Compositors," *Studies in Bibliography*, 43 (1990), 95–164; "Bibliographical Methods for Identifying Unknown Printers in Elizabethan/Jacobean Books," *Studies in Bibliography*, 44 (1991), 183–228; and "Shared Printing, Printer's Copy, and the Text(s) of Gascoigne's *A Hundreth Sundrie Flowres*," *Studies in Bibliography*, 45 (1992), 71–104.

Another sophisticated approach to type analysis, not mentioned in my 1966 essay (because it had not yet been undertaken), involves computer assistance. Nicolas Barker, in his chapter of *The Book Encompassed* ("Typographic Studies"), ed. Peter Davison (1992), quotes from two 1982 articles by the digital-type designer Charles A. Bigelow as a basis for suggesting the adaptation of computer type-designing techniques to the historical analysis of type faces (pp. 96–98). In 2003, two projects employing digital enlargements of type faces were the subjects of published reports. Kay Amert explained a system for superimposing two images, one made up of horizontal and the other of vertical screened lines (or of two tints) in order to reveal minute differences in type-face shapes ("Digital Comparison of Letterforms," *Printing History*, 46: 21–35). The other report, by Blaise Agüera y Arcos, described the work he and Paul Needham had done with computer enlargements of Gutenberg's type faces, revealing that variations were present among the types for any given letter and suggesting that Gutenberg's early types were made in nonreusable moulds ("Temporary Matrices and Elemental Punches in Gutenberg's DK Type," in *Incunabula and Their Readers: Printing, Selling and Using Books in the Fifteenth Century*, ed. Kristian Jensen [2003], pp. 1–12). There are also digital atlases of type faces in progress (see, for example, Heiner Klocke, "The Software Architecture of the Hebrew Type Digital Image Atlas," in *Hebrew Typography in German-Speaking Regions: An Interim Report*, ed. Klocke and Itari Joseph Tamari [2001], pp. 63–70). But at present most collections of type designs on the internet are commercially oriented and require searching by the name of the design, though "Identifont" and "Fonts.com" do allow for identifying certain digital fonts by answering several questions about their appearance.

Although the analysis of ink, beyond naming its color, is not likely to be undertaken for most descriptive bibliographies, the composition of ink can be revealed by cyclotron analysis in the same operation that discloses the makeup of paper (as mentioned above under "Paper"). An extensive

checklist of material on “Typography, Ink, and Book Design” appears in my *Introduction to Bibliography* (2002 revision), part 6, pp. 195–224—which includes, in sections A–E (pp. 195–204), additional publications related to the identification and classification of type faces. See also the *New Cambridge Bibliography of English Literature* (1969–74), in which the relevant sections are by Nicolas Barker, Terry Belanger, Graham Pollard, James Mosley, and Peter Davison. In preparing oneself to describe type designs and layout, one must always keep in mind that these are art forms.

TYPESETTING AND PRESSWORK

In “The Treatment of Typesetting and Presswork in Bibliographical Description,” *Studies in Bibliography*, 52 (for 1999; 2000), 1–57, I discussed how some of the results of bibliographical analysis might be incorporated into a descriptive bibliography. Analysis, of course, underlies all aspects of a description, but I was dealing here only with the kinds of analysis that would be reported in a paragraph on typesetting and presswork. I have nothing to add to my proposals there, but I do wish to emphasize again the importance of including this kind of information in a descriptive bibliography, as demonstrated long ago in David L. Vander Meulen’s bibliography of Pope’s *Dunciad* (1981 dissertation). (A few examples of analysis that might appear in paragraphs other than the one on typesetting and presswork: the analysis of format is generally reported in the collation line; the identification of printers in the many instances of false or incomplete imprints, based on the analysis of type-case contents or printers’ ornaments, could well be mentioned in connection with title-page transcription; and the distinguishing of impressions, which may require a number of analytical techniques, obviously affects the whole structure of a description.)

The most comprehensive discussion of bibliographical analysis since my 1999 essay is my *Bibliographical Analysis: A Historical Introduction* (2009), based on my Sandars Lectures (mentioned as unpublished in note 3 of that essay). The second chapter, “Analysis of Manufacturing Clues” (pp. 31–60, with notes on pp. 97–108), does not deal with the formal presentation of bibliographical evidence but in other respects covers much the same ground as the 1999 essay, summarizing the uses of each technique of analysis (it also supplements the earlier piece with references to later work). (For the analysis of paper, discussed in the book but not in the 1999 essay, see “Paper” above.) The book includes in its “Subject Guide” a listing of the main writings on each analytical technique, useful for its selectivity; many additional writings, but only through 2002, are recorded in my *Introduction to Bibliography* (2002 revision), part 9, pp. 255–365.

I wish to call particular attention to three other post-1999 publications. They are outstanding examples of the application of analytical techniques to particular editions; and although they were not intended to be general introductions to the subject, they serve that purpose admirably (at least for the pre-1700 period): Randall McLeod, "Chronicling Holinshed's *Chronicles*: Textual Commentary," in *The Peaceable and Prosperous Regiment of Blessed Queene Elizabeth: A Facsimile from Holinshed's "Chronicles" (1587)*, ed. Cyndia Susan Clegg (2005), pp. 19–76; Adrian Weiss, "Casting Compositors, Foul Cases, and Skeletons: Printing in Middleton's Age," in *Thomas Middleton and Early Modern Textual Culture: A Companion to the Collected Works*, ed. Gary Taylor and John Lavagnino (2007), pp. 195–225 (cf. "Running-Title Movements and Printing Method," pp. 484–485); and Paul Needham, *Galileo Makes a Book* (2011). All three are notable for their use of running-title evidence for identification of skeleton-formes, but their handling of all techniques is exemplary. In connection with running titles, it is worth noting that Needham's chapter "Parallel Printing and Running Titles" (pp. 155–165), written with David L. Vander Meulen, sets out the running-title evidence in three tables with grid lines: the first lists the different settings of the running titles and shows (with vertical columns for each sheet) where each one appears; the second is organized by forme and indicates which setting is on each page of each forme; and the third, arranged by sheet, shows (with vertical columns for each setting) all the settings that appear in each sheet. These tables illustrate one way in which the more compressed presentation I suggested can be modified to produce still greater clarity in some instances. A fourth work, though it does not as readily serve the function of an introduction, offers a comprehensive (if flawed) example of how to investigate printing practices: Claire M. Bolton's *The Fifteenth-Century Printing Practices of Johann Zainer, Ulm, 1473–1478* (2016), which pays attention to tolerances in measurements (pp. 28–29, 54–56) and includes chapters on printers' measures (pp. 81–118), on point-holes (pp. 192–219), and on blind impressions from bearer type (pp. 119–158) and from the cloth used to dampen the paper (pp. 159–191); cautions about using this work are expressed by B. J. McMullin in *Script & Print*, 41 (2017), 58–62.

Beyond these works, many analyses of more limited scope have appeared since 1999, and I shall list some of them as useful examples of a variety of techniques (arranged here in the order followed in the 1999 essay):

IDENTIFIABLE TYPES AND ORNAMENTS. Adrian Weiss, "A 'Fill-In' Job: The Textual Crux and Interrupted Printing in Thomas Middleton's *The Triumph of Honour and Virtue* (1622)," *Papers of the Bibliographical Society of America*, 93 (1999), 53–73. Chiaki Hanabusa, "Shared Printing in Robert Wilson's *The Cobbler's Prophecy* (1594),"

Papers of the Bibliographical Society of America, 97 (2003), 333–349; and “The Printing of the Second Edition of Thomas Nashe’s *The Unfortunate Traveller* (1594),” *Papers of the Bibliographical Society of America*, 104 (2010), 277–297. Andrew Benjamin Bricker, “Who Was ‘A. Moore’? The Attribution of Eighteenth-Century Publications with False and Misleading Imprints,” *Papers of the Bibliographical Society of America*, 110 (2016): 181–214.

SPELLING AND LAYOUT VARIATIONS. MacD. P. Jackson, “Finding the Pattern: Peter Short’s Shakespeare Quartos Revisited,” *Bibliographical Society of Australia and New Zealand Bulletin*, 25 (2001), 67–86. Paul Werstine, “Scribe or Compositor: Ralph Crane, Compositors D and F, and the First Four Plays in the Shakespeare First Folio,” *Papers of the Bibliographical Society of America*, 95 (2001), 315–339. Vernon Guy Dickson, “What *I Will*: Mediating Subjects; Or, Ralph Crane and the Folio’s *Tempest*,” *Papers of the Bibliographical Society of America*, 97 (2003), 43–56. T. H. Howard-Hill, “Early Modern Printers and the Standardization of English Spelling,” *Modern Language Review*, 101 (2006), 16–29. S. W. Reid, “Compositor B’s Speech-Prefixes in the First Folio of Shakespeare and the Question of Copy for 2 *Henry IV*,” *Studies in Bibliography*, 58 (for 2007–8; 2010), 73–108.

HEADLINES. Eugene Giddens, “The Final Stages in Printing Ben Jonson’s *Works*, 1640–1,” *Papers of the Bibliographical Society of America*, 97 (2003), 57–68. Paul Needham, “The *Canterbury Tales* and the Rosary: A Mirror of Caxton’s Devotions,” in *The Medieval Book and a Modern Collector: Essays in Honour of Toshiyuki Takamiya*, ed. Takami Matsuda, Richard Linenthal, and John Scahill (2004), pp. 313–356 (see p. 323). Andrew Zurcher, “Printing *The Faerie Queene* in 1590,” *Studies in Bibliography*, 57 (for 2005–6; 2008), 115–50.

POINT-HOLES. Martin Boghardt, “Pinhole Patterns in Large-Format Incunables” (trans. John L. Flood), *The Library*, 7th ser., 1 (2000), 263–289. Paul Needham, “Ulrich Zel’s Early Quartos Revisited,” in *Incunabula on the Move*, ed. Ed Potten and Satoko Tokunaga (2014; *Transactions of the Cambridge Bibliographical Society*, 15.1, for 2012), 9–57.

PRESS VARIANTS. Masi Agata, “Stop-Press Variants in the Gutenberg Bible: The First Report of the Collation,” *Papers of the Bibliographical Society of America*, 97 (2003), 139–165. Neil Harris, “Nine Reset Sheets in the Aldine *Hypnerotomachia Poliphili*,” *Gutenberg-Jahrbuch*, 2006, pp. 245–275. Paul Needham, “The 1462 Bible of Johann Fust and Peter Schöffer (GW 4204): A Survey of Its Variants,” *Gutenberg-Jahrbuch*, 2006, pp. 19–49. Wallace Kirsop, “An Avowal of Stop-Press Correction in 1817,” *Script & Print*, 34.1 (2010), 8. Gabriel Egan, “The Editorial Problem of Press Variants: Q₂ *Hamlet* as a Test Case,” *Papers of the Bibliographical Society of America*, 106 (2012), 311–355; and “Press Variants in Q₂ *Hamlet*: An Accident on N(outer),” *Studies in Bibliography*, 59 (2015), 115–129. Huub van der Linden, “Printing Music in Italy around 1700: Workshop Practices at the Silvani Firm in Bologna,” *Papers of the Bibliographical Society of America*, 109 (2015), 491–532.

IMPRESSIONS FROM MATERIALS NOT MEANT TO PRINT. Randall McLeod, “Where Angels Fear to Read,” in *Mar(k)ing the Text: The Presentation of Meaning on the Literary Page*, ed. Joe Bray, Miriam Handley, and Anne C. Henry (2000), pp. 144–192. Neil Harris, “Rising Quadrats in the Woodcuts of the Aldine *Hypnerotomachia Poliphili*,” *Gutenberg-Jahrbuch*, 2002, pp. 158–167; and “The Blind Impressions in the Aldine *Hypnerotomachia Poliphili* (1499),” *Gutenberg-Jahrbuch*, 2004, pp. 93–146.

PRESS FIGURES. Robert Dawson, "Notes on Press-Figures in France and the Localization of Books during the Later 18th Century," *Bibliographical Society of Australia and New Zealand Bulletin*, 28.3 (2004), 97–121. B. J. McMullin, "The Eighth Edition of Scott's *Lay of the Last Minstrel*," *Papers of the Bibliographical Society of America*, 100 (2006), 447–461; and "Early 'Secular' Press Figures," *The Library*, 7th ser., 10 (2009), 57–65.

The matter of "localization" (detecting features that are characteristic of printing practices in different geographical areas) was taken up briefly in note 16 of my essay; the references there can now be supplemented with Carlo Dumontet's "Compositorial Practices in Seventeenth-Century Naples" (*Papers of the Bibliographical Society of America*, 98 [2004], 149–161) and with Robert Dawson's article listed just above.

It was only in connection with localization of compositorial practices that I mentioned the placement of printed signatures. But the role of signature positions in distinguishing editions, an old (and continually useful) technique that has also been a part of some "fingerprinting" systems for shorthand identification of editions (see "Relation to Library Cataloguing" above), is discussed in my *Bibliographical Analysis*, p. 103. Also in that book I commented (pp. 58–59) on the situation (not uncommon in nineteenth-century books printed from plates, especially American ones) where printed signatures do not correspond to the actual gatherings. Analysis of such signatures can sometimes reveal structural decisions made during the production of a book. For example, Melville's *Clarel* (as I pointed out in the Northwestern-Newberry Edition [1991], pp. 678–679) was published in two volumes gathered in eights, but its occasional printed signatures do not match that structure. An analysis of the occurrence of those signatures suggests that the original plan was for a one-volume publication gathered in twelves (and that signatures for the earlier plan were incompletely removed). B. J. McMullin has recently analyzed a number of examples of conflicting signatures, in "Gatherings and Signatures in Conflict" (*Script & Print*, 39 [2015], 241–247). He groups them into two categories: those where the discrepancy between signatures and gatherings was unintended, resulting from an unforeseen event or decision at a time when it would have been inconvenient to make alterations; and those where two or more sets of signatures are present, resulting from a plan to accommodate different impositions. Both situations normally imply printing from plates, since the removal or insertion of signatures after plating would be especially time-consuming. (See also McMullin's "Cowper's *Complete Poetical Works*, 1837 (Russell, 166)," *Script & Print*, 40 [2016], 45–54.)

The line in which signatures are printed, just below the text of a page (the "direction line"), sometimes contains symbols or numbers that are not regular signatures, as may happen in the direction lines on other

pages as well. In a footnote (note 58) to my discussion of press figures, I mentioned several other kinds of notation that may occur in direction lines. In his Foxcroft Lecture for 2012, B. J. McMullin provided a much expanded discussion of these matters (*What Readers Should Ignore on the Printed Page: Communication within the Book Trade*, 2014). Besides giving a basic introduction to press figures (pp. 7, 8–10), he comments on several types of “communication between printer and binder”: paper-quality marks (pp. 7–8; see under “Paper” above), sheet numbers (p. 11), part numbers in works published serially (pp. 11–12), and modified signatures to handle “disturbances in the printing house” (such as added material, errors in casting off, and cancels, pp. 12–17). He concludes with a very different form of binders’ instructions: actual statements printed vertically along left edges or on leaves containing text for binding labels (pp. 17–19, supplementing his 2010 article on binders’ instructions: see “Ideal Copy” above). All his discussions are accompanied by reproductions of examples, and his lecture as a whole is a convenient summary of one class of bibliographical evidence that should be analyzed and recorded by descriptive bibliographers (as should discrepancies in catchwords, which are another feature of direction lines).

A technique not mentioned in my 1999 essay is the use of variations in leading (the spacing between lines of type) to identify different printings of the same edition; for an explanation, see Gillian G. M. Kyles, “Alteration of Leading within Editions,” in *Studies in Bibliography*, 52 (1999), 187–191. My 1999 essay (followed by my 2009 book) does touch on the means for distinguishing whether type or plates were used to print particular pages or books, but it does not raise the question of distinguishing Monotype from Linotype. I wish to pass along here a detail communicated to me by David L. Vander Meulen: he was told by the printer of *Studies in Bibliography* (in the days when that journal was printed from Linotype) that occasionally an individual Linotype matrix might not be seated properly before the slug was poured. Thus a slug might contain a type-high space that would print (as happened in *Studies in Bibliography*, 35 [1982], 275); and what one might ordinarily think would be a sign of printing from separate types cannot be assumed to be so. This situation is analogous to that in which a shifting type is caught in one of its misaligned positions when a stereotype plate was made. Comparison of multiple copies will of course show no further shifting in either the stereotype or Linotype instances.

We are now surely beyond the point where the logical validity and scholarly value of analytical bibliography can be questioned. D. F. McKenzie’s “Printers of the Mind” in the 1969 *Studies in Bibliography* was the culmination of a tradition of doing so. But I hope that my repeated

comments on it—in my 1999 essay, in the earlier pieces cited in its note 6, in my 2004 overview of McKenzie's work (*Papers of the Bibliographical Society of America*, 98 [2004], 511–521; reprinted in my *Portraits and Reviews* [2015], pp. 405–415), and in my 2009 book (pp. 26–29)—have sufficiently summarized the reasons for continuing the attempt to uncover, from the physical evidence in individual books, the printing-shop activities that produced those books. Recently a new assessment of McKenzie's essay was put forward by Joseph A. Dane in *Blind Impressions: Methods and Mythologies in Book History* (2013), in a chapter called “Bibliographers of the Mind” (pp. 58–72). Although he does not cite my comments, he makes some of the same points, especially noting the problems entailed by McKenzie's elevation of printers' records over the books themselves as primary evidence—and as unfailingly accurate documents at that. Even if what Dane says is not new, the central five pages of his chapter (pp. 63–68) are worth reading for his striking way of stating the defects of McKenzie's piece. For example, he rightly says that if primary evidence is limited to external evidence (printers' records), then McKenzie's “criticisms of analytical bibliography are little better than tautologies” (p. 68).

Given this sound evaluation, it seems contradictory that Dane calls McKenzie's piece “the article that should have sounded the death knell on compositorial study” (p. 60). The attempt to define individual compositors' habits is only one kind of analysis, and Dane's focus wavers between analytical bibliography in general and compositor study in particular. He seems to have an irrational dislike for the latter, saying “I have never believed in the virtues of compositorial analysis” (p. 59) and “The habits of a compositor . . . are not interesting to me” (p. 70). He adds, irrelevantly, “I cannot think of a single case where a significant Shakespeare word or phrase is better documented because we have determined compositorial stints.” This statement, even if true, is irrelevant because (1) there is always the possibility that such analysis might be productive in the hands of future scholars, and (2) the value of an analytical technique does not turn on its usefulness for establishing texts. Whatever can be learned about the production of a book is a contribution to history, whether or not it helps editors.

A far more consequential criticism of compositor study (at least when dependent on variant spellings) has been offered by Pervéz Rizvi in “The Use of Spellings for Compositor Attribution in the First Folio” (*Papers of the Bibliographical Society of America*, 110 [2016], 1–53). After an amazingly thorough and fascinating analysis (based on many more spellings than have conventionally been used), Rizvi concludes that compositors' spellings were so variable as to “support or rebut almost any attribution” and

thus to “call into question the point of doing this work at all” (p. 43). The idea that individual compositors might have had no fixed spelling preferences (and might have been influenced in their choices by a great many factors, or simply the whim of the moment) should not be surprising, for it accords with human nature. But human beings have varying dispositions, and some compositors may actually have had firm spelling habits; investigating other editions in the way Rizvi has examined the First Folio would not necessarily prove inconclusive in every case. After all, even within the Folio, the division of *Macbeth* between two compositors, first proposed in 1920, “remains unchallenged and still appears very convincing,” according to Rizvi (p. 18). This degree of success may be rare, but it is possible. Whether or not the tabulation of spellings (and abbreviations, punctuation, and spacing) results in a convincing determination of compositorial divisions, it gives one information, for the pervasive variation that defies interpretation is itself a fact about the typesetting of a particular edition (and about the historical development of written language). Rizvi has provided bibliographers with a more comprehensive set of cautions for pursuing this kind of work than they have had before. (The sensible requirements suggested by Mark Bland in *A Guide to Early Printed Books and Manuscripts* [2010], pp. 139–140, are commendable, but they should now be supplemented by an awareness of Rizvi’s observations.)

Compositor analysis of all kinds has long been recognized as somewhat more speculative than presswork analysis (though the latter is not without its problems); but ruling out any potentially helpful approach is unwise. A great deal of historical research in all fields leads to results that are less than certain, but that is no reason to abandon it, when conducted responsibly with awareness of the pitfalls. Books are full of traces of their own production, and (as I have said many times) scholars must persist in making every effort to tap this great body of evidence. The point has been especially well argued by David L. Vander Meulen in “Thoughts on the Future of Bibliographical Analysis” (*Papers of the Bibliographical Society of Canada*, 46 [2008], 17–34); he concludes that it is “important to proceed with an understanding of the role of the physical in human activity and the role of physical evidence in revealing the past and understanding the present.” This is ultimately the reason that we must follow the clues we find in books, using all the tools at our disposal.

NON-LETTERPRESS MATERIAL

The treatment of illustrative materials in books (such as pictures and maps), especially those—like engravings and lithographs—produced by non-relief processes, is taken up in my “The Description of Non-Letterpress Material in Books,” *Studies in Bibliography*, 35 (1982), 1–42. Since that

time the most important relevant book for descriptive bibliographers, at least from a practical point of view, is Bamber Gascoigne's *How to Identify Prints: A Complete Guide to Manual and Mechanical Processes from Woodcut to Ink Jet* (1986). After explaining the different kinds of prints (sections 1–46), it provides “Keys to Identification” (47–79) and suggests how to proceed (“The Sherlock Holmes Approach,” 82–106). It is full of enlarged photographs of details; there is no better source of help for bibliographers who wish to identify the process used to produce a given print.

Another important book, which bibliographers should not overlook, is Joseph Viscomi's *Blake and the Idea of the Book* (1993). Although his book deals with only one process, relief etching, its first 150 pages describe that process with a well-illustrated account that is perhaps the most thorough exposition of a graphic process ever written. The broader significance of the book for bibliographers, however, is its thoughtful discussion of variants among copies printed from the same plate. In the case of Blake's illustrated books, prints were produced in batches at discrete periods; each batch has certain stylistic features (especially in coloring) that distinguish it, and each subsumes various lesser variations. Although Viscomi calls these batches “editions” (since “impressions” in graphic-art terminology refers to each “copy”), they clearly are analogous to what bibliographers of printed books call “impressions” or “printings.” The example of Blake is of course unique in some ways, but Viscomi's approach to it provides a model for thinking about variants in non-letterpress material in general. As I noted in my 1982 essay, bibliographers often need to relate a given illustration (and different states of it that may appear in different copies of an edition) to its history as an independent entity (offered for sale on its own); and reading Viscomi can help a bibliographer to approach this problem. (He also deals with the editorial implications of his analysis: see my review in *Nineteenth-Century Literature*, 49 [1994–95], 534–537, reprinted in *Portraits and Reviews* [2015], pp. 334–337.)

One more basic and distinctive publication is Roger Gaskell's “Printing House and Engraving Shop: A Mysterious Collaboration” (*The Book Collector*, 53 [2004], 213–251). He begins by pointing out, quite rightly, that bibliography has been verbal-text-oriented and that “a bibliography of images” is needed, one that deals not only with inserted illustrations but also those (even when produced on different presses) that appear on the same pages as verbal text. His approach thus moves a step beyond my essay, which was largely concerned with inserted plates. After an account of the history and process of copperplate printing (drawing on the early rolling-press manuals), Gaskell makes a number of observations based on an examination of some seventeenth-century books with engravings. He notes, for example, that plates were usually printed on the mould side of the paper, with chainlines parallel to the shorter sides of the image. The

paper was usually different from that used for the letterpress because the plates were normally printed by a different printer at a different location, and often two or more images (sometimes intended for different books) were printed on the same sheet; the plates for a given book appear on mixed paper stocks somewhat more often than the letterpress text does.

Descriptive bibliographers will be particularly interested in knowing (whether or not the intended placement of plates was specified in print) that printers occasionally put the plates in their proper positions before sending the folded and gathered sheets to the binder (who, in first-class work, may have removed them before beating the sheets and then replaced them). Sometimes engravings were printed on the same sheets as letterpress text, and in those instances the letterpress was printed first, with spaces left for the engravings, before the sheets were sent to the rolling-press printer (with faulty register a not uncommon result). It is worth remembering, as Gaskell notes, that engravings would have been added to the letterpress in a single press run for the whole edition and are thus less likely to display variations than inserted plates, which could have been printed before or after the letterpress and possibly in distinct batches. Gaskell concludes with advice for descriptive bibliographers: that they should record “the spatial relationship of graphics and verbal text, the internal reference systems in use, [and] the placing and folding of the plates” (p. 233), all of which help to reveal authors’ and publishers’ intentions. Although Gaskell focuses on engravings, he includes a discussion of woodcuts (pp. 232–233) and believes that his approach is applicable to lithography. His article should be required reading for all descriptive bibliographers who deal with illustrated books.

A good analysis of an instance of adding an engraving to letterpress is offered by Randall McLeod (“Orlando F. Booke”) in “IMAGIC: *a long discourse*” (*Studies in the Literary Imagination*, 32.1 [Spring 1999], 190–215). See also Karen Bowen, “Illustrating Books with Engravings: Plantin’s Working Practices Revealed” (*Print Quarterly*, 20 [2003], 3–34). The presence of engravings on integral letterpress leaves poses no problem for the letterpress collation formula, since those leaves can simply be regarded as letterpress leaves. But sometimes inserted leaves contain both letterpress and non-letterpress, and the question of whether to report them in the letterpress collation or the non-letterpress collation was not taken up in my 1982 essay. Therefore I will add here a generally applicable rule of thumb: when the letterpress part consists of words that connect with the verbal text on the adjacent pages, the insertion belongs in the letterpress formula; but when the letterpress part is directly related to the non-letterpress image (as with a caption) rather than to the surrounding verbal text, the insertion belongs in the non-letterpress formula. It should

also be noted that sometimes a wholly letterpress insertion calls for the same treatment as a non-letterpress one—when, for example, it contains only a chart or a table, without verbal text connecting it to the adjacent pages. (See also my comments, under “Collation” above, regarding the role of textual content in structural formulas.)

More information on the rolling press can be found in Anthony Dyson, “The Rolling-Press: Some Aspects of Its Development from the Seventeenth Century to the Nineteenth Century” (*Journal of the Printing Historical Society*, 17 [1982–83], 1–30), and in his *Pictures to Print: The Nineteenth-Century Engraving Trade* (1984). Gascoigne can be supplemented on photography by Richard Benson’s *The Physical Print: A Brief Survey of the Photographic Process* (2005). And for lithography there are the books by the great scholar of the subject, Michael Twyman, including *Early Lithographed Books: A Study of the Design and Production of Improper Books in the Age of the Handpress* (1990), which deals with verbal-text books printed entirely by lithography, and *A History of Chromolithography* (2013), which includes color plates of sequential color proofs with magnified images. Also useful for bibliographers are Geoffrey Wakeman, *Graphic Methods in Book Illustration* (1981); Gavin D. R. Bridson and Donald E. Wendel, *Printmaking in the Service of Botany* (1986); Lois Olcott Price, “The Development of Photomechanical Book Illustration,” in *The American Illustrated Book in the Nineteenth Century*, ed. Gerald W. R. Ward (1987), pp. 233–256; Carol Wax, *The Mezzotint: History and Technique* (1990); and Bamber Gascoigne, *Milestones in Colour Printing, 1457–1859* (1997).

The matter of terminology—that is, the relation of the classificatory terms used by letterpress bibliographers to those used by scholars treating non-letterpress processes—is the main concern of Sarah Tyacke’s “Describing Maps,” in *The Book Encompassed*, ed. Peter Davison (1992), pp. 130–141. Her survey of cartobibliographical approaches to early maps shows that the emphasis has often been on the production of individual plates (and their states) rather than on the published combinations of images printed from the plates; but she recognizes that cartobibliography must combine these approaches, and she makes particularly clear the difficulties of accounting for atlas editions made up of widely varying combinations of states of plates. These difficulties have caused some cartobibliographers to reject the term “edition”; but she believes that “the word ‘edition’, if sensibly applied, is still useful.” She does not, however, formulate her own definition of this or other terms, though she adds, “The balance [in current usage] seems to be coming down in favour of defining the word ‘plate’ as the equivalent of a book ‘edition’” (p. 138). But such a definition applies only to plates as independent entities, not to the collections that form “books” (such as atlases). The random nature

of the contents of many (or perhaps most) pre-nineteenth-century atlases causes her to say that “often only the title and text are the identifiers of some new stage in their [the plates’] history”—but that in itself points to a distinct publishing effort that can define an edition of a book as a whole, regardless of how many variants exist within it. As I pointed out in 1982, a basic complication of dealing with all non-letterpress contributions to books, not just maps, is that they often have separate histories outside the books; but that complication does not prevent the application of standard bibliographical classification both to the printed plates and to the books. Bibliographers who wish to gain additional background for thinking about these questions may find Tyacke’s essay useful.

An excellent example of a descriptive bibliography concerned with books consisting entirely of engravings is David Hunter’s *Opera and Song Books Published in England, 1703–1726* (1997). His approach is notable for his recognition that “the standard techniques of bibliographical description and the concepts of analytical bibliography . . . are applicable to non-letterpress material” (p. xxiv). They “have all been tested,” he says (in his thorough discussion of “Bibliographical Description” in his introduction, pp. xxiv–xxxvi), “and have been found to apply”—with only a few adjustments needed. One of them is that for these books an impression (in the bibliographer’s sense of the copies printed at one time) is often distinguished by whether one or both sides of each leaf were printed, or else by the use of modified “passe-partout” title pages (in which the plate has a blank space to be filled in, usually with text from an extra small plate). These books represent the earliest extensive use of passe-partout title pages, which are the most distinctive feature that Hunter had to deal with. To accommodate them, he created two new symbols for use in title-page transcriptions to mark the beginnings and ends of the blank spaces. Other small modifications arise from the fact that these books are made up primarily of disjunct leaves printed one at a time, and often on only one side. Bibliographers dealing with the same kind of books will be helped by examining Hunter’s thoughtful practice, whether or not they decide to follow it in every respect.

An article expressing the same conclusion as Hunter’s—that “the standard methods of descriptive bibliography” can be used in dealing with engraved matter—is Ronald K. Smeltzer’s “Typographic Books from Intaglio Printing Plates” (*Caxtonian* [Caxton Club], 24.5 [May 2016], 1–5). The difference here is that Smeltzer focuses on verbal-text books printed entirely from intaglio plates, with each plate being made up of multiple text-pages arranged for folding into gatherings (and even bearing signatures). Obviously the structure of such books can be represented by the usual style of formula that is regularly employed for letterpress books. Smeltzer’s only innovation arises from the fact that the book he chooses

to describe has three inserted letterpress leaves of verbal text, and he proposes noting them within the formula in bold-face type, to distinguish them from the intaglio-printed leaves. This suggestion seems appropriate in such an instance, for nothing would be gained (and indeed some clarity lost) by creating a second formula for the few letterpress leaves of verbal text. Thus there can be occasions on which it is not objectionable to report the products of two different printing processes in a single formula, as long as the two are clearly distinguished. The nature of the content of the inserted leaves is likely to play a role, as I suggested above in connection with leaves that combine letterpress with intaglio. The book Smeltzer describes also has nine engraved folding illustrations inserted, but he sensibly does not include them in the formula for the gathered sheets and letterpress inserts, even though they were printed by the same method as the gathered sheets.

An example of an unusually detailed description of a plate book is Lord Wardington's "Sir Robert Dudley and the *Arcano del Mare*. 1646–8 and 1661" (*The Book Collector*, 52 [2003], 317–355). Other good, but less elaborate, descriptions of plates are in Paul W. Nash's "Pinxit, Sculpsit, Excudit, Etcetera: Some Notes on the Lettering Which Appears on Prints" (*The Private Library*, 5th ser., 4 [2001], 148–187); but the most useful part of his article, as the title suggests, is its glossary of terms and abbreviations used in prints, which serves as a supplement to Gascoigne's section 48 ("Words below the Image"). One bibliography that focuses exclusively on the illustrations in the books it records is the second volume of Nigel Tattersfield's monumental *Thomas Bewick* (2011). A helpful discursive and evaluative guide to the literature is Gwyn Walters's "Developments in the Study of Book Illustration" (covering primarily post-1945 work, including the history of science), in *The Book Encompassed*, pp. 142–150. Fuller listings are Gavin D. R. Bridson and Geoffrey Wakeman's *Printmaking & Picture Printing* (1984); Bridson and James J. White's *Plant, Animal & Anatomical Illustration in Art & Science* (1990); and my *Introduction to Bibliography* (2002 revision), part 7, pp. 225–236, which includes references both to art-historical works and to technical treatises and cites additional checklists. The literature is large, but bibliographers cannot avoid exploring some of it if they are to treat the non-letterpress parts of books as carefully as they do the letterpress parts.

PUBLISHERS' BINDINGS, ENDPAPERS, AND JACKETS

When descriptive bibliographies are conceived as records of books as published, and thus as contributions to publishing history, the only bindings that are relevant to the basic descriptions are those commissioned by publishers as the outward form in which their books were to be offered

to the public. In practice, therefore, most descriptive bibliographies of authors, printers, publishers, and subjects (as opposed to catalogues of specific collections) provide binding descriptions only for books published in edition-bindings, which became common in the 1820s. Before that time, however, booksellers (or others fulfilling the publishing function) did apparently often place portions of some editions on sale in a form of temporary or unfinished binding; and when such bindings can be identified (as with the boards-and-label style of the late eighteenth and early nineteenth centuries), they would properly be included in basic descriptions. (See the comments on the recent work of Nicholas Pickwoad and Aaron T. Pratt under "Ideal Copy" above.)

Some account of the craft or custom (that is, non-publishers') bindings that are found on most books from before the 1820s may be given in descriptive bibliographies in the paragraph on the copies examined, where any post-publication features of individual copies can be recorded (see "Arrangement" below). Such accounts, when they exist, are usually very brief; the place where more detailed descriptions of custom bindings occur is in catalogues of collections, where the focus is on the particular copies that happen to have been brought together in those collections. The historical study of the structure and decorative styles of custom bookbindings is a distinct field, with its own terminology and an extensive and distinguished literature. The best sources to turn to for basic guidance are relatively recent ones: David Pearson, *English Bookbinding Styles 1450–1850: A Handbook* (2005, 2014); the chapter on "Armorial, Other Binding Stamps & External Features" in his *Provenance Research in Book History* (1994), pp. 97–131; Mirjam M. Foot, "Bookbinding and the History of Books," in *A Potencie of Life: Books in Society*, ed. Nicolas Barker (1993), pp. 113–126; Nicholas Pickwoad, "The Interpretation of Bookbinding Structure: An Examination of Sixteenth-Century Bindings in the Ramey Collection in the Pierpont Morgan Library," *The Library*, 6th ser., 17 (1995), 209–249; and Philipp J. M. Marks, *The British Library Guide to Bookbinding: History and Techniques* (1998). A recent example of a great descriptive catalogue with detailed accounts of bindings is Giles Barber's *The James A. De Rothschild Bequest* (2013). Other outstanding work of recent years can be found in any book by A. R. A. Hobson, H. M. Nixon, or Mirjam M. Foot. (A long list of the literature of custom binding appears in my *Introduction to Bibliography* [2002 revision], section 8D, pp. 239–248; for publishers' bindings, see section 8E, pp. 248–251.)

In the strictest sense, publishers' "bindings" are not bindings but rather casings, since the cloth-covered boards and spine constitute a case that is manufactured separately and into which the sheets are fastened. But the term "publisher's binding" (or "edition-binding") is widely used and

understood, and there is no need to insist on replacing it with “casing” or “case.” The description of publishers’ bindings requires a means for citing colors and cloth grains; describing endpapers also entails noting colors and sometimes (in the case of marbled papers) the various patterns that marblers have traditionally used; and accounting for jackets obviously includes the identification of colors. I took these matters up in three essays, on color (1967), patterns (1970), and jackets (1971, supplemented in 2011), including in them some suggested wordings for the relevant paragraphs in descriptive bibliographies.

Color

“A System of Color Identification for Bibliographical Description” was published in *Studies in Bibliography*, 20 (1967), 203–234, and reprinted in my *Selected Studies in Bibliography* (1979), pp. 139–170. My recommendation of the *ISCC-NBS Centroid Color Charts*, emerging from an extensive survey of possibilities, was clearly the correct one, and those charts have gained fairly wide acceptance among bibliographers since then. Their use was endorsed in Philip Gaskell’s *A New Introduction to Bibliography* [1972, 1974], pp. 238–239, and, for the book-conservation community, in *Abbey Newsletter* for December 1980. A list of eighteen bibliographies using the charts was published in 1990 by Craig S. Abbott in “Designating Color in Descriptive Bibliography: The ISCC-NBS Method in Practice” (*Papers of the Bibliographical Society of America*, 84: 119–129).

Abbott also explained some of the mistakes made in those bibliographies in the use of the charts, the most basic one being a failure to understand that each chip represents the center of the color-name block designated by the accompanying number and abbreviated name. Thus bibliographers who say their matches are inexact do not recognize that their choice of the closest match in each case does in fact provide an exact match to the area surrounding the centroid chip. I made this point in 1967, but it cannot be stated too often, considering how frequently bibliographers have misunderstood it. (Although Abbott objects to the phrase “centroid number”—and the citation of a specific number in the form “Centroid 191”—as indicative of this confusion, I think the usage can be condoned as a shorthand version of “the number associated with a chip in the *ISCC-NBS Centroid Color Charts*.”) Abbott further notes that bibliographers have sometimes misinterpreted the abbreviations assigned to the color-name blocks and expanded them improperly—not realizing, for instance, that lower-case letters indicate the “-ish” form of a color name (so that “yG,” yellowish green, is a different color from “YG,” yellow green). As Abbott observes, many bibliographers have seemingly used the charts without consulting the related ISCC-NBS dictionary, where

the system used in the color-name abbreviations is explained. His article provides some useful cautions for bibliographers wishing to employ the *Centroid Charts*.

One of the requirements I formulated for an appropriate color-matching system was that there should be "strong assurance of continued availability in the future." Because the *Centroid Color Charts* were published by the National Bureau of Standards (NBS), I believed that they met this requirement. Unfortunately, however, in 1983 the NBS discontinued their sale, pending the results of a test of the stability of the color chips by the color consultant H. Hemmendinger; and in February 1984 the NBS discovered that twenty-seven of the chips (out of 251) had shifted enough to move from one color-name block to another. Although the charts were included in the NBS's 1984-85 catalogue of *Standard Reference Materials* and in the March 1984 price list, they did not appear in the October 1984 price list and have not been available from the NBS since then. On 6 April 1984 I wrote a long letter to Richard W. Seward of the Standard Reference Materials section, explaining why the charts were essential for bibliographical work and (recognizing that bibliographers formed a small constituency) making the obvious point that a color standard was needed in many areas of endeavor. It seemed to me, I said, that a "national bureau of standards" could be expected to provide a standard for color designations. I received no reply, and three months later (on 9 July 1984) I telephoned Stanley D. Rasberry, chief of the Office of Standard Reference Materials, with whom I had a cordial but unencouraging conversation. He confirmed that distribution of the charts had stopped, and he said that the only hope for any resumed production (since the NBS did not have its own color laboratory) was the receipt of private funding.

There the matter has rested, except that over the years several persons associated with the development of the charts have privately sold copies from the small stock that remained (after the distribution of many copies by the NBS), out of an original edition of 20,000. The most recent of those persons has been Nick Hale, who had been technical director of the Munsell Color Company at the time it oversaw the production of the charts (by the Tobey Color Card Company) and who had alerted the NBS to the problem of shifting in 1983. Hale's possession of the stock was publicized to the bibliographical world on 19 July 1996 by Sandra Alston (of the Fisher Library at the University of Toronto) through the email list of the Bibliographical Society of Canada. When Hale (then of Hale Color Consultants, Inc., which is now in Naples, Florida) sent out copies, he included with each set a statement about the color shifts, along with a thorough report of the results of the 1984 measurements; and as of June 2003, at which time about 150 sets were left, he also enclosed a brief account of the history of the *Centroid Charts*.

The significant color-chip shifts discovered in 1984—that is, the twenty-seven that shifted from one color-name block to another—are as follows: the chip for block 24 shifted to block 235; 56 to 59; 59 to 62; 75 to 78; 108 to 110; 118 to 125; 126 to 138; 129 to 131; 139 to 141; 147 to 166; 194 to 197; 195 to 199; 196 to 200; 197 to 201; 198 to 202; 200 to 204; 206 to 210; 208 to 212; 213 to 202; 215 to 229; 218 to 223; 220 to 225; 221 to 226; 225 to 243; 239 to 259; 247 to 250; and 257 to 260. Persons who consult descriptive bibliographies that cite centroid numbers (and the corresponding color names) should be aware that these twenty-seven numbers may not be accurate (depending on the date of the bibliographer's work). But given the approximate nature of such citations in the first place, along with the fact that the only major chip shifts are to closely related color blocks, the shifting is not likely to render any previously written description seriously defective. The copies of the charts that are used in connection with reading these bibliographies may not of course precisely match those that were used by the bibliographers, but this situation is not a serious problem. In 2003, Hale expressed the belief, based on his long experience, that the chips had probably changed very little since 1984 and thus were still usable.

Whether new descriptions, however, should be based on the *Centroid Charts* is a question that one might at first think ought to be answered in the negative. After all, they are not readily available, and at least twenty-seven of the samples in them are not accurate. But it may be that there is no satisfactory alternative from a practical point of view. The two main contenders are the charts produced by the Munsell Color Company and by Pantone, Inc. Munsell has tradition behind it, since the Munsell system is the fundamental one of the twentieth century (see my discussion of it in the 1967 essay) and is in fact the system on which the centroid sampling of the color solid is based. And the *Munsell Book of Color* is published in two editions, one with glossy and the other with matte samples (over 1600 of them). The fact that matte samples are available and that the samples are removable makes the *Munsell Book* especially appropriate for bibliographical use (and it is indeed widely employed for scientific as well as industrial purposes). It is unwieldy, however, and at present each edition costs about \$1000. It is not suitable for bibliographers to carry easily with them, and most will not wish to spend the money on a copy. Libraries could of course be encouraged to purchase copies for their special-collections reading rooms, but inevitably bibliographers will still find many places without a copy.

Pantone is more commercially oriented than Munsell, but bibliographers will be interested in the fact that the Pantone system is frequently used in the graphic-design and printing industries. There is a wide variety of Pantone Matching System Color Guides for different purposes; most

take the form of fans (some with over 1700 colors), provide either coated or uncoated samples, identify each one with a Pantone number and name, and cost in the \$100–\$500 range. A loose-leaf book is also available, as well as apps for mobile devices. And there are several websites (such as www.pantone-colours.com) that offer comprehensive showings of Pantone colors, each labeled only with a Pantone number; but matching to a computer screen is not recommended, since colors can vary from one screen to another. (Pantone is a subsidiary of X-Rite, which offers spectrophotometers, but besides their costliness they go beyond the specificity required for bibliography.) A compact and convenient book does exist, called *The Pantone Book of Color* (1990), by Leatrice Eiseman and Lawrence Herbert, who provide an informative introduction. It displays 1024 colors labeled with Pantone numbers and with names; the Pantone names, however, are often fanciful—such as “dusty jade green” or “moonlite mauve” or “apricot wash”—and are not appropriate for bibliographical citation.

The matter of naming is vitally important, since a description must enable one to visualize a color without recourse to a chart (though a chip number is there for times when greater precision is needed). The merit of the ISCC-NBS naming system (used in the *Centroid Charts*) is that only commonly understood adjectives are used. The ISCC-NBS dictionary (discussed in my essay) enables one to convert Munsell notations as well as centroid numbers to the standard color names; but the use of Pantone numbers (though it would allow easy access to an approximation of the colors on the internet) would not accommodate the use of those names. Taking all these considerations into account, bibliographers would be well advised to follow one of two courses. (1) Continue to use the *Centroid Charts*, since 89.2% of the chips are probably still accurate (in that any shifting has not moved them out of their color-name blocks) and since the other 10.8% can be assumed to have shifted to such closely related color-name blocks as not to invalidate a description (which in any case refers to a segment of the color solid, not a single point). (2) Use the *Munsell Book of Color* when convenient to do so, supplementing it at other times with the *Centroid Charts*; combining the two in a single bibliography poses no problem as long as all the names are expressed in the ISCC-NBS standard forms. Besides the ISCC-NBS dictionary, another source for the equivalences is a website provided by the Texas Precancel Club, which lists the centroid numbers and names along with the equivalent Munsell notations and small color samples: search the internet for “NBS/ISCC Color System - Tx4.us”, or use “tx4.us/nbs-iscc.htm”. An example of a bibliography that uses the centroid system and also supplies the corresponding Munsell notation in each instance (as “perhaps more accessible”) is David Alan Richards’s *Kipling* (2010), which thus sets a valuable precedent.

Patterns

The essay I wrote on “The Bibliographical Description of Patterns” (covering cloth grains and marbled papers, as well as the stamping applied to the cloth for particular editions) appeared in *Studies in Bibliography*, 23 (1970), 71–102, and was reprinted in my *Selected Studies in Bibliography* (1979), pp. 171–202. Since that time there has been a great deal of interest in the description of nineteenth-century publishers’ bindings; but there is one publication that stands out as a promising guide for future use. It is Andrea Krupp’s *Bookcloth in England and America, 1823–50* (2008), a slightly revised version of an article in *Papers of the Bibliographical Society of America*, 100 (2006), 25–87. This work emerged from an ongoing project by two conservators (Krupp and Jennifer Woods Rosner) at the Library Company of Philadelphia called “The Database of Nineteenth-Century Cloth Bindings (available online via the Library Company’s website, under “Collections,” then “Conservation Department Research on Bindings”). Based on the Library Company’s holdings, each entry in this excellently designed database includes more than sixty fields of data on binding cloth and design, binding structure, sewing patterns, and endpapers, providing a wealth of information that is beginning to make possible a more detailed understanding of the history of publishers’ bindings and a more exact determination of the dates of undated books or successive bindings-up. The heart of the publication (in both 2006 and 2008) is a “Catalogue of Nineteenth-Century Bookcloth Grains” containing actual-size color photographs of 125 grain patterns (plus six variants)—far more than have been published in previous sets of photographs for bibliographical use. Krupp thinks of her book as a “‘field guide’ for identifying and dating nineteenth-century bookcloth.”

Each photograph is labeled with a reference code and a descriptive name. The basic names are the ones previously used by Carter, Sadleir, Gaskell, Ball, and me, though some of the modifying adjectives are new, and “moiré” is taken as a family name, not a modifier. (Krupp claims that I use “a different approach”—different from supplying names—by assigning “letter and number codes”; but I emphasized in my essay, as I do again now, the importance of a standard terminology consisting of commonly understood words.) The codes consist of three-letter abbreviations of the grain families, with attached numbers reflecting the arbitrary order of the photographs within each family. Thus “Ban8: Fine dotted ribbon” is the eighth photograph in the section devoted to the “Bands” family, and “Wav3: Diagonal wave” is the third in the “Waves” section. The twelve families are Bands; Beads; Diapers and Diamonds; Hexagonal; Leather Textures; Moiré; Nets and Meshes; Ribs; Ripples; Sand, Pebble, Bubble; Waves; and Weaves and Checkerboards—supplemented with a “Miscellaneous” section and one called “Winterbottom,” which shows sixteen

grains from the Winterbottom Book Cloth Company's swatchbooks that have appeared in reference works and that represent versions of patterns used in the late nineteenth or early twentieth centuries. This "Catalogue" is accompanied by a "Table of Nineteenth-Century Bookcloth Grains," which for each grain states the number of examples thus far entered in the database and their date range (extremely useful information) and then, for any grain illustrated in one of seven previously published sets of photographs (Carter, Sadleir, *BAL*, Tanselle, Gaskell, Ball, and Winterbottom), gives the corresponding notations. There is also a separate set of color photographs called "Catalogue of Nineteenth-Century Ribbon-Embossed Bookcloth," consisting of 122 examples (plus six variants) of abstract, floral, and geometric patterns that are "larger than 6 mm. per repeat."

The result is a reference work that surpasses in various respects anything available before—though any of the earlier reference works can still be used, preferably with Krupp numbers also cited (and her "Table" makes it relatively easy to give such correspondences). But inevitably questions may be raised. Although Krupp has not tried to create a logically comprehensive system of classification (simply listing families of patterns in alphabetical order), one may still question the inclusion of a "Miscellaneous" section. And the "Winterbottom" section results from her belief that merging Winterbottom's late nineteenth- and early twentieth-century versions of patterns into the sections displaying earlier versions would be misleading. But its presence shows that the "Catalogue of Nineteenth-Century Bookcloth Grains" is not meant to be limited to the 1823–50 period (the dates in the title of the book), even though the bulk of the examples in the "Catalogue" (and "Database") are from before 1869, reflecting the work thus far done with the holdings of the Library Company. The insertion of the Winterbottom examples in their proper places, however, would not mislead anyone since their dates (like the dates of all the other examples) are included in the "Table"—and perhaps all the dates should be given in the captions to the photographs as well. Taking this step would make clearer the way in which Krupp's "Catalogue" can gradually be expanded in the future.

The same thoughts are raised by Krupp's segregation of ribbon-embossed patterns into a separate catalogue, using a different style of codes for patterns (and for variants) and providing no names. She recognizes that "another option would be to give each pattern a name (or a code) and integrate them fully into one large table. . . . There is certainly much more work to be done in that area than the amount of attention I have given them here" (p. 16). It is worth noting that when she generalizes about the number of patterns, she does include ribbon-embossed examples in the totals. (One could argue, as I did in note 16 of my 1970 essay,

that ribbon-embossed patterns might more feasibly be described individually for each book; yet ribbon-embossed patterns, being a characteristic of cloths prior to their use on individual books, can logically be distinguished from the frames and lettering stamped into the cloth for those books. I will add here that the basic cloth weave can be a distinguishing feature even for embossed cloth and should not be overlooked when examining the embossed pattern.) Incorporating the "Miscellaneous," "Winterbottom," and ribbon-embossed examples into the main body of the "Catalogue" would be a first step toward making Krupp's system (however arbitrary) a more welcoming and appropriate framework for future expansion.

The most important discussion of Krupp's work is B. J. McMullin's "Patterned Book Cloth: A Review Essay," in *Script & Print*, 32 (2008), 163–175. After a historical sketch of the development of bibliographical thinking on the subject (containing some trenchant observations), McMullin brings up the basic problem raised by the proliferation of examples shown by Krupp: should the set of photographs be indefinitely expanded as additional grains and variants are noted that do not precisely match any of those already illustrated? The fact that some patterns are provided with an additional photograph or two labeled "var1" or "var2" implies that such expansion is expected. It is not clear, however, why additional photographs would necessarily be preferable to added words for this purpose. As McMullin notes, the situation is epitomized in the "diaper" category, where the illustrations are for ultra-fine diaper (defined as 20–22 units per centimeter), fine (10–15/cm.), medium (8–9/cm.), coarse and smooth (4/cm. each), and (anomalously) "5.5 diaper." The precedent set here would require more photographs for diapers that fall between 15 and 20 units per centimeter, or between 4 and 8 (except for 5.5). But a series of illustrations accomplishes nothing more than is achieved by simply using the word "diaper" followed by the measurement. A photograph of diaper would still be needed, but additional photographs serve no purpose (and indeed can be a complication, since the closest match at one time might no longer be the closest match after the insertion of more photographs). The "Beads," "Nets," and "Ribbs" categories offer exactly the same situation, but in all categories the adjectives of degree ("coarse," "fine," etc.) do not cover all the possibilities.

Such omissions occur, of course, because the photographs represent the books thus far examined for the "Database"; but a comprehensive "field guide" to a class of artifacts cannot be constructed in that way because, even at the price of continued revisions, it will always be unsatisfying in certain situations. The "Database" itself is a great accomplishment; and as it grows—incorporating, one hopes, records from many collections other than the Library Company's—it will become even more

comprehensive as a record from which historical accounts of publishers' bindings can be drawn. And it is appropriate that a field guide should be a by-product of such a database. But the relation between the two needs to be further thought through. In one respect the field guide is bound to grow as the database does, because a field guide should illustrate all distinct patterns, however rarely used some of them are. But in another respect it should not grow, for if it attempts to register variations of distinct patterns it will become more bewildering than helpful. Deciding which patterns are "distinct" may to some extent be debatable, but it is not nearly as intractable a problem as defining variations within them, since the latter are nearly infinite in number. A classification scheme, by definition, should deal with diversity not by reproducing it but by providing a path through it. Contrasting the classification of bookcloth with that of color helps to illustrate the problem. As I pointed out in my 1970 essay, color is a natural phenomenon with definite limits and a continuum within those limits; one can thus scientifically sample that continuum at spatial intervals. Cloth patterns do not offer this opportunity, for it is not possible to determine "centroids" within their variations. One can of course subdivide patterns according to measurements of their repeated units, as Krupp has done in a few instances (though her measurements are not based on regular intervals); but, given the essential difference between patterns and color, the result would not provide a necessary visual aid, as centroid colors do.

Since the large number of photographs in Krupp's "Catalogue" is not entirely an advantage, bibliographers may well find it preferable to limit themselves primarily to her examples in which the name of the grain has no adjective or measurement attached and then to add whatever modifiers seem necessary on a given occasion—as in "coarse (8/cm.) Rib (cf. Krupp Rib3)." The fact that Krupp's photographs are actual size allows one to know (through direct measurement of unit-repeats in cases where a measurement is not stated) the norm from which "coarse" and "fine" variants depart. (The use of "cf." in my example seems desirable, though it differs slightly from my 1970 suggestion. Even when the specific variant is pictured in Krupp, it might be better to cite only the Krupp photograph of the basic pattern, both for uniformity and to allow for possible future revisions in Krupp's "Catalogue.") Bibliographers could also do their matching against the photographs I have published or those provided by Gaskell (see below), since the smaller number of examples in those sets (36 and 29 respectively) do after all include the great majority of patterns found on nineteenth-century books and since the basic names given in them are the same as those used by Krupp.

This last point is not crucial, however, because Krupp's "Table" allows one, when consulting (or writing) a bibliography employing any of

seven sets of photographs other than hers, to find a picture of the cited grain in the "Catalogue"—and to find it online. Indeed, it is the presence online of the "Catalogue" (along with the associated "Database") that makes Krupp seem the most convenient reference for bibliographers to cite, despite its limitations. One hopes that the "Table" will be added to the online resources, since without it one still has to turn to the printed book (or article) to make conversions between Krupp's code and earlier ones and to learn the date range of each grain; and the measurement of repeated units in every grain should be stated, since the pictures on the website are no longer actual size. Presumably the online version will be continuously revised to incorporate new grains (as the database grows) and perhaps to rectify some of the flaws in the printed versions. Most bibliographers and users of bibliographies are likely to have a portable electronic device at hand as they examine books, or will not find it inconvenient to make sure that they do.

Bibliographers should be aware of two other very large databases of bindings that allow for searching by a particular cloth grain; although they give one access to many images of bindings, neither is as appropriate as the Library Company's for bibliographers to use as a basic reference in identifying the cloth on a book in hand. One is "Publishers' Bindings Online 1815–1930: The Art of Books" (on the website of the University of Alabama Library and the University of Wisconsin—Madison Library, the partners in this project). It does provide (under "Research Tools") a "Gallery of Book-Cloth Grain Patterns" showing fifteen basic grains labeled with standard names; each image can be enlarged and offers a link for searching the database for examples of books bound in that cloth. The notes on each book include the color and grain of the binding but do not come close to providing the amount of technical detail about binding and endpaper structure that the Library Company database does. Its emphasis is not primarily on bibliographical research (there are artistic, historical, and literary "galleries," each with essays and teaching tools), but it does offer a "gallery" of bindings by decade, accompanied by commentary. The other database is the British Library's "Database of Bookbindings" (on the Library's website, under "Catalogues," then "Bookbindings"), which has excellent technical notes, including the identification of cloth grains by standard names. But since it covers the whole history of book-binding as represented in the Library's collections, it contains a relatively small selection of publishers' cloth bindings, and it provides only a verbal (not a pictorial) guide to cloth-grain names for purposes of searching.

In addition to Krupp, there are three other significant post-1970 treatments of cloth grains. Two years after my essay, Philip Gaskell's *A New Introduction to Bibliography* (1972, 1974) appeared, containing a section on "Publisher's Cloth in Britain and America" (pp. 238–247). Besides giving

a compact history of the development of cloth bindings (and summarizing the ISCC-NBS color system), Gaskell provides a classification of grains and a set of photographs. He follows in general my system of classification and the naming of individual grains, though he leaves out one ("weave"), adds four ("beaded-line," "crocodile," "crackle," and "frond"), and moves two to a different family ("bubble" becomes one of the "sand-texture" grains, and "cord" becomes "ribbed-morocco" under "leather-texture"). As for associated codes, Gaskell simply assigns each photograph a number according to its place in the sequence of illustrations in his book as a whole (beginning with "Fig. 84"). Thus his codes (unlike mine) do not reflect a classification scheme; but that fact is of little significance since the order of the photographs (unlike Krupp's arbitrary order) does follow his classification and brings related families together.

Sensibly he provides only a single photograph for each basic pattern—that is, only for grains whose names do not have adjectives of degree attached to them. He understands that grains "notably *fine* or *coarse*," for example, can be specified in words, without the presence of photographs (even though, as in all systems, the norm represented by each photograph has not been precisely determined). My 1970 set of photographs does include a few fine, coarse, diagonal, and moiré examples for illustrative purposes but without suggesting that such photographs are necessary: I made clear that adjectives should be attached (as needed by the level of precision required) even when there is no matching photograph—and that, when still greater precision is desirable, a bibliographer may have to supply one or more additional photographs. The only thing I would now add—whether one is using my system or Gaskell's or Krupp's—is that the greater precision sometimes needed to distinguish, for example, separate bindings-up (or secondary bindings) can often best be achieved by providing a measurement. On the subject of measurement, I should perhaps say that when a published photograph is intended only for general matching of a type of design (as opposed to serving as a record of the binding of a specific book), one does not need to know whether the photograph is actual size or not; but a measurement scale attached to a photograph (as in Krupp's basic catalogue but not her catalogue of ribbon-embossed patterns) is nevertheless helpful in determining when a match has been made.

Thirteen years after Gaskell's book, Douglas Ball published *Victorian Publishers' Bindings* (1985), a thoughtful and well-documented study that includes a chapter entitled "The Decoration and Graining of Cloth and Its Bibliographical Importance" (pp. 24–31). In that chapter, Ball points out the potential (but not always conclusive) role of precise grain identifications in the process of distinguishing and dating separate bindings-up;

and he assesses previous bibliographers' presentations of photographs and names of grains. But the most useful parts of his book for descriptive bibliographers are two of the appendixes. The first, "Identification of Cloth Grains" (pp. 123-129), besides pursuing in more detail the limitations of some of the previously published photographs and the variations in assigned names, offers descriptive comments on the basic families of patterns. One of the emphases throughout—and properly so—is on the importance of measuring the frequency of repeated elements in designs in order to give precision to any modifying adjectives and the norms they relate to. He suggests approximate norms for rib grain (11 repeats per centimeter), ripple (25+/cm.), dot-and-line (perhaps 2.5-3.5/cm.), checkerboard (perhaps 4/cm.), diaper (6/cm.), and bead (5.5/cm.). Then he offers a particularly helpful discussion of the morocco family (pp. 126-128), dividing those with "linearly directional" ribs into ribbed morocco (with basically continuous ribs and converging channels, 8-9/cm.), cord (with ribs separated by cross-creases, 8-9/cm.), and parallel cord (with channels that generally do not converge). These measurements may be of use to bibliographers in deciding when to add such adjectives as "fine"; but those adjectives can merely be suggestive, and precision can come only with appended measurements. The second appendix, "Further Data on Grains" (pp. 130-142), consists of two parts, the first being a table of "Dates and Frequency of Use" (pp. 132-136), which assembles information drawn from some 2600 entries in the first volume of Sadleir's *XIX Century Fiction*. The data given here, when combined with those in Krupp's "Table," form essential context for discussions of dating. The other part of the appendix, "Some Additional Grains" (pp. 137-141), describes and illustrates seven grains not dealt with in previous sources—but now incorporated into Krupp's guide. (Bibliographers will also wish to know of the remarkable amount of detail in another appendix, "Nineteenth-Century Edition Binders' Signatures," pp. 168-192).

The other of the significant post-1970 books is William Tomlinson and Richard Masters's *Bookcloth 1823-1980* (1996). Primarily a detailed and illustrated history of the bookcloth industry, it contains much information not otherwise available, drawing on the knowledge and materials that Tomlinson acquired in a sixty-year career in the field, part of the time with the Winterbottom Book Cloth Company of Manchester, a prominent supplier of bookcloth after 1853 and the dominant one from 1891 to 1980. There are two chapters of particular interest for bibliographers, "Description of Bookcloth Qualities: (pp. 86-107) and "Identification of Designs (Grains)" (pp. 108-123), the first supplemented with thirty-six tipped-in cloth swatches and the second with thirty, dating from after 1891. The first group is instructive in allowing one to feel some of the

grades that were being offered at that time; but knowing that a great variety was available (some fifty qualities are described) cannot be put to direct use by bibliographers, who deal with cloth attached to covers. The second group, showing patterns ("designs"), turns out not to be more useful for identification than good photographs. In any case, the late date of all the samples means that this book cannot offer an appropriate general standard for bibliographers—along with the fact that only arbitrary letter codes are used (though they were employed, with some variation, in the *Bibliography of American Literature*). What the book does accomplish is to make clear to bibliographers how inexact all their descriptions are when compared to what was necessary in the cloth trade: in 1948, for example, Winterbottom's advertised "41 Qualities, 71 Designs and 688 Colours, equal to almost 50,000 different Effects." (Despite this profusion, twentieth-century books in general use rather plain cloth and do not display the variety of patterns found on nineteenth-century books.) The authors recognize that bibliographical description does not normally require the same precision as that employed by a cloth supplier, but they add that using cloth as evidence for dating may well require something closer to it.

In my 1998 review of this book (*Printing History*, 19.1: 39; reprinted in my *Portraits and Reviews* [2015], pp. 345–347), I cited an example of the kind of information it supplies that is especially valuable for bibliographers: sometimes it was more economical to cut the cloth in a "two-way" fashion rather than "one-way," with the result that the cloth pattern might run vertically on some copies of an edition and horizontally on others (and thus the two directions may not signify separate bindings-up). A footnote to the Tomlinson-Masters book appeared in 2002 in the form of an article by Willman Spawn and Thomas E. Kinsella ("The Description of Bookcloth: Making a Case for More Precision," *Papers of the Bibliographical Society of America*, 96: 341–349), which describes the William Tomlinson Bookcloth Collection at Bryn Mawr College and lists the forty-three pattern books it contains (dating from the mid-1920s to the 1980s), plus Winterbottom's 1958 code book. The authors make the point (previously observed by Tomlinson and Masters) that "established bibliographical conventions do not account for the known complexities of bookcloth"; they grant that descriptive bibliographers may not usually need to go beyond those conventions, but they state (what is clearly true) that book history in general would benefit from research in such archives as exist, for the purpose of discovering the manufacturer, date, and trade specifications for the cloth found on particular books.

An additional work displaying cloth grains, but obviously not a candidate for a bibliographical standard, is Geoffrey Wakeman's *Nineteenth Century Trade Binding* (1983). Its second volume is a folder containing a

sheet with seven leather specimens and another with nine cloth specimens, plus four pages showing seventy-one rubbings of Winterbottom designs. Support for Krupp's system comes from another publication: Carlo Dumontet's "Nineteenth-Century Bookcloth Grain Classification and the Special Collections Cataloguer" (*Papers of the Bibliographical Society of America*, 104 [2010], 105–112), which recommends the insertion of her system of naming into the thesaurus of controlled vocabularies for cataloguers, especially the "Art & Architecture Thesaurus Online" (on the Getty Research Institute's website) and the Rare Book and Manuscript Section's "Binding Terms" (on its website). The latter is perhaps now superseded by the online "Language of Bindings" thesaurus (established through Nicholas Pickwoad's Ligatus project at the University of the Arts, London). Some of the problems Dumontet outlines might be alleviated by the adoption of my suggestion (above) of making the unmodified terms the standard, with adjectives and measurements added in specific instances; thus a full verbal description, with as much modifying detail as necessary and with a Krupp reference (including "cf."), could appear in MARC field 563, and the unmodified form (with the possible local addition of a Krupp code) in field 655.

Besides describing cloth grains, the bibliographer must also record the designs (abstract and pictorial), frames, and lettering that are stamped (in blind or gold) into the cloth for individual editions. My suggestions in 1970 are probably sufficient for most occasions; but a proposal for greater detail has been offered by Gene G. Freeman in "Descriptive Standards for Publisher's Bindings: Preliminary Notes" (*Trade Bindings Research Newsletter*, 5 [June 1992], 3–10). Freeman recommends dividing each cover into twenty-four "cells" (six rows of four) and each spine into twelve (six rows of two) and then estimating the percentage of the area in each cell filled with decoration or lettering. An example is "1 ABCD—Author's name, centered, 1 A and 1 D < 10%." But surely, if "centered" is not enough, it would be far more accurate simply to measure the distance from each end of the name to the edge of the cover. He also thinks that a diagram showing the "estimated fill factor" of each cell "should be included in a descriptive bibliography" because the "distribution of decoration over the book's surface" can help to attribute unsigned bindings to particular designers. Few people, I imagine, will agree with this point, and I see no reason for bibliographers to adopt either of his recommendations. The same issue of this newsletter contains another short article with a promising title, David B. Ogle's "Uniform Notation for Describing Decorative Trade Bindings" (pp. 13–15); but the proposal (assigning a five-letter code to each book, the first two letters abbreviating the color and the last three the type of design) is only intended as a means for collectors to locate their books—though presumably such a code, if searchable in a library's

database, could have some usefulness. Charles S. Kamen, in the next two issues of the newsletter ("Further Binding Description Comments," 6 [September 1992], 4; 7 [December 1992], 6) responds to Freeman's and Ogle's articles by arguing for "a simple account, specifying cloth texture and color, and describing the design [in words]."

Bibliographers who wish to place individual designs in a broader historical context have a number of well-illustrated sources to turn to. Although the leading American historian of publishers' bindings, Sue Allen, did not live to produce the comprehensive work she had planned, her publications are always worth seeking out (some are not easy to locate). Especially helpful are her *Victorian Bookbindings: A Pictorial Survey* (1972, 1976), with its succinct history and 241 illustrations on microfiche, and *American Book Covers 1830-1900* (1998), an accordion-folded brochure that includes a time-line and twelve photographs of grains. (She also wrote an essential article, "Machine-Stamped Bookbindings, 1834-1860," which includes a list of American binders' signatures, for the March 1979 issue of *Antiques*, pp. 564-572.) The equivalent of a time-line is provided by the "Keys to Identifying Covers" of each decade from the 1830s to the 1890s in Calvin P. Otto's *Only in Cloth* (1998).

Other books with many excellent illustrations are Eleanore Jamieson, *English Embossed Bindings, 1825-1850* (1972); Ruari McLean, *Victorian Publishers' Book-Bindings in Cloth and Leather* (1973); Ellen K. Morris and Edward S. Levin, *The Art of Publishers' Bookbindings, 1815-1915* (2000); and Edmund M. B. King, *Victorian Decorated Trade Bindings, 1830-1880: A Descriptive Bibliography* (2003). One other work that should be mentioned, even though it contains few illustrations, is Robert Lee Wolff's five-volume *Nineteenth-Century Fiction: A Bibliographical Catalogue* (1981-86), simply because it provides such a large sampling of books with binding descriptions (nearly eight thousand entries). Wolff says he was "guided by Sadleir's practices," and he generally does use Sadleir's names for grains. Illustrated studies of individual designers also exist: on Margaret Armstrong (by Charles Gullans and John Espey, 1991), for example, or on John Feely (by Sue Allen in a 1994 Clark Library pamphlet, *Decorated Cloth in America*), on Frank Hazenplug and Sarah Whitman (by Gullans in the same pamphlet), and on Alice C. Morse (by Mindell Dubansky, 2008). Samples of the work of nineteen designers are listed (but not illustrated) in an exhibition catalogue from California State University at Fullerton, *Decorative Approach to Trade Cloth Book Binding* (1979).

When describing the ornamental designs stamped on grained cloth for individual editions, bibliographers should be aware of a small number of bindings, used for only about a decade after 1835, in which the cover and spine designs were embossed on the cloth before it was fastened to the boards and spine strip rather than (as was usual) being stamped on

the cloth after it was attached. (Embossed designs rise in relief from the surface, whereas stamped designs are pressed below the surface.) Because the embossed designs were placed on the cloth in advance, the positioning of the cover and spine elements obviously determined the size of book-block that could be accommodated; sometimes when the match was not exact, the designs are off-center on the finished book. These bindings are discussed, and thirteen designs illustrated, by Andrea Krupp and Jennifer Woods Rosner in "Pre-Ornamented Bookcloth on Nineteenth-Century Cloth Case Bindings" (*Papers of the Bibliographical Society of America*, 94 [2000], 176–196). When one encounters a binding of this kind, one should compare it with the Krupp-Rosner illustrations; and if it is different, one should report it, in order to increase the inventory of the relatively small number of such designs. (Occasionally an embossed design was applied to the cloth on an assembled binding case, but those instances can be identified by the fact that the intaglio plate flattens the cloth grain and thus leaves an edge mark.)

My 1970 essay also covered the patterns of marbled papers, used both for covering binding boards and for endpapers. Because every piece of hand-marbled paper is unique, any matching that a bibliographer does can only be approximate (no matter how large the sample), and the twelve illustrations I provided, divided into two classes and given their traditional names, are perhaps sufficient (along with my suggestions for additional verbal modifiers). But if one wishes to make comparisons against a larger selection, one should turn to Richard J. Wolfe's great book, *Marbled Paper: Its History, Techniques, and Patterns* (1990), which contains (following p. 186) one hundred ninety-two excellent color illustrations, each assigned a number and (in a supplementary list) a name (the same traditional name I had used, with many alternatives and with useful historical notes). Instead of attempting a classification of patterns, Wolfe arranges the samples according to "their development and manufacture in various geographical locations," and thus types of patterns are not kept together. But the advantage is that the bibliographer who uses these samples in conjunction with Wolfe's discussion of them (in "The Evolution of Marbled Patterns," pp. 179–192) has a basis in some instances for the approximate dating of papers. Although that possibility is obviously most useful in connection with pre-1820 books (before the period of publishers' bindings), nineteenth-century publishers did often make editions available simultaneously in cloth and in "half-calf" with marbled covers, which can be difficult to identify. In any case, the wide availability of the Wolfe book (along with its unquestionable authority) makes it an appropriate reference for bibliographers to cite when describing marbled paper.

Other sets of color illustrations of marbled patterns have been published (usually in conjunction with marbling instructions), but none

comes close to Wolfe as a source. For instance, there are forty-six pages of marbled specimens in Anne Chambers, *The Principal Antique Patterns of Marbled Papers* (1984); fourteen good color photographs of “very basic patterns” in Iris Nevins, *Traditional Marbling* (1985, 1988), photographs that are also included in her catalogues of papers available for sale; ninety-three pages of illustrations in Barry McKay, *Patterns and Pigments in English Marbled Paper* (1988); and sixty-seven large color illustrations in Einen Miura, *The Art of Marbled Paper* (1988; trans. 1991). Attempts at classification are less common. Phoebe Jane Easton has a chapter on “Nomenclature of Marbled Patterns” in *Marbling: A History and a Bibliography* (1983)—reprinted in *Ink & Gall*, 7.2 (Winter 1993), 7–9—which summarizes my system. The same issue of *Ink & Gall* also includes Carina Greven’s “The Development of a Standard Nomenclature for Marbled Paper” (pp. 10–13), which includes a classification based on the “evolving nomenclature” developed by the Belgian-Dutch Bookbinding Society. This system, however, simply enumerates seven types of patterns, in overlapping categories: (1) pebble or stone; (2) drawn (using a tool), subdivided into ten patterns, such as curl, feather, and peacock; (3) combed (actually a type of “drawn”); (4) shadow (or “Spanish”), usually made on pebble (and when not, they fall into the sixth group); (5) fantasy (either abstract or pictorial); (6) combination (of two or more patterns); and (7) overmarble (marbled more than once). The object here is not primarily to provide a classification scheme (and this is not a satisfactory one) but rather to establish an international terminology (with equivalents in several languages listed). This project is now fully reported in Elly Cockx-Indestege, *Sierpapier & Marmering: Ein Terminologie voor het beschrijven van Sierpapier en Marmering als boekbandversiering* (1994).

In addition to marbled paper, nineteenth-century publishers often used floral-patterned papers for endpapers, and the basic article on this subject is Sue Allen’s “Floral-Patterned Endpapers in Nineteenth-Century American Books” (*Winterthur Portfolio*, 12 [1979], 183–224). Allen divides the patterns into eighteen categories (which go beyond the strictly floral): (1) seaweeds; (2) maidenhair fern and related designs; (3) sprigs and tiny bouquets; (4) small flowers and leaves connected by stems; (5) tightly fitted flowers and leaves; (6) large, realistically drawn flowers; (7) large, realistically drawn flowers showing depth and volume; (8) “Eastlake” style (rigidly stylized) flowers; (9) small geometrics; (10) mechanical and imitative; (11) designs on two axes; (12) Renaissance style (scrolled or curling leaves, sometimes with flowerheads or coiling tendrils); (13) publishers’ initials and trademarks and similarly organized units; (14) oriental motifs and arrangements; (15) fairy-tale patterns; (16) butterflies and birds; (17) typefounders’ combination borders; and (18) “modern” explosive designs. (The two most commonly used styles were numbers 4 and 8.) She

then provides seventy-seven illustrations (including examples of all eighteen categories) and a "Catalog of Selected Nineteenth-Century American Endpapers," which contains comments on each of the illustrations (plus a list of the binders represented). Bibliographers would do well to key their endpaper descriptions to her illustrations, as a way of indicating the general style of pattern and placing it in a larger context. But they may also wish to supply their own illustrations. An example of a bibliography that provides illustrations of decorated papers—in this case twenty-two of those used by Knopf on covers—is Richard J. Schrader's bibliography of Mencken (1998). Books that display decorated papers—such as Annette Hollander's *Decorative Papers and Fabrics* (1971), Henry Morris's *Roller-Printed Paste Papers for Bookbinding* (1975), and *Decorated Paper Designs . . . from the Koops-Marcus Collection* (which includes some wonderful full-page illustrations of marbled patterns; 1997, in the Pepin Press's delightful "Design Series")—are not of particular use to descriptive bibliographers unless they show close relatives of the papers being described.

The whole range of decorated paper (however produced) is concisely classified by Henk J. Porck in "Characterization of Western Handmade Decorated Papers: Development of a Standard Terminology" (in *Looking at Paper: Evidence & Interpretation*, ed. John Slavin et al. [2001], pp. 196–201), where six categories are outlined: monochrome (dyed in the pulp or painted), metal (gold or silver), marbled, paste, block-printed, and relief-printed (embossed).

Because my 1970 essay, besides dealing with patterns, includes (near the end of the first section) a sample of a complete binding description, I wish to call attention to a feature of the binding process not mentioned there: the pencil marks that frequently appear near the beginning and/or end of the printed gatherings. Collectors and bibliographers have often noticed them, but they have rarely been commented on—though Roger E. Stoddard included an illustration of one in *Marks in Books, Illustrated and Explained* (1995). His item 10 (p. 9) shows what he calls a "binder's mark"—in this case a "4" penciled in the gutter at the foot of the last page of the penultimate gathering. The first person to investigate such pencil marks in detail is Robert J. Milevski, who reported on them (with illustrations) in "Marks in Nineteenth-Century Trade Bindings" (*The Book Collector*, 60 [2011], 41–56). He identified two categories: "sewer's marks," which usually appear in the bottom margin of the last page of the last gathering (or the last page of an inserted publisher's catalogue); and "production marks," which usually appear in the lower margin (or sometimes one of the side margins) of the first page of the second, third, and/or fourth gatherings. In both cases, they take the form of a letter, a number, or a squiggle. Their exact function is not clear, but Milevski offers some possibilities: those at the end could identify the person who

did the sewing and/or indicate that the job was satisfactorily completed; those at the beginning could identify the collator and/or signify that all gatherings were in order and any insertions were in place. More will be learned about them as more are reported and examined; and bibliographers should note them in their binding descriptions, just as they would naturally mention that better known kind of evidence of the binding operation, the binder's ticket (with specific copies indicated as sources in both cases). Milevski observes that the pencil marks are "direct evidence of the human hand in the mass production of books in this era" (p. 47); as such, they deserve to be recorded for further study.

Jackets

My comments on the rationale and procedure for including dust-jacket descriptions in a descriptive bibliography were first published as the third section (pp. 109–115) of "Book-Jackets, Blurbs, and Bibliographers" in *The Library*, 5th ser., 26 (1971), 91–134; they were supplemented on pp. 58–60 of "Dust-Jackets, Dealers, and Documentation" in *Studies in Bibliography*, 56 (for 2003–04 [2006]), 45–140. These discussions were reprinted, with slight revisions, in my *Book-Jackets: Their History, Forms, and Use* (2011), pp. 24–30 and 43–46. Two recent descriptive bibliographies that can be singled out for their careful descriptions (and photographs) of jackets are David Supino's *Henry James* (2006, 2014) and David Alan Richards's *Kipling* (2010). For others, see "Introduction to the Field" above, showing that jackets are now receiving much more attention than they once did. Another indication is Paola Puglisi's *Sopracoperta* (2003); and in 2016 Mark R. Godburn published *Nineteenth-Century Dust-Jackets*, a narrative history that contains many more illustrations of nineteenth-century jackets than I provided and deals more fully than I did with continental Europe and with unprinted jackets. Among the kinds of boxes in which books have been published are those that take shapes related to the subject matter of the books. Eugene Umberger has recently studied this phenomenon by writing about books on tobacco housed in such forms as cigar or cigarette boxes (see "Detachable Book Coverings (That Aren't Dust-Jackets)," *The Book Collector*, 65 [2016], 91–98).

My 2011 book includes a list of almost 2000 examples of pre-1901 British and American publishers' book-jackets, boxes (slip-cases, boxes with lids, etc.), and other detachable coverings for books (such as envelopes or overall wrappings). It is limited to items that have printed text or decoration on them, and the bulk of the entries give some indication of the extent and nature of the printed matter. My list was not intended to be a census but simply to report the examples I had learned about during the previous four decades. It is extensive enough, however, to give an idea of the growth in the use of book-jackets during the nineteenth century.

And it has a practical usefulness for descriptive bibliographers: they can consult it as an initial indication of which publishers were using jackets at a given time, and for what kind of books, as a way of gauging whether the particular books they are describing were likely to have been published in jackets or boxes. If any of those books themselves happen to be present in my list, the bibliographer will then know where to find a copy in a jacket or box (when my source was an institutional library) or at least can be sure that a jacket or box once existed (when my source was a dealer's catalogue or private collection).

Since the publication of my book, a large number of additional examples have been reported to me (and some further ones are listed in the appendixes to Godburn's book); I hope that they will eventually form a supplementary list posted on the website of the Bibliographical Society of the University of Virginia, thus increasing the body of evidence on which bibliographers can draw. The University of Virginia Library itself now holds by far the largest collection of pre-1901 jackets: in 2014 it purchased the collection of the dealer Tom Congalton (the largest collection reported in my book), and two years later it bought the second collection that Congalton formed, bringing the total of its holdings to well over a thousand volumes. Every bibliographer who is describing a book from the 1830s onward (or indeed one of the annuals or children's books from the preceding decades) should make an effort to find out whether it originally appeared in a jacket or box and, if so, to locate such a copy.

ARRANGEMENT

I discussed the considerations underlying the overall arrangement of a descriptive bibliography and the numbering of its entries in "The Arrangement of Descriptive Bibliographies" in *Studies in Bibliography*, 37 (1984), 1–38. The approach outlined there is displayed in practice in my "A Sample Bibliographical Description with Commentary," *Studies in Bibliography*, 40 (1987), 1–30. I wish to call particular attention here to my discussion of *subedition* in part I of the 1984 essay, for that concept is one of Bowers's most important contributions to descriptive bibliography and has not received the recognition it deserves. (I should add, however, that my ensuing comments on the role of geography in the organization of printing-publishing history does not conform with Bowers's view, a point I discussed in my 1975 essay on *issue* and *state* [see above].)

The most significant post-1984 articles relevant to the subject of arrangement are two careful and thorough ones by Maura Ives. The first is "Descriptive Bibliography and the Victorian Periodical" (*Studies in Bibliography*, 49 [1996], 61–94). My 1984 essay points out the illogic of giving full descriptions of an author's books and then simply listing that author's

contributions to periodicals, since the latter may have been an equally important (or even more important) part of the author's career and since, in any case, periodicals are printed matter exhibiting the same characteristics and problems common to books. Ives discusses these points in detail and then goes over the few differences she sees between the description of a periodical and that of a book (such as the periodical's "dual existence": a self-contained individual number that is part of a larger unit). At the end she provides a sample description (of a single number of a periodical), which occupies slightly more than four pages of small type and includes a historical introduction, a title-page transcription, listings of contents, illustrations, and plates (with quasi-facsimile transcriptions), descriptions of paper, typography, and publisher's binding, and a record of copies examined. All this is handled in exemplary fashion, but it raises a serious practical question: is it realistic to expect such treatment of every number of a periodical in which an author appeared, unless the author contributed to periodicals only a few times? However desirable such treatment would ideally be, it would normally increase bibliographers' work beyond what most bibliographers would regard as feasible, and it would lengthen the resulting bibliographies beyond what most publishers would be willing to consider. From a realistic point of view, an abbreviated form needs to be found—one that recognizes the importance of describing periodicals but does not require a full description of every relevant issue.

One bibliography that takes a step in this direction is George Miller and Hugoe Matthews's *Richard Jefferies* (1993), in which periodical contributions are placed first, as the "A" section. The authors "believe this to be a more logical arrangement in a work of this kind, and one that is particularly appropriate in Jefferies' case," since Jefferies was "a literary journalist," half of whose lifetime book publications "were serialized in or collected from periodicals" (p. xviii). For a great many other writers, as Miller and Matthews suggest, periodical contributions precede book publications, and one could argue that placing them first in a bibliography would frequently be appropriate. In any case, Miller and Matthews have clearly taken periodicals seriously, and they describe their plan for recording periodical contributions as follows:

The entries are listed chronologically under the periodical titles which are in alphabetical order. Information about the journal itself, the type of publication, frequency of issue, subject matter and editorial policy, proprietor, publisher and printer, editor(s) while Jefferies contributed to it, format, price, etc. is given first. In the entries that follow as full a reference as possible is given, including issue number and month or day of issue—points often obscured by rebinding. The text of all items is compared with that of their subsequent printing in book form, and any changes in content or the extent of any revisions are noted. The contents of all items not subsequently printed in book form are summarized. Any information from documentary or other sources

relating to specific items is given under them, while at the end of each title there are notes on the background to Jefferies' association with the journal and on any possible untraced or unconfirmed contributions to it. (p. xix)

One might object that the only element of physical description here is "format," which turns out to be simply the leaf dimensions. Nevertheless, these bibliographers have shown admirable independence of mind and have demonstrated one reasonable scheme for handling periodicals: providing a general account of a periodical first, followed by abbreviated entries for the subject's contributions to it. The number of details in the general account and in the entries could be increased or lessened depending on the situation and the bibliographer's inclination. Thus the opening account could include notes on typography and paper and a collation formula in cases where most numbers of a journal follow the same pattern, and variations in the cited issues could be briefly noted.

Ives does not mention the Jefferies bibliography, but perhaps she had it in mind when she said that describing a single number of a periodical is not sufficient. The Miller-Matthews plan, however, does offer a responsible, and easily adjustable, approach. In my 1984 essay, I expressed the hope that full-length descriptive bibliographies of individual periodicals might eventually be published, with the result that bibliographers of authors would only need to cite those descriptions. But such bibliographies are not likely to be produced soon, or in quantity, and author bibliographers will have to find realistic solutions. The important thing is for bibliographers of authors to recognize in the first place that a problem indeed exists and that they must think creatively about the best way to deal with it in each particular situation. (The so-called degressive principle, which is what is involved here, is discussed in the last part of section II of my essay and more recently—but only in connection with enumerative bibliographies—in D. W. Krummel's *Bibliographies: Their Aims and Methods* [1984], pp. 46–47, 63–64.)

Ives's second article is "The Place of Musical Settings in Author Bibliographies, with Examples from Christina Rossetti" (*Papers of the Bibliographical Society of America*, 108 [2014], 5–39). Its most helpful parts are its commentary on constructing entries for musical settings (pp. 27–31) and its listing of relevant scholarship (pp. 33–39). The former calls attention to features that could be recorded in addition to the standard facts of printing and publishing history—features such as vocal range, instrumentation, initial key signatures and tempo notations, and plate numbers. (She also mentions reviews of performances, but these would be within scope only if secondary critical writings, such as reviews of the author's books, were included elsewhere in the bibliography.) The record of scholarship includes bibliographies that report musical settings, indexes

to songs in collections, sources for music-publishing history (especially two admirable works, D. W. Krummel and Stanley Sadie's *Music Printing and Publishing* [1990] and Krummel's *The Literature of Music Bibliography* [1992]), and significant library collections. The rest of the article, for the most part, states the obvious. Ives feels that unless an author bibliography gives an explanation for the presence of music entries, it will usually be "impossible for users of these bibliographies to understand why music is included" (p. 20). But appearances of poems in sheet music, hymnals, music collections, and so on are simply instances of the printing or reprinting of particular poems, and entries for them would be expected in an author bibliography as part of an author's publication history. Such entries help to document a work's textual history and its reputation and influence, as Ives notes, but they do not differ in that respect from all other entries. Whether musical settings should be recorded in a separate section is discussed in some detail; and although Ives believes that such segregation is "almost always preferable" (sometimes with subdivisions), she recognizes that situations must be evaluated individually. If many bibliographers will not need a large part of the instructions offered here, Ives's discussions are nevertheless sensible, and some of them provide suggestive reading for anyone engaged in defining the content and placement of entries for music in an author bibliography.

The last paragraph of a description, the record of copies examined, is discussed briefly in my essay (in the fifth paragraph from the end), in order to emphasize the distinction between the numbering of specific copies for reference within a description and the numbering of the entries themselves, which of course does not refer to individual copies. The post-publication features of books that can be reported under "Copies Examined" include inscriptions, annotations, bookplates, and custom bindings. For help in pursuing clues regarding provenance, the best guide is David Pearson's *Provenance Research in Book History* (1994); for the identification and description of custom bindings, see the references mentioned under "Publishers' Bindings" above. Extensive provenance notes are illustrated in Anthony James West's "A Model for Describing Shakespeare First Folios, with Descriptions of Selected Copies" (*The Library*, 6th ser., 21 [1999], 1–49); and a large collection of such notes (from the same project) can be found in Eric Rasmussen et al., *The Shakespeare First Folios: A Descriptive Catalogue* (2012).

One post-publication feature that is not often thought about is discussed by Jeffrey Todd Knight in "Invisible Ink: A Note on Ghost Images in Early Printed Books" (*Textual Cultures*, 5.2 [2010], 53–62). Knight is speaking of offsets from adjacent items bound together (not from the printing process, which would be reported elsewhere in the description);

such offsets provide useful evidence for the history of collecting and reading (as do many other post-publication additions to books). The importance of the "Copies Examined" paragraph cannot be exaggerated, not only because it records the sources for the description (enough reason in itself) but also because it fittingly completes the account by reflecting the post-publication life of those artifacts.