Searching for Morris Fuller Benton

Discovering the designer through his typefaces

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ABSTRACT

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Morris Fuller Benton (1872–1948) was the chief type designer for the American Type Foundry Company, where he worked from 1896–1937. He designed more typefaces than any other American type designer: well over 200. Yet historians have largely overlooked him in their publications and he did not write about himself. This dissertation seeks to discover how Benton thought as a designer by studying his typefaces. The economic trends that influenced his career are summarized, and his typefaces are re-catalogued thematically. Detailed case studies are made of Franklin Gothic, Clearface and Clearface Gothic, Cloister Oldstyle, Century Schoolbook, and two novelty typefaces, Adscript and Thermo Series. The common assumption that Franklin Gothic was based on Akzidenz Grotesk is refuted. His approach in reviving Nicolas Jenson's fifteenth century roman is contrasted with that of Bruce Rogers, and the resulting typefaces compared. It is shown that Benton was greatly concerned with furthering legibility in typefaces; that he designed the first serial (serif and sans serif) type family; and that he made some typographic design innovations that went largely unnoticed. The dissertation concludes with a reevaluation of Benton as a twentieth century designer, and suggestions for further investigation of his work.

September, 2006
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This dissertation is dedicated
to my sons, Seelye Tao Arms
and Luther Li-Zhen Arms
and to their grandfather, who
passed down the family belief that
education is everything.

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Figure 1: A medley of typefaces attributed to Morris Benton. The sheer volume and variety of Benton's output make analysis difficult. (ATF specimens, mixed scales)

1 Introduction

Why this study is needed

Morris Fuller Benton (1872–1948) was the chief type designer of the American Type Founders Company from the turn of the century to 1937. He has, belatedly, been recognized as the most prolific American typeface designer (Frederic W. Goudy was mistakenly accorded that honor), but he has been awarded little or no attention by historians of twentieth century type design. Many of Benton's typefaces are still in use today, but how the designer thought about his work has not been recorded. There has been no comprehensive study of him as a designer, and Benton was not given to self-promotion. The personal interview published in *Inland Printer* in 1936, just a year before his retirement, reveals little about its subject who, apparently, was frustratingly laconic.

It is difficult to classify Benton as a type designer because there is no single recognizable style by which to identify his typefaces. Over a 41-year career he designed typefaces in every style—romans of many historical genres, scripts and cursives, plain gothics, pen-styled calligraphic faces, blackletter, slab serifs, and novelty display faces. Has it simply been too difficult to identify his fingerprint in such a diverse and large body of work? Or was he just a mechanical imitator without artistry of his own?

The purpose of this study is to search for Morris Fuller Benton through an analysis of his typefaces, to find a pathway back to the designer's mind, and even his heart. It is also hoped that a realistic evaluation of his virtues and shortcomings as a designer and a fresh appreciation of his significance may emerge from this study.

Assessment of current sources of information

Publications and academic papers
Original sources for information about Morris Benton are very limited in number. One is the *Inland Printer*, a major nineteenth and twentieth century American printers' trade journal. The interview referred to earlier was published in three consecutive issues of *Inland Printer* in 1936. The tone of the article borders on hyperbole and it does not contain insightful statements from Benton, but at least it is contemporaneous.

For biographical research on Morris Benton, the work of Patricia Cost, begun as a masters dissertation (1986) for Rochester Institute of Technology (RIT) is unsurpassed. It includes first-hand information from interviews of Benton's two daughters and gives a vivid picture of life in the Benton household. Cost provides a step-by-step description of the type-making process at ATF utilizing the inventions of Linn Boyd Benton, the father.

Currently, the most complete source for dating Benton's typefaces is a list printed by Maureen Hitchcock (1978), another former RIT student, which

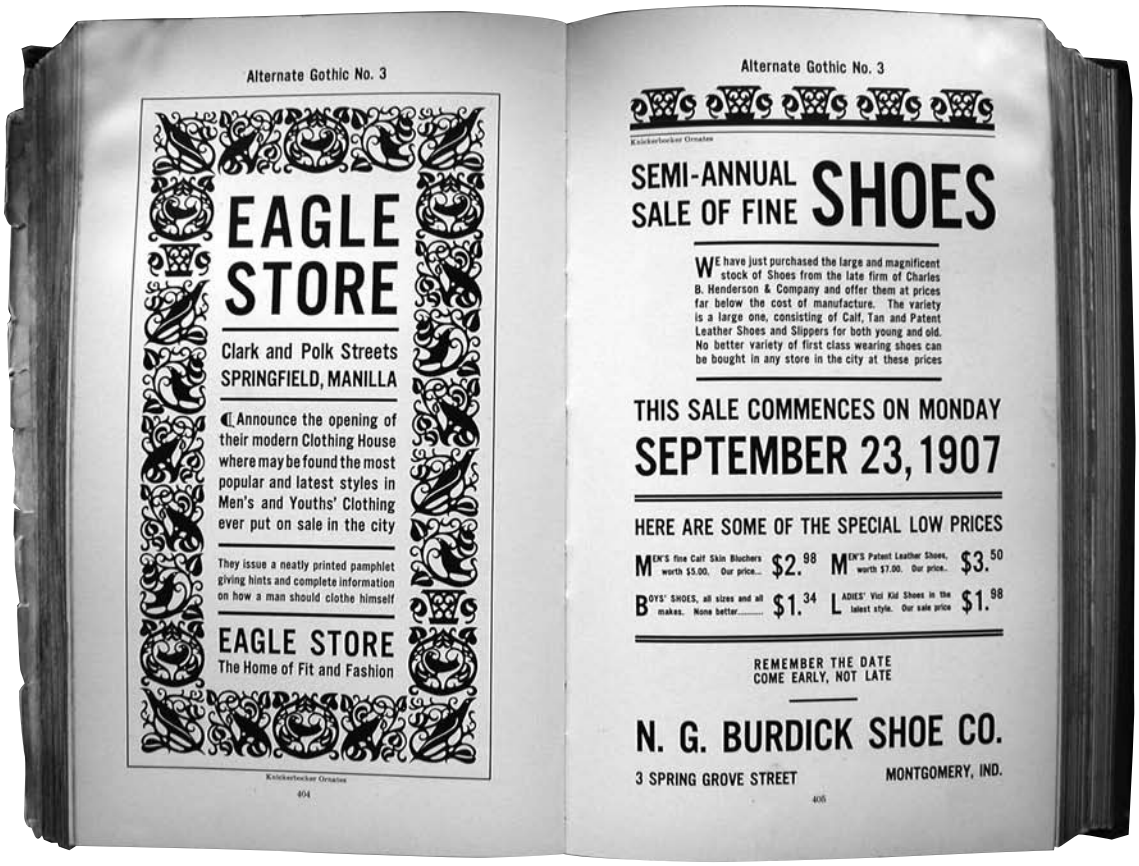


Figure 2. The 1906 *American Line Type Book* was the first of ATF's specimen books to print practical displays of its fonts using mock publicity layouts. (50%)

combines two original sources for a tally of Benton's typefaces. The first source cited by Hitchcock is an annotated copy of the 1923 ATF specimen book that was in the company's library, now owned by Columbia University. The annotations, believed to be Morris Benton's own, give the months and years of design for the typefaces he had a hand in. The second source is a typewritten manuscript by Stevens L. Watts, ATF's manager of type sales from 1947–1955, that supplies dates from the matrix department files. These dates are often several years later than the annotated dates in the 1923 catalog.

Both Cost's biographical descriptions and a study of Benton's annotations in the 1923 specimen book form the basis of this author's belief that Benton was intimately involved in the work of designing typefaces, not simply supervising other designers. He was not a man to take credit for the work of others, and in some of the annotations he does indeed credit designers by name or point to a historical model for the design. Where he claims credit in his own name, we can assume that credit is due.

Mac McGrew's encyclopedic *American Metal Typefaces of the Twentieth Century* (1993, 2nd rev edn) is the most complete visual reference for Benton's work available in one volume. It has alphabet specimens and brief histories of almost all Benton's typefaces, but they are not segregated from the hundreds of other specimens.

An article by Paul Shaw on the Century type family has observations on the type drawings for Century roman which he studied in the Smithsonian Institute, but these were final type drawings from the matrix engraving department (Shaw, 1989). There were no preliminary sketches, although Benton is purported to have begun the design process with pencil drawings (Cost, 1994: 35). Unless some future discovery happily proves otherwise, one must conclude that Benton's pencil drawings have not survived.

The balance of critical writings available to the student of Benton's designs were written in the second half of the twentieth century. Most of them contain general information about his career, emphasizing his prolific output, the longevity of some of his designs, and the significance to the typefounding industry of the new machines invented by the senior Benton. None of these references gives a deeper glimpse into Benton's interests and motivations as a designer, the kind of insights to be found in published studies of his contemporaries, such as Frederic W. Goudy, Bruce Rogers and William Addison Dwiggins.

The dilemma for a student of Morris Benton's work is how to judge him as a designer when there is such a paucity of resources on the topic, and no words from the designer himself. The answer is that the most complete body of evidence is his work itself, which numbers well over 200 typefaces and is clearly documented in the specimen books of the American Type Founders Company. The editions consulted for this study were 1896, 1906, 1912, 1923, 1934, and 1941.

Figure 3. Page from the 1934 ATF *Book of American Types*. The company had filed voluntary bankruptcy the previous year and this book is greatly reduced in volume compared to the previous specimen books.

With the exception of Bernhard Tango, the designs shown on this page were by Morris Benton. Othello was a restyling of a nineteenth century legacy typeface at ATF. "Benton" was the only ATF typeface ever named after the designer, but it was never issued for sale under that name. When revived in 1953 by Steve Watts, it was given the name "Whitehall," he claimed, to avoid moving tons of alphabetically stored fonts on the foundry's shelves. [Hitchcock, 1978]. (50%)

Existing tallies of Benton's typefaces

The question naturally arises: how many typefaces did Benton actually design? The total number varies, depending on the source consulted. Three current tallies of Benton's typefaces are:

246 (Cost, 1986, Appendix A: 242–247)
221 (McGrew, 1993: 154)
249 (Hitchcock, 1978)

These tallies may include designs which were abandoned (24 are listed by Hitchcock), designs whose attribution is uncertain (e.g., Globe Gothic Bold, claimed by Goudy), variants of another's design (e.g., Della Robbia Light, after Thomas McCleland) and typefaces derived from another foundry's matrices (e.g., Baskerville, Fry Foundry). In addition, most tallies of Benton's designs enumerate all the fonts in a family separately. From a designer's point of view, "shaded" variants which are generated with mechanically engraved hatching on a bold face, or "titling" variants which simply eliminate the lowercase alphabet, are not as significant as original designs. There may be justification for an inclusive approach when tallying Benton's designs because virtually all fonts produced by ATF required the work of optical adjustment for 6–72 point sizes, a large task. On the other hand, evaluating the quality of Benton's thinking as a designer calls for separating the wheat from the chaff.

How this study was conducted

Methods of evaluation

The methodology used here for tracing Benton through his typeface designs was to: (1) study the typographical movements and economic trends affecting his career; (2) review all his published typefaces in the ATF specimen books; (3) identify common threads running through his work; and (4) select for detailed study those designs which were most original or are most likely to yield insights into him as a designer. Benton's typefaces were surveyed chronologically to gain a sense of his overall career pattern, then regrouped thematically to facilitate analysis.

Revised catalogue

The revised catalogue which follows uses Hitchcock to date the typefaces. Abandoned typefaces are omitted, as is one cast in 1951 (Clipper) by the Fonderie Typographique Française. If more than one date is listed by Hitchcock, the earlier date is cited on the assumption it represents the period of design. The families are listed as single entries, more useful to an appreciation, rather than an accounting, of Benton's work, and listings within categories are chronological. The resulting number is 84 listings. Further elimination of the "derivative designs" group leaves a core group of 57 designs representing Benton's more original work. This is still a formidable career tally, but it makes Benton seem more like a man and less like a machine.

Thematic Chart of Morris Fuller Benton's Typefaces

Gothics (15)
Sans serifs, except decorative gothics which are listed as novelty typefaces.
Franklin Gothic (1902)
- Condensed (1905)
- Extra Condensed (1906)
- Italic Non-Kerning (1910)
- Condensed Shaded (1912)

Alternate Gothic 1, 2 & 3 (1903)
Miehle Extra Condensed (1905)
- Extra Condensed Title (1907)

Clearface Gothic (1908)
Monotone Gothic (1907)
- Monotone Title (1908)

Lightline Gothic (1908)
- Title (1921)

News Gothic (1908)
- Condensed (1908)
- Extra Condensed (1908)
- Extra Condensed Title (1908)

Bank Gothic
- Light (1932)
- Medium (1932)
- Bold (1933)
- Condensed Light (1933)
- Condensed Medium (1933)
- Condensed Bold (1933)

Agency Gothic (1933)
- Open (1934)

Eagle Bold (1934)
Poster Gothic (1934)
Raleigh Gothic Condensed (1934)
Tower (1934)
Phenix (1935)
Headline Gothic (1936)

Historical revivals (5)
Original interpretations of the great book faces of the 15th–18th centuries, and added variants.
Bodoni (1909)
- Italic (1909)
- Book (1911)
- Book Italic (1911)
- Bold (1911)
- Bold Italic (1911)
- Bold Shaded (1912)
- Bold Shaded Initials (1914)
- Bodoni Card (1915)
- Bodoni Card Bold (1917)
- Bodoni Open (1925)
- Engravers Bodoni (1926)
- Ultra Bodoni Italic (1928)
- Ultra Bodoni (1929)
- Ultra Bodoni Condensed (1930)
- Ultra Bodoni Extra Cond. (1933)

Cloister Oldstyle (1913)
- Italic (1913)
- Bold (1913)
- Bold Italic (1915)
- Title (1915)
- Bold Title (1915)
- Bold Condensed (1915)
- Cursive (1922)
- Cursive Handtooled (1923)
- Lightface (1924)
- Lightface Italic (1924)

Baskerville Italic (1915)
Garamond (1917)
- Italic (1918)
- Bold (1920)
- Bold Italic (1923)
- Open (1931)

Bulmer
- Roman (1926)
- Italic (1927)

Legibility families (2)
Families based on legibility studies.
Clearface
- Bold (1905)
- Bold Italic (1906)
- Clearface (1907)
- Italic (1907)
- Gothic (1908)
- Heavy (1909)
- Heavy Italic Non-Kerning (1909)

Century (partial)
- Catalogue (c. 1914)
- Schoolbook (1915)
- Italic (1919)
- Catalogue Italic (1922)

Miscellaneous romans (7)
Norwood Roman (1906)
Venetian (1911)
- Italic (1911)
- Bold (1913)

Cromwell (1913)
Schoolbook Oldstyle (1924)
Card Roman (1925)
Gravure (1927)
Benton, aka Whitehall (1934)

Figure 4. Eagle Bold (1934) was a display face based on the three letters in the eagle logo of the National Recovery Administration, a U.S. depression-era federal agency established to regulate labor conditions. (logo image: *Wikipedia*)

Decorative, novelty, scripts (28)
Display "publicity" typefaces.
Wedding Text (c.1901)
  Shaded (1913)
Typo Script (1903)
  Extended (1903)
Rugged Roman (1904)
Bold Antique, aka Whitin
Black
  (1904)
  Condensed (1906)
Typo
  Upright (1905)
  Slope (1905)
  Upright Bold (1906)
  Shaded (1906)
Antique Shaded (1910)
Hobo (1910)
  Light (1915)
Souvenir (1914)
Adscript (1914)
Motto (1915)
Announcement Roman (1916)
  Italic (1916)
Freehand (1917)
Sterling (1917)
    Cursive (1919)
Typo Roman Shaded (1921)
  Roman (1926)
Civilite (1922)
Broadway (1926)
    Condensed (1929)
Chic (1927)
Greeting Monotone (1927)
Canterbury (1928)
Dynamic Medium (1928)
Modernique (1928)
Parisian (1928)
Louvaine (all 1929)
  Light
  Light Italic
  Medium
  Medium Italic
  Bold
  Bold Italic
Engravers Text (1930)
Thermo Series 100, 200, 300 (1931)
American Text (1932)
American Backslant (1934)
Shadow (1934)

Derivative designs (27)
Adaptation of another designer's work (except historical revivals); restyling ATF legacy fonts; works of doubtful attribution.
Roycroft (c. 1898)
Globe Gothic (c.1900)
  Condensed (c.1900)
  Extended (c.1900)
  Extra Condensed (c.1900)
  Bold (1905)
  Bold Italic (1908)
Century (parital)
  Expanded (1900)
  Expanded Italic (1900)
  Bold (1904)
  Bold Italic (1905)
  Oldstyle (1906)
  Oldstyle Italic (1906)
  Bold Condensed (1908)
  Bold Extended (1909)
  Oldstyle Bold (1909)
  Oldstyle Bold Condensed (1910)
Engravers Bold (1902)
Cushing Antique (1902)
Mercantile (pre-1903)
Engravers Old English (pre-1903)
  Engravers Old English Bold (1907)
Bullfinch Oldstyle (1903)
Cheltenham variants
  Bold (1904)
  Bold Italic (1904)
  Bold Condensed (1905)
  Bold Outline (1905)
  Wide (1905)
  Bold Condensed Italic (1906)
  Bold Extended (1906)
  Bold Extra Condensed (1906)
  Bold Extra Cond. Title (1907)
  Inline (1907)
  Inline Extended (1907)
  Inline Extra Condensed (1907)
  Medium (1909)
  Medium Italic Non-kerning (1909)
  Oldstyle Condensed (1909)
  Extrabold (1911)
  Bold Shaded (1912)
  Extrabold Shaded (1912)
  Bold Italic Shaded (1912)
  Medium Condensed (1913)
  Medium Expanded (1913)
Engravers Shaded (1906)
Copperplate Gothic Shaded (1912)
Della Robbia Light (1913)
Invitation Shaded (1914)
  Invitation (1917)
Lithograph Shaded (1914)
Light Oldstyle (1916)
Packard Bold (1916)
Goudy
  Bold (1916)
  Title (1918)
  Bold Italic (1919)
  Catalogue (1919)
  Catalogue Italic (1921)
  Handtooled (1922)
  Handtooled Italic (1922)
  Extra Bold (1927)
  Extra Bold Italic (1927)
Card Litho (1917)
  Card Light Litho (1917)
Pen Print Open (1921)
American Caslon (1922)
  Italic (1922)
Caslon Initials (c.1923)
Novel Gothic (1928)
Paramount (1930)
Piranesi
  Italic (1930)
  Italic Plain Caps (1930)
  Bold Italic (1931)
  Bold Italic Plain Caps (1932)
  Bold (1933)
Rockwell Antique (1931)
Stymie
  Light (1931)
  Light Italic (1932)
  Medium (1931)
  Medium Italic (1932)
  Bold (1931)
  Bold Italics (1933)
  Black (1935)
  Black Italic (1935)
Othello (1934)

Figure 5: ATF started creating a group of "shaded" typefaces starting in 1913. Lithograph Shaded, above, (1914) was unique in having a tonal gradation (created by hatching). (150%)

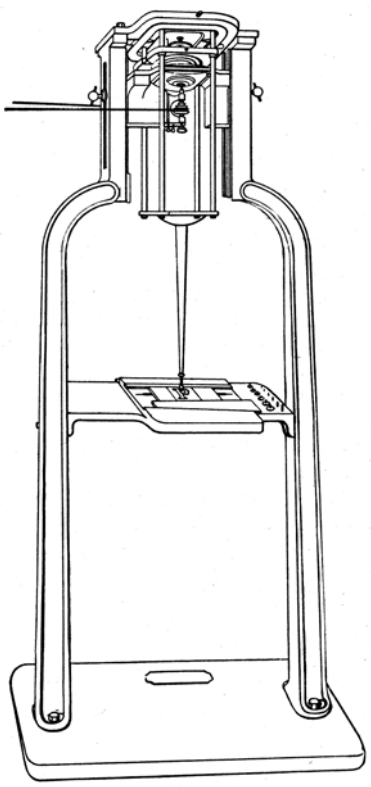
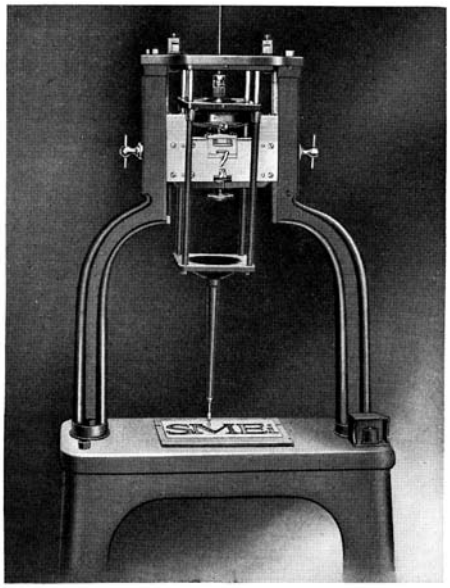
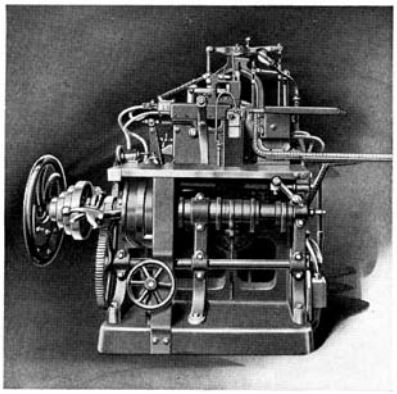


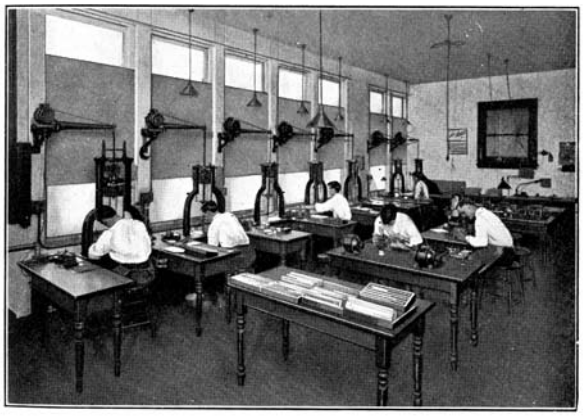
Figure 6: Linn Boyd Benton's automatic punchcutting machine. (illus. from De Vinne, 1902: 351).



Benton's punchcutter, adapted for matrix engraving (1923 specimen book: 10) and, below, the machines being used in the ATF matrix engraving department in Jersey City (1923: 7).



The Barth Automatic Type Casting Machine. (1923 specimen book: 10) ATF manufactured these machines as well as using them to make type.



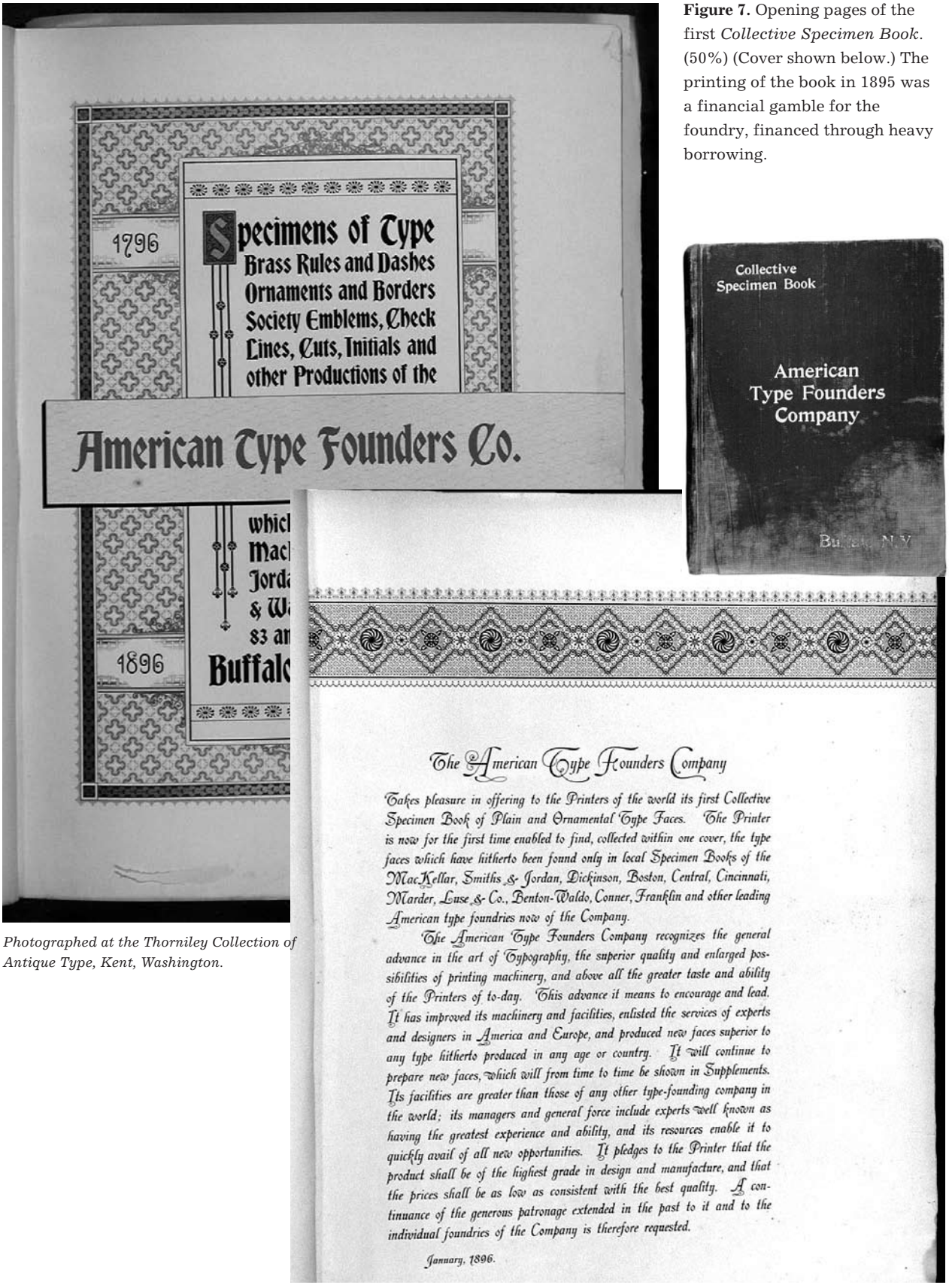
2 American typefounding at the start of Benton's career

Effects of mechanization and competition

The rapid post-Civil War industrialization of America gave rise to two trends in printing which determined the direction of Benton's career. One was the mechanization of typefounding on a large scale, relying chiefly on two inventions: Linn Boyd Benton's pantographic punchcutting machine (third version patented 1885) and Henry Barth's automatic typecasting machine (1888) **[figure 6]**. The second trend, machine composition of type, was brought about by the Linotype machine of Otto Mergenthaler (first installation at the *New York Tribune*, 1886) and the Monotype machine of Tolbert Lanston (exhibited 1893). These inventions were the culmination of many attempts to mechanize the type industry and they came to fruition within the space of one decade in America, as Morris Benton grew from adolescence to adulthood. By the time he began his career they had profoundly changed the way type was to be designed and manufactured.

1892 is a benchmark in the history of American typefounding because in that year 23 type foundries, all but five of the foundries in the States, amalgamated to form the American Type Founders Company. It was a defensive move to survive competition from the new Linotype machine. The Benton punchcutting machine and the Barth automatic typecaster became the property of the new company. ATF dominated American type design and manufacture for the first three decades of the twentieth century, until economic woes and a change in management brought about a shift in emphasis to selling printing equipment. During the first quarter of the century the other giants of the type industry, Mergenthaler Linotype and Lanston Monotype, were slower to recognize a need for original type design. They were machinery manufacturing companies first, type matrix manufacturers second. Writing in 1924 about the American type design scene, Douglas McMurtrie noted that only the foundries were interested in new type design; the aim of the composing machine companies was to replace handset type, so they imitated foundry type (McMurtrie, 1924: 12).

However, ATF's success was not at all assured when Morris Benton joined the company upon graduating from Cornell University in 1896. The five holdout foundries were still viable competitors. The company had gone into financial decline under poor management during its first four years and a new general manager, Robert Wickham Nelson, was running things. But Nelson's ultimately successful turnaround strategies were not without risk. The first joint specimen book the company printed in 1895 was financed with heavy borrowing that reduced ATF's capital stock to $4 million (original capitalization was at $9 million), and no dividend had as yet been paid to stockholders. The Benton family's fortunes rested with the new company: the assets of Linn Boyd Benton's foundry, including his



Photographed at the Thorniley Collection of Antique Type, Kent, Washington.

Figure 7. Opening pages of the first *Collective Specimen Book*. (50%) (Cover shown below.) The printing of the book in 1895 was a financial gamble for the foundry, financed through heavy borrowing.

patents, belonged to ATF, paid for in cash and shares of stock when Benton, Waldo & Company became part of ATF. (Mallison, 1976: 24–34)

The mechanization of typefounding at ATF did not just mean that type could be produced in greater quantity and in less time. It meant that type could be produced with greater precision and consistency than ever before, making true standardization finally possible. The new machines created type by mechanically following an enlarged outline of each character. This meant that a man like Morris Benton—with a degree in mechanical engineering and a talent for both freehand drawing and mechanical drafting (Cost, 1994: 31)—could fill a role that used to require a lettering artist and a skilled punchcutter.

Ironically, Linn Boyd Benton's punchcutting machine had also made possible the mass production of matrices needed for the Linotype and Monotype machines to be commercially viable. The almost overnight domination of the newspaper industry by Linotype had threatened to put many traditional foundries out of business. (The decentralized supply system developed in the nineteenth century to feed the burgeoning newspaper industry caused a proliferation of small foundries that depended on the business of local newspapers for their very existence.) Soon the greater efficiency of Monotype's automatic casting and composing machinery for the printing of books left ATF with only one profitable market niche: typefaces for jobbing and advertising.

The rise of advertising

The process by which the industrial revolution of the nineteenth century gave rise to the advertising industry of the twentieth century is multifaceted. In an agrarian society people produce most of what they consume within close proximity of where they spend their lives. In an industrial society production and consumption are separated, and distribution of goods becomes an important key to commercial success for the manufacturer. Promotion of brand names, the keystone of the modern advertising industry, is founded on the principle that demand for a product at the consumer level draws goods through the distribution system without the manufacturer having to set up its own network of distributors. The onus is on the retailer to stock what the consumer demands. Two preconditions are necessary for this strategy to succeed: legal protection for brand names, and manufacturing output exceeding demand. The former condition was met by the first law to protect brand names and trademarks in 1870; the second by the widespread invention and manufacture of machines for mass production in the nineteenth century.

Thus, Benton's career was linked to the rise and growth of the advertising industry in the early twentieth century, both because it enabled ATF to survive and profit despite competition which cut off two of the traditional

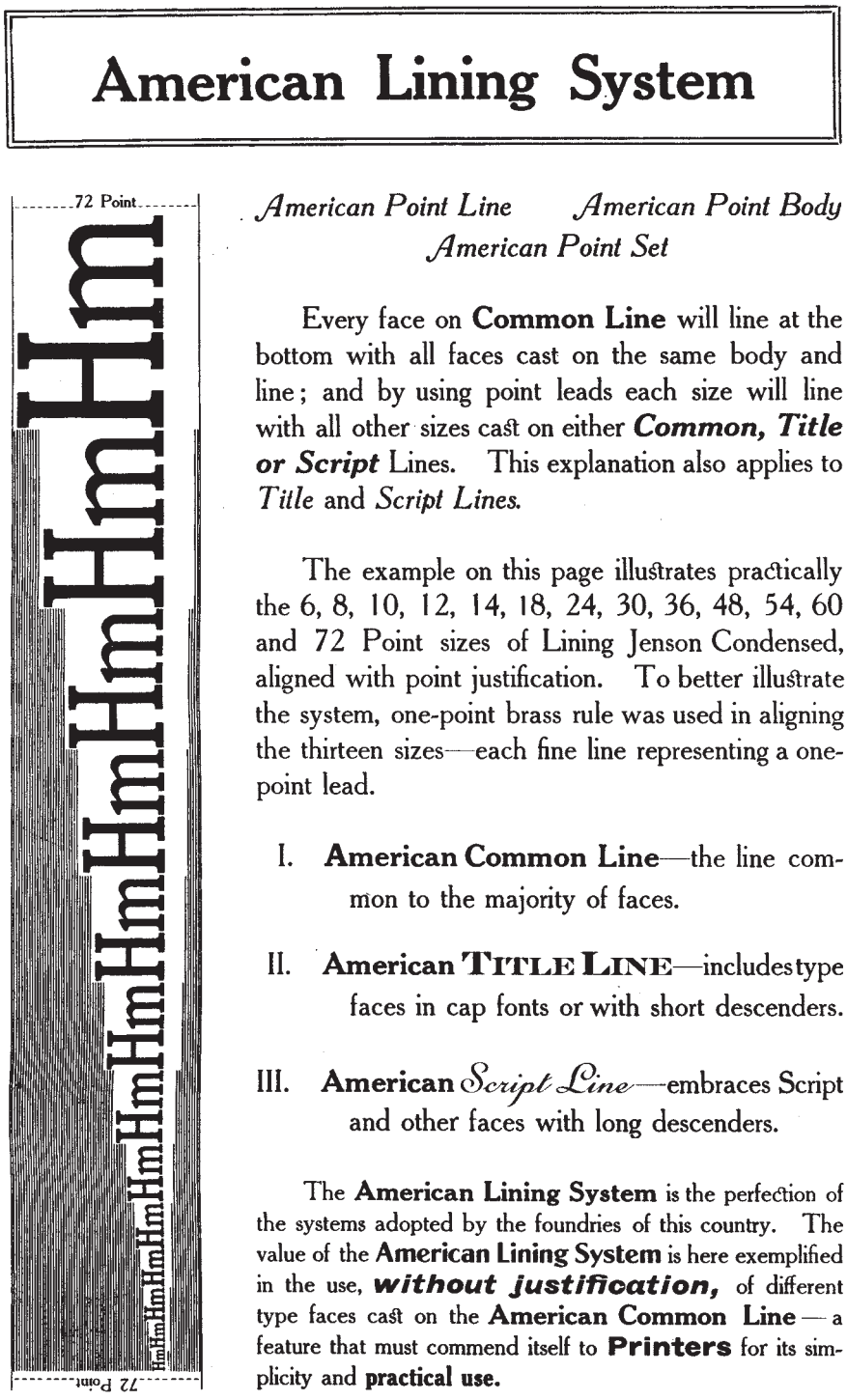


Figure 8: ATF's system for standardizing body sizes was explained in the *American Line Type Book* (1906: iv). In the era of digital typesetting, we take for granted that fonts of different point sizes will align on the same baseline. ATF's standardization of body sizes enabled printers to compose different point sizes on the same baseline by filling in with one point leads, standard spacing material in any print shop. (100%)

markets for foundry type, and because it determined the kinds of typefaces he had to design. Newspapers were interested in efficiency and economy of production above all, and were not apt to change typefaces frequently. Book publishers, who wanted self-effacing typefaces, were inherently conservative in their tastes. But the advertising industry called for constant novelty, typefaces whose designs arrested the reader's attention. And ad agencies were prepared to buy new types more frequently than printers.

The typographic legacy at ATF

Morris Benton's initial task at ATF was to aid in consolidating and standardizing the typefaces inherited from the individual foundries. He would have faced two challenging conditions in this task: (1) duplication of typefaces under many different names; and (2) inconsistent size standards. These conditions were a consequence of foundry practices in the half-century leading up to the formation of ATF.

Describing in 1858 the effect on typefounders of the electrotyping process (which could be used to copy a font without having the original punches or matrices), David Bruce, Jr. of the Bruce's New York Type Foundry described how "an indiscriminate system of plundering took place," practiced at first by the smaller foundries upon the larger ones, but eventually joined in by everyone (Nash, 1976: 119). The result was that virtually the same typeface design was issued under many different names, and fonts of nominally the same size from different foundries varied in size and even height-to-paper dimensions. Concerted attempts had been made to standardize American type body sizes since 1886, but converting to a new sizing system had met with some resistance, based both on cost and on the fear that standardization would liberate customers to purchase fonts from other foundries.

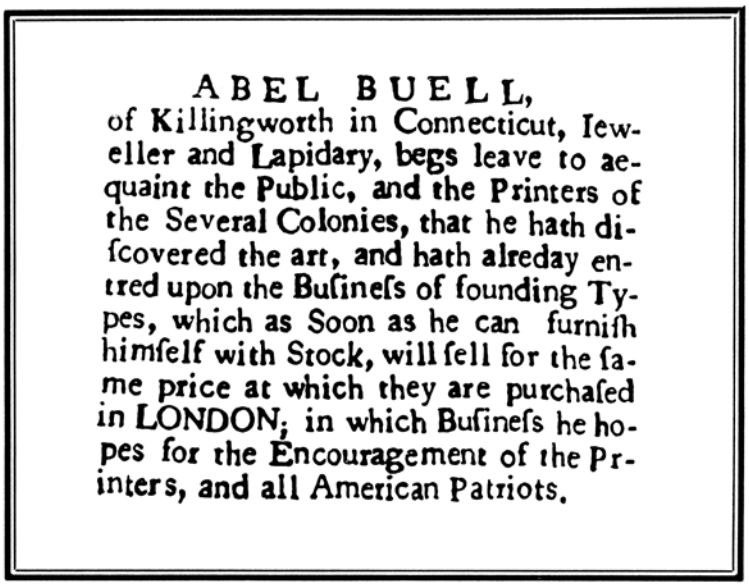
Consolidating this typographic legacy for ATF would have plunged the young Benton into the technical intricacies of precision type manufacture while exposing him to examples of all the typeface designs in commercial use at the time. This was to be Benton's training as a type designer.

A survey of all the ATF legacy typefaces is beyond the scope of this study—the Victorian era was notoriously promiscuous in its production of typefaces—but an overview is provided by Theodore Low De Vinne in his *Plain Printing Types* (1902: 183–184). He lists the classifications of typefaces offered by American foundries at the turn of the century as:

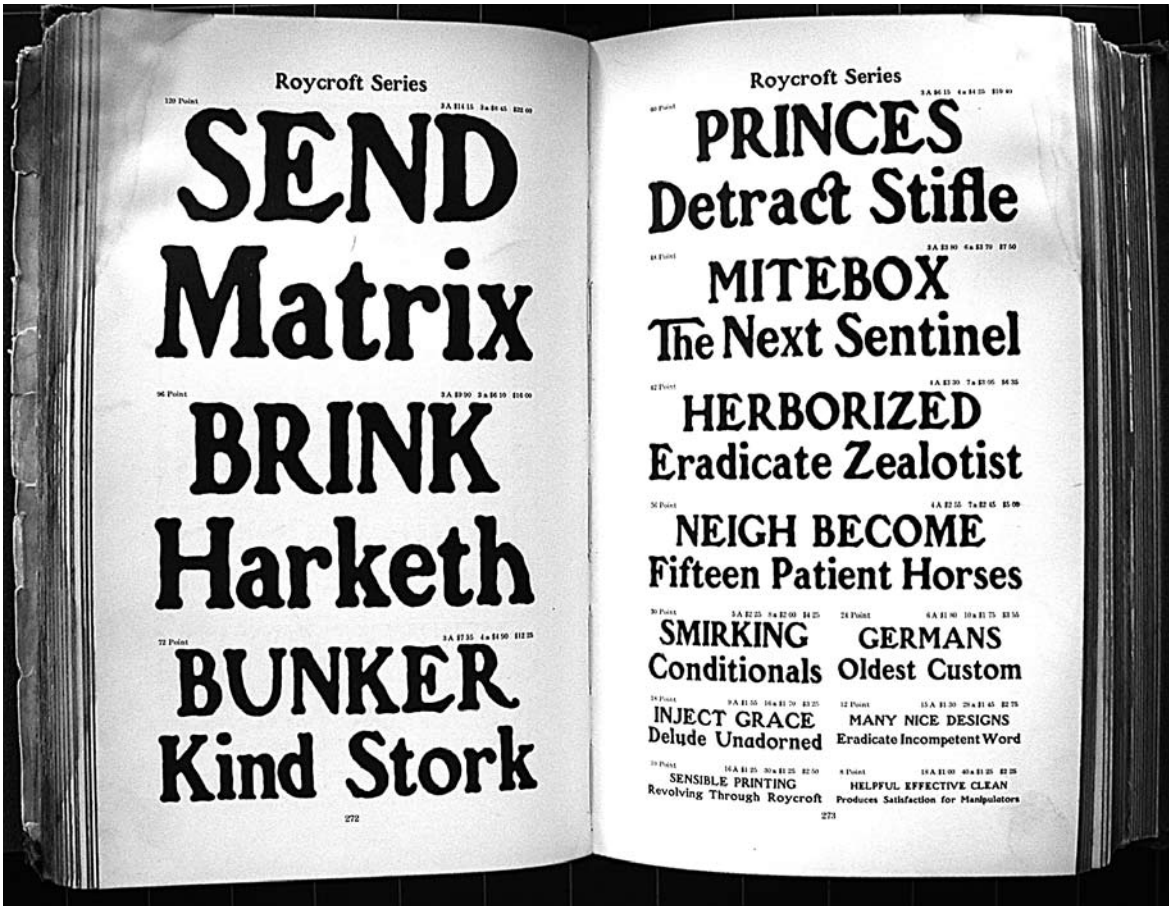
(1) roman and italic;
(2) plain faces of display type (e.g. antique, gothic, clarendon);
(3) ornamental types; and
(4) Greeks, orientals, music, some scripts.

Figure 9: Abel Buell is believed to have cast the type for the specimen at right in 1769. Buell was a colorful character who used his engraving skills to counterfeit coins before turning to type casting. (Annenberg, 1994: 21, reproduction scale).

More than two centuries later, Morris Benton's first typeface, c.1898, was a recreation of the "rustic" type from Buell's era, created on the Benton matrix-engraving machine. The design was based on the lettering of Buddy Lewis, an illustrator for the *Saturday Evening Post*, and named after the Roycroft press. (50%, 1906 ATF specimen book)



ABEL BUELL,
of Killingworth in Connecticut, Jeweller and Lapidary, begs leave to aequaint the Public, and the Printers of the Several Colonies, that he hath diſcovered the art, and hath alreday entred upon the Buſineſs of founding Types, which as Soon as he can furniſh himſelf with Stock, will ſell for the ſame price at which they are purchaſed in LONDON; in which Buſineſs he hopes for the Encouragement of the Printers, and all American Patriots.



By 1902, Benton had designed or restyled typefaces for ATF in all the following categories: plain roman and italic (Century Expanded and Italic), blackletter (Wedding Text, Engraver's Old English), display roman (Roycroft **[figure 9]**, Engravers Bold, Mercantile Bold), and gothic (Globe Gothic variants, Franklin Gothic).

3 Case studies

Criteria for selections and exclusions

Seven of Morris Benton's typefaces were selected for detailed case studies based on their originality and potential for yielding insights into Benton's thinking as a designer. These typefaces are: Franklin Gothic, Clearface and Clearface Gothic, Cloister Oldstyle, Century Schoolbook, Adscript and Thermo Series. The exclusion of certain well known typefaces from these case studies calls for some explanation.

The Century family began with the roman font designed by Linn Boyd Benton and Theodore Low De Vinne in 1894 for use in *Century* magazine (which De Vinne printed). The variants based on that design demonstrate technical competence and judgment on the younger Benton's part, but no notable originality. Century Schoolbook has been separated from this grouping because it was designed some fifteen years later and involved legibility research and original interpretation.

The Cheltenham family was started in 1902 from a typeface designed by Bertram Grosvenor Goodhue, architect and type designer. It was a showcase and proving ground for the use of the senior Benton's machines to create more variants than ever before for a type family, but it did not issue from an original design.

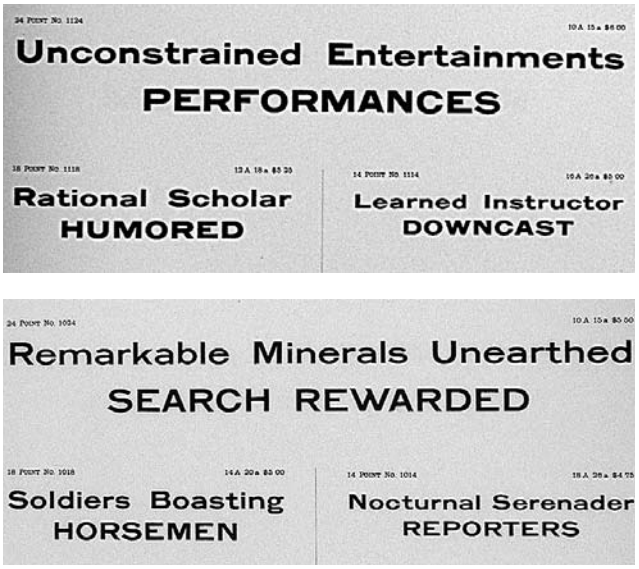
Stymie, another large family which has survived into the digital era, owes its design to two earlier slab serif typefaces—Rockwell Antique, and the older Litho Antique designed by William Schraubstädter for Inland Type Foundry (McGrew, 1993: 271). It was also influenced by Futura. Stymie looks somewhat like Futura with heavy slab serifs added and ascenders shortened. However, its use of the new stylistic term "black" instead of "extra bold" is notable.

Of Benton's historical interpretations, I have selected only Cloister Oldstyle because the older Jenson typeface upon which it is based appears to require a great deal of design interpretation to make the technological transition to a twentieth century type. In addition there is some documentation on Benton's design approach to it and there is a contemporaneous typeface of identical inspiration to compare it to, Bruce Rogers' Centaur.

In the category of display typefaces, Hobo, Souvenir, Broadway and Parisian are the most familiar today. The first two are related in design,

Figure 10: Nineteenth century sans serif precursors to Franklin Gothic

De Vinne's chart of gothics (1902: 316, 100%)

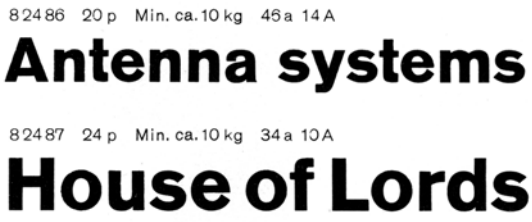


Two Philadelphia Lining Gothic variants from ATF's 1896 specimen book (50%)

Lining Gothic No. 45 from ATF's 1896 specimen book (50%)

Gothic No. 46 from ATF's 1896 specimen book (50%)

Figure 11: Franklin Gothic compared with two European designs



Akzidenz-Grotesk bold from the Berthold Foundry (*Berthold Akzidenz Grotesk Serie*, undated, 100%)

Franklin Gothic (ATF 1912 specimen book, 100%)

Grotesque No. 8 of Stephenson, Blake & Co., Ltd., from the 1924 specimen book (100%)

having an art nouveau flavor, and might have been included in these case studies if two obscure, more innovative, typefaces had not offered themselves. Broadway was excluded because Benton only designed the capital letters. The lowercase was added by Sol Hess when he designed the Lanston Monotype version (McGrew 1993: 51). Parisian, another digital survior, is essentially a lighter version of Broadway with exaggerated ascenders.

Case study 1: Franklin Gothic

Nineteenth century antecedents

Can anything be learned about Benton, the type designer by comparing Franklin Gothic with its predecessors? The typeface was designed in 1902 and issued by ATF in 1905. By this time Benton was intimately familiar with the legacy of gothic typefaces which had become the intellectual property of ATF in 1892. His experience since 1896 with their consolidation and recutting to conform to ATF's sizing standards must have influenced his thinking.

In *Plain Printing Types*, De Vinne displays some of the common gothic styles to be found in a print shop around the turn of the century (1902: 316). In addition, the ATF *Collective Specimen Book* (1896) displays a total of 55 gothic typefaces. By eliminating decorative styles and other inappropriate variants, four plain gothics can be found to compare to Franklin Gothic **[figure 10]**.

It is also likely that Benton was aware of typographic trends in Europe, since for the first 150 years of printing in America, fonts had to be imported from Europe.[1] Akzidenz Grotesk is widely regarded as the patriarch of European twentieth century sans serif typefaces, and has also been described as an influence on Benton's design. It was first issued by the Berthold Foundry in Germany around 1896 (some sources cite 1898) just a few years before Benton began work on Franklin Gothic. Around the same time, there was a sans serif from the Stephenson, Blake foundry in England which should be considered a probable influence. The dating of Grotesque No. 8 is problematic[3], but it may have predated Akzidenz Grotesk by a few years. The two typefaces are roughly contemporaneous interpretations of the many sans serifs appearing from the 1830s onward under various names: chiefly *grotesk* or *grotesque* in Europe, and *gothic* in America. These typefaces were usually monolinear and were jobbing, rather than book faces. The style was so ubiquitous that most designs are identified by their foundry association, often having only a numeric designation, and their designers are not known **[figure 11]**.

A comparison of Franklin Gothic with these nineteenth century sans serifs shows that it differs from most of them in having more stroke modulation at the junctures of curved and straight strokes. This characteristic distin-

1 The first printing press was established in the American colonies in 1638, but it was not until 1796, more than a century later, that the first permanent type foundry was successfully established by two Scotsmen, Archibald Binny and James Ronaldson [Silver, 1965: 19].

2 R. S. Hutchings gives a date of "as late as 1898-99" [1963: 85]. Roy Millington's appendix lists 1920 [2002: 228]. St. Bride Library, London, has found specimens of Grotesque No. 8 from about 1890, confirming Hutchings supposition.

Figure 12a: Franklin Gothic and Grotesque No. 8 (Stephenson, Blake, 1924: 384–85). (All specimens below, 100%)

Franklin Gothic

Grotesque No. 8

Figure 12b: Franklin Gothic Condensed and Grotesque No. 9 (Stephenson, Blake, 1924: 390–91). In Franklin Gothic Condensed, the *o e* and *c* retain their circular shape. In Grotesque No. 9, they have squared sides.

Franklin Gothic Condensed

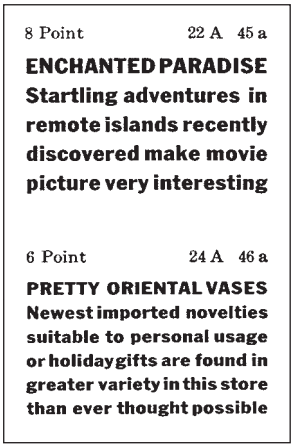
Grotesque No. 9

Figure 12c: Stroke extenuation is gradual in Franklin Gothic and more abrupt in Grotesque No. 8.

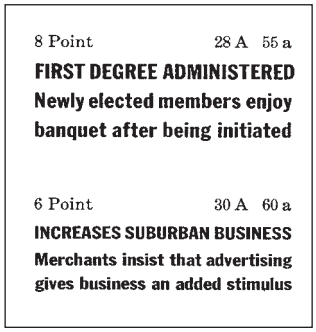
Franklin Gothic

Grotesque No. 8

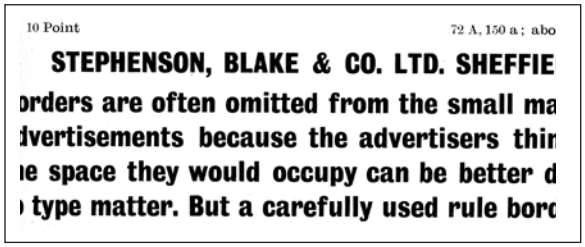
Figure 12d: Legibility in text



Franklin Gothic Condensed



Franklin Gothic
Extra Condensed



Grotesque No. 9 displays uneven color in text, and the parallel sides of the characters reduce legibility.

guishes the Stephenson, Blake design, making it a more likely candidate for influence on Benton than Akzidenz Grotesk. It was the very lack of such details, deemed to be mannerisms, that endeared the latter design to the modernist movement in the second quarter of the century. But Franklin Gothic is considerably less mannered than Grotesque No. 8 **[figure 12a]**. It is a rationalization of and measured improvement upon the plethora of nineteenth century gothics that Benton had inherited.

Distinguishing design features

Franklin Gothic is large in body and economical in width. It is modeled on the legibility approach pioneered by the Century typeface: to increase the optical size of the typeface by enlarging the x-height, at the same time shortening the descenders to avoid increasing the body size. The other distinguishing feature of Franklin Gothic is its roundness. Even in the condensed family members, the *o e* and *c* are still oval, whereas in Stephenson, Blake's condensed Grotesque No. 9, the sides of these characters are almost straight, giving them a square aspect which is absent in the wider Grotesque No. 8. **[figure 12b]**

The strokes in Franklin Gothic extenuate gradually toward the juncture point, whereas in the Grotesques the transition is quite abrupt **[figure 12c]**. The advantage of Benton's approach is apparent in the small point sizes. Whereas Grotesque No. 9 becomes a dark confluence of parallel strokes, Franklin Gothic Condensed and Extra Condensed look more open and even-colored, even at smaller point sizes **[figure 12d]**.

Not all of the nineteenth century gothics that ATF inherited from its member foundries were monolinear. In 1900 Benton restyled a typeface for ATF called Globe Gothic, designing three width variants for it. It is a bold sans serif with a tall x-height and has pronounced stroke contrast, showing the influence of the modern style roman typefaces (although it has a Jensonian *e*). Benton may have discovered the expediencies of departing from the monoline gothic model while adapting this late nineteenth century design for ATF. In Franklin Gothic he has

Figure 13: Globe Gothic, ATF 1906 specimen book.

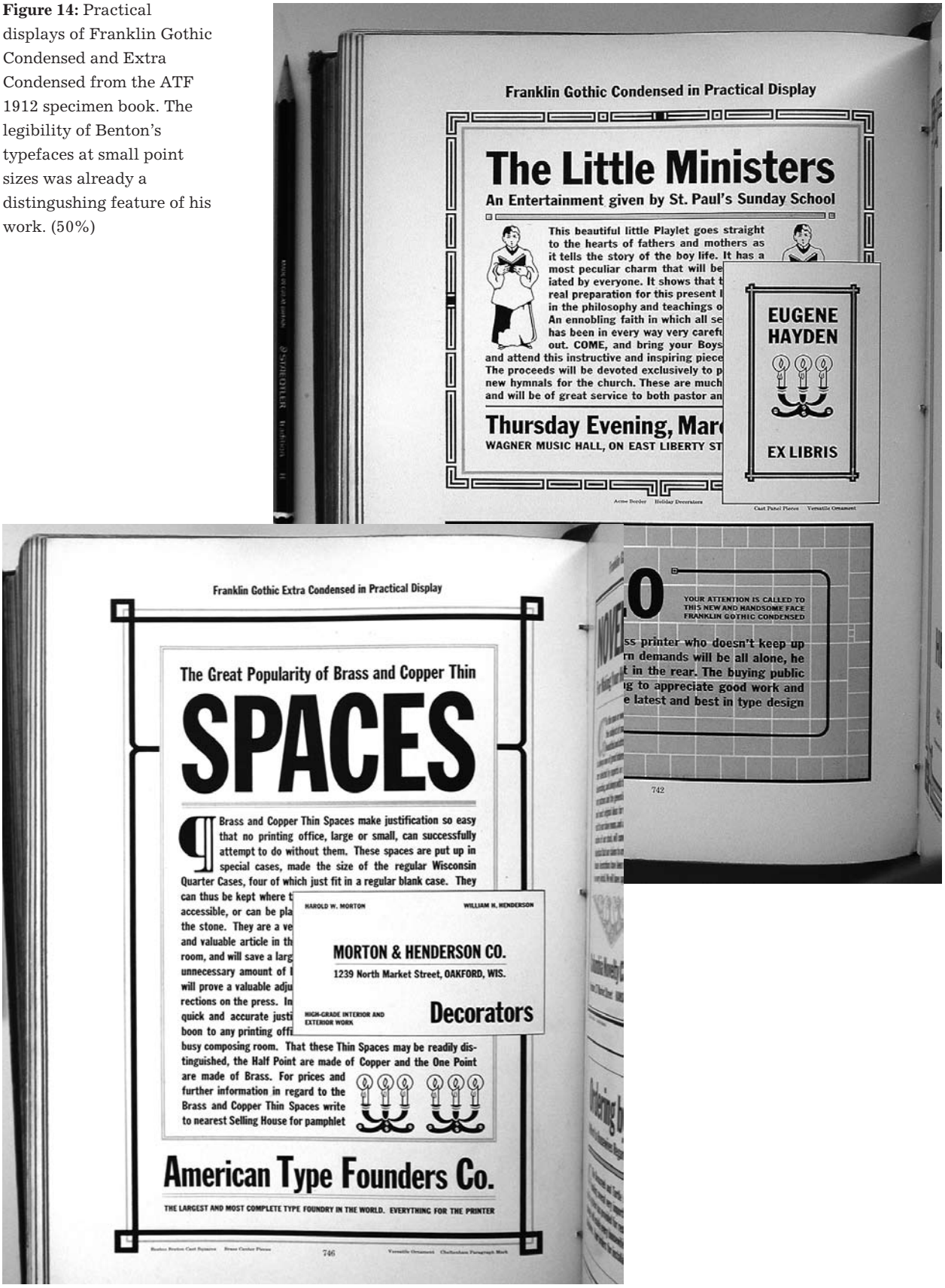


Figure 14: Practical displays of Franklin Gothic Condensed and Extra Condensed from the ATF 1912 specimen book. The legibility of Benton's typefaces at small point sizes was already a distingushing feature of his work. (50%)

Figure 15: (top to bottom) Akzidenz Grotesk, Franklin Gothic, and Grotesque No. 8, showing areas of increased white space around the character *a* in Franklin Gothic

(characters are scaled from similar originals to be optically equivalent in size)

incorporated just enough stroke modulation to increase the legibility of the typeface without abandoning the overall appearance of an even stroke weight **[figure 13]**.

Verdict: Franklin Gothic

What may be concluded about Benton, the designer, from this early, original gothic design? He showed an ability to preserve overall stylistic features of historical models while adding nuanced details to improve the legibility of the design. Even without his involvement in the Century typeface family, Benton would have already acquired a profound understanding of what details in a letterform affect legibility. Every new or recut typeface at ATF was cast in a large range of sizes, usually from 6 point to 72 point. Optical adjustments were required at the small sizes to maintain readability. His expertise is evident in the open counters and increased white space around the stroke junctures, which distinguish Franklin Gothic from the other specimens shown **[figure 15]**.

Benton continued to explore legibility design in subsequent typefaces, culminating in Century Schoolbook more than a decade later. But at the time of Franklin Gothic's design, it was unusual for a bold sans serif to be so readable at small sizes. Its open interstices were a new idea grafted on to a nineteenth century design. Franklin Gothic looks contemporary in another important aspect: its even color. The stroke widths are treated consistently, and the black and white portions of the characters are quite evenly distributed. The former may be a consequence of the extreme precision of the mechanical process by which type was made at ATF, but the latter is more a matter of art.

In addition, Benton showed he was up to the challenge of maintaining essential stylistic features of a typeface in all the family members, as shown in his design of Franklin Gothic Condensed.

Benton already showed signs of being a wide-ranging and prolific talent. Between Roycroft, his first typeface in 1898, and Franklin Gothic in 1902, he is credited with as many as ten typefaces, including variants, in six different typographic styles.

What is noticeably absent from Franklin Gothic is any indication that the designer intended to break new ground with his first original gothic design. It is a subtle improvement on a common genre, but there is no new credo attached to it. For all its finesse, Franklin Gothic remains aesthetically rooted in the nineteenth century, whereas Akzidenz Grotesk became associated with the design of Helvetica in the mid-twentieth century.

The quality of Benton's design has not been lost on succeeding generations of designers, though. Alexander Lawson's verdict is complimentary: "The fact that Franklin Gothic survived the impact of the geometric sans serifs

Figure 16: Clearface and Clearface Gothic, Benton's harmonized serif and sans serif typefaces. (ATF 1912 specimen book, 50%)

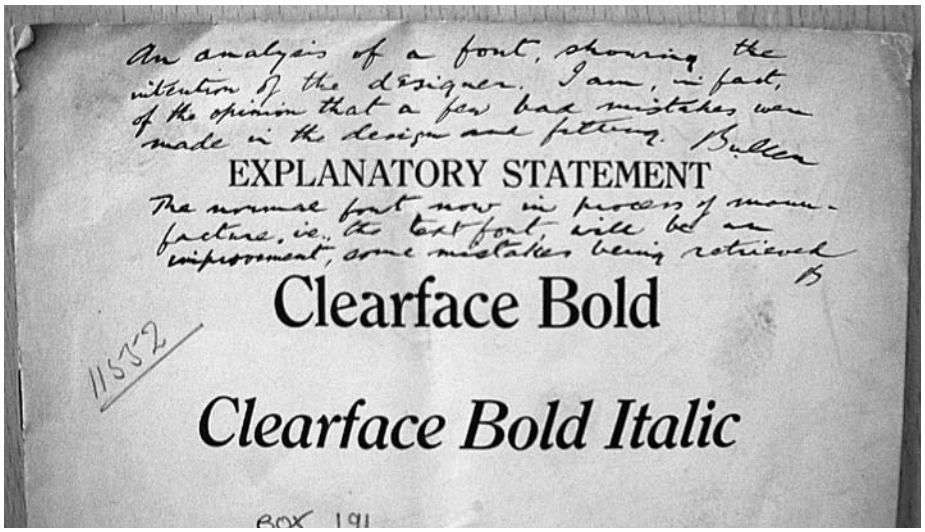


Figure 17: Henry Lewis Bullen's handwriting on the ATF pamphlet at St. Bride Library (approx. 70%):

An analysis of a font showing the intention of the designer. I am, in fact, of the opinion that a few bad mistakes were made in the design and fitting. The normal font now in process of manufacture, ie., the text font, will be an improvement, some mistakes being retrieved.

during the period from 1926 to 1950—in addition to the revival of its contemporary competitors, Venus and Standard—warrants the conclusion that Morris Benton, even in his early efforts as a type designer, possessed the skill to create a printing type that could withstand obsolescence." (Lawson, 1990: 299–300) More recently, Ivan Chermayeff aptly called it "a face that's modern, with roots" (Blum, 2003).

The digital retooling of Franklin Gothic for the Museum of Modern Art in New York in 2003 by Matthew Carter is an interesting tale of typographic reincarnation (Blum, 2003). Franklin Gothic was used for the Museum of Modern Art's logotype in 1964 when metal type was still prevalent. At some point in the ensuing decades the Museum switched to a commercial digital version of the typeface. As the millenium approached and a major building expansion got underway, thought was given to replacing the typeface with a new logo design. Instead, Matthew Carter was engaged to update the Museum's Franklin Gothic fonts. Several cases of metal fonts were unearthed from the Museum's basement and he consulted these in making his refinements, restoring to the Museum's digital version of Franklin Gothic some of Benton's original artistry.

Case study 2: Clearface and Clearface Gothic

New design principles

The Clearface family deserves to be seen as a Morris Benton benchmark design despite the fact that it is designated as a collaboration with Linn Boyd Benton. There are two reasons the younger Benton's role in the Clearface designs is significant. First, Clearface was a legibility family purportedly based on scientific studies and thus a precursor to Century Schoolbook, one of his most well known achievements. Second, Clearface Gothic, his sole creation, is likely the first instance of a sans serif typeface fully harmonized with a serif typeface, an idea several decades ahead of its time **[figure 16]**.

There is an unusual wealth of information available about the thinking behind the Clearface serif family in a small pamphlet published by ATF (1908). The St. Bride Library's copy is annotated by Henry Lewis Bullen, a frequent spokesman and publicist for the company as well as librarian of its famous library **[figure 17]**.

Bullen's annotation is a surprising critique from a company man known for his staunch defense of ATF's interests. It lends support to the idea that the reins changed hands between the design of the bold and bold italic, attributed in the pamphlet to Linn Boyd Benton, and the other variants, probably the work of Morris Benton.

Figure 18:

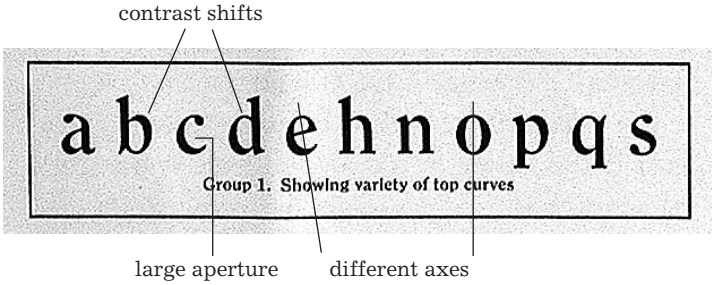


Figure 19:

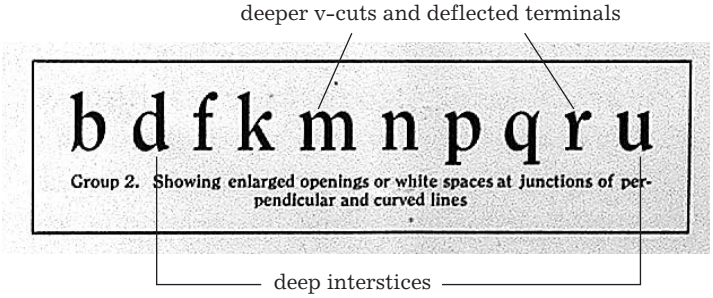
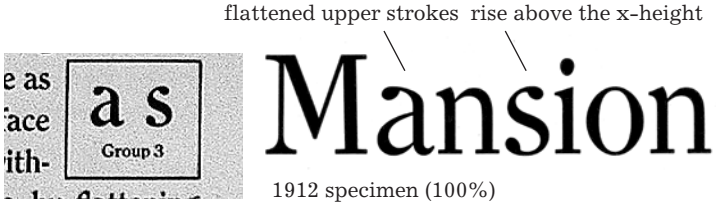
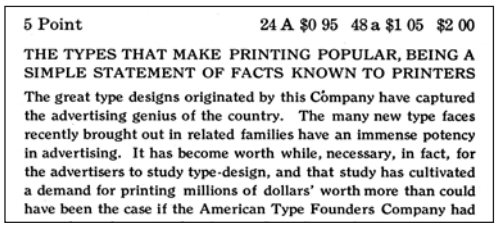


Figure 20:



1912 specimen (100%)

Figure 21: Clearface 5 point specimen (1912, 100%)

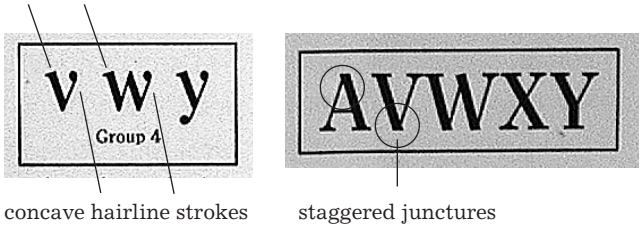


5 Point 24 A $0 95 48 a $1 05 $2 00

THE TYPES THAT MAKE PRINTING POPULAR, BEING A SIMPLE STATEMENT OF FACTS KNOWN TO PRINTERS

The great type designs originated by this Company have captured the advertising genius of the country. The many new type faces recently brought out in related families have an immense potency in advertising. It has become worth while, necessary, in fact, for the advertisers to study type-design, and that study has cultivated a demand for printing millions of dollars' worth more than could have been the case if the American Type Founders Company had

Figure 22:



Figures 18–20, 22: From the *Explanatory Statement* pamphlet (ATF, 1908). (approx. 100%)

Legibility features

In as good a description of a readable typeface as any today, the pamphlet states: "In Clearface Bold every line, curve and dimension is the result of intention based upon study and experiment. The intention, successfully realized, is to adapt every character, singly and when assembled with others, to the necessities of normal eyesight in a design which is agreeable to the senses of form and color." The author goes on to identify three key groups of lowercase letters whose form will affect legibility the most.

[figure 18] Round characters which need shape differentiation. This includes the quartet *b d p q*, which is often a stumbling block for dyslexics who do not readily notice rotation and reflection of shapes. In Clearface[1] a greater degree of differentiation among these characters has been achieved by shifting the location of the noticeable swell in the curves. The *b* has a swelling curve at the x-height line while the *d* has a hairline in that area. A similar disparity distinguishes the *p* and *q*. The *o c* and *e* also have increased differentiation because of the unusually large aperture of the *c*, and the shift to a vertical axis in the *o*. The two remaining letters in the group, *a* and *s*, are analyzed separately.

[figure 19] Characters in which a curved stroke joins a straight stroke. These v-shaped interstices are particularly deep in Clearface, increasing the amount of white space around each character and lending the typeface greater legibility at small point sizes. An important detail enhancing this benefit is the oblique deflection of the stem terminals in characters such as *m n p* and *r*.

[figure 20] Characters with two-story counters. In Clearface these two characters have flattened upper strokes that optically rise above the established x-height. There was no stylistic precedent in traditional romans for this approach to increasing the counters of the *a* and *s*. (Some specimens of Cheltenham display an *r* that peeks above the x-height of the other characters.) The effect of the quirky *a* and *s* in Clearface is to earmark the typeface for "publicity" use, where such a distinctive feature would lend welcome character to display type. True to the designer's intent, though, this feature tends to become indistinguishable at small text sizes. As if to emphasize this point, there is an unusual 5 point cutting for Clearface **[figure 21]**.

[figure 22] Triangular characters with special spacing problems. The large areas of space surrounding these characters (keeping in mind that the foundry sorts were rarely kerned) tends to spoil the even color of a block of text. Decreasing the angle at the vertex minimizes this problem but makes the character optically narrower, and some additional compensation must be made. In the lowercase characters of Clearface Bold, the serif on the left stem is deflected away from the center of the character to open up the counter. The oblique angle of the serif reduces its horizontal width, allowing tight spacing with the preceding character. The right stroke is a hairline and has a ball terminal in the counter instead of a protruding

1 Use of the term *Clearface* in these figure descriptions refers to the type family name. The specimens in the pamphlet are Clearface Bold.

Figure 23: Eclectic features

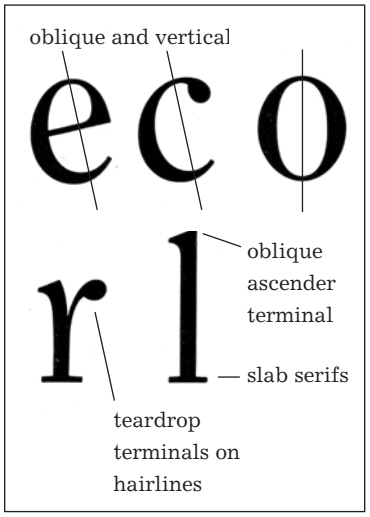


Figure 24

serif, allowing it to be tightly spaced with the following character. In the caps, the junctures of the diagonal strokes are staggered to give the illusion of a wider character and to increase the white space in the triangular counters.

Clearface is not only an untraditional typeface, it is quite eclectic **[figure 23]**. It combines oldstyle features—a pronounced oblique axis on the curved strokes, a Jensonian *e*, teardrop terminals and oblique ascender terminals—with nineteenth century features like slab serifs. The teardrop terminals grow abruptly out of the hairlines like the ball terminals of modern style romans instead of swelling naturally out of the stroke as in traditional oldstyle faces.

The change in design of the lowercase g from the bold to the regular weight **[figure 24]** adds to the quirkiness of Clearface. In this regard, Clearface forms a bridge between the characterful nineteenth century designs in the early ATF specimen books and the increasingly well mannered romans, most of them historical revivals, of the widely disseminated 1923 specimen book.

The first serial family

To substantiate the claim that Clearface Gothic was the first sans serif designed to harmonize with a serif typeface, it is necessary to show that there were no earlier attempts. To avoid the consequences of hubris, let us say that it is highly unlikely that this was attempted before 1908, the year of Benton's design. The "series" in the 1896 ATF *Collective Specimen Book* are usually just sans serifs. When serif and sans serif typefaces do share the same name, they are not serial designs **[figure 25]**. The practice of including harmonized serif and sans serif typefaces in a family is not

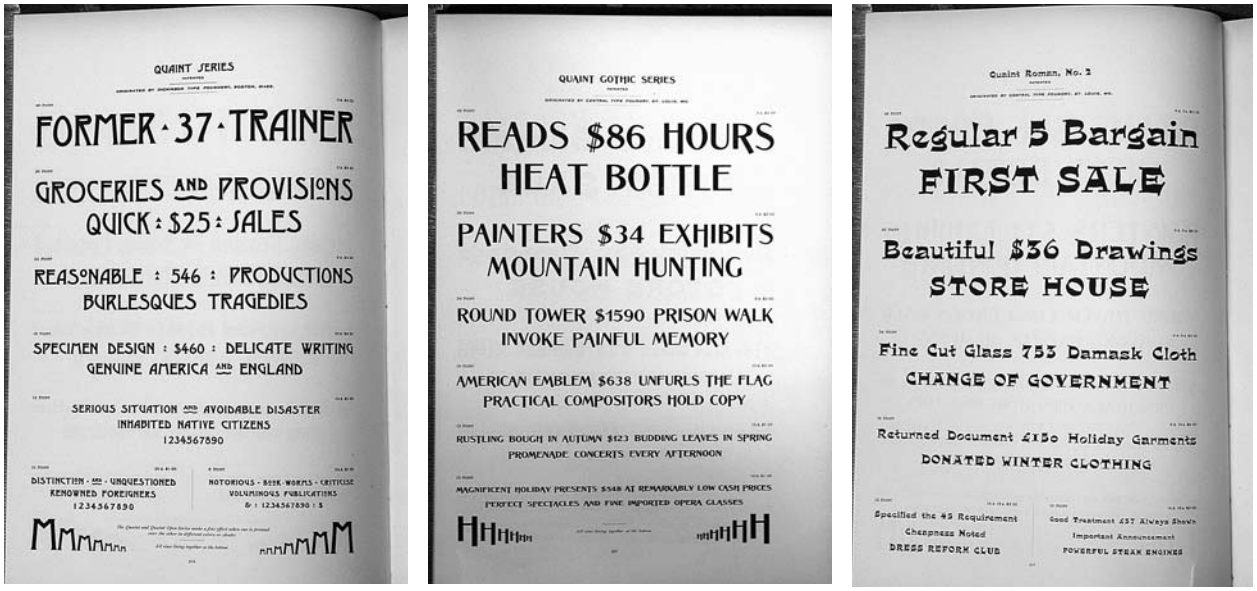


Figure 25: The Quaint Series from the ATF 1896 specimen book does not display common design features. (25%)

Lovely Spring Weather Today
Helping Youthful Compositor
Grand Opera Singers Pleased

of this country and abroad.
the value of artistic advertisi
appreciate the splendid type

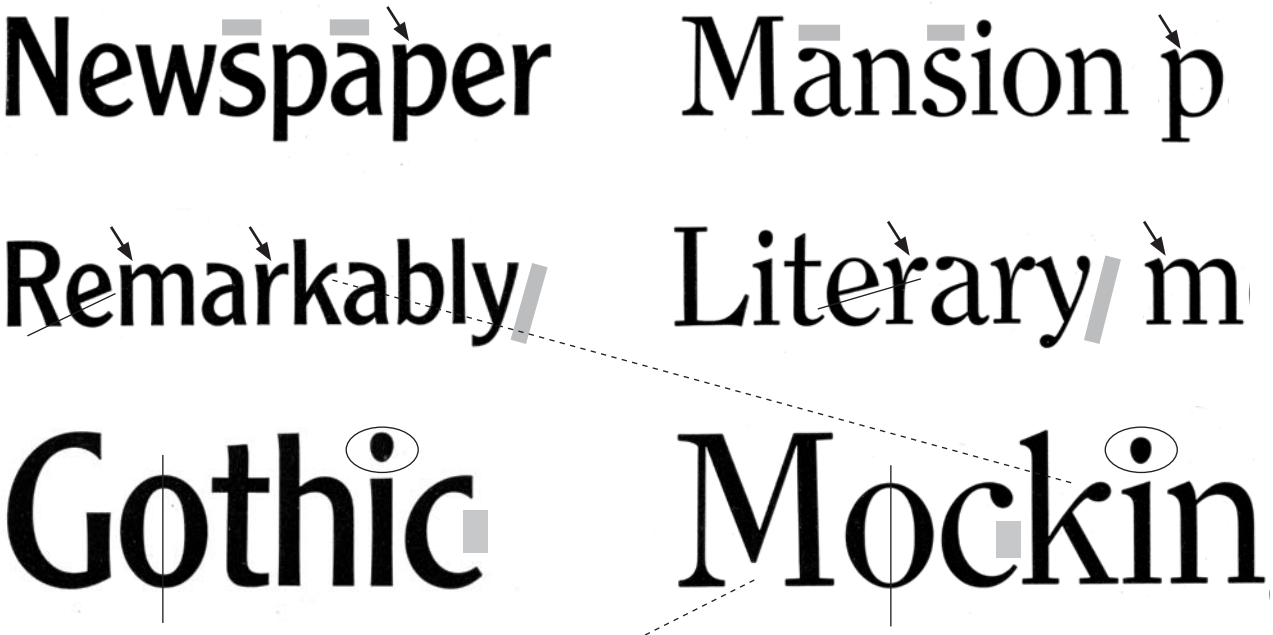
26 18 pt

Compositors Improving Consistently
Rockaway Beach Bathing Refreshing
Bachelor Found Young Widow Crying

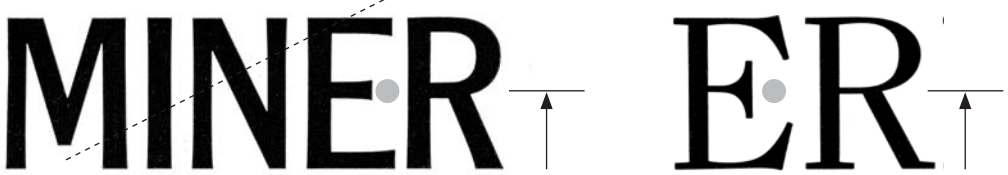
In addition to the large and varied assortment of type designs made by this Company the printer can also

14 pt

27a



27b



27c

Figure 26, 27: Clearface Gothic (left side) and Clearface. (Specimens shown at 100%.) Shared design features shown are:

26

- proportional harmony

27a

- raised upper bowl on *a* and *s*
- deflected terminals on the straight stem junctures and wide interstices (*m p r*)
- oblique crossbar on the *e*
- slightly convex hairline stroke on *v w y*
- vertical axis on the *o*
- curved upper arm on the *k*
- inverted teardrop shape on the dot of the *i*
- very large aperture on the *c*

27b

- raised vertex on the cap *M*
- three unequal arms on the *E*
- high waist on the cap *R* and *P*

27c

- offset junctures on the triangular caps

standard practice, even today. Jan Van Krimpen has been given credit for the first attempt to create such a family with Romulus in 1932 (the sans serif variants were never issued). The Clearface family was designed decades earlier.

The second requirement for giving Benton credit as the first designer to attempt a serial family is to demonstrate that Clearface and Clearface Gothic were truly harmonized. The design features shared by the two typefaces are numerous **[figures 26, 27]**.

Any remaining doubt that Clearface Gothic was conceived as an integral part of the Clearface family should be put to rest by the immediate juxtaposition of the typefaces in the 1912 specimen book, the first to carry the entire family. Curiously, although Benton designed the gothic to harmonize with the roman, he did not give it enough weight, in the author's eye, to be used as display type with the roman. This would have been revolutionary. Clearface Gothic was designed instead to be used independently in text and display. ATF printed a masterful display spread for it, balancing text, illustration, border and ornaments with ample white space **[figure 28]**.

In addition to harmonizing with the roman, Clearface Gothic has other distinctive features. The straight stems are not mechanically even in width. They flare almost imperceptibly at the terminals. The round characters are slightly thinner at the top and bottom and the terminals of the round strokes either flare or taper slightly at their ends (see the character *c* in figure 27a). The cumulative effect of these irregularities is organic and warm. Although the overall appearance is monolinear there is no mechanical feeling to the typeface. The intercharacter spaces are active

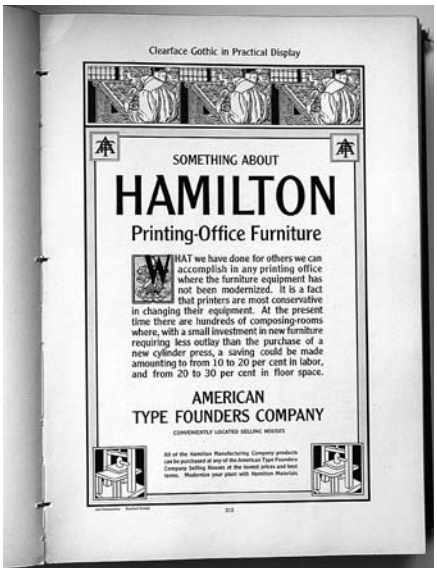


Figure 28: Practical display for Clearface Gothic in the 1912 ATF specimen book (25%)

72 Point 4 A 6 a

Flight

60 Point 5 A 7 a

Husky

48 Point 6 A 10 a

IS Quiet

42 Point 7 A 12 a

Red INK

36 Point 8 A 13 a

IMPORTS

Eighth Boat

30 Point 9 A 14 a

SYMBOLIC

Describe Race

24 Point 10 A 18 a

FINE ARTIST

Complete Border

18 Point 16 A 30 a

REJOINS OUTFIT

SELLING Fine Houses

16 Point 18 A 36 a

MODERN SHOP

NEWEST devices for making wire bought

14 Point 22 A 42 a

BANKER RETIRES

ERECTED biggest stores for this business section

12 Point 24 A 47 a

STORE TO EXPAND

VERY LARGE influx of the volume of business shown by company in statements

THE
BEST OF EVERYTHING
FOR THE PRINTER

AMERICAN TYPE

Borders and Brass Rule

KELLY PRESSES

Revolutionized the Pressroom

CUT-COST EQUIPMENT

For Efficient Composing Rooms

PEERLESS FEEDERS

10 Point

PECULIAR A

ENTHUSIASTIC

by printers fron

concerning moc

8 Point

ARRANGE SP

PASSENGER lines

busy season due t

markets opened i

6 Point

AUDIENCE ENJO

DELIGHTED crowd ch

opening performance

the best plays ever see

all the comments hear

for a long and prosper

enjoyed by the thousa

Characters in Complete Font

A B C D E F
G H I J K L
M N O P Q
R R S T T U
V W X Y Z
& $ 1 2 3 4 5 6
7 8 9 0 a b c d e
f g h i j k l m n
o p q r s t u v w
x y z ff fi fl ffi ffl
Qu & ( ) [ ]
. , - ‘ ’ “ ” : ; ! ?

SMALL CAPS
from 6 to 18 Point, and Lining Figures 1234567890 in all sizes, are put up in separate fonts and furnished only when specially ordered

The CLOISTE

CLOISTER OLDSTYLE ❦ CLOISTER ITALIC ❦ BOLD ❦ CLOISTER BOLD ITALIC ❦ CLOIS CONDENSED ❦ THE CLOISTER INITI

LOISTER OLDSTYLE series of the Cloister fa designed along lines the type face designed in Venice by NICOLAS and first used by that printer in the Eusebius of 1470. To the f were added other members of the Cloister shown in this catalogue. All are cast on

ICOLAS JENSON produced the finest were printed in the first half century Born in France in 1420, he commen in Venice, Italy, in 1470, and in his f duced four important editions, and one hundred and fifty during the remaining ten life. Most of these books were composed entirely i types, which competent authorities agree have nev passed for their beauty. All of his books are print quarto or folio, and one of their chief characteristics

and lively but do not dazzle the eyes because there are no perfectly parallel lines. Clearface Gothic has some of the humanist overtones attempted in later sans serif typefaces like Gill Sans and Optima. What is missing are the humanist proportions: Clearface Gothic has equal letter widths like the modern style roman typefaces.

Verdict: Clearface and Clearface Gothic

It would appear that the concept of a serial family was too far ahead of its time to make any inroads on the public taste. Perhaps Benton did not push the idea far enough by not making a bolder variant of the gothic. The foundry ceased to position the sans serif as an integral family member in later specimen books. The 1923 book, while listing Clearface Gothic under the Clearface family in the index, separates the actual specimen page from the serif members. Clearface and its variants are handsomely displayed with two-color practical displays and a four-page insert printed on different paper. Clearface Gothic is relegated to the rear of the book with the display types, unattractively juxtaposed opposite Roycroft. There is no longer a practical display for the gothic.

By 1923 Clearface Gothic was passing out of fashion. Edward Johnston's typeface for the London Underground had been introduced in 1918. The nascent modernist design movement was antipathetic to the kind of nuanced modulation employed in Clearface Gothic. The gothics with oval and rectangular proportions looked dated while those with circular and square proportions, like Akzidenz Grotesk, seemed modern again. Futura would appear in 1926 and dominate typographic tastes with the logic of its geometry and the spareness of its execution. And in 1928 Jan Tschichold would declare the "old anonymous sanserifs" (1995 transl: 74) to be a superior medium for the new typography. Benton's first harmonized sans serif had missed its moment and was marked for obscurity instead of posterity.

Figure 29: Cloister Oldstyle displayed in the ATF 1934 specimen book (100%)

Case study 3: Cloister Oldstyle

Comparing Cloister Oldstyle and Centaur

Cloister Oldstyle has met with mixed reviews. Daniel Berkeley Updike, writing in 1922, called Cloister Oldstyle "a practical type; not very inspired, perhaps, yet quiet and satisfactory because not attempting too much…" (1937, vol II: 233) Douglas McMurtrie called Cloister Oldstyle's roman "excellent, in fact, almost beyond criticism" (1924: 28), but he criticized the italic. Alexander Lawson wrote that it was the "hallmark design in the revival of the Venetian old-style types in the present century" (1990: 57), but he reserved his accolades for Centaur, which was cut around the same time as Cloister. In 1986, Walter Tracy deemed Cloister "dull" compared to Centaur (2003 edn: 138).

qui omnibus ui aquarum ſubmerſis cum filiis ſuis ſimul ac nuribus mirabili quodā modo quaſi ſemen huāni generis conſeruatus eſt:quē utinā quaſi uiuam quandam imaginem imitari nobis contingat:& hi quidem ante diluuium fuerunt:poſt diluuium autem alii quorū unus altiſſimi dei ſacerdos iuſtitiæ ac pietatis miraculo rex iuſtus lingua hebræorū appellatus eſt:apud quos nec circunciſionis nec moſaicæ legis ulla mentio erat. Quare nec iudæos(poſteris enī hoc nomen fuit)neq; gentiles:quoniam non ut gentes pluralitatem deorum inducebant ſed hebræos proprie noīamus aut ab Hebere ut dictū eſt:aut qa id nomen tranſitiuos ſignificat.Soli qppe a creaturis naturali rōne & lege īnata nō ſcripta ad cognitionē ueri dei trāſiere:& uoluptate corporis cōtēpta ad rectam uitam ꝓueniſſe ſcribunt:cum quibus omībus præclarus ille totius generis origo Habraam numerādus eſt:cui ſcriptura mirabilem iuſtitiā quā non a moſaica lege(ſeptima eīm poſt Habraā generatione Moyſes naſcitur)ſed naturali fuit ratione conſecutus ſūma cum laude atteſtatur.Credidit enim Habraam deo & reputatū eſt ei in iuſtitiam. Quare multarum quoq; gentium patrem diuina oracula futurū:ac in ipſo benedicēdas oēs gentes hoc uidelic& ipſum quod iam nos uidēus aperte prædictum eſt:cuius ille iuſtitiæ perfectioēm non moſaica lege ſed fide cōſecutus eſt:qui poſt multas dei uiſiones legittimum genuit filium:quem primum omnium diuino ꝓſuaſus oraculo circūcidit:& cæteris qui ab eo naſcerētur tradidit:uel ad manifeſtum multitudinis eorum futuræ ſignum:uel ut hoc quaſi paternæ uirtutis īſigne filii retinētes maiores ſuos imitari conaret:aut qbuſcūq; aliis de cauſis.Non enim id ſcrutādum nobis modo eſt.Poſt Habraam filius eius Iſaac in pietate ſucceſſit:fœlice hac hæreditate a parētibus accæpta:q uni uxori coniunctus quum geminos genuiſſet caſtitatis amore ab uxore poſtea dicitur abſtinuiſſe.Ab iſto natus ē Iacob qui ꝓpter cumulatū uirtutis prouētum Iſrael etiam appellatus eſt duobus noībus ꝓpter duplicem uirtutis uſū.Iacob eīm athletā & exercētem ſe latine dicere poſſumus: quam appellationē primū habuit:quū practicis operatioībus multos pro pietate labores ferebat.Quum autē iam uictor luctando euaſit:& ſpeculationis fruebat bonis:tūc Iſraelem ipſe deus appellauit æterna premia beatitudinēq; ultimam quæ in uiſione dei conſiſtit ei largiens: hominem enim qui deum uideat Iſrael nomen ſignificat. Ab hoc.xii. iudæorum tribus ꝓfectæ ſūt.Innumerabilia de uita iſtorum uirorum fortitudine prudentia pietateq; dici poſſunt:quorum alia ſecundum

Figure 30: The type of Nicolas Jenson's *De Praeparatione Evangelica* by Eusebius, as reproduced in Daniel B. Updike's *Printing Types*, (1962 edn, v ol. I: fig. 27) (100%)

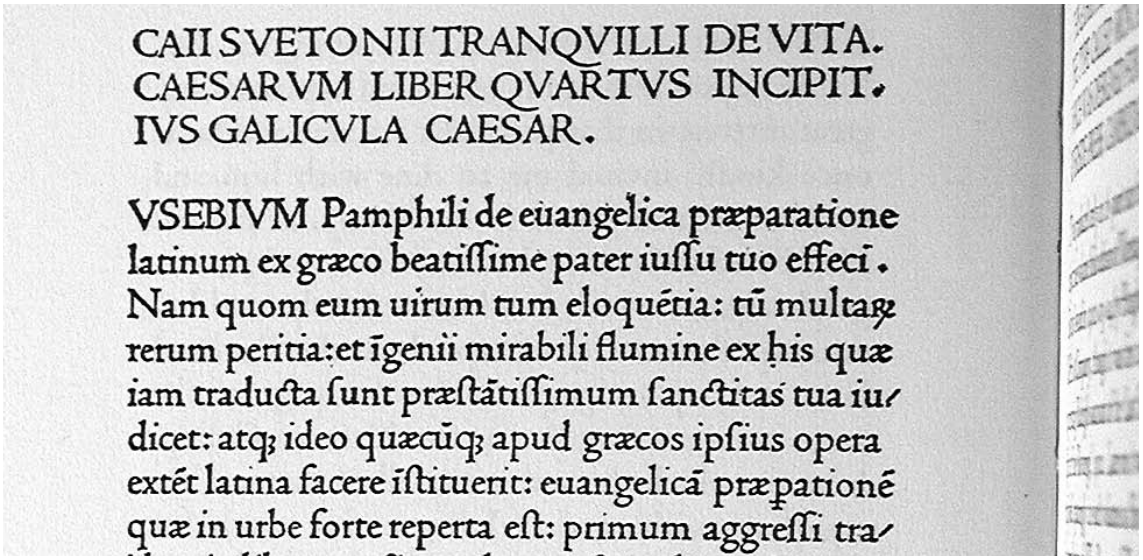
Cloister Oldstyle was in fact very successful for ATF because it made available to commericial printers for the first time a relatively authentic version of Nicolas Jenson's late fifteenth century Venetian type, which had already been successfully revived by the private presses starting with William Morris' Golden type in 1890.

Benton's Cloister Oldstyle (1913) and Bruce Rogers' Centaur (foundry version, 1914–15) are known to have been inspired by the same book, *De Praeparatione Evangelica* by Eusebius, published by Nicolas Jenson in 1470 **[figure 30]**. Both designers had access to the original incunable, Benton from a copy in the ATF library and Rogers from a copy owned by a private collector. A comparison of these revivals by two American designers yields insights into Benton's design process by way of contrast with Rogers, who wrote about his own methods in *Centaur Types* (1949).

A type designer looking at the *Eusebius* font is struck at once by how difficult it is to envision what the actual type looked like from its inked impression. Details are obscured: the stroke terminals and serifs are rounded from ink spread. So the first task of interpretation must be to decide what the skeletal form of each letter may have been before imperfect printing added a layer of disguise.

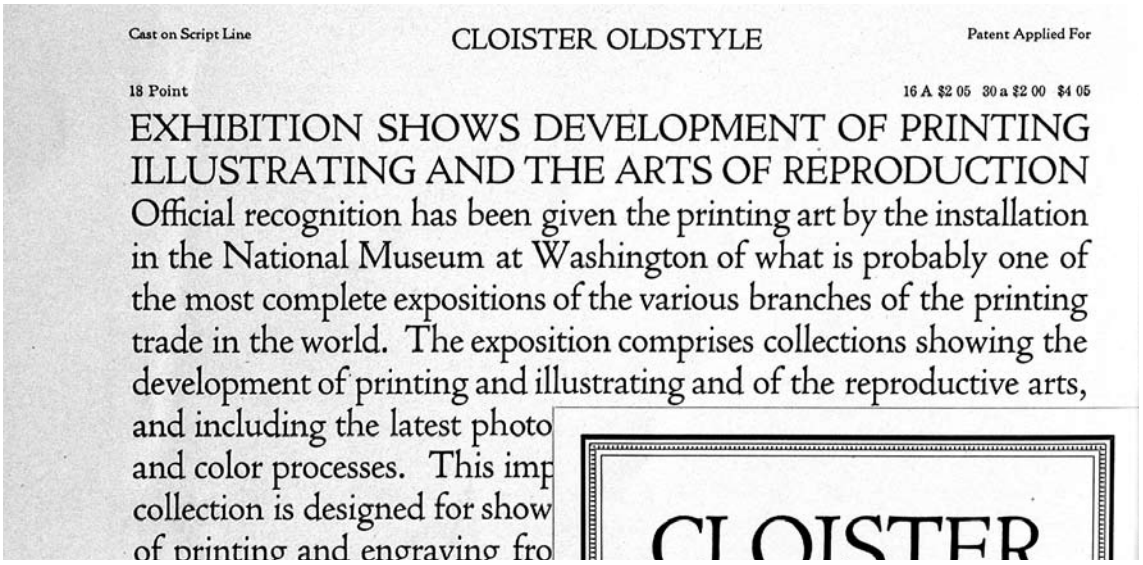
Murphy wrote in his 1936 interview that Benton read the literature of the period, studied contemporaneous printed books, and then he "pictured Jenson as having Morris Benton's job. What would Jenson do if he had Benton's facilities for designing, if he could have the machines and equipment and the organization of a modern type foundry for casting type?" This question lacks much if it is meant to be understood as a design brief for Cloister, and it leads one to conclude that the author received no help from Benton on this score. It does, however, indicate a methodical approach, based on a great deal of research. One can conclude that Benton felt authenticity was paramount. He is reported to have genuinely admired Jenson and to have considered Cloister the favorite design among his own typefaces, but whether it was "the one big job that he had dreamed of doing on those occasions when his aspiration soared the highest" (*ibid*), we can only wonder. (Murphy, April, 1936: 43)

Bruce Rogers designed two typefaces based on the *Eusebius* type in Jenson's book, Montaigne and Centaur—the latter was his improvement on the former—but he had different reasons than Benton for doing so. He did not conduct broad background research as Benton did; he simply studied the font in its printed form. His purpose was to satisfy his own ideals by designing a perfect book face and he thought, like William Morris, that the answer lay in following Jenson's model. He did not feel compelled to create an authentic revival; he was motivated by "the search for what I fondly thought would be the ideally perfect type; not knowing then that it was



CAII SVETONII TRANQVILLI DE VITA.
CAESARVM LIBER QVARTVS INCIPIT.
IVS GALICVLA CAESAR.

VSEBIVM Pamphili de euangelica præparatione latinum ex græco beatiſſime pater iuſſu tuo effeci. Nam quom eum uirum tum eloquētia: tū multaꝝ rerum peritia: et īgenii mirabili flumine ex his quæ iam traducta ſunt præſtātiſſimum ſanctitaſ tua iudicet: atq; ideo quæcūq; apud græcos ipſius opera extēt latina facere īſtituerit: euangelicā præpationē quæ in urbe forte reperta eſt: primum aggreſſi tra-



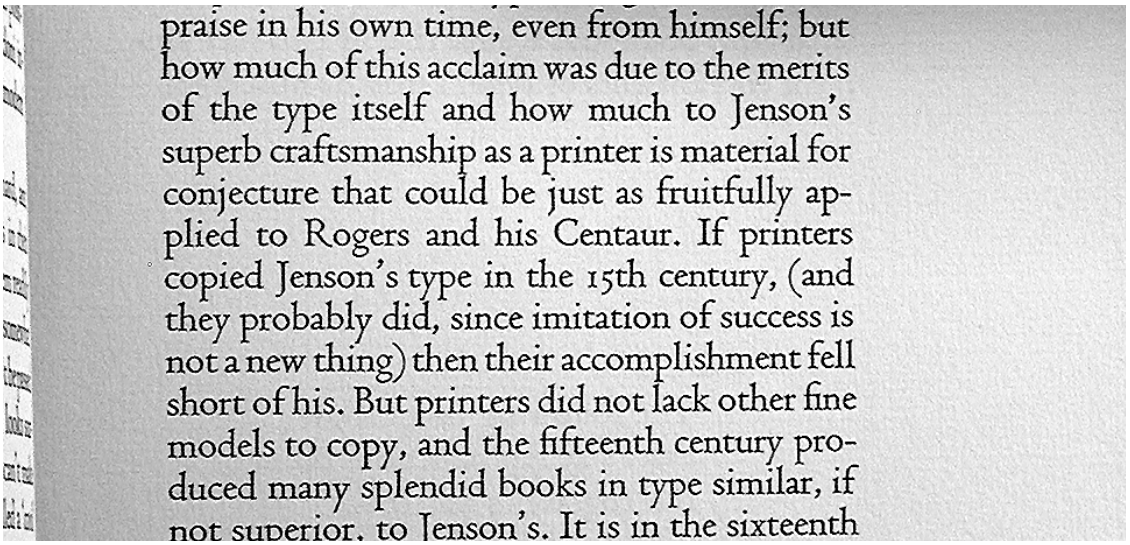
Cast on Script Line — CLOISTER OLDSTYLE — Patent Applied For

18 Point — 16 A $2 05 30 a $2 00 $4 05

EXHIBITION SHOWS DEVELOPMENT OF PRINTING ILLUSTRATING AND THE ARTS OF REPRODUCTION

Official recognition has been given the printing art by the installation in the National Museum at Washington of what is probably one of the most complete expositions of the various branches of the printing trade in the world. The exposition comprises collections showing the development of printing and illustrating and of the reproductive arts, and including the latest photo and color processes. This imp collection is designed for show of printing and engraving fro

CLOISTER



praise in his own time, even from himself; but how much of this acclaim was due to the merits of the type itself and how much to Jenson's superb craftsmanship as a printer is material for conjecture that could be just as fruitfully applied to Rogers and his Centaur. If printers copied Jenson's type in the 15th century, (and they probably did, since imitation of success is not a new thing) then their accomplishment fell short of his. But printers did not lack other fine models to copy, and the fifteenth century produced many splendid books in type similar, if not superior, to Jenson's. It is in the sixteenth

Figure 31: (top to bottom) Nicolas Jenson's *Eusebius* type; Morris Benton's Cloister Oldstyle; Bruce Rogers' Centaur. The Jenson and Rogers specimens are photographed from *Centaur Types* (Rogers, 1949) and are shown at approximately 100%. Benton's specimen is photographed from an undated ATF promotional pamphlet, *The Cloister Family,* and is reduced to 90% for comparison.

something like the quest of the Holy Grail." When designing the Centaur type he "had fugitive prints enlarged from the Jenson photographs and then…wrote over the lowercase letters with a broad pen, as rapidly as I could drive it." Rogers adds that he "purposely altered some of the details of a few letters". (Rogers, 1949: 3,8)

Verdict: Cloister Oldstyle

Both Benton and Rogers were cognizant of the beauty of Jenson's type, but tried to recapture it with different methods: Benton by recreating its forms as authentically as possible with better tools; Rogers by creating a written model for the forms the same way he thought Jenson had done it in his time. Jenson's type is much darker than was considered desirable by the time of Benton and Rogers. Its attraction lies in its overall texture on the page: harmonious, rich and organic. Updike aptly called this quality "opulence" (1937, vol. II: 212). Benton's Cloister Oldstyle, while showing his interpretative abilities in the refinement of serifs and terminals, suffers in the aggregate from a slightly too regularized stroke and baseline—the overall texture is a bit flat. It is an authentic revival when individual letterforms are examined, but the overall impression is less spirited than the original.

Rogers seems to have grasped that the irregularities of the inked impression in Jenson's book were crucial to the charm of the typeface, for he went to pains to avoid having his drawings regularized in the cutting **[figure 32]**. His is a less faithful interpretation of Jenson, but the liberties taken resulted in a livelier typeface that better shares the spirit of the original. Sebastian Carter calls Centaur an "imaginative recreation" (1987: 53). If Benton did indeed design Cloister Oldstyle by imagining what Jenson would have done with his advanced equipment, then his imagination was directed the wrong way.

These two designers working from the same model had opposite approaches to their work: Rogers' was direct and intuitive, Benton's circumspect

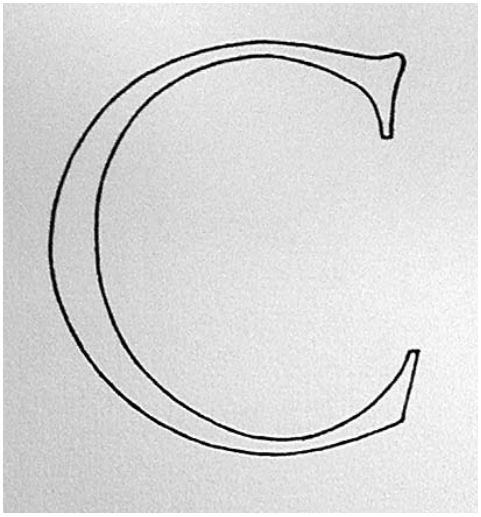


Figure 32: Rogers' actual-size reproduction of an engraving outline for the foundry version of Centaur, showing the absence of mechanical drafting (1949: 19) (100%)

74

THE STORY OF CHANTICLEER

GEOFFREY CHAUCER

GEOFFREY CHAUCER, "the father of English poetry," stands in the front rank of those who have told stories in verse. He was born in London about the year 1340. The language in which men wrote five hundred years ago is very different from that in use to-day; many of Chaucer's poems, however, have been modernized. *The Canterbury Tales,* from which this selection is taken, is his greatest work.

In a tiny cottage, near a strip of woodland, there once lived a poor old woman and her two daughters. Small indeed were her possessions, but she was by nature both thrifty and patient, and she was content with her simple life. Her daily fare was brown bread and milk, with an occasional feast when she allowed herself a slice of bacon and an egg or two.

A yard she had, enclosèd all about
With sticks and staves, and a dry ditch without,
In which she kept a cock called Chanticleer,
In all the land of crowing without peer.
His comb was redder than the coral fine,
And toothed like castle turret's topmost line;
His beak was black and as bright jet it shone;
His legs and toes were of a bluish tone;
Like lilies were his nails, so white and cold;
In color he resembled burnished gold.

Figure 33: Century Schoolbook display in the 1923 ATF specimen book. The caption reads: "A specimen page of The Blodgett Fourth Reader, reset in Century Schoolbook, showing the type in caps, small caps, lower-case italic, widely spaced between words." (569) The *Reader* was published by Ginn and Company, who commissioned the design of Century Schoolbook. (100%)

and methodical. As a result, Centaur was, from its first appearance, more suited to the European taste for romans with calligraphic underpinnings, whereas Cloister's more constructed appearance fits in with the other new roman families coming from the American foundry. In hindsight the verdict is that Benton's interpretation was authentic, but not inspired.

Case study 4: Century Schoolbook

Century Schoolbook has been selected for a case study because one of the scientific reports Benton consulted can still be obtained and compared to his results.[1] Two such reports were issued in 1912 on both sides of the Atlantic, and within a few years ATF was approached by Ginn & Company, a large publisher of school books, to replace their fonts with a new, enlightened design. The appendage of the Century family pedigree to the new typeface was a good marketing strategy for ATF, ensuring that printers would take note of a new variant, and it made sense as well because Century was their original legibility family. Morris Benton had designed Century Expanded (1900) and Century Oldstyle (1906). He made them his starting point for Century Schoolbook.

A scientific brief

Murphy cites the "Report on the Influence of School-Books upon Eyesight" of the British Association for the Advancement of Science (BA) as Benton's scientific basis for the design of Century Schoolbook (April 1936: 44). Its description of ocular development in children poignantly underscores its practical recommendations. An example of advice being given:

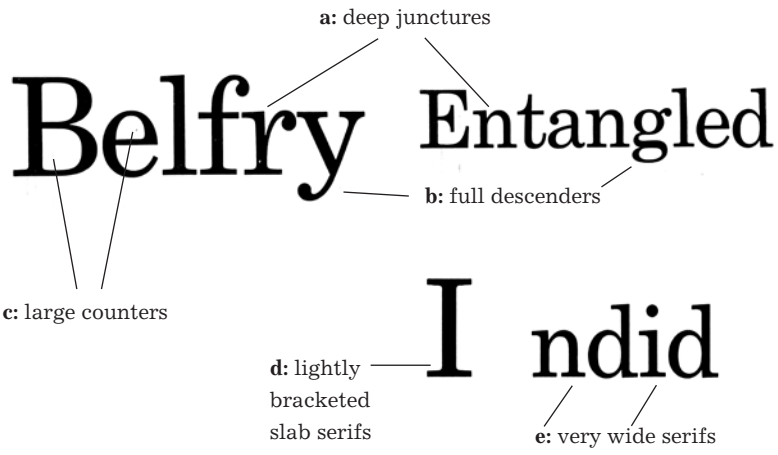
Small print leads the young scholar to look too closely at his book. He is not yet familiar with the forms of the words, and his eyesight has not yet reached its full acuteness. For easy vision he must have retinal images larger than those which satisfy the trained reader. To obtain these larger images he brings the book too near to his eyes, or his eyes too near the book, and this, for the reasons already given, is apt to be injurious. Hence the importance of establishing certain standards of legibility for schoolbooks, having regard to the ages of the scholars who are required to use them, and of employing only such books as reach these standards. (BA, 1912: 4–5)

The standards referred to are set out in detail, including a chart giving exact parameters for x-height measure and interlinear spacing of fonts for each age group, from 7 to over 12 years. There are numerous recommendations for compositors and printers which do not concern us. The specific rules for type design are summarized here (BA, 1912: 4–5):

1) The type should be "clean-cut and well defined".
2) It should not be condensed.
3) It should not have very fine hairlines or be too bold.
4) It should make certain letters and letter combinations easy to differentiate: *e c o*; *i l*; *h k*; *m nn mu mv w in*.

1 St. Bride Library, British Library.

Figure 34



CENTURY EXPANDED

TWELVE POINT CENTURY EXPANDED

MATCHLESS in power among the arts of men is our art of printing. In its higher influence it is the chief servant of all that is divine in man. If we would, we may through printing types confer with all the choice spirits of preceding ages and learn all the knowledge acquired by men

CENTURY OLDSTYLE

TWELVE POINT CENTURY OLDSTYLE

MATCHLESS in power among the arts of men is our art of printing. In its higher influence it is the chief servant of all that is divine in man. If we would, we may through printing types confer with all the choice spirits of preceding ages and learn all the knowledge acquired by men from the dawn of civiliza-

CENTURY SCHOOLBOOK

TWELVE POINT CENTURY SCHOOLBOOK

MATCHLESS in power among the arts of men is our art of printing. In its higher influence it is the chief servant of all that is divine in man. If we would, we may through printing types confer with all the choice spirits of preceding ages and learn all the knowledge acquired by men from

CENTURY CATALOGUE

TWELVE POINT CENTURY CATALOGUE

MATCHLESS in power among the arts of men is our art of printing. In its higher influence it is the chief servant of all that is divine in man. If we would, we may through printing types confer with all the choice spirits of preceding ages and learn all the knowledge acquired by men from the dawn of civilization. This is

Figure 34: Design features of Century Schoolbook (all specimens 100%)

5) The general form should be "broad and square" with an almost circular *o*, rather than elongated vertically.
6) There should be a "lateral shoulder on every type so that each letter is distinct" (an injunction against tight character fitting).
7) Long serifs should be avoided.
8) The report withheld judgment on whether ascender height (at the expense of descenders) was helpful to readers. This was a common strategy in ATF's roman designs.
9) The report was not prepared to take a stand on whether "old-face" or "modern-face" designs fit these criteria better, sensibly pointing out that neither was intrinsically better in all the sizes required, and that adherence to good composing and printing principles would improve the better varieties of either style.

Departure from the Century romans

Century Schoolbook departs from Century Expanded and Century Old-style in having heavier hairlines than either, but it wisely retains the deeper junctures of the former (*r*, *n*) despite its lower x-height **[figure 34a]**. The lower x-height has the effect of making Century Schoolbook "broad and square" compared to its cousins. The ascenders, of course, benefit in height by the reduction of the x-height, but in Century Schoolbook the lowercase *g* has been given a more generous, naturally rounded lower loop as well **[b]**. The *e* and *a* have large counters, (but maintained at the expense of the apertures in these characters) **[c]**. Century Schoolbook has heavier slab serifs, lightly bracketed **[d]** but, contrary to the report's recommendations, they are quite wide and extend so far as to almost close off the n and h at the baseline **[e]**. The usual effect of wide serifs is to give a looser fit to the typeface, so Benton may have believed the overall effect was beneficial. The square serifs and stroke terminals in Century Schoolbook display a great deal of visible precision, giving it a "clean-cut and well defined" appearance.

Figure 35: Century family romans in 12 point text settings, for legibility comparison (100%)

Verdict: Century Schoolbook

Century Schoolbook is certainly less dazzling to the eyes, and thus more readable, than its two predecessors, but it is still not a good typeface for lengthy reading. It is too dark and it suffers from horizontal melding across the lines, somewhat obscuring the individual letterforms **[figure 35]**. This is caused by the very wide serifs. Benton would have done better to heed the BA report's warning that "any extension sideways which forms or suggests a continuous line along the top or bottom is detrimental" (1912: 7). However, Century Schoolbook is quite readable if typeset with open leading and extra word spacing as it would be in a child's book. The extra white space offsets the dark color of the type (see figure 33, p. 40).

Typo Upright

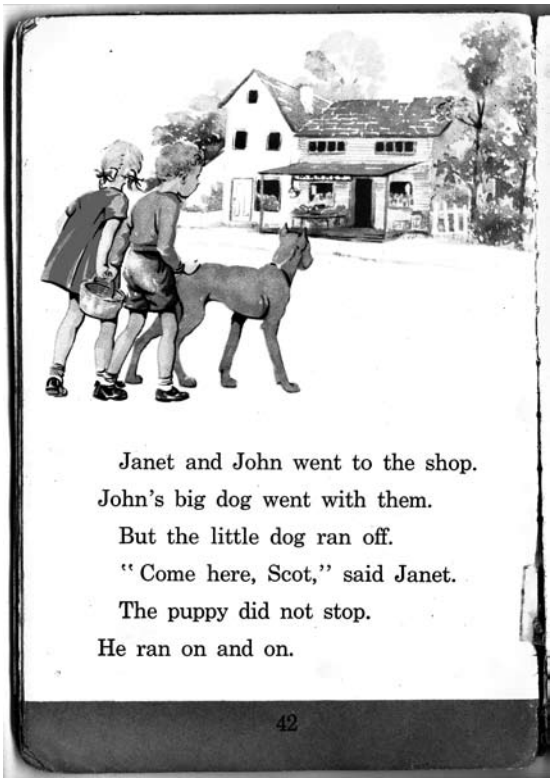

Janet and John went to the shop.
John's big dog went with them.
But the little dog ran off.
"Come here, Scot," said Janet.
The puppy did not stop.
He ran on and on.
42

Figure 36: Century Schoolbook, typeset with wide word spaces and open leading in a children's reader (*Janet and John Book 2*, 1949) (25%)

Around the same time as Century Schoolbook, Benton designed Century Catalogue, the most readable of the Century typefaces in the author's opinion. Here the absence of accurate dating obscures the designer's intentions. The annotations in the 1923 specimen book ascribe a February, 1914 date to Century Catalogue and a November, 1915 date to Century Schoolbook, but Steven Watts' manuscript gives a 1920 date to Century Schoolbook and a 1922 date to Century Catalog, reversing their order (Hitchcock 1978). Perhaps Benton had begun working on Century Catalogue when he was interrupted by the Ginn & Company commission—or he may have realized the limitations of Century Schoolbook for wider commercial use and corrected them in Century Catalogue.

Century Schoolbook's greatest asset is not its legibility but its atmospheric values. The round ball terminals; the softly bracketed yet sturdy slab serifs; the large bowl of the *B* and the wide capitals in general; and the exit flicks on the *a* and *R*—all combine to make it an upbeat, friendly typeface. These attributes are best appreciated at display sizes. Combined with its substantial color on the page, they make Century Schoolbook an attractive typeface in children's picture books, where it balances strong illustrations well and presents a friendly aspect to the reader **[figure 36]**.

Case studies 5 and 6: two novelty typefaces

Figure 37: Typo Upright (1934 specimen) (100%)

So far these case studies have included a typeface from Benton's most prolific genre of original designs, the gothics; a historical revival; and two very different romans designed for legibility. The next two case studies are of typefaces that are all about style rather than substance: publicity types with very narrow design briefs. One is a script face and one is a novelty gothic. Both have an innovative design component.

Adscript

Benton appears to have enjoyed designing scripts, judging by their number in his repertoire. Scripts never went out of fashion with printers. The 1923 ATF specimen book explains, "There are various kinds of highly profitable printing to which script faces are better adapted than any other types, hence the constant demand" (399). Benton's most well-known scripts were given the Typo family name (1903–1906) **[figure 37]**, but the script which interests us

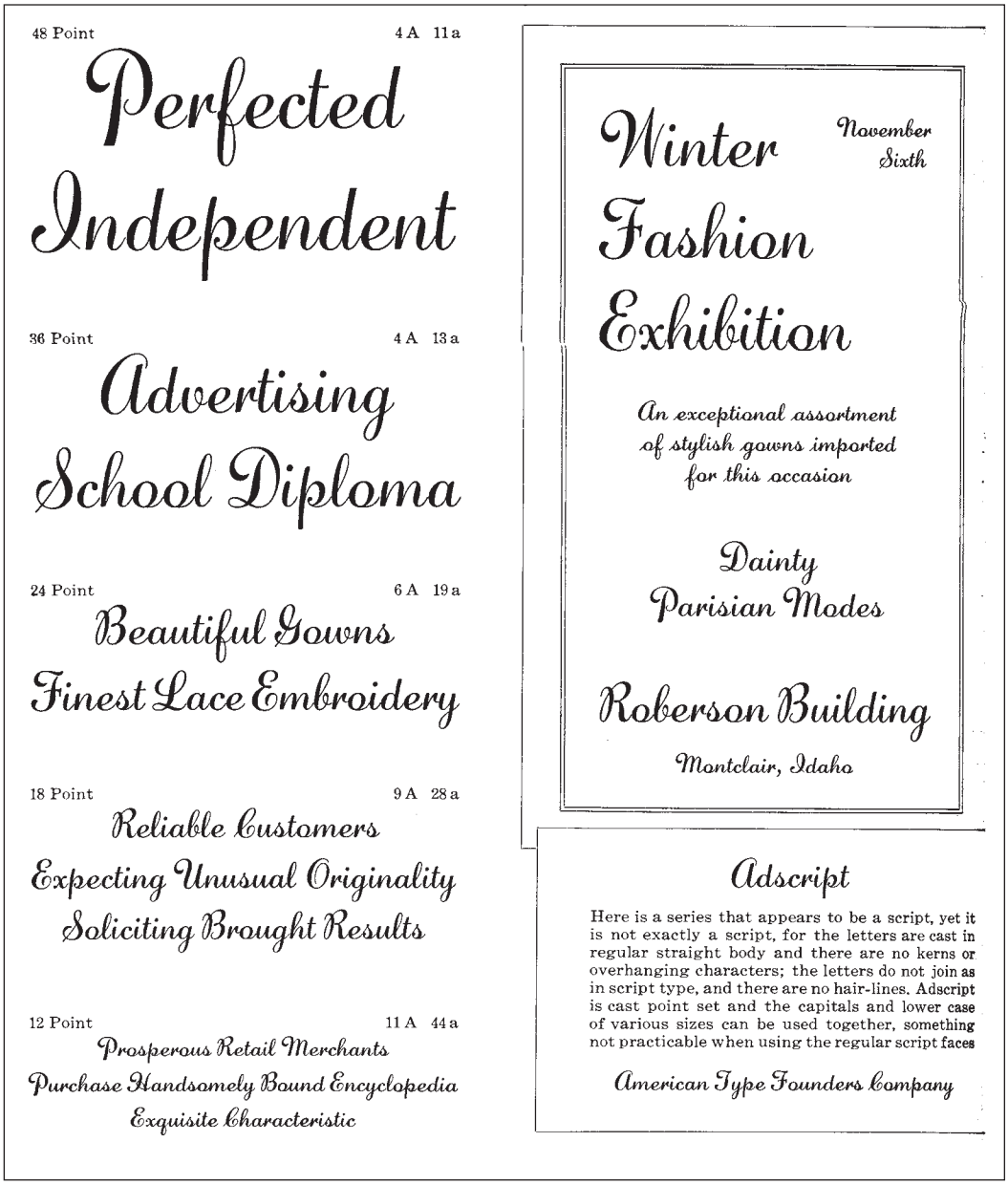


Figure 38: Adscript display in the 1923 ATF specimen book. The typeface was patented in 1916. (100%)

here is more obsure. Adscript (1914) is a casual, sturdy cursive without the strong historical links which give the various Typo scripts their dated look.

Adscript is almost upright, and its vertical strokes are not parallel. They vary slightly and give the impression of being written quickly, rather than carefully—a twentieth century hand. Adscript is the only one of the fifteen scripts in the 1923 specimen book that looks contemporary. It is also the only patented script in the book, and the reason is contained in a small blurb on the 1934 specimen page (416) **[figure 38]**:

Here is a series that appears to be a script, yet it is not exactly a script, for the letters are cast in a regular straight body and there are no kerns or overhanging characters; the letters do not join as in script type, and there are no hair-lines.

The blurb indicates that Benton's brief for Adscript included addressing the technical issues of casting script typefaces, many of which had to have extensive kerns and/or be cast on a slanted body. It is likely that he came up with the technical brief himself, for the traditional, more inclined historical scripts were firmly entrenched in the public taste when Adscript was designed. Market research was not likely to turn up a need for a contemporary script. He also addressed the other common problem of fragility in scripts by thickening up his hairlines in Adscript.

Benton was ahead of his time in emulating a contemporary hand. An interesting perspective on this is provided in Roy Millington's recent monograph on Stephenson, Blake, the last English foundry (2002: 174): "Cast by Stephenson, Blake from 1900 to 1970, the range of angular bodied scripts and rondes was unparalleled as the company bought in designs from both American and Continental designers and typefounders… In 1948, there appeared to be a need for an informal script and the model for this was based on Lady Frances Stephenson's handwriting which was issued as Francesca Ronde." **[figure 39]**.

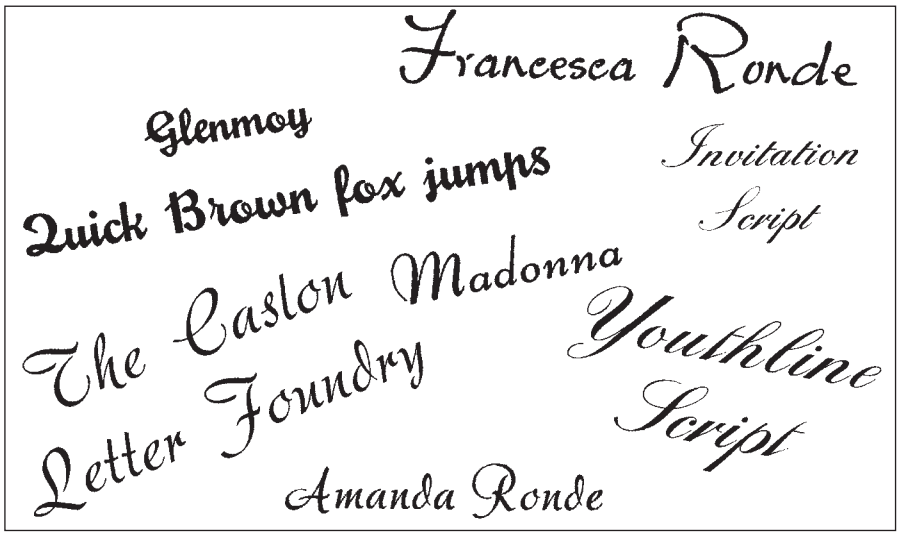


Figure 39: Stephenson, Blake scripts (Millington, 2002: 175) (100% of reproduction size)

Figure 40: (above) Thermo series display in ATF's 1934 specimen book. The series numbering indicates width variation. The weight remains the same in all the series of a given point size. (90%)

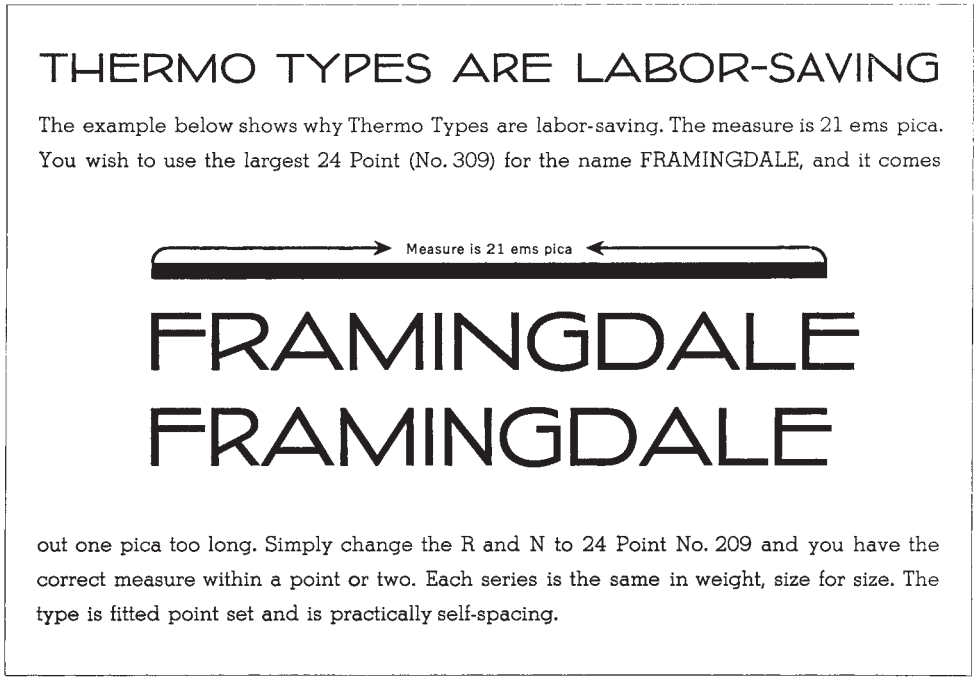


Figure 41: (left) The design concept behind the Thermo series (100%)

The Adscript typeface does not appear in the next specimen book, in 1934. Despite its short life, it demonstrates Benton's creative design solution to a technical problem. It is yet another example of his ability to be ahead of the times with no one, least of all himself, realizing it.

Thermo Series

The second novelty face selected for study exploits a typographic idea which is driven purely by a design concept rather than technical considerations. The Thermo Series (1931) was an all-cap monoline sans serif in mix-and-match widths of the same weight **[figure 40]**. The showing in the 1934 specimen book (135) contained a set of instructions **[figure 41]**:

The measure is 21 ems pica. You wish to use the largest 24 Point (No. 309) for the name FRAMINGDALE, and it comes out one pica too long. Simply change the R and N to 24 Point No. 209 and you have the correct measure within a point or two. Each series is the same weight, size for size.

Figure 42: 1934 specimen of Hobo (1910). In Thermo 200, below, Benton brought the junctures of the *R* and *P* closer to the baseline. (100%)

The design of the Thermo series is geometric, with the normal width (200) employing a perfectly circular O. The B, P and R have obliquely slanted mid-junctures, a more exaggerated version of a feature that is present in Hobo. The juncture with the vertical stem is almost at the baseline in Thermo **[figure 42]**. This is the dominating visual feature of the typeface and probably limited its popularity, dating it with the art nouveau faces instead of the modernist movement. For whatever reason, this new serial concept was abandoned. The Bank Gothic series of a year later, while using a similar numbering system, reverts to the standard family concept of weight variants being applied to a typeface of fixed width. The Thermo fonts were discontinued in 1938 (McGrew, 1993: 307). The apparent usefulness for signage systems of Benton's concept of a variable-width series has not been widely exploited. Sumner Stone came by the same idea for his Basalt typeface without being aware of the precedent set by Thermo.

4 Conclusions

An outsider

It was the stated aim of this study to penetrate the enigma of Morris Benton, the designer, through analysis of his typefaces. This strategy was necessary because he never wrote about his work as did, for example, both Goudy and Rogers. But there are two oft-repeated quotes from the Murphy *Inland Printer* interview (April, 1936: 42). When asked how it felt to have invented ATF type families, Benton is reported to have replied, "I didn't. I merely accepted an assignment". This is not just modesty on his part—it is plain fact. The idea of serial groupings was common currency at the turn of the century. But Benton's particular way of exploiting the family idea is worth noting and is discussed below. The second Benton quote was in

response to being praised for his achievements: "Lady Luck helped me a lot there". This quote may be apocryphal, but if Murphy committed the journalistic sin of creating a good sound bite, he was driven to it. Benton was a man who kept his feelings private. His daughter Caroline Benton Gregg recounted in an interview that after the unexpected death of her mother in 1920, her father remarked that "life divided itself up into compartments, and they didn't necessarily follow through, they cut off… He just felt that one [had] ended, and he was very, I wouldn't say he was philosophical, but he did accept the fact that the facts were the facts. He had to make a new life" (Cost, 1994: 33).

Benton spent his entire career, over forty years, at the same company. He was unquestionably industrious and loyal, rising from an assistant to his father to running the type design department. But he separated his work life from his personal life. They were in different "compartments". Benton could have been the model for a post-World War II white-collar professional, going to work by day and returning home to his family life, hobbies and vacations. By contrast, most of the type designers of his generation were involved in the book arts, preferring to be viewed as artists, and the private press world has always been replete with critics, commentators and historians who, not surprisingly, publish. Benton only designed type, and his engineering background did not bring him into contact with the world of fine book publishers. If they knew *of* him, they did not *know* him. And he does not appear to have been interested in them either, preferring the world of machines and gadgets to collectors' books.[1] What is more, the private press movement was rooted in an antipathy toward mechanization, and the Benton name was indelibly associated with the mechanization of the type industry. He was an outsider.

Bruce Rogers was the opposite. He was an indisputable master of book design, celebrated in his own time. His fame as a type designer rests almost entirely on the Centaur typeface. The propensity of type historians to concentrate on the line of development from the Renaissance broad-nib pen to contemporary book faces with the same underpinnings has had the effect of their largely ignoring the American influence on type design from the late nineteenth century through the first quarter of the twentieth century—ATF's heyday. (Compare, for instance, the volume of documentation on Stanley Morison's typographic tastes.) The historical focus is often on the influence of the American inventions instead. Thus our knowledge of Benton as a designer has suffered from his lack of charisma for the chroniclers of typographic history and his own lack of interest in revealing his views. There is no indication that his daughters, interviewed by Cost,

1 Benton had a gun collection which he used for target shooting (not hunting); was an avid outdoorsman; tinkered with toy trains and real cars; had a wood shop and a dark room for the new color photography; enjoyed music, and even tuned the family piano himself (Cost 1986: 88–89).

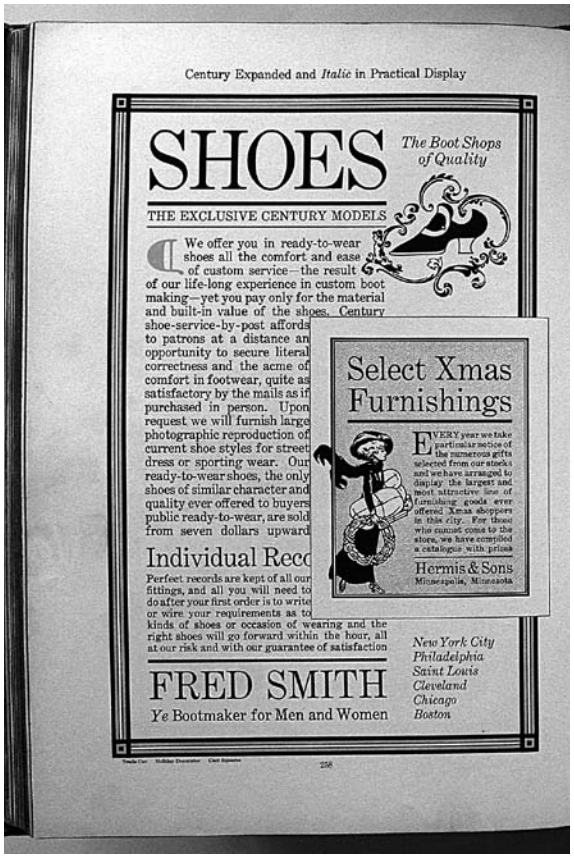


Figure 43. A sample ad typeset in Century Expanded in the 1912 ATF specimen book (50%), and a 1923 Listerine ad (reduced reproduction in Marchand, 1985: 19)

ever heard him talked about his ideas on type design. One feels that Morris Benton would have approved of being judged by his work alone, so let us proceed to make some judgments, as objectively as possible.

Unsung originality

Designers usually do their best work in the genres they like the most. If the converse is true as well, Morris Benton must have loved the gothic typefaces. Here his early work helped turned the genre away from its roots in display toward the role it enjoys today as an alternative to the text face. He added stroke modulation to the prevailing style of monolineality, and while he wasn't the first to do so, he appears to have been the first to couple this trait with such competent control of black form and white space in his gothic letterforms, and skill at optical size adjustment, that his designs were even-colored and legible at 6 points.

Benton's use of stroke modulation in Franklin Gothic was subtle. One can argue that his intention was to maintain a monolinear appearance and he did not conceive of stroke-modulated sans serif text faces, but the legibility of his designs did not go unnoticed. They were largely responsible for the popularity of the ATF families among ad agencies. The ads of the early twentieth century were not of the "Got milk?" or "Just do it" variety. They still displayed their roots in newspaper ads that were typeset by printers in text only. The publicity displays in the ATF specimen books showing the advantages of harmonized families in ad designs usually included a substantial block of text **[figure 43]**. Product ads in the early 1900s often described an imagined lifestyle at length to convince the reader that a new product was needed.

Might not this attribute of Benton's gothic designs have been a first step on the road toward using sans serifs as text faces? Nicolete Gray's description of this development in sans serif type design leapfrogs over this seminal era: "The introduction of some modification of line-width is almost always required to give [the sans serif] any subtlety of design. We have seen that some experiments were made in the fifteenth century and there is another example at Wascot Chapel, Bath, of 1815; but the idea does not seem to have been pursued until this century, when it has been used in type designs such as Optima." (Gray, 1986: 173)

The real "first" which Benton could have claimed—designing a serif and sans serif serial family—seems to have been completely overlooked. The idea was too far ahead of its time for its potential to be recognized, even, apparently, by its inventor. That the credit for this "first" was subsequently assigned elsewhere is a symptom of Benton's neglect by historians, not a cause. In a sense Benton may be seen to have served his masters too well. He designed the typefaces that the market demanded and their merit

was judged by the profit they brought to the company. His historical revivals were perennial favorites on the "typographic scoreboard" published in *Inland Printer* (June 1945: 55), but the creative innovations that he perpetrated were quite unsung, buried in a blizzard of typefaces that defy categorization by their very variety.

Shortcomings as a designer

Benton's shortcomings as a designer can be seen from two different angles. First, any designer with more typefaces to his name than most of his peers combined, will also have more mediocre or poor typefaces to his credit than his peers. Second, Benton was not driven by a personal calling to design typefaces for his own use as some of his more colorful peers were. He was neither a book designer nor a printer. Taken as a body, his work cannot be said to have sprung from an inner well of artistic inspiration. It was largely reactive.

Inland Printer describes Benton in 1936 as orchestrating a multi-pronged market research initiative to determine what typefaces should be issued by ATF (Murphy, May 1936: 71). "Morris Benton says the profession of type designing is constantly becoming more complicated—because it is being tied in with innumerable things that formerly had no relationship to the designing of type." These are the sentiments of a man who senses his time has passed. Morris Benton retired a year after this interview was published and enjoyed eleven more years of life with his second wife during which he kept no ties with his former company (Cost, 1994: 34). His long career as a type designer had been a success, certainly, but one senses that it fell short of being a vocation for him.

Wedding technology to serious intent

Much has been made of Benton's extensive activity designing variants for ATF's renowned type families. Today the production of typographic families is so entrenched a design tradition that it is hard to remember that it was brought about by a technological revolution. It was Linn Boyd Benton's pantographic punchcutting and matrix-engraving machine, and more specifically his pantographic delineating machine (Cost, 1994: 35), that made the production of bold, oblique, condensed, light and various other variants part of the ordinary repertoire of foundries. But it was Morris Fuller Benton's designs that made ATF's type families exemplary, and the typographic family in general, indispensable to typographers. This is not a new point of view, but it may be added that Morris Benton's abiding interest in legibility wedded the new technology to serious intent,

moving American type design out of the Victorian age of ornamentation and novelty for its own sake. One cannot help feeling that had Benton lived today, he would have been at home in a world where type designers need technological aptitude as well. His few creative innovations would have received recognition from his peers.

A comprehensive study of Benton's typefaces is long overdue, as is a complete specimen book of his typefaces. It is hoped that the current study has taken a step in the right direction—toward a more equitable evaluation of Morris Fuller Benton among twentieth century type designers.

Bibliography

Works cited

American Type Founders Company. Mar, 1908. *Explanatory statement, clearface bold, clearface bold italic*. Jersey City: American Typefounders Co

Annenberg, Maurice. 1994. *Type foundries of America and their catalogs*. New Castle: Oak Knoll Press

Blum, Andrew. "The Modern's other renovation". *New York Times*. 21.09.03. (Design) [http://www.andrewblum.net/typepad/2003/09/the_moderns_oth.html, as of 18.09.06]

British Association for the Advancement of Science. 1912. *Report on the influence of school-books upon eyesight*. London: British Association for the Advancement of Science

Carter, Sebastian. 1987. *Twentieth century type designers*. London: Trefoil Publications, Ltd

Cost, Patricia. 1986. "The contributions of Linn Boyd Benton and Morris Fuller Benton to the technology of typesetting and typeface design". MS thesis, Rochester Institute of Technology

— 1994. "Linn Boyd Benton, Morris Fuller Benton, and typemaking at ATF". *Printing History*. 16:1&2 [www.printinghistory.org/htm/journal/articles/31-32-Cost-Benton.pdf, as of 17.09.06]

De Vinne, Theodore L. 1902. *The practice of typography, a treatise on the processes of type-making, the point system, the names, sizes styles and prices of plain printing types* (2nd edn). New York: The Century Co

Fowles, Jib. 1996. "Origins". In *Advertising and popular culture*: 26–51. Thousand Oaks: Sage Publications

Gray, Nicolete. 1986. *A history of lettering: creative experiment and letter identity*. Oxford: Phaidon

Hitchcock, Maureen D. 1978. *Benton types, typefaces designed or adapted by Morris Fuller Benton*. Rochester: The Press of the Good Mountain

Hutchings, R. S. 1963. *The western heritage of type design*. London: Cory, Adams & Mackay, Ltd

Inland Printer. 1945. "'Scoreboard' reveals popularity trends in type faces". Jun: 55

Janet and John Book 2. 1949. Row, Peterson & Co

Lawson, Alexander. 1990. *Anatomy of a typeface*. Boston: David R. Godine

Lo Celso, Alejandro. 2000. "Serial Type Families from Romulus to Thesis". MATD thesis, University of Reading. [http://www.typeculture.com/academic_resource/articles_essays/pdfs/tc_article_25.pdf, as of 30.08.06]

Marchand, Roland. 1985. *Advertising the American dream, making way for modernity, 1920–1940*. Berkeley: University of California Press

McGrew, Mac. 1993. *American metal typefaces of the twentieth century, (*2nd rev edn). New Castle: Oak Knoll Books

McMurtrie, Douglas. 1924. *American type design in the twentieth century*. Chicago: Robert O. Ballou

Millington, Roy. 2002. *Stephenson Blake, the last of the old English typefounders*. Newcastle: Oak Knoll Press and The British Library

Murphy, John A. 1936. "Morris Benton, type designer-executive". *Inland Printer*. Mar: 33–36, Apr: 42–44, May: 69–71

Nash, Ray. 1976. "Ornamented types in America". In *Nineteenth century ornamented typefaces,* Nicolete Gray: 115–131. London: Faber and Faber Ltd

Rogers, Bruce. 1949. *Centaur Types*. Chicago: October House
Shaw, Paul. 1989. "The Century family". In *Fine print on type*, Charles Bigelow, Paul H. Duensing, and Linnea Gentry: 46–49. London: Lund Humphries Publishers
Silver, Rollo G. 1965. *Typefounding in America, 1787–1825*. Charlottesville: University Press of Virginia
Tracy, Walter. 2003. *Letters of credit, a view of type design* (first edn 1986). Boston: David R. Godine
Tschichold, Jan. (orig 1928). 1995 transl. *The new typography*, Ruari McLean. Berkeley: University of California Press
Updike, Daniel B. 1962. *Printing types, their history, forms and use, a study in survivals*, vol. I (3rd edn, first 1922). Cambridge: Harvard University Press
— 1937. *Printing types, their history, forms and use, a study in survivals*, vol II, (2nd edn, first 1922). London: Oxford University Press

Type Specimens

"Akzidenz-Grotesk Mager Halbfett" Oct, 1955. *Typographische Monatsblätter*, 74:10: 509–514
American Type Founders Company. undated. *The Cloister family*. Jersey City.
— 1896. *Collective specimen book, American Type Founders Company*. Buffalo.
— 1906. *American line type book*. Jersey City.
— 1912. *American Specimen book of type styles*. Jersey City.
— 1923. *Specimen Book and Catalogue*. Jersey City.
— 1934. *Book of American Types*. Jersey City.
— 1941. *Book of American Types*. Elizabeth
H. Berthold AG. undated. *Berthold Akzidenz Grotesk Serie*. Berlin.
Stephenson, Blake & Co Ltd. 1924. *Printing Types*. Sheffield.

Additional works consulted

American Printer. 1983. "The art of the cover". Oct: 135–138
— 1983. "The American printer: 100 years". Oct: 44–53
— 1952. "The story of American Type Founders, from humble beginnings to graphic arts giant". Mar: 34–41
American Typecasting Fellowship. 1981. "The living legend, American Type Founders Company". *ATF Newsletter*. May, no. 6: 7–14
Bidwell, John (ed). 1981. *Specimens of type* [American Type Founders Co 1896]. New York: Garland Publishing, Inc.
Blackwell, Lewis. 1992. *Twentieth century type*. _: Laurence King Publishing
Boag Andrew, and Lawrence W. Wallis. 1997. *Monotype Recorder*, *One Hundred Years of Type Making 1897–1997*. New series no. 10.
Bullen, Henry Lewis. 1927. "What the typographers have done". *Inland Printer*. Aug: 762–763
Carter, Harry. 1931. "Sanserif types". In *Typographers on type, ed*. Ruari McLean, 1995: 68–72. London:Lund Humphries Publishers Ltd
Carter, Matthew. 1992. "The faces of Morris Fuller Benton". (lecture) Fifth Annual Symposium on the History of American Graphic Design, New York, 22.02.92
Chappell, Warren. 1972. *A short history of the printed word*. London: Andre Deutsch Ltd
De Vinne, Theodore L. 1901. "Printing in the nineteenth century". In *Typographers on type, ed*. Ruari McLean, 1995: 68–72. London:Lund Humphries
Dreyfus, John. 1994. *Into print, selected writings on printing history typography and book production*. London: The British Library

Duensing, Paul H. 1989. “A New Civilité”. In *Fine print on type*, Charles Bigelow, Paul H. Duensing, and Linnea Gentry: 84–90. London: Lund Humphries Publishers

Gress, Edmund G. 1910–11. “An American view of typography”. *Penrose Pictorial Annual*, *The Process Yearbook*, 16: 75–76

Harsha, Wayne. 1983. “Setting type”. *American printer*. Oct: 90, 102

Klein, Manfred, Yvonne Schwemer-Scheddin, and Erik Spiekermann. 1991. *Type & typographers*. London: Architecture Design and Technology Press

Jaspert, W. Pincus, W. Turner Berry, and A. F Johnson. 1990. *The encyclopedia of type faces*. _: Blandford

Kinross, Robin. 2004. *Modern typography, an essay in critical history* (2nd edn). London: Hyphen Press

Laird, Pamela W. 1998. *Advertising progress, American business and the rise of consumer marketing*. Baltimore: The John Hopkins University Press

Lawson, Alexander. 1961. “Morris Fuller Benton deserves more than obscurity”. *Inland Printer*. Oct: 80–81

— 1965. “After 70 years Century typefaces hold their own “. *Inland Printer/ American Lithographer*. Jan: 46–47

Lee, Jennifer B. “Type to print: the book & the type specimen book”. *Printing History*, vol 22, nos. 1 & 2: 15–20

Loxley, Simon. 2004. “American spring, creating the modern age” In *Type, the secret history of letters*: 68–78. London: I.B. Tauris

Mallison, David W. 1976. “Henry Lewis Bullen and the typographic library and museum of the American Type Founders Company”. PhD thesis, Columbia University

McGrew, Mac. 1978. “Perspectives: The Bentons Father & Son”. *Typographic i* (reprint, Mar)

— 1981. “The ‘other’ ATF”. *ATF newsletter. (*May) no. 6: 15–17

Meggs, Philip B. 1994. “American Type Founders specimen book and catalogue 1923”. *Print*. (Jan) 48:1: 78

Moran, James. 1978. *Fit to be styled a typographer*. London: Eva Svensson

Morison, Stanley. 1930. *First principles of typography*, (1951 edn). Cambridge: Cambridge University Press

Nash, Ray. 1955. *Printing as an art*. Cambridge: Harvard University Press

Nevett, T. R. 1982. *Advertising in Britain, a history*. London: William Heinemann Ltd

Pankow, David. 2001. “A face by any other name is still my face: a tale of type piracy”. In *Texts on type, critical writings on typography*, Steven Heller and Philip B. Meggs: 239–256. New York: Allworth Press

— 2002. “The rise and fall of ATF”. *Printing History*, vol 22, nos. 1 & 2: 3–14

Purington, Carl. 1968. *Theodore Low De Vinne*. New York: The Typophiles

Swink, Sylvan S. 1952. “Some rambling observations on old type collecting”. *Inland printer*. Mar: 35–36

Van Houten, Carol. 2001. “Brief history of the American Type Founders”. *The Constant Reader*. 2:52 [http://constantreader.org/v2/view52.html, as of 18.09.06]

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