The Behavior Analyst 2003, 26, 41–67
No. 1 (Spring)

Bibliographic Processes and Products, and a Bibliography of the Published Primary-Source Works of B. F. Skinner
Edward K. Morris and Nathaniel G. Smith
University of Kansas

This paper introduces the nature and practice of bibliography (e.g., definition, history, and genres), it reviews the extant B. F. Skinner bibliographies (1958 to 2001), and it describes the methods used in constructing a new, comprehensive, and corrected bibliography of Skinner's primary-source published works. The bibliography includes 291 items from across 16 categories of publications (e.g., books, articles, chapters, monographs, book reviews, manuals, encyclopedia entries, letters to the editor) and lists them in chronological order (1930 to 1999). A discussion section addresses the bibliography's limitations, how it might be enlarged and expanded, its value for qualitative and quantitative historical inquiry, and the beginnings of a " Skinner industry."

Key words: B. F. Skinner, bibliography, historiography, behavior analysis

Evidence (You all know) is the life of Truth, and Method the life of Discourse; the former being requisite to convince the Understanding, the latter, to facilitate the search of it. (Charleton, 1669, p. 141)

Since at least the early 1970s, B. F. Skinner (1904–1990) has been among the most widely cited and influential American psychologists (see Coleman, 1982; Gilgen, 1981; Goodell, 1975; Heyduk & Fenigstein, 1984; Korn, Davis & Davis, 1991; Myers, 1970; Norcross & Tomascho, 1994; Perlman, 1980; Wright, 1970; see Lattal, 1992). He is now regarded as the most eminent psychologist of the 20th century. (Hug- 

We thank Christopher Copen for posting a query about the very nature of bibliography to the History and Theory of Psychology Question and Answer forum (www.psych.yorku.ca/graphics/ qanda/qanda.html; Alexandra Rutherford for allowing us to post popular press publications of which we were unaware: the B. F. Skinner Foundation for funding us permits and copies of Skinner's publications; the University of Kansas for a spring 1994 Reeler Family Intro-University Professorship to the first author; Robert Deoksha for his graduate seminar on historiography that spring; and Julie Wexler for suggestions regarding bibliography. Also, we appreciate the careful work of the journal's action editor and the three reviewers of this complex manuscript.

Correspondence may be sent to either author: Department of Human Development and Family Life, 4001 Dela Human Development Center, University of Kansas, 1000-University Avenue, Lawrence, Kansas 66045-2133, (e-mail: ekm@ku.edu or ngsmith@ku.edu)

bloom et al., 2002). The reason for his eminence lies, of course, in the content of his primary-source publications. For these, we have prepared a new, comprehensive, and corrected bibliography.

Before describing how it was constructed, we introduce the nature and practice of bibliography. These are not systematically addressed in the historiography of psychology or mentioned at all in behavior analysis, yet bibliographies continue to proliferate in both literatures. Even Skinner was once unclear about their nature, reporting, "I looked up 'bibliography' in the dictionary and misunderstood the definition; I took it to mean the complete works of a writer" (Skinner, 1976d, p. 160)—as distinct from a listing of the works of a writer. 1 After introducing the nature and practice of bibliography, in which we cite pertinent references, resources, and examples, we introduce the three main areas of Skinner's contributions to the behavioral, social, and cognitive sciences, and critically re-
view the extant Skinner bibliographies that list his publications. Our review reveals the need for a new one. We then relate how we constructed it, for example, its sources, the works it included and excluded, and its criteria for doing so. Afterward, we discuss how the bibliography might be enlarged and expanded, and its value for future research on Skinner’s contributions, as well as for research on science in general. We conclude with some comments about establishing a “Skinner industry.”

THE NATURE AND PRACTICE OF BIBLIOGRAPHY

A. As derived from the postclassical Greek word bibliographia (2nd century CE)—from biblio for “book” and graphien for “to write”—bibliography was originally the copying or writing of books. By the 18th century, however, it had evolved into writing about books, in particular detailed descriptions of books as physical objects (see Harmon, 1998, pp. 1–36). This change was wrought by the invention of the modern printing press (circa 1450), after which the sheer number of books overtook the human ability to recount them. Bibliography of this sort includes the history, appearance, and production of books, for instance and respectively, their edition, impression, and issue; their font and format; and their ink, paper, and binding. Bowers, 1949/1994; Greetham, 1994; Paidwick, 1999; e.g., Klebs, 1938; see Knapp, 1938. This is today referred to as analytical or critical bibliography. Its purpose is...
the record of knowledge" (van Hoesen & Walter, 1928, p. 1). As such, it facilitates the transfer of scholarship, science, and technology within and across disciplines, cultures, and countries for the purposes of teaching, research, and intervention. Without bibliography, "the records of civilization would be an uncharted chaos of miscellaneous contributions to knowledge, unorganized and inapplicable to human needs" (Frances, 1976, p. 978; Krummel, 1984; on the future of bibliography, see Davison, 1998; the Web site of the Bibliographical Society of America is www.bibsocamer.org).

As records of human activities, bibliographies describe disciplinary and professional accomplishments, both historical (e.g., Essey, 1926; Leroux, 1922) and current (e.g., Benjamin et al., 1989; Morris, Todd, Midgley, Schneider, & Johnson, 1990); they document change and progress (e.g., Sandberg & Partington, 1982; Watson, 1978); and they denote individual achievement (e.g., Todd, Dewsbury, Logue, & Dryden, 1994; Watson, 1974). In addition, they are tools for verifying original sources, their editions, and printings (e.g., Sokal & Rafail, 1982), accessing the content of disciplines, and individual achievement (e.g., Critchfield et al., 2000); conducting further inquiry (e.g., Morris & Schneider, 1966); and evaluating historical trends within and across disciplines (e.g., Beach, 1950) and within and across individuals. As for the latter, a bibliography might be used to construct cumulative records of a scientist’s publications (e.g., Skinner, 1956c, p. viii; 1961a, p. vii) or histograms of trends in the categories of a scholar’s work (e.g., Coleman, 1982, p. 6). In all, bibliographies are part of the process and the product of science itself (Giele, 1974; cf. Patton & Hake, 1983).

B. F. SKINNER

The present bibliography is a personal, enumerative bibliography of Skinner’s published primary-source works. Through these works, he established the discipline known today as behavior analysis (Delprato & Midgley, 1992; Michael, 1985; Reese, 1986; see The Behavior Analyst x: www.abainternational.org) and contributed fundamentally to each of its subdisciplines—experimental, conceptual, and applied.

First, Skinner founded the modern natural science of behavior through his invention of research methods, techniques, and apparatus for the experimental analysis of behavior as a subject matter in its own right (e.g., Reynolds & Skinner, 1962; Skinner & Campbell, 1947; see Iversen & Lattal, 1991; Lattal & Perone, 1998) and consistently through his pioneering program of research on basic behavioral processes (e.g., Skinner, 1938a, 1956b, 1965a; see Catania, 1998; Mazur, 1998; the Journal of the Experimental Analysis of Behavior at www.envmed.rochester.edu/www/jeab/jabhtml.htm). In addition, he conducted significant research in various domains and divisions of psychology, for instance, in motivation (e.g., Skinner, 1932a; see Michael, 1993), emotion (Estes & Skinner, 1941a; see Fantino, 1973), social behavior (Skinner, 1962c, see Guerin, 1994), language (Skinner, 1959; see Mook, 1990), and cognition (e.g., Eysenck & Skinner, 1981; see Donchoe & Palmer, 1994), as well as in behavioral pharmacology (Skinner & Heron, 1937; see Goldsberg & Stolerman, 1986), physiological psychology (e.g., Lambert, Skinner, & Proctor, 1943; see Zaggmond, Bloom, Landis, Roberts, & Spine, 1998), and behavioral genetics (Heron & Skinner, 1940; see Schroeder, Oster-Granite, & Thompson, 2002).

Second, Skinner made seminal contributions to the conceptual analysis of behavior (Skinner, 1931, 1955b; see Day, 1989b; Behaviorism, new Behaviorism, and Philosophy, at www.behavior.org; see The Behavior Analyst: Behaviorism for Social Action Journal, then Behavior Analysis and Social Action,
now Behavior and Social Issues at www.behavior.org). Among these were a philosophy for a science of behavior (i.e., radical behaviorism; Skinner, 1945b; see Schneider & Morris, 1987; Smith, 1986, pp. 259–297), an empirical epistemology (Skinner, 1950b; see Rensink, 1999, pp. 159–178; Zuziff, 1980), a naturalized ethics (Skinner, 1971c; see Vogelzang & Paud, 1992; Zuziff, 1987), and an analysis of cultural practices (Skinner, 1968g; see Burgess & Bashell, 1969; Lamal, 1977).

Third, both conceptually and practically, Skinner extended his contributions to the solution of problems of individual, social, and cultural importance, that is, to applied behavior analysis (Skinner, 1953a; e.g., Skinner, 1945b, 1966a; Skinner & Vaughan, 1983). Applied behavior analysis is today widely recognized as the foundation of empirically based practices in, for instance, developmental disabilities (Maurice, Green, & Luce, 1996; Schroeder, 1990), education (Gardner et al., 1994; Ninnis & Glenn, 1988), clinical psychology (Hayes, Jacobson, Follette, & Dougher, 1994; Kohlenberg & Tsai, 1991), addictions (Higgins & Katz, 1998; Higgins & Silverman, 1999), organizational behavior management (Frederickson, 1982; Reid, Parsons, & Green, 1989), and public health (Biglan, 1995; Mutter & Teyler, 1996; see Cooper, Heron, & Heward, 1987; Martin & Peal, 1996; O’Donohue, 1998; the Journal of Applied Behavior Analysis at www.enviro.rochester.edu/www/abrnabehavior/jaba/jabahome.html).

THE SKINNER BIBLIOGRAPHIES

To document Skinner’s pioneering and sustained contributions in these three areas, we need only peruse the extensive bibliographies of his published works. Unfortunately, they are today lacking in one or more regards, being dated, not comprehensive, or inaccurate.

Currency and Comprehensiveness

The earliest Skinner bibliography appears to have been published in the American Psychologist on the occasion of the American Psychological Association (APA) (1958) award to Skinner for his distinguished scientific contributions. It contains 63 works from 1930 to 1958. However, having ended in 1958, the bibliography is now quite out of date, especially because Skinner was being published posthumously more than 40 years later (e.g., Skinner, 1999). Another early bibliography was included in Dawes’s (1970) Festschrift for B. F. Skinner. It lists 100 publications from 1930 to 1969, but Skinner afterward published more than 125 additional works, among them some of his most significant (e.g., Skinner, 1972b, 1974a). Perhaps the best bibliographic resource published to date is Knapp’s A Comprehensive Bibliography of Published Works by and Concerning B. F. Skinner from 1929 through 1973 (1974). It contains 144 works from 1930 to 1974, but it, like the others, needs updating, in addition, it is not easily accessed.

BIBLIOGRAPHY

from 1930 to 1993. In each case, he explicitly omitted certain categories of works: book reviews, translations, re-publications, abstracts, letters, prefaces and forewords, and "miscellaneous" publications (e.g., "Less serious literary endeavors," Epstein, 1977, p. 103). In offering examples of these, he listed 17 works omitted from his 1977 bibliography (e.g., Skinner, 1940b) and, in 1982, he listed four from the same sample (e.g., Skinner, Solomon, & Lin-dley, 1954). Epstein's bibliographies are, however, as they were meant to be: a listing of "books and scholarly and scientific articles that have appeared in journals or as chapters in books" (Epstein, 1977, p. 100).

Another Skinner bibliography was included in Catania and Hurndal's (1988) appendix to the 1988 republication (Skinner, 1988e) of the 1984 reprinting of Skinner's (1984a) canonical papers in Behavioral and Brain Sciences (BBS). It spanned the years 1930 to 1987, and contained 189 works. The two most recent bibliographies are Weiner's "Skinner Bibliography" in his biography, B. F. Skinner: Benign Anarchist (1996), and O'Dohone and Ferguson's "B. F. Skinner's Published Works," last chapter in their text-book, The Psychology of B. F. Skinner (2003). The former contains 195 works from 1930 to 1992; the latter contains 239 works from 1930 to 1993; Weiner's bibliography is incomplete; O'Dohone and Ferguson's is more comprehensive, but not entirely--it excludes, for example, abstracts.

To check on these bibliographies, we searched PsyCINFO for "Skinner" in November, 2002, but found fewer entries under his name—161—than in bibliographies published more than two decades ago (e.g., Epstein, 1982a). PsyCINFO also sometimes includes references both to Skinner's primary-source publications and to multiple re-printings thereof (e.g., Skinner, 1966c, and Skinner, 1998, 1999).

Accuracy

The bibliographies also contain errors of omission and commission, including the following: (a) Skinner's works that would seemingly have been included in a bibliography, given their titles, but that were omitted (e.g., Skinner, 1947b); (b) works that were included but not published as they were listed, for example, "Human use of human beings," Psychological Bulletin, 1951, 48, 241 appears in one bibliography, but should have been listed as "Review of the book, The human use of human beings" (see Epstein, 1977); (c) works that were included, but not published where they were listed, for example, "Superstition in the pigeon, American Psychologist, 272-274" was reprinted not in the American Psychologist but in the Journal of Experimental Psychology (Skinner, 1992); and (d) works that listed Skinner as the author but that were not written by him, for example, "Skinner, B. F. (1960, October). Something good happens to a child, Phi Delta Kappan, 42, 27." "Something good happens to a child" (1960) has no author by-line; it was presumably written by the magazine's staff.

The last error, like the others, was relatively unambiguous, as the publication itself makes clear and because it was included in only one of the nine bibliographies published after 1960. Other publications, however, presented more difficulty. For example, "Conditioning responses by reward and punishment" (1960) is found in seven of the nine post-1960 bibliographies, among them one Skinner presumably prepared himself (i.e., Skinner, 1977c). The article is usually listed as "Skinner, B. F. (1960). Conditioning responses by reward and punishment. Proceedings of the Royal Institution of Great Britain, 41, 48-51." We con-

"A period of Skinner's self-criticism: in his own publications turned up a reference that seemingly was not published. It does not appear in his bibliography. The reference was listed in Skinner (1965b, p. 60) as "The retrieval of a demonstration. J. Gen. Psychol." (precis. This was, however, perhaps, what Skinner published as "A demonstration based on a change in the properties of a stimulus." Skinner, 1965a)."
cluded, however, this Skinner did not write this article. The cover page of the Proceedings describes its contents as “containing accounts [italics added] of the Friday evening discourses and other meetings”; Skinner (1977c) himself added “Lecture Summary” to its entry in his bibliography, and it was written in the past tense and in the third person (e.g., “The lecturer was ….”, p. 48; “It was suggested [by the lecturer] … “p. 50), not a style for which Skinner was noted.

Another ambiguous case was the article by Brininstool, Kraich, Kroesber, Skinner, and Haydn (1952), published in the “Forum” section of American Scholar. This entry is listed in none of the extant bibliographies, yet we included it for two reasons. First, as described on the journal’s title page, this was a “stenographic record of a discussion held in a private dining room at the Hotel Biltmore” (p. 208); actually, it was a stenographic record of a taped transcription of the discussion. Second, although Skinner (1965c) was unhappy about what was “said under my name,” he noted that it was “published in the American Scholar” (p. 106).

As for other errors, one or more of the bibliographies contain incorrect author orders—“Skinner and Barnes (1930),” instead of Barnes and Skinner (1930); publication dates—“Skinner (1955)” instead of Skinner (1956); article titles—“Psychology in the understanding of mental disease” instead of “The psychological point of view” (Skinner, 1957b); journal titles—Journal of General Psychology instead of Journal of Psychology (Skinner, 1926e); volume and issue numbers—Volume 64 instead of Volume 5 for Skinner (1962d); page numbers—page 30 instead of pages 30–31, 135–136, 138 for Skinner (1945c); and spellings—“chronize” instead of “chron-

Although included as a Skinner publication in all the post-1960 bibliographies, Skinner (1964d) was actually ghost written (Skinner, 1960a, p. 199).

axie” in Lambert, Skinner, and Forbes (1933) (see M. Thompson, 1978, on problems caused by incorrect citations and references).

In light of these problems in the currency, comprehensiveness, and accuracy of the extant bibliographies, we prepared one that brings the record of Skinner’s published primary-source publications up to date, provides a comprehensive listing of them, and corrects the errors. The result is not only illuminating in itself, but it better serves future research, points we address in our discussion.

BIBLIOGRAPHIC METHODS

We constructed the bibliography from six sources: (a) the 30 bibliographies; (b) our personal collections of books, reprints, and photocopies of Skinner’s publications; (c) reprints and copies of articles and chapters sent to us by the B. F. Skinner Foundation (www.bfskinner.org); (d) the APA Abstracts; (e) five citation indexes (i.e., Art Index Arts & Humanities Citation Index, Philosopher’s Index, Science Citation Index, Social Sciences Citation Index); (f) five electronic databases (i.e., FirstSearch, the ERIC database, the Library of Congress, MLA Bibliography, PsycINFO); and (g) Skinner’s three-volume autobiography (Skinner, 1976d, 1976e, 1985e). We worked first from the bibliographies, checking and cross-checking them against one another, and then against the other sources.

Our search covered 16 categories of Skinner’s published works: from 1930 to 1999, encompassing his scholarly and popular contributions, periodical and nonperiodical publications, and serious and less serious endeavors. These included books (e.g., Skinner, 1930a, 1999); articles (e.g., Barnes & Skinner, 1930; Skinner, 1993), chapters (e.g., Skinner, 1941a, 1980); monographs (e.g., Skinner, 1975); proceedings and transactions (e.g., Skinner, 1930a; Fesperstein & Skinner, 1980), articles in newsletters and digests (e.g., Skinner,
BIBLIOGRAPHY

1966c, 1968g), encyclopedia and yearbook entries (e.g., Skinner, 1966c, 1971b), manuals (e.g., Skinner & Krakower, 1968), foreign language publications (Skinner, 1963c, 1976b), book reviews in professional journals (e.g., Skinner, 1987g: Skinner & Crozier, 1951) and the popular press (e.g., Skinner, 1946b, 1977d), abstracts (Skinner, 1936e, 1959a), prefaces and forewords (e.g., Skinner, 1978c, 1978a), translator's notes and postscripts (Skinner, 1969e), comments and discussion (e.g., Skinner, 1938a, 1974c, 1983a), letters to the editor in professional journals (e.g., Skinner, 1964d, 1983c) and the popular press (e.g., Skinner, 1947a, 1976c), and miscellaneous publications and less serious endeavors (e.g., Richard & Skinner, 1962).

We did not include interviews and debates (e.g., Evans, 1968: Firing Line, 1971; Kohl, 1993, ps. 259–269; Lupan & Houghton, 1995; Modern, 1979; Ribes-Inesta, 1999), books of quotations (e.g., Comunidad Los Horcones, 1992; Wine, 2001), a quotation (Skinner, 1969b), a translation (S. Miller & Konecki, 1928/1969), or unpublished internal and external grant reports (e.g., Holland & Skinner, 1958; Lindsey, Skinner, & Solomon, 1953, 1954a, 1954b, 1955).

Once the master list was compiled, we culled it for republications, reprints, translations, and excerpts. Works Skinner published more than once are listed where they were originally published (e.g., Skinner, 1960d, not its republication as Skinner, 1966b; Skinner, 1983d, not its translation as Skinner, 1984a), except for Skinner’s books, each of which we treated as a separate publication (e.g., Skinner, 1944a, 1956c). When the same work was re-published in the same year, we listed the first one that was published (e.g., Skinner, 1975d, instead of Skinner, 1975) or the one with the original copyright (Skinner, 1960d, instead of Skinner, 1960). And, when one work encompassed another and was significantly more comprehensive, we listed only the more comprehensive work (e.g., Skinner, 1972e, instead of Skinner, 1972). This last restriction meant that we did not include excerpts from Skinner’s books published in Psychology Today (e.g., Skinner, 1969a, 1971, 1975a, 1979b, 1983; see Skinner, 1964d, 1971d, 1979c, 1983a).

Next, we culled the master list for their reprinting in Skinner’s own collected writings, that is, those in the four editions of Cumulative Record (Skinner, 1959a, 1961a, 1972b, 1999), his four other collections of writings (Skinner, 1970b, 1982d, 1987, 1990a), and the two BBS reprints of his works with open peer commentary (Skinner, 1984a, 1988a). In these cases, we listed his works according to their original publications (e.g., Skinner, 1973b, instead of Skinner, 1978a), which were sometimes in these collection writings (e.g., Skinner, 1959d, published as Skinner, 1961; Skinner, 1980a, reprinted as Skinner, 1965). Two of Skinner’s texts—The Technology of Teaching (Skinner, 1968b) and Contingencies of Reinforcement (Skin- ner, 1969a)—also reprinted many of his works, and we treated them the same way. Skinner (1969a), for example, contains 11 chapters, four of them previously published as journal articles, which we listed according to their original publications (Skinner, 1954a, 1958b, 1965a, 1965c). Seven of the nine chapters in Skinner (1969a) were previously published as articles and chapters. They too were listed separately (e.g., Skinner, 1965a), leaving the book mainly with an introductory chapter and extensive notes Skinner added to each work.

As for works reprinted in collections other than Skinner’s, we also listed these according to where they were originally published, both across (e.g., Skinner, 1932c, instead of Skinner, 1968b) and within (e.g., Skinner, 1964b, instead of Skinner, 1952a) or as combinations of other articles are also not listed separately (e.g., Skinner, 1967, combined Skinner, 1965c).
1967a, the first entry in Skinner, 1964a and, 1989b, combined and condensed Skinner, 1959a. 1959d, 1969a, pp. vii-ix; see Catania, 1988, p. viii). We did not systematically assess whether Skinner’s republished or reprinted works were verbatim versions of his original publications, although we know that he occasionally made changes, for instance, bringing references up to date, adding new material, and altering titles (Epstein, 1977, p. 102; 1983a, p. 7; see Skinner, 1999a, p. xii; e.g., Skinner, 1977a, was reprinted Skinner, 1978b).

Although we could have included Skinner’s own reprints of his works from his collections of writings, in addition to or instead of their primary sources, we did not, for two reasons. First, had we added these reprints, the bibliography would have provided a more inclusive guide to his works and made them more accessible to researchers and students who lack access to journals and books. However, the bibliography would have been unwieldy and inefficient for historiographic purposes. Second, had we referenced his reprints instead of the original sources, the bibliography would then have been, in part, derivative. Sound historiography begins with primary, not secondary, sources (Broz, Geer, & Sprague, 1990; Fumumoto, 1989). They assure the authenticity of the original publication dates, for example, when undertaking qualitative and quantitative historical analyses (e.g., biographic, historiometric), (b) eriting publication sources, for example, when conducting the science of science (e.g., analyzing patterns of current research through publication trends, evaluating sources of eminence), and (c) original texts, for example, those uncorrected according to “current standards” (e.g., sexist language, e.g., Skinner, 1953c; see Epstein, 1982b, p. 7) for interpretative analyses of the original works (e.g., in the sociology of science).

The Bibliography
In the end, the results of our search yielded a personal, enumerative bibliography of 291 primary-source publications spanning the years from 1930 to 1999. It includes 52 (or 18%) more publications than are included in the next longest bibliography—the 239 in O’Donohue and Ferguson (2001). To preserve the continuity of the historical record, we have listed the publications chronologically across years regardless of author order, but alphabetically within years by author (e.g., Barnes & Skinner, 1940; Skinner, 1940a) and by title (e.g., Skinner, 1980a, 1980b).

LIMITATIONS AND POSSIBILITIES
The present bibliography documents Skinner’s pioneering and multifaceted contributions to behavior analysis, and to the behavioral, social, and cognitive sciences more generally, over the course of seven decades. However, its comprehensiveness and accuracy notwithstanding, the bibliography will be, and should be, superseded by others. For example, we doubt that it includes every one of Skinner’s publications, and thus we expect future bibliographies to be more comprehensive, listing for instance more professional and popular-press letters to the editors, popular-press book reviews, and miscellaneous works. In fact, Skinner (1979c, 1983e) mentions a number of these in his autobiographies, but not in enough detail that we could find them (see Skinner, 1976c, pp. 225–226; 1983e, pp. 43, 63, 182, 218–219, 319, 320, 321, 340, 352–354, 359–360, 375, 387, 392, 1993). Furthermore, other publications may be forthcoming from as-yet-unpublished works, for instance, drafts of papers and texts (e.g., Sketch for an Epistemology, see Skinner, 1979c; 1979e, pp. 115–119, 146, 166, 311, 359, 1985a, pp. 279, 965; 1982) and workbooks (e.g., Something to Think About; see Skinner, 1967a, p. 406, 1976c, pp. 229–240, 366–367), prefaces to books and manuals (e.g., Skinner, 1987b), written presentations and discourses (e.g., Skinner, 1988), and transcriptions of pre-
sentations, comments, interviews, and debates.

The Bibliography Enlarged and Expanded

Enlarged. Even now, the present bibliography could be enlarged. First, it might list separately the individual notes, postscripts, and responses included within single publications. Among these would be the "notes" Skinner (1969a) published after each of the 11 chapters in Contingencies of Reinforcement or the postscripts he (1982d) wrote after each of the reprinted papers and a chapter in Skinner for the Classroom (Skinner, 1982d; see Epstein, 1982b, p. 6). When BBS published the "Canonical Papers of B. F. Skinner" (Skinner, 1984a) with open peer commentary, Skinner wrote an "Author's Response" to the commentaries, grouped by his works (e.g., Skinner, 1984d), as well as replies to the summaries and queries of the issue's coeditors—Catala and Harnad (Skinner, 1984b, 1984c). Later, when the BBS issue was reprinted as Skinner (1985a), Skinner not only wrote postscripts for each work but individually organized his author responses under 145 titles. If all these notes, postscripts, and responses were listed as separate works, the bibliography would have contained over 175 more entries.

A second way in which the present bibliography might be enlarged would be to include other categories of Skinner's contributions, for instance, abstracts at chaired symposia (e.g., Skinner, 1966a), published interviews and debates (e.g., Evans, 1968; Firing Line, 1971; Ribes-Insta, 1990), audio recordings (e.g., "The Conditioned Scholar," 1972), videotaped addresses (B. F. Skinner, Ph.D.: Keynote Address, 1960), and commercial films (B. F. Skinner and Behavior Change, 1973) and videos (e.g., B. F. Skinner: A Fresh Appraisal, 1995). Another category might include Skinner's publications as a youth (see Skinner, 1976d, pp. 92-100, 161; 1976b, p. 46), while at college (see Skinner, 1976d, pp. 220-222), during his failed literary career (see Coleman, 1985; Skinner, 1976d, pp. 267-269), and immediately thereafter (e.g., Skinner & Skinner, 1928).

Expanded. In addition to adding other categories of materials, the bibliography could be expanded within its current categories. First, as mentioned previously, it might include references to works Skinner republished in other journals and periodicals (e.g., Skinner, 1973a, in addition to Skinner, 1972c), as well as those reprinted in his (e.g., Skinner, 1987a, in addition to Skinner, 1986b) and other collections (e.g., Skinner, 1964, 1973b, in addition to Skinner, 1963a, 1972d). This would provide a more complete record of his publishing practices, as well as a greater indication of the breadth of his influence. Although no other bibliography has done exactly this, two of them—Knapp (1974) and Epstein (1982b)—noted which of Skinner's publications were reprinted in which of Skinner's collections. A second means of expanding the bibliography would be to prepare annotations for all of Skinner's primary-source publications (Epstein, 1985, p. 217). This would provide a more thorough description of his works than can be conveyed by their titles alone (Colaianne, 1980).

THE USE OF A SKINNER BIBLIOGRAPHY

These qualifications notwithstanding, the present bibliography remains a useful resource for scholarly inquiry. Herein lies perhaps the greatest importance of a personal, enumerative bibliography. In the present case, it is a means for qualitative and quantitative research into Skinner's contributions to the behavioral, social, and cognitive sciences, and to science in general (cf. Coleman, 1995).

Accessibility and Comprehension, Corrections and Sympathies, Accessibility and comprehension. First, reviews and analyses of Skin-
ner's publications based on an up-to-date, comprehensive bibliography would make his work more accessible and comprehensible (e.g., Nye, 1992; Richette, 1995). Although he was considered a "surprisingly good writer for an academic," even "skillful" (Bolles, 1979, pp. 1073-1074), writing, for example, "with dramatic clarity" (Brooks, Parzer, & Warren, 1964, p. viii) about moral responsibility (Skinner, 1955-1956; see Skinner, 1956, p. 107), Skinner can be difficult to understand. He sometimes used a terse technical style (E. Thompson, 1968, p. 398), changed his perspective (Chiesa, 1992; Coleman, 1984; Iversen, 1992; Mosley, 1998; Scharff, 1982), and can easily be read out of context (Todd & Morris, 1992). As an example of the last point, in writing that "the variables of which behavior is a function . . . lie outside the organism, in its immediate environment, and in its environmental history," Skinner (1953a, p. 51) is easily misunderstood to mean that evolutionary history was irrelevant (see García & García y Robertson, 1985), when it was not (see Skinner, 1960c; see also the shaping-sculpting metaphor, Skinner, 1953, p. 91). Scholarship based on the entire corpus of Skinner's work might make his contributions easier to understand, to describe clearly and correctly, and to relate to others.

Corrections and Sympathies. Second, research based on a comprehensive bibliography might also correct misunderstandings about Skinner's science and system (e.g., Chomsky, 1979; Mahoney, 1989; contra Catania, 1991; MacCorquodale, 1970). Such a bibliography permits broader contact with his publications, and box more refined and textured scholarship, some of which might even reveal sympathies and symmetries between Skinner's work and like-minded programs of science in, for instance, perception (e.g., Gibson, 1979; see Costall, 1984), cognition and memory (e.g., Rumelhart, McClelland, & the PDP Research Group, 1986; Watkins, 1990; see Donahoe & Palmer, 1989), developmental systems (e.g., Oyama, 1985; see Moidley & Morris, 1992), as well as convergences among such conceptual systems as psychoanalysis (e.g., Schaffer, 1976; see Lec, 1988), Hermeneutics (Day, 1980; H. L. Miller, 1994), existentialism (Faulon, 1992; McDowell, 1975), phenomenology (Giorgi, 1973; Kvale & Gjesdal, 1967), social constructionism (Guern, 1992; Ruiz, 1995), and postmodernism and post-structuralism (Andresen, 1990; Freeman & Locarno, 1994; see Morris, in press; Cradefoff, 1991).

Qualitative Research

The present bibliography also offers easier access to primary sources for qualitative research into Skinner's contributions, as well as into the conduct and progress of science. The process and products of qualitative research—for instance, descriptions, reviews, narratives, and interpretations—are, most commonly, historical, biographical, and conceptual in nature. With respect to Skinner, a comprehensive bibliography might aid further research into his life (e.g., Bjork, 1993) and career (e.g., Elays, 1981), aspects or periods of both (e.g., Smith & Woodward, 1996), and categories thereof (e.g., Skinner in the popular press; see Ruth Erford, 2000, 2003). Such research might also further illuminate his science of behavior (e.g., its methods, apparatus; see, e.g., Coleman, 1996), applied innovations (e.g., programmed instruction; see Vargas & Vargas, 1996), conceptual analyses (e.g., verbal behavior; see, e.g., Coleman, 1989), and contributions in various content domains (e.g., educational psychology; see Morris, 2003).

Quantitative Research

Bibliographies are also, of course, an important basis for conducting quantitative history (see Drumh & Jeffery, 1990); in particular, historiometrics and cliometrics (Simonton, 1990).
Historiometrics. Historiometrics is the older of the two disciplines. Exploring “history to do science” (e.g., to do psychology: Woods, 1909), it lies at the intersection of history, science, and psychology, using quantitative analyses of historical information to discover and confirm nonmetric, uni-vocal, law-like explanations of human behavior. In psychology, this work is found, most notably, in the literatures on longitudinal development (e.g., birth order effects: Albert, 1980) and career achievement (e.g., the quantity and quality of creative output: Storr, 1988, 2002). Here, for example, a Skinner bibliography offers a means for analyzing the chronology of his first, last, and most significant contributions in the context of his most and least productive periods. By comparing this chronology with those of other psychologists (see Dennis, 1954; Lehman, 1966a; Simonton, 1985), as well as with those of scientists in other disciplines (see Lehman, 1966b; Simonton, 1989), we might gain some insight into the timing, directions, and patterns of Skinner’s creativity over the course of his career (e.g., empirical vs. conceptual analysis; see Coleman, 1982). We might also gain insight into career paths, not taken. About this, Skinner (1983e) wrote in his autobiography of meeting Harvey Lehman in the early 1960s.

In Age and Achievement, Harvey Lehman [1953] has reported that people in the hard sciences did their best work when they were in their thirties. I thought my science was fairly hard when I was about 40. I asked Lehman himself during a visit to Ohio University. Should I change to a field in which I should be more effective? “To administration,” he said, but my brief experience as a department chairperson was not encouraging. (p. 215)

As mentioned above, historiometrics goes beyond descriptions of norms and patterns to derive nonmetric laws from them and then cites the laws as explanations of individual behavior (e.g., the relation of age to creative achievement). From a behavior-analytic perspective, such explanations are likely to be circular (Baer, 1970; Skinner, 1953a) or mentalistic (Skinner, 1972e, 1977); awaiting their own explanations in terms of the contingencies and metacontingencies of science and culture (Hull, 1988; Malagodi, 1986, see Moore, 2000).

Climetrics. Climetrics is a newer development in quantitative history. In applying “science to history” (i.e., to do history), it lies at the intersection of history and science, independent of psychological theory. Like historiometrics, it also analyzes historical information, in this case to discover and confirm, not universal laws, but specific answers to idiosyncratic questions (Erickson, 1975; Flood, 1973; e.g., Derks, 1989). As for climetric analyses based on a comprehensive bibliography of Skinner’s works, his works could be quantitatively analyzed according to their various characteristics and relations among them. These might include his types of publications (e.g., books, articles, chapters, and reviews), their outlets (e.g., psychology journals, other science journals, the popular press), and his coauthors (e.g., Holland & Skinner, 1961; Morse & Skinner, 1958; Skinner & Heron, 1967, Skinner, Solomon, & Lindeley, 1954). Such a bibliography might also be useful for analyzing the contributions he made to the basic, applied, and conceptual analysis of behavior, and to specific topics and content domains therein. The latter might include schedules of reinforcement (e.g., Ferster & Skinner, 1957), evolution (e.g., Skinner, 1966a), psychoanalysis (e.g., Skinner, 1956b), teaching machines (e.g., Skinner, 1953a), humanism (e.g., Skinner, 1972d), problem solving (e.g., Skinner, 1966b), cognitive science (e.g., Skinner, 1983a), and the design of cultures (e.g., Skinner, 1966b).
These characteristics and contributions might also be examined for trends within and across them over time, that is, over the course of Skinner's career. Some such analyses have already been undertaken, for instance, in the form of cumulative records of his published works (e.g., Epstein, 1982b; www.lafayette.edu~allan/biblio.html), some of them accompanied with comments about how changes in them were affected by professional and cultural contingencies (e.g., World War II; see Skinner, 1956, p. vii; Skinner, 1969a, p. vii). Still finer analyses might be made of trends in the characteristics of Skinner's publications (e.g., types, outlets) and their contributions to the subdisciplines of behavior analysis (e.g., empirical vs. conceptual) and their content domains (e.g., behavior therapy) (see, e.g., Coleman, 1982, p. 6).

The Science of Science

In providing an account of the behavior of scientists, bibliographies (or, in cyberspace, "webographies") can also contribute to a science of science. "Science studies," as such, are conducted from historical (Gruber, 1974; Shapin, 1994), sociological (Bloor, Barnes, & Henry, 1996; Merton, 1973), and psychological (Feiss & Gorm, 1998; Gholson, Shadish, Neimeyer, & Houts, 1989) perspectives, with the last of these largely informed by research and theory in social, developmental, and cognitive psychology (e.g., Giere, 1988; Gopnik, 1996; Kihl, 2000; Shadish & Fuller, 1994). A behavior-analytic approach to the science of science, in contrast, remains to be more fully developed (see Burton, 1980; Creel, 1987; Frayley, 1996; Johnston & Pentypacker, 1993; Lee, 1985; Marr, 1986; Schnaitter, 1980; Skinner, 1956b; Skinner, 1957a, pp. 418–431; Terrell & Johnston, 1989).

Finally, bibliography can also contribute to scientometrics and bibliometrics in important ways. The former is the quantitative study of scientific activity and communication, as well as of the related behavior of scientists (Leydesdorff, 2001; e.g., Lindsey, 1988), whereas the latter quantitatively analyzes articles, journals, and books for the same purposes (Narin & Moll, 1977; e.g., Cason & Lubinsky, 1936) (see the International Society for Scientometrics and Informetrics, the paper journal, Scientometrics, and the electronic journal, Cybermetrics: The International Journal of Scientometrics, Informetrics, and Bibliometrics, at www.ciodocncic.ceb/cybermetrics/cybermetrics.html). These sciences contribute to the empirical study of the history of science (e.g., Braungart & Wanner, 1983; Simonton, 1986), the history of science as a cultural practice (e.g., Price, 1963, 1978), and the attributes and actions of scientists as historic individuals (e.g., Terman, 1917), all of which are consistent with a behavior-analytic approach to science and epistemology (Smith, 1986, pp. 259–297; Zariff, 1980).

CONCLUSION

An updated, comprehensive, and accurate Skinner bibliography has many uses. It provides a basis for describing Skinner's contributions to a science of behavior and the patterns of his contributions over time, thereby inviting explanations in terms of personal and social contingencies. It is a basis for comparing and contrasting his contributions and patterns with past and present norms, suggesting explanations involving the contingencies and metacontingencies of professional and cultural practice. And, it increases the accessibility of Skinner's contributions to the behavioral, social, and cognitive sciences, as well as the accessibility of behavior analysis in general. Indeed, the growth of behavior analysis may depend, in part, on the realization of this last function, especially when its accessibility leads to the philosophical, sociological, and historical study of behavior analysis as a discipline in its own right.
Indeed, just as the "Darwin industry" (see Rose, 1996) has increased public awareness, understanding, and support of the biological sciences over the past century in ways that have contributed to their extraordinary success, so too might a "Skinner industry" do the same for behavior analysis (Sigrid Glenn, personal communication, August 8, 2002). The present bibliography is but the beginning of such an industry, after which might follow a searchable, printable CD-ROM or Web-based version of Skinner's primary-source works in their original formats (e.g., journal and book pagination), and then of other categories of his contributions, published and unpublished (e.g., correspondence; cf., www.lib.carn. ac.uk/Departments/Darwin). This would also facilitate the construction of comprehensive subject-matter indexes and author indexes across Skinner's publications, as well as a bibliography of all the works Skinner cited, footnoted, or referenced. Such an historiographic resource would immediately and significantly increase the database for research on Skinner's contributions to science and the culture at large.

"Not only might the bibliography serve a relevant "Skinner industry" at work but also behavior analysis at play, perhaps in its own version of Trivial Pursuit. For example, the present bibliography might be the basis for questions such as: (a) In what years did Skinner not have any publications? In what years did he publish the most? What was Skinner's longest journal article? In what journal did Skinner publish his first article? How many articles did he publish in JEAR? How many in The Behavior Analyst? And what in Skinner's early JABS publication? How many coauthored articles did Skinner publish? How many different coauthors did he have? Who were they, and who was his most frequent coauthor? Conceivably, a behavior-analytic version of Trivial Pursuit—for instance, a Behavioral Pursuit—could be created, and in eight categories from such categories as the experimental analysis of behavior (e.g., basic processes; concepts, biological constraints; b) applied behavior analysis (e.g., procedures, generalization, social validity); c) research methodology (e.g., designs, measurement, observables, agreements; d) conceptual analysis (e.g., ethics, philosophy, history); and (e) the discipline and

REFERENCES

Blust, D., Barnes, B., & Henry, F. (1996). Science in the profession more generally (e.g., journals, associations, conferences, certification, accreditation). The question and answer Behavioral Pursuit cards should not be invalidated if properly designed. They could be used for classroom exercises and research, research assessment and competitions, quizzes, as study aids at any level of instruction (e.g., research, see Austin, 2000), and as study guide materials for the Behavior Analysis Certification Board examination. However, in this and other contexts, we should carefully distinguish the conditions of these cards in any idiosyncratic-like capabilities. The trivial pursuit of behavior analysis will yield little of substantive or long-lasting value, although still, it might attract some interest in the science, practice, and profession.
A BIBLIOGRAPHY OF PRIMARY-SOURCE WORKS OF B. F. SKINNER


BIBLIOGRAPHY

61


BIBLIOGRAPHY


Skinner, B. F. (1964c). On the relation between mathematical and statistical competence and scientific research productivity. The Worm Reiner's Digest, 6(1), 13-17. (Published under the pseudonym "G. Caliban"").


Skinner, B. F. (1966e). Some responses to the
BIBLIOGRAPHY


