Type and Typography

Type is the material substance of language, the picture of thought. Its image is in every eye. Its meanings limn human life.

‘Typography is the means by which written words are conveyed in the most direct, economic and unbiased way to readers not only with books, but with every kind of printed communication, including newspapers, magazines, catalogues, timetables, posters and bus tickets—all the endless miscellany of print used in modern civilization.’

Despite this ubiquity, perhaps because of its beauty, some of type’s admirers flirt with an excessive refinement. Beatrice Warde, in her well-known lecture, compared the appreciation of type to that of fine wine. She cast type as a crystal stem glass that invisibly holds the wine of thinkers’ thought. Her analogy works so well. But where there’s wine there’s often winecompoopery. Narrow-minded design savants, especially those of the Internet, often make silly pronouncements to rival the stuffiness of the most affected first oenophile. With type, a more cheerful openness to contradiction and reversal better serves. Aspiring typographers can do no better than to admire and model themselves after the great Jan Tschichold. On his ultimate embrace of much he once dismissed as bad design, he frankly admitted that his own youthful zealotry was misguided and uninformed.

In the course of my study of this ‘black art,’ its masters have bent or broken most of my own prejudices against certain design styles. Each time, they do it with an exemplary treatment of a motif that I—in ignorance of their skilled usage—once despised and belittled. Jan Tschichold taught me the magnificence of expertly-done, centered layouts. And Hermann Zapf showed me that sans serif does indeed work as a text face. His Optima, properly set, is as readable as Times. But then Optima is sans serif designed by an apt calligrapher. Its varied stroke lends a pleasing readability. Zapf’s evenly ‘colored’ pages are a pleasure for the eye. But now my love of subject is showing ahead of itself.

My intention in studying type and typography was to read as much of the major typographers’ writing as I could. I did. Because of the way the authors’ humanity shines through their often technical prose, I think of them more as friends not writers. Nowhere does a self-important attitude
taint their language. Humility is their unanimous style. They are people at peace with themselves and their calling. They have found their métier and have helped me to define my own.

Robert Bringhurst’s recently back-in-print The Elements of Typographic Style is typical. It exudes a tone of confident humanism. Assurance that it is a kindred mind that appreciates good typography pervades the book. He addresses his reader unpretentiously, with a respectful familiarity that appeals to a broad vocabulary of humane experience. The book’s weight and shape fits the hands, and its writer’s voice soothes the ear.

In addition to the handbooks, my reading included William Morris, Eric Gill, Frederic Goudy, Jan Tschichold, Hermann Zapf, and Adrian Frutiger. The previously unheard-of man with the odd name shaped the whole experience. His name, Tschichold, is pronounced TSE-hode.

To learn typographic design, I studied as he directed. I looked at good work ‘to study its details and subtleties.” At the time of Tschichold’s writing, typographers were self-taught. Knowledge had to grow out of experience, persistence, and attention to detail; the art of typography was not taught in schools. Understandings of letter spacing, word-spacing, and the placement of text on a page were uncollected. Real mastery could only come from lengthy experience. Largely thanks to Tschichold, there is now a substantial literature of typography, as well as much good work to study.

Before starting this project I bought a dozen typography books for my own library. I borrowed about two dozen others from libraries and individuals. Some borrowed items were in use on my work table for as long as eight months. While this project finishes my degree and I have some enthusiasm for its end, I regret that I must now return much of my typography library to its rightful owners. Many of the books are out-of-print. Looking at good work is inspirational as well as instructive.

Graphic training was absent from my secondary school and undergraduate curricula. I now study typography as the intersection of verbal and visual literacy on which I have focused my graduate studies. I study it as a noble trade and as a fine art for it is both. And, I study typography to explore a format useful for presentation of technical material: a main path of body text with side columns for details and illustrations. Yet layout is only a part of what I do as a technical communicator. Writing is the other part.

Though I want my pages noticed as interesting pages, mostly I want them read. My ultimate goal is effective communication of the written message. Hermann Zapf called for typography that fits the time, but I must use an eclectic approach, borrowing from all eras and practitioners as necessary. Compared with our predecessors, we have unimaginable resources: image setters, digital type, and computers. But, most importantly we have
the collected wisdom of the virtuosos’ analysis. It would be a mistaken
purism to ignore any of their insights in the name of consistency.

I’ve been spoiled in doing the reading for this project by the excellent
quality of its printing. By example, the masters have taught me an obsession
of my own: word spacing. Readability and tight word spacing are one idea.
When reading, reveries have distracted me. I always thought the problem
was in my mind, never on the page. Books on typography are, with few
exceptions, models of typographic excellence. Reading them is delightfully
free of distraction. I had as many extra-curricular concerns to deal with as
I ever do, but they did not deter my attention while reading well-set pages.
I first understood and noticed this difference in Dowding on close word
spacing and importance of horizontal banding. So many of the typographic
rules have to do with spacing because it’s a critical determinant of legibility
and evenness of color. Close word spacing creates legibility and holds the
reader’s attention visually. This discovery, new to me, has strong relevance in
technical material wherein a mind is inclined to wander.

The broad purpose of this paper then is to discuss and display
what I learned in the course of this latest gain to my visual
awareness. My chosen typographers elaborated their experi-
ences in the form of essays and books. I learned a lot of rules:
a grammar of sorts. And I learned the paramount rule: The eye overrules all
rules. Visual sensibility is the ultimate argument of typographers.

Good typography was undefined 70 years ago when Tschichold pro-
claimed Die neue Typographie. There were no standards. Today there’s con-
sensus on quality and several general texts to explain it. This document is
not a new handbook but an exercise, an opportunity to practice the craft
and consider the ways of masters. I’m going to talk about the design of type
and designing with type—principles of legible letterforms and legible page
layouts; balancing legibility and aesthetics; typographic labor as a transcen-
dent work experience; white space, asymmetry and grids; the grid I used in
this paper; the layout ideas and punctilious obsessions of the great book
designers; and I’m going to look at a style that breaks all the rules I learned.

In 1983, as a computer science
and English major, I easily
found employment in golf
course bartending. PCs hadn’t
can’t catch on yet. But, by 1991,
word processing defined
graphic competence: schools
needed people who knew
how to do it to teach people
who didn’t. It was the end of
golf.

I was technically expert in
word processing through
reading up on its gimmickry
and practicing. I didn’t have a
cue about design. Now I’m
too late for the hundreds of
students for whom I could
have done much more with a
simplified technical approach,
integrated with an introduc-
tion to design. I wish to apolo-
gize to all I’ve instructed in the
tricks of using word process-
ing, page layout. And presen-
tation software without ever
stepping back from the gad-
getry to look at good design.

It is doubtful that anyone who
doesn’t want to be an appren-
tice will ever become a master.
—Jan Tschichold
Designing with type is demanding. Designing type is exacting. This requirement of perfection in the latter deters but few. Fresh type designers with Web presence, all out of proportion to merit, boast of brave doings with their Bézier tool. I forgive the dabblers’ enthusiasm, but I set Bembo.

Tschichold wrote that “it is far better to keep one's hands off and not be lead astray by the false notion that lettering calls for ‘self-expression.’” He criticized William Morris for ‘modifying the old types after his own imagination.’ Sound as this advice was, even Tschichold designed type.

The excellence of classical types does not preclude the call for new ones. Special or perceived needs create demands for new faces. An important instance is in international communication. European languages set passably in roman type, but even something as common as German’s frequent capitalization can cause aesthetic loss. New typefaces, devoid of national flavor and suitable for every language, are necessary. And gifted designers who respect tradition — no less than the ungifted who don’t — just can’t resist trying to create types that are expressive of our own time. Some have succeeded. This century produced a number of significant type designers: Frederic Goudy, Eric Gill, Hermann Zapf, and Adrian Frutiger in particular. All have strong and remarkably consistent ideas on their art.

The type designer works to balance black and white striving for a legible result. The aesthetics and legibility of a typeface depend on the combination of contrasting forms: round and straight, broad and narrow, large and small, thin and thick. The relationship between the printed and the unprinted area must be one of tension, and this tension comes about through contrasts: Values combined with equal values result in unrelieved monotony. Achieving and sustaining the correct tension is a high wire act over cement. Letters, because they exist to be combined in words, must exhibit a harmonious interplay of form and counterform not only with respect to themselves but with respect to each other. The white of enclosed counters interacts not only with surrounding black strokes but also with the white of the set width. Letter-spacing then is yet another variable to adjust in achieving balance, regularity, and rhythm. This balancing of weight and width is artist’s work; and it’s the critical consideration in legibility of type.

Today we feel a little smug, ergonomically seated at PCs loaded with thousands of fonts and risking no exposure to lead. Software automatically scales typefaces in tenths of a point. But scaling introduces distortion of
weight and width. Frutiger was sensitive to this limitation long before there were PCs: 'The legibility of a typeface is based on extremely sensitive proportionings, which have been developed over the course of centuries. Automatic distortion [scaling] presents a real danger, of which the user of automatic text-setting machines must be fully aware.' We should feel less smug. Lunch is still not free. Software scales type by a mathematical algorithm, that is, by construction or structural laws.

The structural laws that bind the artist are more mental than the physical laws that bind the architect. Still, they are binding. And yet, because the eye thickens horizontal values and slims vertical ones the typeface which looks "right" to the eye, a human organ, cannot be constructed... Optical illusions cannot simply be dismissed as fancies, and every creative artist must reckon with the problems they pose.

There are mechanical considerations as well. Drawn letters translated into type must fit into a system, and this forces some modifications to their drawn look. But not all lettering can survive this change. With so many ways to fail, it's small wonder that most new type designs do. A typeface is the sum of a set of factors which must combine to unite in a single harmonious entity, if a satisfactory type is to be created. The designing of a typeface demands knowledge of the historical trends of the evolution of type, artistic perception, and a rich understanding of typefounding technique.

Continuity with tradition is just another part of legibility. New letter designs should look like letters readers are used to. Five hundred years ago Renaissance Italian type founders retired the existing system in favor of their more legible new one. Subsequent stability of basic letter design, especially in the midst of so much printing activity and reading, suggests that leaving the current core letterforms alone is a good idea. A letter's function is to identify itself as itself. The eye should not have to pause to separate that identity from design eccentricities, artist-intended or software-accidental. An unceasing contest of aesthetics and legibility starts with shaping type. A pleasing form is desirable, but consideration of it must not reduce clarity. Legibility, type's function, is primary. If the design is simple and harmoniously proportioned, as it must be to be legible, it will be beautiful too.

... it was necessary to use straight edge, bow-pen, etc.; some lines had to be shaped, as Dürer says in his description of the letter 0, 'to a juster proportion,' and this shaping 'with your hand' is often the craft of the whole matter. —F. W. Goudy

The letter-cutters of the fifteenth century did not invent 'gothic,' they had the job of cutting stone inscriptions, and they did it in the ordinary letters of their time. The forms of their letters were what we call 'pen' forms. But they cared nothing about that. To them they were simply letters. And just as we saw that in Roman times the Roman scribes imitated the stone inscription forms because, for them, nothing else was letters; so in the fifteenth century, when the written was the most common and influential form of lettering, the position is reversed, & the letter-cutter copies the scribe —the stone inscription is imitation pen-writing (with such inevitable small modifications as, in stone, cannot be avoided), whereas in the fourth century the written book was an imitation of the stone inscription (with such small modifications as the pen makes inevitable). —Eric Gill
According to William Morris and Eric Gill, creativity is the worker's means to culture, even spiritual peace. But industrialization removes the opportunity to be creative. At work, machines turn us from creators into creatures. Neither man's interest in the lives of workers at large is a willful imposition of his sociology on the literature of printing. Both are a touch mad at the world, but they're easy with themselves. They've known the sanity of joyful work. They're like people in love who want everyone else to be in love. Their pronouncements sound from their souls, not soapboxes.

Morris sorted work into two types: worthy and worthless. Worthy work exercises the mind and soul as well as the body. Workers so engaged exert their imaginations; they take a high interest in what they do. "All other work but this is worthless; it is slaves' work—mere toiling to live, that we may live to toil." Morris hated machines because they seemed to obviate craftsmanship, and alter the living conditions of their tenders. He sought to change those conditions. But he also wanted to advance an unworkable manual work aesthetic. He was too late. But he wasn't the only artist to react strongly against the social upheaval brought on by the Industrial Revolution. Myriad problems—worsened by the nineteenth century population explosion—demanded reform. The ensuing carnage of World War I set up a desperate and even violent mood. Though less militant than Morris, Gill wrote that it was 'contrary to nature' to strive to make the production and the working lives of workers mechanically perfect 'and to relegate all the humanities, all that is of its nature humane, to their spare time, to the time when they are not at work.'

By the end of the nineteenth century printing became mechanized. When Gill wrote his famous essay in 1931, hand setting of type was still widespread. Not until the sixties and seventies did 'printing plants in which no metal type' existed become the norm. Gill could see that such printing plants would come. He saw a 'determination to have all necessary things made by machinery....And printing is one of obviously necessary things.'

Recognizing that we all need to use responsible skill in work, Gill sought to reconcile mechanization, that is 'methods of manufacture that make it impossible for the ordinary workman to be an artist' with the human need to be an artist. To Gill, artist meant responsible workman, 'responsible for the intellectual quality of what his deeds effect.' He wrote: "...our business is now to design things which are suitable for machines to make." To come to grips with machines, we had to adjust our aesthetics to embrace mecha-

Craft

One must continually give a best effort, and only best, to every piece of work. The result will be a lasting object of beauty—or not—according to one's capacity as a worker and tastes as a graphic artist. —Bruce Rogers
nized production. Huxley summed up in 1928: 'It has become obvious that the machine is here to stay. Whole armies of William Morries and Tolstos could not now expel it... the sensible thing to do is not to revolt against the inevitable, but to use and modify it, to make it serve your purposes.'

Aesthetically, the change of mind in typography is nowhere more obvious than in the transition from the nostalgia of William Morris to the futurity of Jan Tschichold. Both understood design as an expression of human life. Morris saw the horrible effects of factories on men's lives and rejected the machine. Tschichold saw factory production making possible a new era of human happiness, and wrote ecstatically of 'the works of today, untainted by the past, primary shapes which identify the aspect of our time: Car Aeroplane Telephone Radio Neon New York! These objects, designed without reference to the aesthetics of the past, have been created by a new kind of man: the engineer!'

Tschichold's ecstasy was premature. The Third Reich began five years after he wrote his paean to the new kind of man.

A century after Morris, the automated assembly line is a fait accompli. We accept its output as no more remarkable than the once astounding and now commonplace photograph. The computer: the contemporary destabilizer, may yet undo for some of us the dehumanizing effects of industrialization. Through it, we may for a time reclaim start-to-finish involvement in work. Once again the writer is both designer and printer. An ordinary worker with desire, patience, and $10,000 can be an artist. Despite digitization, type is still the intersection of the humanistic and mechanistic accomplishments.

Accepting the divorce of work and artistry, the optimistic Zapf proposed an oddd remedy. He wanted to organize calligraphic clubs to help people use their leisure creatively. Zapf thought calligraphy might draw people away from television. He was no less enthusiastic honoring F.W. Goudy: 'We can learn from such a personality how to master the difficulties of life, how to make out of our humble profession a worthy thing for the devotion of a lifetime. We have but one life to spend, and each hour we do unworthy or unnecessary things is an hour which never comes back. If we always remember this and work under such attitudes, we will never feel lonely, even in a world apparently plagued with inhumanity and injustice, in spite of such fantastic progress in science as shown by the moon landing...'
‘Immobile symmetry holds no tension.’ It leaves us cold. But centering and symmetry are the mind’s favorite tools when it tries to simulate perfection in its handiwork. Given the body’s symmetry, this is not so surprising. But when the living body moves it loses its static symmetry and yet retains its beauty. Classical nudes seem lifelike—not by standing at attention—as in the frigid poses of Gothic art, but by assuming a natural contrapposto. Since disturbance of symmetry is essential to animating representations of human beauty, it seems reasonable that it would also enhance the appearance of a page. Indeed this ‘disarrangement of symmetry is indispensable.’

The difficulty with symmetry is that it manages contrast by eliminating it. And lack of contrast is boring; and centered typography is inflexible. It produces patterns, but not integrated design. The young Tschichold even said the idea of symmetry stands ‘in the way of all true solutions to typographic problems.’ Asymmetry is more flexible, and it permits ‘subtle rhythms and tensions’ as seen in the work of Mondrian and El Lissitzky.

Tschichold insisted that, for all objects on a page, there is a position where figure and ground are perfectly balanced—where shape shows to best advantage and white space enhances the effect. He wrote that it was a typographer’s duty to find this ‘right position for every shape on every occasion,’ and he discouraged getting guidance from the page’s axes of symmetry. But finding these perfect locations would be a full-time job without some defined compositional matrix to speed layout decisions. For this systematic aid in guiding shapes to right positions, typographers routinely impose the latitude and longitude of grids.

So many independent designers have contributed to refinement of the grid-assisted layout we use today that assigning specific credit is difficult. Painter, Piet Mondrian, and architects, Louis Sullivan and Le Corbusier, are the acknowledged innovators, but medieval scribes used a grid and so did Renaissance printers. The idea is not as new as it looks in some sans serif tours de force. We can understand its methodical use in modern page layout as an outgrowth of the no frills clarity of Tschichold’s Die neue Typographie proclaimed in 1928 and refined in his 1935 Typographische Gestaltung.

He understood that publishers and advertisers expect their material to be read, but he saw that few people will trouble themselves with anything that looks difficult to read. At first glance readers like to see evidence of clarity in arrangement. They want gross legibility because it reassures them...
that a closer inspection will be fruitful. They want the important part prominent and the unimportant part subdued. This reader requirement demands asymmetric layouts; bold type, set in different sizes for clarity and emphasis; illustrations and photographs.\(^6\) To prevent visual anarchy and ensure harmonious alignment in an asymmetric layout that lacks the obvious organization of centering, designers must use a grid. And, beyond organization, the grid suggests a structured visual argument and rational thinking itself.\(^7\)

Using a grid predisposes the designer to place text, photographs and diagrams in conformity with objectively defined and functional criteria. The effect is compact communication: planned, intelligible, and clear. Overt orderliness lends credibility to the information and induces confidence in audience and designer alike.\(^8\) The grid celebrates the peculiar and necessary arrangement of objects on the page. And, under computerized printing technology, where only the designer is the artist—the creator of a system which can be applied by less skilled people—the grid is the page-scale equivalent of Tschichold’s typesetting guidelines. And increasingly, the computer follows the rules as programming instead of as operator interactivity. In an eerie echo of Tschichold’s futurism, newspaper designer, Frank Arss calls his use of grids ‘graphic engineering.’ Used with extensive computerization, the approach yields ‘remarkably clean, if somewhat dogmatic presentation and has led to significant time savings and economies in type composition, makeup, and press handling.’\(^9\)

In his manifesto of concrete art, Von Doesburg, a proponent of constructivism, wrote in 1930: “Construction is completely different from arrangement (decoration) and composition, which we appreciate through our sensibility in terms of taste. If we cannot draw a straight line by hand, we use a ruler. If we cannot draw an arc free-hand, we use a pair of compasses. All the instruments the mind has developed to meet the needs of greater perfection are recommended.”\(^10\) Surely the grid is such an instrument; and the page is more receptive to a constructed approach than is lettering. But, as in the shaping of letters to a ‘juster proportion,’ setting relationships at the page level requires frequent intervention of the human hand. The grid is the locus of reconciliation for the mechanical and the aesthetic aspects of typography.

To prevent an absolutism of the designer’s grid supplanting what Gill called ‘The Procrustean Bed’ of the composing stick,\(^11\) we need to understand that, like the ruler and compass, the grid ‘is an aid, not a guarantee.’ It presents possibilities from which the practiced designer will choose the right one. Paul Klee and even Le Corbusier were skeptical of reliance on construction. Klee wrote: ‘We construct and construct, but intuition is still a good thing. We can do a great deal without it, but not everything.’\(^12\) Le Corbusier reserved the right to doubt design solutions furnished by the Modulor—his elaborate design system based on the golden section. He insisted on keeping his freedom to overrule reason with his ‘Feelings.’\(^13\)
Typographic sensibility, at the level of the page, consists in a blend of visual perception and aesthetic sense. It begins by understanding the letterform and extends through its use to form ‘a compact area of type unequivocally related to the blank areas’ of the page. It continues in an appreciation of the double-spread as the starting point of page layout.\textsuperscript{14} ‘When striking a balance between opposed black and white,’ this sensibility must always dominate geometric construction.\textsuperscript{15} The methods of using a grid sound alternately monolithic, then vague. It’s simpler than it sounds. The process starts with paper.

Available paper sizes, more often than designer preference, determine page dimensions. As a result, designing a layout begins with choosing or accepting a paper size. The next step is a drawing, rough at first, but refined with all possible precision as decisions are made. This step cannot be skipped without paying the price of excessive time lost to mid-project corrections. Builders or cabinetmakers don’t try to work without careful drawings, and typographers should follow their example.\textsuperscript{17}

Modularity is an aid to design. It’s not the design itself. So only after the page designer has the general ideas set, but without yet knowing specific measurements, should attention turn to elaborating the grid. If grid structures dominate the early “creative process there is a real danger that a rigid solution may result.”\textsuperscript{18} Elaborating the grid is little more than determining the unit of measure for the piece. The size of that unit will be a function of the leading used for the chosen type. The process begins to gel in choosing a typeface and size for body text. The choice made here determines the measure. Lines of text should not exceed 10-12 words. Rough dimensions proposed for the text block and the efficiency of candidate typefaces determine how large the chosen type must be.

Once you’ve decided on a typeface, its point size, and determined the measure that conforms to the number of columns necessary under your design sketch, you can experiment with test pages to decide how much lead you need to achieve optimum readability and pleasing color.

These are the critical decisions to have taken before laying out the grid. You must know precisely the measure and leading of body text because the grid’s width unit is the measure of the main body text column or, more likely, some suitable fraction of it; the grid’s depth unit is the leading used for the primary typeface in the design. Set depth of grid blocks and vertical spacing between them in multiples of the leading used for body text. Thus the baselines of all blocks of body text, spanning multiple columns and facing pages of an opening, will line up precisely and automatically.

Based again on the leading of the body text itself, choose leading and point sizes for display types and secondary text. In the main columns, headings will displace downward any subordinate body text. If the heading’s
lead is an even multiple of the body text leading, the displaced body text realigns with baselines of companion columns automatically. This agreement of baselines across an opening is sotto voce homage to order.

Similar reasoning underlies the leading choice of all secondary type faces in side columns adjacent to body text, as seen in quotations throughout the present piece. Befitting the significance of these blocks, the size of their text is smaller than main body text. Obviously several lines of differently sized text set in adjacent columns cannot align baseline for baseline without ludicrous over-leading of the small font. Necessarily then, within the same few column inches of depth, text set in a smaller font contains more lines than parallel text set in a larger font. Many designers accept this passively and make no effort to get the baselines of the smaller text back in agreement with the main body text. This sloppiness is avoidable by setting the small font’s leading to a multiple of a multiple of the large font’s leading.

For instance, if the small font slug is 9 points and the large font slug is 12 points, four slugs of the small text correspond to three slugs of the large text. Assuming proportional leading of the large text and baseline leading of the small text, baselines of parallel columns with the two different sizes of type will realign at every third line of main body text. Pretty slick! (See Colophon at the end of this paper.)

Using body text leading as the grid’s depth unit also dictates the depth of blocks for placed art. Designing or cropping art to the grid’s block depth is a boon when placing it on the page. It will automatically align its top edge with the top of caps line of the body text. The bottom edge of the art will align with the body text’s descender line.
Designing type is for the very few trained hands that can do it well; designing with type—page design—is for the rest of us. It still takes an eye, but much of the electronic compositor’s work is just careful mastery of subtle details. Getting those details right is the sort of satisfying and responsible work that Morris and Gill would have available for all. And it’s within reach of anyone with a serviceable computer, patience, and the time to exercise it. Careful study and computer savvy are the keys.

Today we have a large literature dedicated to mastery of the very details an apprentice typographer must learn. We owe this resource not so much to its contemporary authors, who repeat him, as we owe it to Jan Tschichold himself. F.W. Goudy, Bruce Rogers, Eric Gill, and Stanley Morrison made important early contributions too. But of this eminent group, Tschichold best understood the big picture of typographic communication. His commentary is incisive and complete. ‘He was the first to offer a coherent philosophy of design by which all typographic problems—not just books, but magazines, newspapers, and all the clutter of commercial, day-to-day printed ephemera could be tackled in ways that were rational, suited to modern production techniques, and aesthetically satisfying.’ This is no small achievement and it speaks directly to the needs of the microcomputer typographer of today. Tschichold should be the most famous of the lot. But his name is hard to say and what little type he designed he didn’t name after himself. Though his contributions were spread out over a lifetime of work and writing, what small ready fame he does enjoy is for his most controversial but least durable work: Die neue Typographie of 1928.

It was the first book of its kind, a manifesto of typographic design applicable to the entire printing trade. Its design was revolutionary and still looks fresh today. The book was discussed in art circles everywhere and with some passion. There was wildness and complete absence of rules in the wake of the Expressionism. Die neue Typographie sought to address this anarchy. It ‘was a radically new attitude to typography in printing. It rejected decoration, it had to be strictly functional, it was an expression of the new age of the machine, it was simple and pure, it was universal.’ Though frequently achieving both, its goal was clarity, not beauty. It was absolute in its pronouncements. Symmetry and centered layout were out. There was ruthless restriction of typefaces: sans serif only would do.

Tschichold’s youthful fervor verged on zealotry but soon mellowed into sublime mature work. He came to a realization that in typographic design,
asymmetry and symmetry can live together. They are not mutually exclusive philosophies but different ways of achieving one end." In his maturity he abandoned the absolutism of his youth. "The asymmetrical, serifless radical began to do symmetrical serifed design no later than 1935, the same year in which his brief on behalf of asymmetry was published in its original edition. Like Stravinsky, after making his reputation first as a rebel, he entered on a long and productive neoclassical phase."

In 1947 Tschichold was appointed typographer at Penguin books. His reform touched all printed matter at that publishing house. One of his reforms at Penguin was his Penguin Composition Rules, four pages of typographic guidance whose importance to the printing trade cannot be overemphasized. His Penguin rules deserve to be read closely: word by word and to the end. It will be seen that their aim is not to promote a designer's aesthetic whims but to aid the pleasing communication between author and reader— which is, after all, what typographic design is all about."

Because rules of composition are the gateway to design for the non-designer, the remainder of this section is a survey of some of the main layout concerns and a few punctilious obsessions of Tschichold and the other major typographers. Word spacing, line length, and margins are their primary cares. Minor matters all reduce to spacing of one kind or another. But word spacing is 'the daddy of 'em all.'

Word spacing has to be even, and it has to be tight. Optical evidence shows that irregular spacing creates holes that tend to tear the words of a sentence apart. Such 'words in a line are frequently closer to their upper and lower neighbors than to those at the left and right. They lose their significant optical association.' Loss of this optical connection disturbs 'the internal linking of the line and thus endanger[s] comprehension of the thought.' According to Gill 'pleasant reading is the compositor's main object.' The first concern of page designers must be word spacing because loss of comprehension is the definitive unpleasant reading experience.

The distracting problem of holes in the line comes from the 'tyrannical insistence upon equal length of lines' that Gill railed against. "... Even spacing is of more importance typographically than equal length. Even spacing is a great assistance to easy reading hence its pleasantness, for the eye is not vexed by the roughness, jerkiness, restlessness and spottiness which uneven spacing entails, even if such things be reduced to a minimum by careful setting." Gill is most persuasive for ragged right margins, but they too can vex the eye in a multi-column layout. For a single column setting his argument is irrefutable, yet designers still insist on justification.

While equal lines do require some variation in word spacing, their achievement does not require that overall word spacing be loose. Equal line length
is a question of aesthetics. When possible it should yield to the demands of word spacing, a first order of legibility. When impossible—consider the requirements of the present page—we must vary word spacing slightly to fit lines on Gill's Procrustean Bed. But with hyphenation and tight overall word spacing, holes do not aggravate the eye too much, and we have an acceptable middle course between the demands of legibility and looks. Tschichold wrote, 'Good typesetting is tight,' and he called for three-to-em word spacing, that is a word space equals one third of an em. But Garamond's original roman of 1592 was designed for seven-to-em word spacing! Three-to-em is generous by those standards. We have room then and good authority to set tighter. With close word spacing we get a compact line image that produces even horizontal banding: a particular goal most desirable for legibility and aesthetics.

Considerations of line length have a physical reasonableness about them. Line length influences eye movement. How long a back and forth path must the eye travel? How much muscular work is comfortable for the eye to do? Is it easy to pick up the start of the next line on the return sweep? Since repetitive work is tiring for any set of muscles, these questions present intuitively obvious answers. Line lengths requiring less eye travel and muscular movement will not overwork the eye. Shorter lines then will be easiest to read over time.

That speaks for function but not form. Here we have to consider the problem of Gill's Procrustean Bed again. Equal word spacing is desirable for legibility. Smooth right margins are desirable for appearance. As seen above, the two considerations are at odds. Their disagreement continues in the matter of line length. It's difficult to achieve equal word spacing in justified lines that contain only a few word spaces. Allowing more words on a line means more word spaces between them so even spacing is easier. But more words on the line mean a longer line and the eye is troubled with tiring work. Gill offers this solution: 'A very narrow measure, i.e. narrow in relation to the type, is objectionable because the phrases and words are too cut up. Practiced readers do not read letter by letter or even word by word, but phrase by phrase. It seems that the consensus of opinion favors an average of 10-12 words per line.' Tschichold, outside the consensus, says, 'Lines of eight to ten words should be the general aim.' The designer's eye must choose which is best.

The issue of page margins is the issue of text block placement. Where is the right position for the block? How much white goes on each side? Fittingly, this was a favorite subject of Tschichold's, and he studied margins throughout the history of the book, both written and printed. His fascination is fitting because the proportions of the margins with respect to the page, to each other, and to the text block are the main determinants of an opening's appearance.
Formulas abound with most favoring some variation on progressive margins. This practice works well and has strong precedent in the history of books. I've observed the rule in these pages, yet at times I violate it with text in the outer column. Tension between the inner margins with the outer columns of each opening energizes this layout. Though the outer column contains text, it is lighter in color than the main body and well interpenetrated with white space. It's still margin (or is it). Yet the main block of text is unambiguously anchored on the page. The light intrusions of gray energize the white space around it.

Tschichold, with rare uncertainty, wrote that left and right margins should be distinctly different, but by what measure he left to ‘typographical taste.’ His own typographical taste changed with his return to traditional symmetry and his elegant, though formulaic, styling based on the Golden Section. Rogers is not as dogmatic as Tschichold. He sees rules as departure points for the eye: ‘It is the eye alone that is the final judge in determining pleasing margins, and your degree of success will depend on your individual taste and its cultivation by your study of good examples.’

Punctilios get thorough analysis in several excellent works: Tschichold’s Penguin Composition Rules, winner for brevity; Bringhurst’s The Elements of Typographic Style; and the superb thin work of Geoffrey Golding, Finer Points in the Spacing and Arrangement of Type. My purpose here is not to duplicate these complete works, indispensable to all students of typography, but to mention critical points of interest and their underlying rationale.

Writers break their work into paragraphs as carefully as they select sentence structure. They want no impression in the reader’s mind that everything on a page is one paragraph. Yet that is exactly the impression left by the absence of first line indents. Tschichold is adamant on the subject of indentation. A serious scholar of typographic history, he dubbed the quad indent one of its ‘most precious legacies.’ He thought that ‘technically and aesthetically,’ it was the best way to identify paragraphs.

Some designers try hard to avoid indentation. By far the silliest avoidance is to set the last lines of paragraphs deliberately shorter than the rest so the reader can tell that the next line starts a fresh paragraph. A more seductive alternative to indentation is to lead between paragraphs, but both Rogers and Tschichold inveigh against this method too. The problem is that it throws lines of text out of register, that is lines on one side of a leaf will not have corresponding lines on the other side, creating color problems in the text block. ‘In good book and magazine work all lines must register.’

On indentation after a flush left heading, current practice is at odds with the master. No one does it. The first paragraph after a flush left heading is everywhere blunt. But Tschichold wanted blunt paragraphs after centered
headings, calling the indent an eyesore in this case. Anywhere else he would have us indent.

Quotation marks disturb the optical equality of word spacing. Frequent double quotations create a mottled look in the text block. Even single quotes disturb the line’s evenness. They resemble the diacritical marks that make setting languages other than English so challenging. Rogers was an American and he still advocated the English style of single quotes as better typography. Tschichold, a European, naturally inclined to the single quotes and suggested their separation from the text they mark by a ‘hair space.’

Despite the simplicity of English typesetting and its ‘smooth typographical image,’ there is punctuation beyond quotation marks to complicate a job. A word space after a period is all that’s ever needed. Capitalization makes clear the start of a new sentence. Other marks are more troublesome. Ccolons and semicolons sometimes appear centered between words. This centering is old-fashioned; a hair space is better. Exclamation points and question marks sometimes form confusing combinations with the last letter of a word. For this reason a hair space should intervene. Tschichold calls for hair spaces to separate parentheses from the first and final letters of their enclosed text as well. He advises against using the em dash because of its excessive width: ‘The em dash should only be used in tabular matter—otherwise the en dash, set with word spaces, should be used.

Disagreement among the typographic handbooks is rare, but if a single topic of strong agreement exists, it’s letter spacing. Lowercase letters should never be letter-spaced. Their relationship to other letters of the alphabet is part of their design. Meddling with that order is typographic anathema. Should it be necessary to fill out a line—also universally condemned—it is the word spaces that should be adjusted and that with extreme reluctance.

Capitals are another matter altogether. Rediscovery of caps has been a welcome addition to my design vocabulary in the course of this project. A few years ago, my beginner’s reading rejected capitals outright. The novice eye needs training and experience before using caps because caps must always be letter-spaced. And typographic primers don’t tread on letter-spacing because readers of typographic primers should not attempt it. Bodoni—my forgotten font—is a beautiful type that I’ve long wanted to use but regularly reject as unreadable whenever I give it consideration. Now I see that it works set in letter-spaced capitals. I would have used it in these pages, but the look is inappropriate for this layout.

Rogers rightly admired the Aldine practice of using letter-spaced small caps as chapter headings, a great idea. And Tschichold, of course, sought to codify how this might be done. He did not succeed, though I suspect it was not for want of trying.
Ultimately, he said the goal is a rhythmical sequence. The width of the optical letter-spacing is a matter of taste and, I dare say, of an attitude to life. The Renaissance, for instance, preferred wide letter-spaces not only in the small sizes, but also in the larger ones, and to balance this they also used considerably wider distances between the lines. He did define rules for the distance between lines, however. It should be at least equal to the height of the line of caps. He recommends letter to lead ratios of 2:3 and 1:2.  

Bruce Rogers supports the idea of Golden Section without saying so specifically. His ad hoc approach to typographic problem-solving contrasts with the formulizing style of Tschichold. Perhaps because of his greater concern that the thinking behind legibility and beauty in print be intelligible to others, Tschichold lays out that thinking in terms of the exact ratios of the Golden Section or specific compositor’s rules, while Rogers is downright vague. Neither man was a constructionist. The eye was the final authority with both. But Tschichold was more the educator than Rogers, who was over-modest about his work and had to be persuaded to give others the benefit of his ideas—ideas he preferred to let speak for themselves in such masterpieces as the Centaur and Oxford Lectern Bible. Tschichold was no less prolific but, as a natural pedagogue, he wrote: ‘Perfect typography depends on perfect harmony between all of its elements. We must learn, and teach, what this means.’

There are two worlds and these twain can never be one flesh. They are uncomplementary to one another; they are, in the liveliest sense of the words, mortal enemies. On the one hand is the world of mechanized industry claiming to be able to give happiness to men and all the delights of human life—provided we are content to have them in our spare time and do not demand such things in the work by which we earn our livings, a world regulated by the factory whistle and the mechanical time-keeper: a world wherein no man makes the whole of anything, wherein the product is standardized and the man simply a tool, a tooth on a wheel. On the other is the languishing but indestructible world of the small shopkeeper, the small workshop, the studio and the consulting room—a world in which the notion of spare time hardly exists, for it is hardly known and little desired: a world wherein work is the life & love accompanies it.

—Eric Gill
Emil Ruder wrote in 1967, ‘Typography has one plain duty: to convey information in writing. No argument can ignore this duty. A printed work which cannot be read becomes a product without purpose.’

If written information must be clear at first glance, then Ruder is right. But no less a proponent of legibility than Tschichold praised the abstractions of El Lissitzky for their slow effect, ‘their not being comprehended all at once.' Tschichold glorifies the machine age when he announces the purpose of these paintings: Unlike the legible subject paintings of the past, these works are not for idle contemplation. The new abstract paintings are instruments of ‘spiritual power, a conception of harmony.' And, interestingly, Tschichold saw abstract painting as a formal basis of Die neue Typographie.

Contemporary designers would exasperate Ruder. Tschichold would see value in their work. Ruder’s thinking is valid with respect to modernist typography. It breaks down when looking at postmodernist work where typographers use familiar symbols interchangeably as abstract shapes or as the atoms of rational printing. Ruder is no help when readers’ semiotic expectations don’t necessarily fit the page’s apparent message. Ruder renders illiterate the reader who sees postmodern typography and insists that it is prose. Tschichold’s patience with a slow effect better serves.

Definitions of postmodernism are so vague that I resist the term, but the concerns of postmodernist work are plain enough. Postmodernist rationality. Its interest is in anti- and irrationality. One suspects that the surface meanings of things are false. Its influences include: Freud’s argument that external reality looks rational, but internal reality is irrational; and Heisenberg’s indeterminacy principle which shows that beneath the predictable mechanistic laws that rule the visible world in which we live, another set of laws with no apparent order operate[s] at the atomic level. This interpretation of the world is the opposite of that symbolized by the Cartesian grid, which pictures the substructure of the world as rational, predictable, and deterministic. The Cartesian grid, the skeleton of modernist typography, speaks to a rational world where seeing is believing. Postmodernist typography lets go of that organizing force and speaks to a disillusioned society with irrationality and randomness.

Whatever postmodernism is, what it does is ‘question, mock, and satirize’ what it considers to be ‘false and superficial’ surface meanings, the conventional meanings. It delves into the irrationality its practitioners see.

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ANTITHESIS

It is the art of the painter to so arrange the elements of an abstract painting, setting them in such exciting relationships, that a living work results whose meaning is not comprehended all at once and whose effect is thus all the more lasting. The viewer must allow the picture to work slowly on his imagination. Such a picture is not just a means for pleasure, like a subject painting of the past, but is an instrument of spiritual power, a conception of harmony. A picture with this purpose is like a machine, all parts exist in particular and necessary relationship and thus function in a certain way.

—Jan Tschichold
And nothing could be more radiant of conventional meaning than printed words and type. Type is the natural surface for the postmodernist designer to attack and defile.

David Carson is an ex-professional surfer turned typographic designer. He gets a lot of ink, hateful and admiring. Carson's work occasionally flirts with meeting the demands of Ruder's statement of typographic duty. He has corporate advertising clients to please. But even his commercial work can be exasperating when viewed with modernist eyes. 'Grunge typography,' another nebulous term, is a name attached to his work, but his style fits neatly into the postmodernist mockery of conventional meaning. And his work is often witty or just very good.

Carson's antics are more fun at the end of a course in typography than at the beginning. To appreciate him, you have to study tradition and learn to look at postmodernism calmly. His seemingly ordinary body text is rarely body text. It looks readable until you try reading. He taunts in one wild jumble of type with the phrase, 'Confused? There are pictures.' Which is giving away the key to his work. If you heed expectation and see his letterforms as type, you will be confused. His type is part of an image, to be looked at carefully but read with caution.

He makes a farce of traditional book design. Deliberately running his text block from verso to recto and through the binding, he laughs at the many books that don't open flat. In his hands the whole tradition is upside down. Self-conscious form overrules legibility. His penchant for vertical type in a table of contents is an outrage. Presumably there is some functional role for these contents pages. Yet his presentation renders them useless. His words are unreadable in their bizarre disorientation. But as a picture they are superimposed over an equally out-of-kilter airborne skater. And that's when it hits you. This magazine isn't for reading, despite the words. It's a venue for the images and attitudes of an off-beat sport. The contents page asks: 'You want to know what's in her?' and fast-answers 'Here's what's in here.'

In a sublime calligraphic piece Hermann Zapf quotes Morton Goldsholl to point out: 'Typography, like the other arts, is characterized by disciplines and freedoms. Typography was born out of the need to communicate. It is a form that expresses something other than itself.' Though his technique is formidable, postmodernist Carson takes all freedoms and few disciplines to mockingly focus the form on itself. The result is still communication, a product with purpose.
TYPE BOOKS

REFERENCE


Frutiger, Adrian. Type Sign Symbol. Zurich: ABC Verlag, 1980.


GRIDS


GENERAL TEXTS


TYPOGRAPHERS' ESSAYS


**Graphic Use of Type Technique**

**Typeface Design and History**

**Web Sites**
One site soon leads to another. Here’s a few good ones. There are hundreds so keep clicking and bookmarking.
WORKS CITED

TYPE & TYPOGRAPHY


TYPE


10. Zapf, Hermann Zapf & His Design Philosophy, pp 19—20


CRAFT


**Grids**

2. ______, A symmetrical Typography, pp 20-1.
4. ______, A symmetrical Typography, p 59.
17. Tschichold, A symmetrical Typography, p 56.

**Typography**

1. McLean, Jan Tschichold: Typographer, p 16.
5. ______, Jan Tschichold: Typographer, p 69.
7. McLean, Jan Tschichold: Typographer, p 90.
12. Tschichold, A symmetric Typography, p 40.
14. Tschichold, A symmetric Typography, p 60.
17. ______, A symmetric Typography, p 48.
18. Rogers and Hendrickson, Paragraphs of Printing. p 57.
20. Rogers and Hendrickson, Paragraphs on Printing. p 64.
22. Rogers and Hendrickson, Paragraphs on Printing. p 94.
23. Tschichold, A symmetric Typography, p 40.

Antithesis
2. Tschichold, A symmetric Typography. p 82.
COLOPHON

Body text is Bembo (Bergamo UR W) 12.7/14.4 with proportional leading. Letter spacing is 0%. Word spacing is 73%, 85%, 97%.

Opening titles are Bembo Small Caps (Bergamo UR W) 45/72 with top of caps leading. Letter-spacing is 7% of em.

Body text headings are Bembo Small Caps (Bergamo UR W) 12.7/14.4 with proportional leading. Letter-spacing is 10% of em. Space above paragraph is 1p2.4

Side column text is FrutigerLight (Zurich BT) 7.6/9.6 with baseline leading. Letter-spacing is 0%. Word Spacing is 75%, 83%, 91%.

Running heads and folios are Frutiger(Zurich BT) 15/28.8 with baseline leading. Tracking is Very Loose; letter spacing is 20% of em.

Rules are 15% screens of black.

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