Innovative Industrial Design and Modern Public Culture: The Monotype Corporation, 1922-1932

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Described as one of the "benevolent monopolies" ruled by autocrats on a scale exceeding that of Italian Renaissance princes, the Monotype Corporation dominated Anglo-American typesetting for books and advertising over several generations [14]. Monotype introduced an unprecedented number of innovative book and publicity typeface product "families" to the emerging mass market communications industry. The concept of "families," originated by Henry Lewis Bullen of American Type Founders Co. of New Jersey, was the printing industry's response to the growing importance of the press-agent in the early modern period. To develop these families, composing-machinists entered the type design arena. Each family consisted of a range of sizes and included ornamental dashes, brackets, decorative flourishes, as well as companion boldfaces for display purposes all in one brand face [5].

Founded at the turn of the century, the Monotype Corporation, U.K. established a program of recuttings of "families" of classical designs in 1922 under Managing Director Harold Malcolm Duncan. Duncan's successor from 1924 to 1942, William Isaac Burch, developed the Super Caster technology, which greatly expanded the machine's capacity to set a greater range and number of lines at one time. With the new technology, the firm introduced what it called "new creations," "modern" families, claimed as exclusively Monotype brand productions. These prompted unprecedented sales and an influence over the look of books and advertisements so widespread that it shaped what is called "public culture" [8].

The diffusion of "modern" innovations epitomized ideological controversies of "post-revolutionary" industrial designers in a number of ways [12]. As sales were linked to public acceptance of a popular socio-aesthetic, packaged campaigns to educate consumers became inseparable from the goal of elevating the level of public culture through massive education, marketing, or public relations campaigns [6]. Printed products and printing technologies of the 1920s and 1930s tied "modernism" to the concept of social utility as a key determinant in the value of commercial innovation through a philosophy

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of Functionalism. Rooted in the continental artistic revolutions that flourished between 1890 and 1920, Functionalism argued that manufactured goods should have qualities of social utility and permanence [12].

Best-Selling Type Fonts

The best-selling Monotype fonts in the twentieth century were new creations rather than recuttings. The Times Roman 327 , introduced in 1932, sold close to 40,000 sets, and the Gill Sans 262, introduced in 1930, sold almost half that many over the next fifty years [16]. The other record-selling fonts during the century were introduced earlier in the company's history: in 1901 (Old Style 2, selling 25,000 sets), 1923 (Baskerville 169, selling 20,000 sets), 1902 (Modern Extended 7, selling 19,000 sets), and 1913 (Plantin 110, selling 10,000 sets) [16]. More than half the company's forty-three brand families were introduced during the innovative decade between 1926-1936 [13]. Eric Gill updated Edward Johnston's 1913 face designed for Frank Pick of the London Underground in 1928 [18]. Monotype used the Gill Sans, and later the Times New Roman, designed by Stanley Morison, as the basis for two landmark national corporate identity campaigns for the London and Northern Rail System in 1929 and the London *Times* newspaper in 1931 [22]. The national scope of standardization in these corporate identity campaigns was unprecendented [16]. While their precise extent and consequence is a matter of interpretation, the historical facts demonstrate that the producers at Monotype Corporation believed that they were exerting a positive influence over the mass of common readers, educating them to see not only the style of letters but the cultural messages those letters embodied [1]. These campaigns for the newly nationalized British railroad and for London's best-read newspaper illustrate how commercial letters function as products and social constructs within the cultural economy [7].

History of the Company

Monotype was a type, lead, and rule caster as well as a composing machine manufacturer. The idea behind Monotype's innovations--lines of individual type that self-justified using expanded spaces between words and between fonts of single types in "families"--served as the marketing basis for the products [16]. With a full complement of composition faces for books, journalism, and magazines, including display faces for advertising, signs, and posters, and a range from 5 to 24 point, Monotype claimed that its products approached the hand-set method more closely than any other known method of mechanical composition [10]. The Monotype machine itself was a second-generation mechanical composition typesetter, succeeding the Linotype (invented by Otto Mergenthaler) first demonstrated at the 1893 Chicago Columbian Exposition [10].

Invented by an American, Tolbert Lanston, in 1887, the rights were sold for £222,000 in 1897 to the Earl of Dunraven, following a chance meeting as the machine was being shipped to England from Philadelphia. Dunraven formed a syndicate with £550,000 and started the Lanston Monotype

Corporation, building two limited font machines in 1897, one in the United States and one in the United Kingdom. Limited font machines were for newspaper work and other relatively uncomplicated printing jobs. Within two years, however, Dunraven abandoned the idea of a limited font machine as unworkable [10]. Headed by J. S. Bancroft, the Philadelphia branch of Monotype continued to experiment with improving the technology of the limited font machinery, while Dunraven's syndicate built a second machine with a full range of 224 characters. Lacking investors to underwrite the cost of cutting and perfecting typefaces, the American company could do little to expand its market and instead concentrated on improving technology on the soon-to-become obsolete limited font machine [10].

In order for the United Kingdom to manufacture its own machinery rather than wait for Philadelphia's shipments, Monotype U.K. constructed its own factory in Salsford, Redhill. Frank Hinman Pierpont, an American who had been working for the Typograph Company of Germany, joined Monotype to supervise. By the time Philadelphia shipped its first ten machines in April 1901, matrices for the typefaces were being produced in the Redhill plant according to slightly different specifications than those required by the U.S. machines. To accommodate the difference, every machine that arrived from Philadalphia was completely stripped at the Redhill plant and reassembed by British mechanics [16]. Among the several unanswered questions about the company's history is whether or not the use of different specifications was intended to drive the U.S. company out of business; the U.K. operation succeeded, and within a short time the Philadelphia operation closed. The capability of a machine compositor with a reach of 251 characters with overhanging strokes gave Monotype U.K. an advantage in cutting Oriental and other exotic faces that appealed to a global market [10].

Until 1920, Monotype designs were conventional. The first font, "Series 1," was issued in 1900, and thereafter the firm cut "bread-and-butter Albions, Clarendons, Grotesques, Old Faces and Moderns" [20]. The corporation issued a number of faces targeted for the continent: Russian (Series 17) in 1907, Irish (Series 24) in 1903, Fraktur (Series 28) in 1904, Greek (Series 90) in 1910, and Typewriter (Series 82) in 1911 [13]. Monotype reached aggressively for modern designs that would appeal to the mass market [20].

Gill Sans and London and Northern Railroad

Monotype's Super Caster made the company competitive in the burgeoning advertising, poster, and publicity printing businesses. Comparatively, book printing lagged behind. Introduced in January 1929, the Super Caster made possible the development of an interrelated group of twenty four families comprising 235 fonts; display types could be blown up to 72 point with variations of light, bold, and extra-bold, condensed and extra-condensed, cameo and shadow [20].

Not only was the book industry lagging behind the advertising industry in 1922; book fonts were more complex to develop, often requiring a range of fractions and accents, as well as geographical, astronomical, mathematical, and

linguistic characters. One publisher required more than 8,000 punches of special types, including decorative ornaments.

With the Super Caster's unprecedented capability to develop a family of faces in an extensive range of sizes, Monotype was able to offer the British Rail System use of its full range of fonts and sizes for a corporate identity campaign when the system was first nationalized in 1929. Their selection of the Gill Sans typeface was based on aesthetics and on legibility (the consumer's ability to read at a glance or in a crowd), and on the principles of mass psychology [17]. The realities of hiring a great number of job printers, whose abilities, training, education, and equipment might differ widely, drove standardization [18]. The Gill Sans was easy to print and required little expertise to reproduce. Over the next fifty years, more than eighteen thousand sets were sold worldwide, making it the fifth most widely distributed typeface in the corporation's history. The Gill Sans remains the standard face used throughout the British rail system today [16].

In June 1928, the Gill Sans was available only for titles, in all-capitals. Within three years, a lower-case alphabet was produced, followed by routine display and composition sizes. Then other innovative weights were added. The range depended on the success of the Sans title capitals first introduced in limited sizes. Following the nationwide success of the Sans, the full range of sizes and weights were developed, "fostered by the gigantic L.N.E.R. specification" [18]. In contrast, it took seven years to complete Eric Gill's next design, "Perpetua." That face first appeared in 1925 in 13 point, with other sizes added over a period of two to three years; the 72 point was not developed until 1938 [18].

The Gill Sans was unveiled to the 1928 Federation of Master Printers--a trade union of approximately 8,000 men--at their annual conference in Blackpool [5].   Within months, the British rail system's 1929 centenary celebration presented an opportunity to sell the typeface [20]. The aim was to establish in the public mind a "group personality" for the rail line through consistent typography. The single identity of the system would be typified solely by the Gill Sans alphabet, which would be imposed on hundreds of different displays: station signs, posters, souvenir match boxes, signboards in 2,000 stations, on 10 steamship lines, in 20 bus systems, in the dining cars of the railroad that fed 6,500 people from printed menus, as well as in dining rooms, and on the stationery, bills and advertisements for the systems 23 hotels [18].   A corporate identity campaign of this scale depended on complete standardization and agreement among many parties about the sizes, shapes, and variation of the same family of a single design [16].

Ninety printers contracted for the production of more than 40,000,000 copies of handbills, leaflets, and pamphlets for the British Rail System. With so many printers in several regions involved, including small printers who seldom could afford skilled designers, standardization made unified identity easier to accomplish. Even if the central rail office at Marylebone "declared that the whole look should be modern," as corporate publicist Beatrice Warde explained, it would require type designers in each regional office to implement such an order. The Holiday Handbook, an annual, was printed by five or six different printers; then the signatures were bound together. Obviously, each

signature needed to be identical [18]. The L.N.E.R. system required "fool proof" lettering so that scores of local sign painters and printers could "simply do as told," as Warde commented [16].

A period of experimentation followed the initial decision to standardize. The first practical trials of the letter were in the form of announcements and small time tables to be printed in the newspaper as tests of legibility. Then hundreds of special excursion handbills, cheap return leaflets, and the like underwent gradual standardization. The task of converting all the time tables to the appropriate size Sans face took several years. Once small printers learned that the Gill Sans face was in sufficient public demand "and would be for years to come," each small shop bought the Monotype Sans family. Then the rail system turned to dining car menus and hotel stationery, announcements in steamer cabins and company reports, station signs, train posters, and, finally, the creation of bronze or enamel letters in the same design "for a thousand outdoor uses." Following all this, it was possible for the reader to "hear the Company talking" in one recognizable voice, according to Warde [18].

New Roman and The London *Times*

The century's best-selling Monotype face was not the Sans, but the one designed by Stanley Morison for the *Times* in 1931 [19]. Just as the L.N.E.R. account provided Monotype with a national opportunity for routine visibility, acquiring the newspaper as a client provided Monotype with the chance to extend its cultural influence nationally perhaps even globally, over the elite as well as the masses. Nothing from the heady decade of 1922-1932, as Warde later wrote, created an advantage for printers on the scale of the *Times* change of typeface [16]. As a result, the professional prestige of ordinary printers was raised from the status of a trade to that of an industry [4].

The *Times* face was to be the antithesis of the faces developed by the private press movement of the nineteenth century, according to Morison, and also the antithesis of the bland, generic faces American newspapers were using [11]. Legibility was the primary design criteria; that is, Monotype's "modern" advantage was that its products provided the greatest accessibility for the democratic mass readers, achieving standardization without blandness [12].

As contemporary printing historian James Moran tells the story in his book on Morison, the process of innovation was put in motion in the summer of 1929 when the *Times* approached the corporation and encouraged it to take out a full-page advertisement as it had done in 1912 [11]. After the Times' advertising department designed the layout and copy, the proof was submitted to Morison at Monotype, who was so appalled by the design he is said to have suggested the corporation pay the *Times* £1,000 to "keep their hands off" the design. Once word got back, the newspaper contacted Morison, who in turn told the paper's directors that a complete typographic reform of the paper was in order. In response to the paper's subsequent invitation to Morison to join the *Times* company as a consultant, he agreed--with characteristic attention to typographic detail--only on the condition that they remove the period after the paper's name on the masthead [11].

Morison's "supreme moment" was the reform of the *Times* in 1930. An established newspaper historian as well as a printing scholar, Morison made recommendations about hiring after 1930. When a position as book review editor opened, Morison himself took the job for two years. This was his first real journalism job after many years of being a media critic. Joining the *Times* editorial staff was, in Moran's estimation, Morison's "real reward" [11].

Having a newspaper as a client further improved Monotype's corporate identity, as Morison later explained, because newspapers were generally regarded as entirely outside the printing industry. Ordinary job and book printers were "amused" by newspapers'claims that they represented "The Press." The curved plate of the rotary machine could never compete with the crispness produced by the fast-running flatbed press, in Morison's view, and he thought the newspaper printers were "hopelessly outclassed" by the average magazine or sales catalog. Monotype's work for the *Times* successfully fostered interchange with other branches of the newspaper industry and improved standards of the job printing trade as a whole for several generations [11].

The Philosophy of Typography at Monotype

Jan Tschichold's "Die Neue Typographie" (Berlin, 1928), published while Tschichold was a printer at the Bauhaus, summarized the spirit of the post-revolutionary reform that inspired Monotype's Sans and New Roman. Tschichold celebrated the factory and the engineer and defined the new typography as a radically new attitude toward printing that rejected decoration, was strictly functional, and, above all, was expressive of the machine age. Further, he believed that types should be "stark and basic" and paper sizes standardized. According to Rurari McLean, the statement of principles "had an immediate effect and was widely discussed: every compositor in the country learned the name 'Tschichold'" [9]. This view is directly contradicted by John Tarr, who worked with Warde and directed Monotype's training program for young printers during the years the Sans and New Roman were being introduced. According to Tarr, Tschichold's principles were "not very well understood nor known widely enough" to have an impact on English and American typography. Many of the designs evolved from his principles had little appeal for the English-speaking printer, in Tarr's view [15].

Ironically, the dissemination of Tschichold's principles in England and America became synonymous with eccentric typographic arrangements, the diametric opposite of the intent of his teaching, according to Tarr. "Eccentricity dominated," and "the new movement seemed to be expending itself without building up any firm foundation of practice" [15]. Tarr declared that it was not until his company's introduction of the reformed type styles between 1929-1931 that common sense was restored and British job printing was revolutionized. Whether one accepts the contemporaneous viewpoint of Tarr or the later perception of McLean, clearly those involved in typography between 1920-1930 regarded themselves as remaking public values, or, at the very least, as having a part in carrying out or reinventing revolutionary principles. Though Tschichold's principles may not have influenced as many

as MacLean suggests, his ideas greatly influenced the work at Monotype. Morison's "First Principles of Typography" published in the seventh and last edition of *The Fleuron* outlined the social responsibility of printers along with the political implications for the production of the elements of typography -- lettering, leads, title pages, vignettes, borders, the size and shape of pages. Defining typography as "only accidentally esthetic," primarily utilitarian, Morison declared that printing "must not only be good in itself--but good for the common purpose." The nature of the book was to perform a public service; the craft of printing was "controlling type" so that the reader's comprehension of the text was possible. The "cunning" of self-aggrandizement allowable in propaganda, whether for "commerce, politics, or religion," was "intolerable" in books, according to Morison. With the advance of the mass market public reader, though, the rules had changed: "literate society is so much greater in mass and correspondingly slower in movement." Morison thought that printers could not "relax" their "zeal for the reader's comfort" to satisfy their own artististic ambition because the legacy of continental modernism in printing was to establish the primacy of the public reader and the social utility of print [12].

In the 1929-1933 period, Monotype Corporation had come to be regarded as the unquestioned leader in the industry because of the dissemination of its typographic reforms for the L.N.E.R. rail system and *Times* newspaper [16]. The diffusion of these innovations by Eric Gill and Stanley Morison came about because of the Monotype Super Caster, technology that enlarged the capacity of typecasters to make publicity-size lettering and marketing innovations, largely the work of Beatrice Warde. Along with the individual talents of these Monotype employees and consultants, the atmosphere of the intense interest in the graphic revolution made their success possible [16]. With Monotype's innovative decade (1922-1932), typographic principles based on Functionalism derived from the Bauhaus were put into product development [13]. With faces like the Sans and Times contributing to the so-called improvement of public culture by elevating the climate of visual literacy, national standardization as a goal for dissemination of new Monotype products was justified.

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