thinking with type

ELLEN LUPTON

theory

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how

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entertaining economical essential

A CRITICAL GUIDE FOR DESIGNERS, WRITERS, EDITORS, & STUDENTS

2ND EDITION REVISED & EXPANDED

MORE

PRINCIPLES EXAMPLES EXERCISES TYPE CRIMES FONTS FACTOIDS FUN

A DESIGN HANDBOOK
Typography is what language looks like.
Dedicated to George Sadek (1928–2007) and all my teachers.
thinking with type

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FOR DESIGNERS,
WRITERS, EDITORS, & STUDENTS

SECOND, REVISED AND EXPANDED EDITION

PRINCETON ARCHITECTURAL PRESS, NEW YORK
Hood's Sarsaparilla Advertisement, lithograph, 1884.
Reproduced at actual size. A woman's healthy face bursts through a sheet of text, her bright complexion proving the product's efficacy better than any written claim. Both text and image were drawn by hand, reproduced via color lithography.
Since the first edition of *Thinking with Type* appeared in 2004, this book has been widely adopted in design programs around the world. Whenever a young designer hands me a battered copy of *Thinking with Type* to sign at a lecture or event, I am warmed with joy from serif to stem. Those scuffed covers and dingled corners are evidence that typography is thriving in the hands and minds of the next generation.

I’ve put on some weight since 2004, and so has this book. For the new edition, I decided to let out the seams and give the content more room to breathe. If you—like most graphic designers—like to sweat the little stuff, you’ll find a lot to love, honor, and worry about in the pages that follow. Finicky matters such as kerning, small capitals, non-lining numerals, punctuation, alignment, and baseline grids that were touched on briefly in the first edition are developed here in more detail, along with new topics that were previously omitted, such as how to style a drop capital, what you need to know about optical sizes, and when to say “typeface” instead of “font” at your next AIGA wine-and-carrot-stick party. This new book has more of everything: more fonts, more exercises, more examples, a more bodacious index, and best of all, more type crimes—more disgraceful “don’ts” to complement the dignified “do’s.”

I was inspired to write the first edition of this book while searching for a textbook for my own type classes, which I have been teaching at Maryland Institute College of Art (MICA) since 1997. Some books on typography focus on the classical page; others are vast and encyclopedic, overflowing with facts and details. Some rely heavily on illustrations of their authors’ own work, providing narrow views of a diverse practice, while others are chatty and dumbed down, presented in a condescending tone.

I sought a book that is serene and intelligible, a volume where design and text gently collaborate to enhance understanding. I sought a work that is small and compact, economical yet well constructed—a handbook designed for the hands. I sought a book that reflects the diversity of typographic life, past and present, exposing my students to history, theory, and ideas. Finally, I sought a book that would be relevant across the media of visual design, from the printed page to the glowing screen.

I found no alternative but to write the book myself.
Thinking with Type is assembled in three sections: letter, text, and grid, building from the basic atom of the letterform to the organization of words into coherent bodies and flexible systems. Each section opens with a narrative essay about the cultural and theoretical issues that fuel typographic design across a range of media. The demonstration pages that follow each essay show not just how typography is structured, but why, asserting the functional and cultural basis for design habits and conventions. Throughout the book, examples of design practice demonstrate the elasticity of the typographic system, whose rules can (nearly) all be broken.

The first section, letter, reveals how early typefaces referred to the body, emulating the work of the hand. The abstractions of neoclassicism bred the strange progeny of nineteenth-century commercial typography. In the twentieth century, avant-garde artists and designers explored the alphabet as a theoretical system. With the rise of digital design tools, typography revived its connections with the body.

The second section, text, considers the massing of letters into larger bodies. Text is a field or texture whose grain, color, density, and silhouette can be endlessly adjusted. Technology has shaped the design of typographic space, from the concrete physicality of metal type to the flexibility—and constraints—offered by digital media. Text has evolved from a closed, stable body to a fluid and open ecology.

The third section, grid, looks at spatial organization. In the early twentieth century, Dada and Futurist artists attacked the rectilinear constraints of metal type and exposed the mechanical grid of letterpress. Swiss designers in the 1940s and 1950s created design's first total methodology by rationalizing the grid. Their work, which introduced programmatic thinking to a field governed by taste and convention, remains profoundly relevant to the systematic thinking required when designing for multimedia.

This book is about thinking with typography—in the end, the emphasis falls on with. Typography is a tool for doing things with: shaping content, giving language a physical body, enabling the social flow of messages. Typography is an ongoing tradition that connects you with other designers, past and future. Type is with you everywhere you go—the street, the mall, the web, your apartment. This book aims to speak to, and with, all the readers and writers, designers and producers, teachers and students, whose work engages the ordered yet unpredictable life of the visible word.
ACKNOWLEDGMENTS

As a designer, writer, and visual thinker, I am indebted to my teachers at the Cooper Union, where I studied art and design from 1981 to 1985. Back then, the design world was neatly divided between a Swiss-inflected modernism and an idea-based approach rooted in American advertising and illustration. My teachers, including George Sadek, William Bevington, and James Craig, staked out a place between those worlds, allowing the modernist fascination with abstract systems to collide with the strange, the poetic, and the popular.

The title of this book, Thinking with Type, is an homage to James Craig’s primer Designing with Type, the utilitarian classic that was our textbook at the Cooper Union. If that book was a handyman’s manual to basic typography, this one is a naturalist’s field guide, approaching type as a phenomenon that is more evolutionary than mechanical. What I really learned from my teachers was not rules and facts but how to think: how to use visual and verbal language to develop ideas. For me, discovering typography was like finding the bridge that connects art and language.

To write my own book for the twenty-first century, I decided to educate myself again. In 2003 I enrolled in the Doctorate in Communications Design program at the University of Baltimore and completed my degree in 2008. There I worked with Stuart Moulthrop and Nancy Kaplan, world-class scholars, critics, and designers of networked media and digital interfaces. Their influence is seen throughout this book.

My colleagues at MICA have built a distinctive design culture at the school; special thanks go to Ray Allen, Fred Lazarus, Guna Nadarajan, Brockett Horne, Jennifer Cole Phillips, and all my students.

The editor of Thinking with Type’s first edition, Mark Lamster, remains one of my most respected colleagues. The editor of the second edition, Nicola Bednarek, helped me balance and refine the expanded content. I thank Kevin Lippert, publisher at Princeton Architectural Press, for many, many years of support. Numerous designers and scholars helped me along the way, including Peter Bilak, Matteo Bologna, Vivian Folkensflik, Jonathan Hoeffer, Eric Karnes, Elke Gasselseder, Hans Lijklema, William Noel, and Jeffrey Zeldaen, as well as all the other designers who shared their work.

I learn something every day from my children, Jay and Ruby, and from my parents, my twin sister, and the amazing Miller family. My friends—Jennifer Tobias, Edward Bottone, Claudia Matzko, and Joy Hayes—sustain my life. My husband, Abbott Miller, is the greatest designer I know, and I am proud to include his work in this volume.
{LETTER}
Diagram, 1917. Author: Frank S. Henry. In a letterpress printing shop, gridded cases hold fonts of type and spacing material. Capital letters are stored in a drawer above the minuscule letters. Hence the terms “uppercase” and “lowercase” are derived from the physical space of the print shop.
LETTER

This is not a book about fonts. It is a book about how to use them. Typefaces are an essential resource employed by graphic designers, just as glass, stone, steel, and other materials are employed by architects. Graphic designers sometimes create their own typefaces and custom lettering. More commonly, however, they tap the vast library of existing typefaces, choosing and combining them in response to a particular audience or situation. To do this with wit and wisdom requires knowledge of how—and why—letterforms have evolved.

Words originated as gestures of the body. The first typefaces were directly modeled on the forms of calligraphy. Typefaces, however, are not bodily gestures—they are manufactured images designed for infinite repetition. The history of typography reflects a continual tension between the hand and the machine, the organic and the geometric, the human body and the abstract system. These tensions, which marked the birth of printed letters over five hundred year ago, continue to energize typography today.

Movable type, invented by Johannes Gutenberg in Germany in the early fifteenth century, revolutionized writing in the West. Whereas scribes had previously manufactured books and documents by hand, printing with type allowed for mass production: large quantities of letters could be cast from a mold and assembled into “forms.” After the pages were proofed, corrected, and printed, the letters were put away in gridded cases for reuse.

Movable type had been employed earlier in China but had proven less useful there. Whereas the Chinese writing system contains tens of thousands of distinct characters, the Latin alphabet translates the sounds of speech into a small set of marks, making it well-suited to mechanization. Gutenberg’s famous Bible took the handmade manuscript as its model. Emulating the dense, dark handwriting known as “blackletter,” he reproduced its erratic texture by creating variations of each letter as well as numerous ligatures (characters that combine two or more letters into a single form).

Nicolas Jenson
learned to print in
Mainz, the German
birthplace of typography,
before establishing his
own printing press in
Venice around 1465. His
letters have strong vertical
stems, and the transition
from thick to thin
emulates the path of a
broad-nibbed pen.

Centaur, designed from
1912 to 1914 by Bruce
Rogers, is a revival of
Jenson's type that
emphasizes its ribbonlike
stroke.

Ruit was designed in the
1990s by the Dutch
typographer, teacher, and
theorist Gerrit Noordzij.
This digitally constructed
font captures the
dynamic, three-
dimensional quality of
fifteenth-century roman
typefaces as well as their gothic (rather than humanist) origins. As
Noordzij explains, Jenson “adapted the German letters to Italian fashion
(somewhat rounder, somewhat lighter), and thus created roman type.”

Scala was introduced in 1991 by the
Dutch typographer Martin Majoor. Although
this thoroughly contemporary typeface has
geometric serifs and rational, almost modular
forms, it reflects the calligraphic origins of
type, as seen in letters such as a.
HUMANISM AND THE BODY

In fifteenth-century Italy, humanist writers and scholars rejected gothic scripts in favor of the lettera antica, a classical mode of handwriting with wider, more open forms. The preference for lettera antica was part of the Renaissance (rebirth) of classical art and literature. Nicolas Jenson, a Frenchman who had learned to print in Germany, established an influential printing firm in Venice around 1469. His typefaces merged the gothic traditions he had known in France and Germany with the Italian taste for rounder, lighter forms. They are considered among the first—and finest—roman typefaces.

Many typefaces we use today, including Garamond, Bembo, Palatino, and Jenson, are named for printers who worked in the fifteenth and sixteenth centuries. These typefaces are generally known as “humanist.” Contemporary revivals of historical typefaces are designed to conform with modern technologies and current demands for sharpness and uniformity. Each revival responds to—or reacts against—the production methods, printing styles, and artistic habits of its own time. Some revivals are based on metal types, punches (steel prototypes), or drawings that still exist; most rely solely on printed specimens.

Italic letters, also introduced in fifteenth-century Italy, were modeled on a more casual style of handwriting. While the upright humanist scripts appeared in expensively produced books, the cursive form thrived in the cheaper writing shops, where it could be written more rapidly than the carefully formed lettera antica. Aldus Manutius, a Venetian printer, publisher, and scholar, used italic typefaces in his internationally distributed series of small, inexpensive printed books. For calligraphers, the italic form was economical because it saved time, while in printing, the cursive form saved space. Aldus Manutius often paired cursive letters with roman capitals; the two styles still were considered fundamentally distinct.

In the sixteenth century, printers began integrating roman and italic forms into type families with matching weights and x-heights (the height of the main body of the lowercase letter). Today, the italic style in most fonts is not simply a slanted version of the roman; it incorporates the curves, angles, and narrower proportions associated with cursive forms.

On the complex origins of roman type, see Gerrit Noordzij, Letterletter (Vancouver: Hartley and Marks, 2000).
Geoffroy Tory argued that letters should reflect the ideal human body. Regarding the letter A, he wrote: “the cross-stroke covers the man’s organ of generation, to signify that Modesty and Chastity are required, before all else, in those who seek acquaintance with well-shaped letters.”

William Caslon produced typefaces in eighteenth-century England with crisp, upright characters that appear, as Robert Bringhurst has written, “more modelled and less written than Renaissance forms.”

By WILLIAM CASLON, Letter-Founder, in Chiswell-St.

By JOHN BASKERVILLE of Birmingham.

I am indebted to you for two letters dated from Corcyra. If to mean well to the Interest of my Country and to approve that meaning.

John Baskerville was a printer working in England in the 1750s and 1760s. He aimed to surpass Caslon by creating sharply detailed letters with more vivid contrast between thick and thin elements. Whereas Caslon’s letters were widely used during his own time, Baskerville’s work was denounced by many of his contemporaries as amateur and extremist.

BANISHING THE BODY FROM TYPOGRAPHY

Louis Simonneau designed model letterforms for the printing press of Louis XIV. Instructed by a royal committee, Simonneau designed his letters on a finely meshed grid. A royal typeface (romain du roi) was then created by Philippe Grandjean, based on Simonneau’s engravings.

**SPECIMEN**

GIAMBATTISTA BODONI created letters at the close of the eighteenth century that exhibit abrupt, unmodulated contrast between thick and thin elements, and razor-thin serifs unsupported by curved brackets. Similar typefaces were designed in the same period by François-Ambroise Didot (1784) in France and Justus Erich Walbaum (1800) in Germany.
Renaissance artists sought standards of proportion in the idealized human body. The French designer and typographer Geoffroy Tory published a series of diagrams in 1529 that linked the anatomy of letters to the anatomy of man. A new approach—distanced from the body—would unfold in the age of scientific and philosophical Enlightenment.

A committee appointed by Louis XIV in France in 1693 set out to construct Roman letters against a finely meshed grid. Whereas Tory’s diagrams were produced as woodcuts, the gridded depictions of the *romain du roi* (king’s alphabet) were engraved, made by incising a copper plate with a tool called a graver. The lead typefaces derived from these large-scale diagrams reflect the linear character of engraving as well as the scientific attitude of the king’s committee.

Engraved letters—whose fluid lines are unconstrained by the letterpress’s mechanical grid—offered an apt medium for formal lettering. Engraved reproductions of penmanship disseminated the work of the great eighteenth-century writing masters. Books such as George Bickham’s *The Universal Penman* (1743) featured Roman letters—each engraved as a unique character—as well as lavishly curved scripts.

Eighteenth-century typography was influenced by new styles of handwriting and their engraved reproductions. Printers such as William Caslon in the 1720s and John Baskerville in the 1750s abandoned the rigid nib of humanism for the flexible steel pen and the pointed quill, writing instruments that rendered a fluid, swelling path. Baskerville, himself a master calligrapher, would have admired the thinly sculpted lines that appeared in the engraved writing books. He created typefaces of such sharpness and contrast that contemporaries accused him of “blinding all the Readers in the Nation; for the strokes of your letters, being too thin and narrow, hurt the Eye.” To heighten the startling precision of his pages, Baskerville made his own inks and hot-pressed his pages after printing.

At the turn of the nineteenth century, Giambattista Bodoni in Italy and Firmin Didot in France carried Baskerville’s severe vocabulary to new extremes. Their typefaces—which have a wholly vertical axis, sharp contrast between thick and thin, and crisp, waferlike serifs—were the gateway to an explosive vision of typography unhinged from calligraphy.

*The *romain du roi* was designed not by a typographer but by a government committee consisting of two priests, an accountant, and an engineer.* —Robert Bringhurst, 1992
P. VIRGILII MARONIS

BUCOLICA

ECLOGA I. cui nomen TITYRUS.

MELIBOEUS, TITYRUS.

TITYRE, tu patula recubans sub tegmine fagi
Silvestrem tenui Musam meditaris avena:
Nos patriae fines, et dulcia linquimus arva;
Nos patriam fugimus: tu, Tityre, lentus in umbra
5 Formosam refonare doces Amaryllida silvas.

T. O Melibœe, Deus nobis haec otia fecit:
Namque erit ille mihi semper Deus: illius aram
Saepe tener nostris ab ovilibus imbuet agnus.
Ille meas errare boves, ut cernis, et ipsum
10 Ludere, qua vellem, calamo permisit agresti.

M. Non equidem invideo; miror magis: undique totis
Usque adeo turbatur agris. en ipse capellas
Protenus æger ago: hanc etiam vix, Tityre, duco:
Hic inter densas corylos modo namque gemellos,

15 Spem gregis, ah! silice in nuda connixa reliquit,
Saepe malum hoc nobis, si mens non lœva fuisse,
De coelo taëtas memini praedicere quercus:
Saepe finitima cava praedixit ab ilice cornix.
Sed tamen, ifte Deus qui sit, da, Tityre, nobis.

20 T. Urbem, quam dicunt Romam, Melibœe, putavi
Stultus ego huic nostræ fimilem, quo saepe solemus
Pastores ovium teneros depellere foetus.
Sic canibus catulos similes, sic matribus hœdos

A Noram;
LA THÉBAÏDE,
OU
LES FRÈRES ENNEMIS,
TRAGÉDIE.

ACTE PREMIER.

SCENE I.
JOCASTE, OLYMPE.

JOCASTE.
Ils sont sortis, Olympe? Ah! mortelles douleurs!
Qu’un moment de repos me va coûter de pleurs!
Mes yeux depuis six mois étoient ouverts aux larmes,
Et le sommeil les ferme en de telles alarmes!
Puisse plutôt la mort les fermer pour jamais,
Et m’empêcher de voir le plus noir des forfaits!
Mais en sont-ils aux mains?

---

virgil (left) Book page, 1757. Printed by John Baskerville. The typefaces created by Baskerville in the eighteenth century were remarkable—even shocking—in their day for their sharp, upright forms and stark contrast between thick and thin elements. In addition to a roman text face, this page utilizes italic capitals, large-scale capitals (generously letterspaced), small capitals (scaled to coordinate with lowercase text), and non-lining or old-style numerals (designed with ascenders, descenders, and a small body height to work with lowercase characters).

racine (right) Book page, 1801. Printed by Firmin Didot. The typefaces cut by the Didot family in France were even more abstract and severe than those of Baskerville, with slablike, unbracketed serifs and a stark contrast from thick to thin. Nineteenth-century printers and typographers called these glittering typefaces “modern.”

Both pages reproduced from William Dana Orcutt, In Quest of the Perfect Book (New York: Little, Brown and Company, 1926); margins are not accurate.
Plan for the Improvement of the Art of Paper War

whilst a passionate man, engaged in a warm controversy,
would thunder vengeance in

French Canon

It follows of course, that writers of great irascibility should be charged higher for a work of the same length, than milder authors; on account of the extraordinary space their performances must necessarily occupy; for these gigantic, wrathful types, like ranters on the stage, must have sufficient elbow-room.

For example: Suppose a newspaper quarrel to happen between *M and L. M begins the attack pretty smartly in

Long Primer.

L replies in Pica Roman.

M advances to Great Primer.

L retorts in Double Pica.

And so the contest swells to

Rascal,

Villain

* Left some ill-disposed person should misapply these initials, I think proper to declare, that M signifies Merchant, and L Lawyer.

Goward
Coward,

in five line Pica; which, indeed, is as far as the art of printing, or a modern quarrel can well go.

A philosophical reason might be given to prove that large types will more forcibly affect the optic nerve than those of a smaller size, and are therefore naturally expressive of energy and vigour. But I leave this discussion for the amusement of the gentlemen lately elected into our philosophical society. It is sufficient for me, if my system should be found to be justified by experience and fact, to which I appeal.

I recollect a case in point. Some few years before the war, the people of a western county, known by the name of Paxton Boys, assembled, on account of some discontent, in great numbers, and came down with hostile intentions against the peace of government, and with a particular view to some leading men in the city. Sir John St. Clair, who assumed military command for defence of the city, met one of the obnoxious persons in the street, and told him that he had seen the manifesto of the insurgents, and that his name was particularized in letters as long as his fingers. The gentleman immediately picked up his most valuable effects, and left them with his family into Jersey for security. Had Sir John only said that he had seen his name in the manifesto, it is probable that he would not have been so seriously alarmed: but the unusual size of the letters was to him a plain indication, that the insurgents were determined to carry their revenge to a proportionate extremity.

I could confirm my system by innumerable instances in fact and practice. The title-page of every book is a proof in point. It announces the subject treated of, in conspicuous characters; as if the author stood at the door of his edifice, calling

PLAN FOR THE IMPROVEMENT OF THE ART OF PAPER WAR Satirical essay by Francis Hopkinson, *The American Museum*, Volume 1 (1787). Courtesy of the Boston Public Library. This eighteenth-century essay is an early example of expressive typography. The author, poking fun at the emerging news media, suggests a “paper war” between a lawyer and a merchant. As the two men toss attacks at each other, the type gets progressively bigger. The terms Long Primer, Pica Roman, Great Primer, Double Pica, and Five Line Pica were used at the time to identify type sizes. The I symbol is on s. Hopkinson was no stranger to design. He created the stars and stripes motif of the American flag.
1825;
At 10 o’Clock in the Morning:
A QUANTITY OF OLD OR DAG Sails &c.

Fat face is the name given to the inflated, hyperbolic type style introduced in the early nineteenth century. These faces exaggerated the polarization of letters into thick and thin components seen in the typographic forms of Bodoni and Didot.

Egyptian, or slab, typefaces transformed the serif from a refined detail to a load-bearing slab. As an independent architectural component, the slab serif asserts its own weight and mass. Introduced in 1856, this style was quickly denounced by purists as “a typographical monstrosity.”

Gothic is the nineteenth-century term for letters with no serifs. Gothic letters command attention with their massive frontality. Although sans-serif letters were later associated with rationality and neutrality, they lent emotional impact to early advertising.

Extra condensed typefaces are designed to fit in narrow spaces. Nineteenth-century advertisements often combined fonts of varying style and proportion on a single page. These bombastic mixtures were typically aligned, however, in static, centered compositions.

My person was hideous, my stature gigantic. What did this mean? Who was I? What was I?...
Accursed creator! Why did you create a monster so hideous that even you turned away from me in disgust? — MARY SHELLEY, Frankenstein, 1831
MONSTER FONTS

Although Bodoni and Didot fueled their designs with the calligraphic practices of their time, they created forms that collided with typographic tradition and unleashed a strange new world, where the structural attributes of the letter—serif and stem, thick and thin strokes, vertical and horizontal stress—would be subject to bizarre experiments. In search of a beauty both rational and sublime, Bodoni and Didot had created a monster: an abstract and dehumanized approach to the design of letters.

With the rise of industrialization and mass consumption in the nineteenth century came the explosion of advertising, a new form of communication demanding new kinds of typography. Type designers created big, bold faces by embellishing and engraving the body parts of classical letters. Fonts of astonishing height, width, and depth appeared—expanded, contracted, shadowed, inlined, fattened, faceted, and floriated. Serifs abandoned their role as finishing details to become independent architectural structures, and the vertical stress of traditional letters canted in new directions.

Type historian Rob Roy Kelly studied the mechanized design strategies that served to generate a spectacular variety of display letters in the nineteenth century. This diagram shows how the basic square serif form—called Egyptian or slab—was cut, pinched, pulled, and curved to spawn new species of ornament. Serifs were transformed from calligraphic end-strokes into independent geometric elements that could be freely adjusted.

Lead, the material for casting metal type, is too soft to hold its shape at large sizes under the pressure of the printing press. In contrast, type cut from wood can be printed at gigantic scales. The introduction of the combined pantograph and router in 1834 revolutionized wood-type manufacture. The pantograph is a tracing device that, when linked to a router for carving, allows a parent drawing to spawn variants with different proportions, weights, and decorative excrescences.

This mechanized design approach treated the alphabet as a flexible system divorced from calligraphy. The search for archetypal, perfectly proportioned letterforms gave way to a new view of typography as an elastic system of formal features (weight, stress, stem, crossbars, serifs, angles, curves, ascenders, descenders). The relationships among letters in a typeface became more important than the identity of individual characters.

DURYEAS’ IMPORTED CORNSTARCH (LEFT)
Lithographic trade card, 1878. The rise of advertising in the nineteenth century stimulated demand for large-scale letters that could command attention in urban space. Here, a man is shown posting a bill in flagrant disregard for the law, while a police officer approaches from around the corner.

FULL MOON (RIGHT)
Letterpress poster, 1875. A dozen different fonts are used in this poster for a steamship cruise. A size and style of typeface has been chosen for each line to maximize the scale of the letters in the space allotted. Although the typefaces are exotic, the centered layout is as static and conventional as a tombstone.

Printing, having found in the book a refuge in which to lead an autonomous existence, is pitilessly dragged out into the street by advertisements.... Locust swarms of print, which already eclipse the sun of what is taken for intellect in city dwellers, will grow thicker with each succeeding year. —WALTER BENJAMIN, 1925
FULL MOON.

ST. MICHAEL'S TEMPERANCE BAND!

Prof. V. Yeager, Leader, will give a

GRAND MOONLIGHT EXCURSION

On the Steamer BELLE!

To Osbrook and Watch Hill,
On Saturday Evening, July 17th,
Leaving Wharf at 7½ o'clock. Returning to Westerly at 10½ o'clock. Kenneth will be at Osbrook.

TICKETS, - FORTY CENTS.

G. B. & J. H. Utter, Steam Printers, Westerly, R. I.
Theo van Doesburg, founder and chief promoter of the Dutch De Stijl movement, designed this alphabet with perpendicular elements in 1919. Applied here to the letterhead of the Union of Revolutionary Socialists, the hand-drawn characters vary in width, allowing them to fill out the overall rectangle. The De Stijl movement called for the reduction of painting, architecture, objects, and letters to elemental units.

Bono van Revolutionnairen, Socialistische Intellectueelen

De Stijl

Herbert Bayer created this typeface design, called universal, at the Bauhaus in 1925. Consisting only of lowercase letters, it is built from straight lines and circles.

Alphabets created by Belgian artist Vilmos Huszár designed this logo for the magazine De Stijl in 1917. Whereas van Doesburg’s characters are unbroken, Huszár’s letters consist of pixel-like modules.

Fette Futura

Paul Renner designed Futura in Germany in 1927. Although it is strongly geometric, with perfectly round Os, Futura is a practical, subtly designed typeface that remains widely used today.
Some designers viewed the distortion of the alphabet as gross and immoral, tied to a destructive and inhumane industrial system. Writing in 1906, Edward Johnston revived the search for an essential, standard alphabet and warned against the “dangers” of exaggeration. Johnston, inspired by the nineteenth-century Arts and Crafts movement, looked back to the Renaissance and Middle Ages for pure, uncorrupted letterforms.

Although reformers like Johnston remained romantically attached to history, they redefined the designer as an intellectual distanced from the commercial mainstream. The modern design reformer was a critic of society, striving to create objects and images that would challenge and revise dominant habits and practices.

The avant-garde artists of the early twentieth century rejected historical forms but adopted the model of the critical outsider. Members of the De Stijl group in the Netherlands reduced the alphabet to perpendicular elements. At the Bauhaus, Herbert Bayer and Josef Albers constructed letters from basic geometric forms—the circle, square, and triangle—which they viewed as elements of a universal language of vision.

Such experiments approached the alphabet as a system of abstract relationships. Like the popular printers of the nineteenth century, avant-garde designers rejected the quest for essential letters grounded in the human hand and body, but they offered austere, theoretical alternatives in place of the solicitous novelty of mainstream advertising.

Assembled like machines from modular components, these experimental designs emulated factory production. Yet most were produced by hand rather than as mechanical typefaces (although many are now available digitally). Futura, completed by Paul Renner in 1927, embodied the obsessions of the avant garde in a multipurpose, commercially available typeface. Although Renner disdained the active movement of calligraphy in favor of forms that are “calming” and abstract, he tempered the geometry of Futura with subtle variations in stroke, curve, and proportion. Renner designed Futura in numerous weights, viewing his type family as a painterly tool for constructing a page in shades of gray.


The calming, abstract forms of those new typefaces that dispense with handwritten movement offer the typographer new shapes of tonal value that are very purely attuned. These types can be used in light, semi-bold, or in saturated black forms. —Paul Renner, 1931
TYPE AS PROGRAM

Responding in 1967 to the rise of electronic communication, the Dutch designer Wim Crouwel published designs for a “new alphabet” constructed from straight lines. Rejecting centuries of typographic convention, he designed his letters for optimal display on a video screen (CRT), where curves and angles are rendered with horizontal scan lines. In a brochure promoting his new alphabet, subtitled “An Introduction for a Programmed Typography,” he proposed a design methodology in which decisions are rule-based and systematic.

WIM CROUWEL presented this “scanned” version of a Garamond a in contrast with his own new alphabet, whose forms accept the gridded structure of the screen. See Wim Crouwel, New Alphabet (Amsterdam: Total Design, 1967).

ZUZANA LICKO created coarse-resolution fonts for desktop screens and printers in 1985. These fonts have since been integrated into Emigre’s extensive Lo-Res font family, designed for print and digital media.


In the mid-1980s, personal computers and low-resolution printers put the tools of typography in the hands of a broader public. In 1985 Zuzana Licko began designing typefaces that exploited the rough grain of early desktop systems. While other digital fonts imposed the coarse grid of screen displays and dot-matrix printers onto traditional typographic forms, Licko embraced the language of digital equipment. She and her husband, Rudy VanderLans, cofounders of Emigre Fonts and Emigre magazine, called themselves the “new primitives,” pioneers of a technological dawn.

Emperor Oakalnd Emigre

By the early 1990s, with the introduction of high-resolution laser printers and outline font technologies such as PostScript, type designers were less constrained by low-resolution outputs. While various signage systems and digital output devices still rely on bitmap fonts today, it is the fascination with programmed, geometric structures that has enabled bitmap forms to continue evolving as a visual ethos in print and digital media.

Living with computers gives funny ideas. — WIM CROUWEL, 1967
CURATOR: JOSEPH WESNER
Linda Ferguson
Steve Handschu
James Hay
Matthew Holland
Gary Laatsch
Brian Liljeblad
Dora Natella
Matthew Schellenberg
Richard String
Michell Thomas
Robert Wilhelm

Opening Reception: Friday June 8, 5:30-8:30 pm

Detroit Focus Gallery
(313) 962-9025
743 Beaubien, Third Floor
DETROIT, MICHIGAN 48226
Hours: Noon to 6 pm

ED FELLA produced a body of experimental typography that strongly influenced typeface design in the 1990s. His posters for the Detroit Focus Gallery feature damaged and defective forms, drawn by hand or culled from third-generation photocopies or from sheets of transfer lettering. Collection of the Cooper-Hewitt, National Design Museum.
**Type as Narrative**

In the early 1990s, as digital design tools began supporting the seamless reproduction and integration of media, many designers grew dissatisfied with clean, unsullied surfaces, seeking instead to plunge the letter into the harsh and caustic world of physical processes. Letters, which for centuries had sought perfection in ever more exact technologies, became scratched, bent, bruised, and polluted.

**Template Gothic: flawed technology**

Barry Deck’s typeface Template Gothic, designed in 1990, is based on letters drawn with a plastic stencil. The typeface thus refers to a process that is at once mechanical and manual. Deck designed Template Gothic while he was a student of Ed Fella, whose experimental posters inspired a generation of digital typographers. After Template Gothic was released commercially by Emigre Fonts, its use spread worldwide, making it an emblem of digital typography for the 1990s.

**Dead History: feeding on the past**

P. Scott Makela’s typeface Dead History, also designed in 1990, is a pastiche of two existing typefaces: the traditional serif font Centennial and the Pop classic VAG Rounded. By manipulating the vectors of readymade fonts, Makela adopted the sampling strategy employed in contemporary art and music. He also embraced the burden of history and precedent, which play a role in nearly every typographic innovation.

**CcDdEeFfGgHhIiJjKk**

The Dutch typographers Erik van Blokland and Just van Rossum have combined the roles of designer and programmer, creating typefaces that embrace chance, change, and uncertainty. Their 1990 typeface Beowulf was the first in a series of typefaces with randomized outlines and programmed behaviors.

*The industrial methods of producing typography meant that all letters had to be identical....Typography is now produced with sophisticated equipment that doesn't impose such rules. The only limitations are in our expectations.* — Erik van Blokland and Just van Rossum, 2000
BACK TO WORK

Although the 1990s are best remembered for images of chaos and decay, serious type designers continued to build general purpose typefaces designed to comfortably accommodate broad bodies of text. Such workhorse type families provide graphic designers with flexible palettes of letterforms.

Mrs Eaves: working woman seeks reliable mate

Licko produced historical revivals during the 1990s alongside her experimental display faces. Her 1996 typeface Mrs Eaves, inspired by the eighteenth-century types of Baskerville, became one of the most popular typefaces of its time. In 2009, Mrs Eaves was joined by Mr Eaves, a sans-serif version of the feminine favorite.

Quadraat: all-purpose hardcore Baroque

Fred Smeijers’s Quadraat (above) and Martin Majoor’s Scala (used for the text of this book) offer crisp interpretations of typographic tradition. These typefaces look back to sixteenth-century printing from a contemporary point of view, as seen in their simply drawn, decisively geometric serifs. Introduced in 1992, the Quadraat family soon expanded to include sans-serif forms in numerous weights and styles.

Gotham: Blue-Collar Curves

In 2000 Tobias Frere-Jones introduced Gotham, derived from letters found at the Port Authority Bus Terminal in New York City. With its distinctive yet utilitarian style, Gotham became the signature typeface of Barack Obama’s 2008 presidential campaign. By 2009, typography’s First Family had over fifty weights and styles.

When choosing a typeface, graphic designers consider the history of typefaces, their current connotations, as well as their formal qualities. The goal is to find an appropriate match between a style of letters and the specific social situation and body of content that define the project at hand. There is no playbook that assigns a fixed meaning or function to every typeface; each designer must confront the library of possibilities in light of a project’s unique circumstances.
Arnhem is a reliable type family initially designed for the Nederlandse Staatscourant, the daily newspaper of the Dutch state. It has a roman, an italic and matching small caps, lining figures, non-lining figures and x-height lining figures in four weights. As well as that it has two weights of ‘Fine’ titling variants in roman and italic. Arnhem is available in TrueType and PostScript formats, for both PC and Mac platforms. OpenType is due in February 2004.
1. a font that asks more questions than it answers

2. a font that has projective memory that reminds you to remember

3. a font with a limited life span

4. a font with an expiry date

5. a font that’s gone bad

6. a font without temporal inflection, without the imprint of its time

7. an apolitical font, a font that doesn’t care

8. a font unaffected by the force of gravity and the weight of human history

9. a font without family, without ancestry

10. a Marshall McLuhan font that stubbornly persists in bidding farewell to itself

11. a font that takes advantage of all that promised “processing power”

12. a font that does something other than sit on its ass in a digital museum

13. a font with the capacity to breed with other fonts

14. a recombinant font — every letterform the unruly child of a predictable but random process

15. a font that sounds as good as it looks

16. a font that writes its own script

17. a font that thickens the plot

18. a font that responds and reacts to the meaning it carries and conveys

19. a font that assumes the intelligence of its reader

20. a font that might sense your level of agitation, fear, or aggression

21. a font prone to sudden outbursts and tantrums

22. a font that exceeds the typographic genome

23. a font whose parents are Father Time and the Mother of Invention

24. an ambient font, a font without qualities

25. an everyday font, a font of common sense
A font should do more than sit on its ass

26. a font that slows the pace of reading for the difficult passages (and skips along through easy bits)
27. a font that writes between the lines
28. a font that refuses to utter imperatives or commands
29. a karaoke font, a lip-synching font, a font without a voice of its own
30. a font that listens while it speaks
31. a font that toggles effortlessly between languages
32. a font for speaking in tongues
33. a font that speaks in dialects
34. a metropolitan font for uptown, the ghetto, and suburbia alike
35. a font that simultaneously translates
36. a font that sings the plaintive songs of lonely whales
37. a font that grows
38. a font that learns
39. an evolutionary font
40. an entropic font
41. a “live” font
42. a promiscuous font, a font that fucks fonts, a font-fucking-font
43. a font that emerges, unfolds, performs, evolves, and passes away
44. a font of youth
45. twin fonts, identical but distinct
46. a generative font that renders itself according to behavioral tendencies
47. a font that is something other than a recording
48. a font that is different every time you “play” it
49. a font with the metabolism of a fly
50. a font with a demographic algorithm that projects itself onto you, the average reader

ANATOMY

Fancy

flesh

fresh

Blood

36 | THINKING WITH TYPE
Hey, look! My x-height.

They supersized my x-height.

Two blocks of text. Here's 14/18 Scala Pro.

Height type with 38 pt.

of the spacing is 7 pt.

TEXT

Bone

Skin, Body

Although hand-writing rules require letters to be approximately equal in size, most typefaces are not designed that way. The x-height usually occupies more than half of the cap height. The greater the cap height, the bigger the x-height. Some fonts may even have taller cap heights (or the height of ascenders and descenders).

Although hand-writing rules require letters to be approximately equal in size, most typefaces are not designed that way. The x-height usually occupies more than half of the cap height. The greater the cap height, the bigger the x-height. Some fonts may even have taller cap heights (or the height of ascenders and descenders).
HEIGHT Attempts to standardize the measurement of type began in the eighteenth century. The point system is the standard used today. One point equals 1/72 inch or .35 millimeters. Twelve points equal one pica, the unit commonly used to measure column widths. Typography can also be measured in inches, millimeters, or pixels. Most software applications let the designer choose a preferred unit of measure; picas and points are standard defaults.

**NEED ALERT:**
ABBREVIATING PICAS AND POINTS
8 picas = 8p
8 points = p8, 8 pts
8 picas, 4 points = 8p4
8-point Helvetica with 9 points of line spacing = 8/9 Helvetica

WIDTH A letter also has a horizontal measure, called its set width. The set width is the body of the letter plus a sliver of space that protects it from other letters. The width of a letter is intrinsic to the proportions and visual impression of the typeface. Some typefaces have a narrow set width, and some have a wide one.

You can change the set width of a typeface by fiddling with its horizontal or vertical scale. This distorts the line weight of the letters, however, forcing heavy elements to become thin, and thin elements to become thick. Instead of torturing a letterform, choose a typeface that has the proportions you are looking for, such as condensed, compressed, wide, or extended.
Do I look fat in this paragraph?

When two typefaces are set in the same point size, one often looks bigger than the other. Differences in x-height, line weight, and set width affect the letters’ apparent scale.

Mrs. Eaves rejects the twentieth-century appetite for supersized x-heights. This typeface, inspired by the eighteenth-century designs of Baskerville, is named after Sarah Eaves, Baskerville’s mistress, housekeeper, and collaborator. The couple lived together for sixteen years before marrying in 1764.

Mr. Big versus Mrs. & Mr. Little

The x-height of a typeface affects its apparent size, its space efficiency, and its overall visual impact. Like hemlines and hair styles, x-heights go in and out of fashion. Bigger type bodies became popular in the mid-twentieth century, making letterforms look larger by maximizing the area within the overall point size.

Typefaces with small x-heights, such as Mrs Eaves, use space less efficiently than those with big lower bodies. However, their delicate proportions have lyrical charm.

Because of its huge x-height, Helvetica can remain legible at small sizes. Set in 8 pts for a magazine caption, Helvetica can look quite elegant. The same typeface could look bulky and bland, however, standing 12 pts tall on a business card.

Like his lovely wife, MR EAVES has a low waist and a small body. His loose letterspacing also makes him work well with his mate.

The size of a typeface is a matter of context. A line of text that looks tiny on a television screen may appear appropriately scaled in a page of printed text. Smaller proportions affect legibility as well as space consumption. A diminutive x-height is a luxury that requires sacrifice.

The default type size in many software applications is 12 pts. Although this generally creates readable type on screen displays, 12-pt text type usually looks big and horsey in print. Sizes between 9 and 11 pts are common for printed text. This caption is 7.5 pts.
All the typefaces shown below were inspired by the sixteenth-century printing types of Claude Garamond, yet each one reflects its own era. The lean forms of Garamond 3 appeared during the Great Depression, while the inflated x-height of ITC Garamond became an icon of the flamboyant 1970s.

**Garamond in the Twentieth Century: Variations on a Theme**


**1980s:** Margaret Thatcher, *Barbara Kruger*, Madonna, *Blue Velvet*, shoulder pads, pasta salad, desktop publishing.

A type family with *optical sizes* has different styles for different sizes of output. The graphic designer selects a style based on context. Optical sizes designed for headlines or display tend to have delicate, lyrical forms, while styles created for text and captions are built with heavier strokes.

**OPTICAL SIZES**

**HEADLINES** are slim, *high-strung* prima donnas.

**SUBHEADS** are *frisky* supporting characters.

**TEXT** is the *everyman* of the printed stage.

**CAPTIONS** get *heavy* to play small roles.

In the era of *metal type*, type designers created a different *punch* for each size of type, adjusting its weight, spacing, and other features. Each size required a unique typeface design.

When the type design process became automated in the *nineteenth century*, many typefounders economized by simply *enlarging or reducing* a base design to generate different sizes.

This *mechanized approach* to type sizes became the norm for photo and digital type production. When a text-sized letterform is enlarged to poster-sized proportions, its thin features become too heavy (and vice versa).
Scale is the size of design elements in comparison to other elements in a layout as well as to the physical context of the work. Scale is relative. 12-pt type displayed on a 32-inch monitor can look very small, while 12-pt type printed on a book page can look flabby and overweight. Designers create hierarchy and contrast by playing with the scale of letterforms. Changes in scale help create visual contrast, movement, and depth as well as express hierarchies of importance. Scale is physical. People intuitively judge the size of objects in relation to their own bodies and environments.

THE WORLD IS FLAT

TYPE CRIME
Minimal differences in type size make this design look tentative and arbitrary.

SCALE CONTRAST
The strong contrast between type sizes gives this design dynamism, decisiveness, and depth.

BLOW-UP: PHOTOGRAPHY, CINEMA, AND THE BRAIN
UNITED NATIONS’ OFFICE ON DRUGS AND CRIME (UNODC)
Pentagram. This series of posters for the United Nations’ Office on
Drugs and Crime uses typographic scale to compare drug treatment
programs, HIV incidence, and other data worldwide. The designers
built simple world maps from country abbreviation codes (GBR,
USA, RUS, etc.). The posters are aimed specifically at the Russian
police, whose country has a poor track record in drug treatment.
Note Russia’s high incidence of HIV and low availability of
addiction rehabilitation programs.
REVOLVER: ZEITSCHRIFT FÜR FILM (MAGAZINE FOR FILM)
Designer: Gerwin Schmidt.
This magazine is created by and for film directors. The contrast between the big type and the small pages creates drama and surprise.
A basic system for classifying typefaces was devised in the nineteenth century, when printers sought to identify a heritage for their own craft analogous to that of art history. *Humanist* letterforms are closely connected to calligraphy and the movement of the hand. *Transitional* and *modern* typefaces are more abstract and less organic. These three main groups correspond roughly to the Renaissance, Baroque, and Enlightenment periods in art and literature. Historians and critics of typography have since proposed more finely grained schemes that attempt to better capture the diversity of letterforms. Designers in the twentieth and twenty-first centuries have continued to create new typefaces based on historic characteristics.
CLASSIC TYPEFACES

Sabon

This is not a book about fonts. It is a book about how to use them. Typefaces are essential resources for the graphic designer, just as glass, stone, steel, and other materials are employed by the architect.

SABON 9/12

Baskerville

This is not a book about fonts. It is a book about how to use them. Typefaces are essential resources for the graphic designer, just as glass, stone, steel, and other materials are employed by the architect.

BASKERVILLE 9/12

Bodoni

This is not a book about fonts. It is a book about how to use them. Typefaces are essential resources for the graphic designer, just as glass, stone, steel, and other materials are employed by the architect.

BODONI BOOK 9.5/12

Clarendon

This is not a book about fonts. It is a book about how to use them. Typefaces are essential resources for the graphic designer, just as glass, stone, steel, and other materials are employed by the architect.

CLARENDON LIGHT 8/12

Gill Sans

This is not a book about fonts. It is a book about how to use them. Typefaces are essential resources for the graphic designer, just as glass, stone, steel, and other materials are employed by the architect.

GILL SANS REGULAR 9/12

Helvetica

This is not a book about fonts. It is a book about how to use them. Typefaces are essential resources for the graphic designer, just as glass, stone, steel, and other materials are employed by the architect.

HELVETICA REGULAR 8/12

Futura

This is not a book about fonts. It is a book about how to use them. Typefaces are essential resources for the graphic designer, just as glass, stone, steel, and other materials are employed by the architect.

FUTURA BOOK 8.5/12

Selecting type with wit and wisdom requires knowledge of how and why letterforms evolved.

7/9

Selecting type with wit and wisdom requires knowledge of how and why letterforms evolved.

7/9

Selecting type with wit and wisdom requires knowledge of how and why letterforms evolved.

7/9

Selecting type with wit and wisdom requires knowledge of how and why letterforms evolved.

6/9

Selecting type with wit and wisdom requires knowledge of how and why letterforms evolved.

7/9

Selecting type with wit and wisdom requires knowledge of how and why letterforms evolved.

6/9

Selecting type with wit and wisdom requires knowledge of how and why letterforms evolved.

6.5/9
In the sixteenth century, printers began organizing roman and italic typefaces into matched families. The concept was formalized in the early twentieth century.

**ANATOMY OF A TYPE FAMILY**

*Adobe Garamond Pro*, designed by Robert Slimbach, 1988

The roman form is the core or spine from which a family of typefaces derives.

*Adobe Garamond Pro Regular*

The roman form, also called plain or regular, is the standard, upright version of a typeface. It is typically conceived as the parent of a larger family.

**Italic letters, which are based on cursive writing, have forms distinct from roman.**

*Adobe Garamond Pro Italic*

The italic form is used to create emphasis. Especially among serif faces, it often employs shapes and strokes distinct from its roman counterpart. Note the differences between the roman and italic a.

**Small caps have a height that is similar to the lowercase x-height.**

*Adobe Garamond Pro Regular (All Small Caps)*

Small caps (capitals) are designed to integrate with a line of text, where full-size capitals would stand out awkwardly. Small capitals are slightly taller than the x-height of lowercase letters.

**Bold (and semibold) typefaces are used for emphasis within a hierarchy.**

*Adobe Garamond Pro Bold and Semibold*

Bold versions of traditional text fonts were added in the twentieth century to meet the need for emphatic forms. Sans-serif families often include a broad range of weights (thin, bold, black, etc.).

**Bold (and semibold) typefaces each need to include an italic version, too.**

*Adobe Garamond Pro Bold and Semibold Italic*

The typeface designer tries to make the two bold versions feel similar in comparison to the roman, without making the overall form too heavy. The counters need to stay clear and open at small sizes. Many designers prefer not to use bold and semi-bold versions of traditional typefaces such as Garamond, because these weights are alien to the historic families.

**Italics are not slanted letters.**

*True Italic*

**Type Crime:**

_Pseudo Italic_  
The wide, ungainly forms of these mechanically skewed letters look forced and unnatural.

*Some italics aren’t slanted at all.*  
In the type family Quadraat, the italic form is upright.

*Quadraat*, designed by Fred Smeijers, 1992.
McSweeney’s Magazine cover, 2002. Design: Dave Eggers. This magazine cover uses the Garamond 3 typeface family in various sizes. Although the typeface is classical and conservative, the obsessive, slightly deranged layout is distinctly contemporary.
A traditional roman book face typically has a small family—an intimate group consisting of roman, italic, small caps, and possibly bold and semibold (each with an italic variant) styles. Sans-serif families often come in many more weights and sizes, such as thin, light, black, compressed, and condensed. A superfamily consists of dozens of related fonts in multiple weights and/or widths, often with both sans-serif and serif versions. Small capitals and non-lining numerals (once found only in serif fonts) are included in the sans-serif versions of Thesis, Scala Pro, and many other contemporary superfamilies.

**Scala**
**Scala Italic**
**SCALA CAPS**
**Scala Bold**

*SCALA PRO*, designed by Martin Majoor, includes Scala (1991) and Scala Sans (1993). The serif and sans-serif forms have a common spine. Scala Pro (OpenType format) was released in 2005.

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**Ticket of Admittance,**
*WITHIN THE ENCLOSURE,*
*TO VIEW THE*

**CEREMONY,**

**One Shilling**

The Money raised by these Tickets will be applied to defray the expenses of the Day.

W. Pratt, Printer, Stokesley

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**Univers** was designed by the Swiss typographer Adrian Frutiger in 1957. He designed twenty-one versions of Univers, in five weights and five widths. Whereas some type families grow over time, Univers was conceived as a total system from its inception.

**Trilogy**, a superfamily designed by Jeremy Tankard in 2009, is inspired by three nineteenth-century type styles: sans serif, Egyptian, and fat face. The inclusion of the fat face style, with its wafer-thin serifs and ultrawide verticals, gives this family an unusual twist.
ANATOMY OF A SUPERFAMILY

This is not a book about fonts. It is a book about how to use them. Typefaces are essential resources for the graphic designer, just as glass, stone, steel, and other materials are employed by the architect. Some designers create their own custom fonts. But most graphic designers will tap the vast store of already existing typefaces, choosing and combining each with regard to the audience or situation.

Selecting type with wit and wisdom requires knowledge of how and why letterforms have evolved. The history of typography reflects a continual tension between the hand and machine, the organic and geometric, the human body and the abstract system. These tensions marked the birth of printed letters five centuries ago, and they continue to energize typography today. Writing in the West was revolutionized early in the Renaissance, when Johannes Gutenberg introduced moveable type in Germany. Whereas documents and books had previously been written by hand, printing with type mobilized all of the techniques of mass production.

THESIS, designed by Lu(cas) de Groot, 1994
CAPITALS AND SMALL CAPITALS

A word set in ALL CAPS within running text can look big and bulky, and A LONG PASSAGE SET ENTIRELY IN CAPITALS CAN LOOK UTTERLY INSANE. SMALL CAPITALS are designed to match the x-height of lowercase letters. Designers, enamored with the squarish proportions of true SMALL CAPS, employ them not only within bodies of text but for subheads, bylines, invitations, and more. Rather than MIXING SMALL CAPS WITH Capitals, many designers prefer to USE ALL SMALL CAPS, creating a clean line with no ascending elements. InDesign and other programs allow users to create FALSE SMALL CAPS at the press of a button; these SCRAWNY LETTERS look out of place.

PSEUDO SMALL CAPS are shrunken versions of FULL-SIZE CAPS.

TYPE CRIME
PSEUDO SMALL CAPS
Helvetic was never meant to include small caps. These automatically generated characters look puny and starved; they are an abomination against nature.

TRUE SMALL CAPS integrate PEACEFULLY with lowercase letters.

SMALL CAPS, SCALA PRO
Only use small caps when they are officially included with the type family.
When working with OpenType fonts (labeled Pro), access small caps in
InDesign via the Character Options->OpenType menu. Older formats
list small caps as a separate file in the
Type->Font menu.

Tasty Vagabonds
The two camps of the burgeoning food-truck phenomenon: stable and nomadic.
BY AILEEN GALLAGHER

TRUCKS THAT ROVE
CUPCAKE STOP
The inevitable cupcakes-only truck rolled out in May. twitter.com/cupcakestop.
TREATS TRUCK
Cookies, crispy treats,

NEW YORK MAGAZINE
Design: Chris Dixon, 2009. This page detail mixes serif types from the Miller family (including true Small Caps) with the sans-serif family Verlag.
«JE FINIRAI PAR METTRE LE BAZAR UN PEU PARTOUT! »
SARA FORESTIER
CASSE LA BARAQUE DANS LES SIMS 3

AMUSEMENT MAGAZINE
This French culture magazine employs a startling mix of tightly leded Didot capitals in roman and italic. Running text is set in Glypha.
Combining typefaces is like making a salad. Start with a small number of elements representing different colors, tastes, and textures. Strive for contrast rather than harmony, looking for emphatic differences rather than mushy transitions. Give each ingredient a role to play: sweet tomatoes, crunchy cucumbers, and the pungent shock of an occasional anchovy. When mixing typefaces on the same line, designers usually adjust the point size so that the x-heights align. When placing typefaces on separate lines, it often makes sense to create contrast in scale as well as style or weight. Try mixing big, light type with small, dark type for a criss-cross of contrasting flavors and textures.

**SINGLE-FAMILY MIXES**

Creamy and **Extra Crunchy** | Differences within a **single family**

*Univers* 47 *light condensed* and *Univers* 67 *bold condensed*

Sweet Child of **MINE** | Differences within a **SUPERFAMILY**

*Quadraat* regular and italic; *Quadraat Sans Bold*

**Noodles with Potato Sauce** | **Bland and blander**

*Helvetica Neue* 56 *medium* and *Helvetica Neue* 75 *bold*

**TYPE CRIME:** Who’s accountable for this? A slightly squeezed variant of the primary font has been used to make the second line fit better (as if we wouldn’t notice). Yet another weight appears on the bottom line.

**MULTIPLE-FAMILY MIXES**

Jack Sprat and his **voluptuous wife** | **Two-way contrast**

*Thesis* *serif extra light* and *Vag Rounded Bold*

Sweet, **sour**, and **hot** | **Three-way contrast**

*Bodoni Roman*, *Thesis* *serif extra light* small caps, and *Futura Bold*

**Mr. Potatohead and Mrs. Pearbutt** | **Too close for comfort**

*Adobe Garamond* *pro bold* and *Adobe Jenson* *pro bold*

**TYPE CRIME:** These two type styles are too similar to provide a counterpoint to each other.
A TYPOGRAPHIC SMORGASBORD ASSEMBLED TO PLEASE THE EYE

THE WORD: NEW YORK MAGAZINE


This content-intensive page detail mixes four different type families from various points in history, ranging from the early advertising face Egyptian Bold Condensed to the functional contemporary sans Verlag. These diverse ingredients are mixed here at different scales to create typographic tension and contrast.

EGYPTIAN BOLD CONDENSED, a Linotype font based on a typeface from 1820. This quirky, chunky face has been used intermittently at New York Magazine since the publication was first designed by Milton Glaser in the 1970s. Here, the ultra-black type set at a relatively small size makes an incisive bite in the page.

VERLAG, designed by Jonathan Hoefler, 1996. Originally commissioned by Abbott Miller for exclusive use by the Guggenheim Museum, Verlag has become a widely used general-purpose typeface. Its approachable geometric forms are based on Frank Lloyd Wright’s lettering for the facade of the Guggenheim.

GLYPHA THIN, designed by Adrian Frutiger, 1979. The large scale of the letters is counterbalanced by the fine line of the stroke.

MILLER SMALL CAPS, designed by Matthew Carter with Jonathan Hoefler and Tobias Frere-Jones, 1997–2000. Known as a Scotch Roman typeface, it has crisp serif and strong contrast between thick and thin.
Lining numerals take up uniform widths of space, enabling the numbers to line up when tabulated in columns. They were introduced around the turn of the twentieth century to meet the needs of modern business. Lining numerals are the same height as capital letters, so they sometimes look big and bulky when appearing in running text.

Non-lining numerals, also called text or old style numerals, have ascenders and descenders, like lowercase letters. Non-lining numerals returned to favor in the 1990s, valued for their idiosyncratic appearance and their traditional typographic attitude. Like letterforms, old style numerals are proportional; each one has its own set width.

Text set with lining numerals

What is the cost of *War and Peace*? The cover price of the Modern Library Classics paperback edition is $15.00, discounted 32% by Amazon to $10.50. But what about the human cost in terms of hours squandered reading a super-sized work of literary fiction? If you can read 400 words per minute, double the average, it will take you 1,476 minutes (24.6 hours) to read *War and Peace*. Devoting just four hours per day to the task, you could finish the work in a little over six days. If you earn $7.25 per hour (minimum wage in the U.S.), the cost of reading *War and Peace* will be $184.50 (£130.4716, €119.9391, or ¥17676.299).

Text set with non-lining numerals

What is the cost of *War and Peace*? The cover price of the Modern Library Classics paperback edition is $15.00, discounted 32% by Amazon to $10.50. But what about the human cost in terms of hours squandered reading a super-sized work of literary fiction? If you can read 400 words per minute, double the average, it will take you 1,476 minutes (24.6 hours) to read *War and Peace*. Devoting just four hours per day to the task, you could finish the work in a little over six days. If you earn $7.25 per hour (minimum wage in the U.S.), the cost of reading *War and Peace* will be $184.50 (£130.4716, €119.9391, or ¥17676.299).

Adobe Garamond Pro includes both lining and non-lining numerals, allowing designers to choose a style in response to the circumstances of the project. The lining numerals appear large, because they have the height of capital letters.

Non-lining numerals integrate visually with the text. Different math and currency symbols are designed to match the different numeral styles. Smaller currency symbols look better with non-lining numerals.
Modern numerals are designed to sit in columns as well as rows.

123

Retina, designed by Tobias Frere-Jones, 2000, was created for the extreme typographic conditions of the Wall Street Journal’s financial pages. The numerals are designed to line up into columns. The different weights of Retina have matching set widths, allowing the newspaper to mix weights while maintaining perfectly aligned columns. The notched forms (called ink traps) prevent ink from filling in the letterforms when printed at tiny sizes.

MONTHLY CALENDAR, 1892

The charming numerals in this calendar don’t line up into neat columns, because they have varied set widths. They would not be suitable for setting modern financial data.
COMMONLY ABUSED PUNCTUATION MARKS

5'2" eyes of blue
Prime or hatch marks indicate inches and feet

It’s a dog’s life.
Apostrophes signal contraction or possession

He said, “That’s what she said.”
Quotation marks set off dialogue

A well-designed comma carries the essence of the typeface down to its delicious details. Helvetica’s comma is a chunky square mounted to a jaunty curve, while Bodoni’s is a voluptuous, thin-stemmed orb. Designers and editors need to learn various typographic conventions in addition to mastering the grammatical rules of punctuation. A pandemic error is the use of straight prime or hatch marks (often called dumb quotes) in place of apostrophes and quotation marks (also known as curly quotes, typographer’s quotes, or smart quotes). Double and single quotation marks are represented with four distinct characters, each accessed with a different keystroke combination. Know thy keystrokes! It usually falls to the designer to purge the client’s manuscript of spurious punctuation.

“The thoughtless overuse” of quotation marks is a disgrace upon literary style—and on typographic style as well.

Hanging punctuation” prevents quotations and other marks from taking a bite out of the crisp left edge of a text block.

Type Crime
Quotation marks carve out chunks of white space from the edge of the text.

Hanging Quotation Marks
Make a clean edge by pushing the quotation marks into the margin.

NERD ALERT: To create hanging punctuation in InDesign, insert a word space before the quotation mark. Pressing the option key, use the left arrow key to back the quotation mark into the margin. You can also use the Optical Margin Alignment or Indent to Here tools.

See Appendix for more punctuation blunders.
TYPE CRIMES

NEW YORK CITY TOUR
City streets have become a dangerous place. Millions of dollars a year are spent producing commercial signs that are fraught with typographic misdoings. While some of these signs are cheaply made over-the-counter products, others were designed for prominent businesses and institutions. There is no excuse for such gross negligence.

GETTIN’ IT RIGHT
Apostrophes and quotation marks are sometimes called curly quotes. Here, you can enjoy them in a meat-free environment.

GETTIN’ IT WRONG
The correct use of hatch marks is to indicate inches and feet. Alas, this pizza is the hapless victim of a misplaced keystroke. In InDesign or Illustrator, use the Glyphs palette to find hatch marks when you need them.
Not all typographic elements represent language. For centuries, ornaments have been designed to integrate directly with text. In the letterpress era, printers assembled decorative elements one by one to build larger forms and patterns on the page. Decorative rules served to frame and divide content. In the nineteenth century, printers provided their customers with vast collections of readymade illustrations that could easily be mixed with text. Today, numerous forms of ornament are available as digital fonts, which can be typed on a keyboard, scaled, and output like any typeface. Some contemporary ornaments are modular systems designed to combine into larger patterns and configurations, allowing the graphic designer to invent new arrangements out of given pieces. Themed collections of icons and illustrations are also available as digital fonts.


DANCE INK MAGAZINE Design: Abbott Miller, 1996. The designer repeated a single ornament from the font Whirligigs, designed by Zuzana Licko in 1994, to create an ethereal veil of ink. Whirligigs are modular units that fit together to create an infinite variety of patterns.

WHIRLIGIGS, designed by Zuzana Licko, Emigre, 1994.
EVERYBODY DANCE NOW

20 YEARS OF DANCING IN PRINT
APRIL 2 THROUGH MAY 15

EVERYBODY DANCE NOW Postcard, 2009. Design: Abbott Miller, Kristen Spilman, Jeremy Hoffman/Pentagram. Peter Bilak’s typeface History, designed in 2008, consists of numerous decorative and structural elements that can be layered into distinctive combinations.
LETTERING

Creating letters by hand allows graphic artists to integrate imagery and text, making design and illustration into fluidly integrated practices. Lettering can emulate existing typefaces or derive from the artist’s own drawing or writing style. Designers create lettering by hand and with software, often combining diverse techniques.
KING OF DESIGN
KING OF FASHION
KING OF BEATS

TOKION MAGAZINE: KINGS
THE LOCUST (LEFT) AND MELT BANANA (RIGHT) Screenprint posters, 2002. Designer: Nolen Strals. Hand lettering is a vibrant force in graphic design, as seen in these music posters. Lettering is the basis of many digital typefaces, but nothing is quite as potent as the real thing.
A *logotype* uses typography or lettering to depict the name or initials of an organization in a memorable way. Whereas some trademarks consist of an abstract symbol or a pictorial icon, a logotype uses words and letters to create a distinctive visual image. Logotypes can be built with existing typefaces or with custom-drawn letterforms. A logotype is part of an overall visual brand, which the designer conceives as a “language” that lives (and changes) in various circumstances. A complete visual identity can consist of colors, patterns, icons, signage components, and a selection of typefaces. Sometimes a logotype becomes the basis for the design of a complete typeface. Many type designers collaborate with graphic designers to create typefaces that are unique to a given client.

HÜBNER Identity program, 1998. Design: Jochen Stankowski. This identity for an engineering firm is built around the H, whose proportions change in different contexts.
UTRECHT CITY THEATER
This ambitious visual identity program uses custom letterforms based on the typeface Agenda. The letters in the custom typeface are designed to split apart into elements that can be mirrored, layered, flipped, and animated for a variety of applications, including signage, posters, printed matter, and web communications.
Identity design: Joshua Distler, Mike Aabink, Gabor Schreier, Virginia Sardón. Custom typeface design: Mike Aabink, Paul van der Laan. This elaborate identity program for a Mexican bank uses a custom typeface whose blocky forms are inspired by Mayan glyphs.
NEW FRENCH BAKERY Visual branding, 2009. Design: Duffy & Partners. A logotype is part of a larger graphic language. Duffy & Partners develop logotypes in concert with a rich range of elements, including colors, patterns, and typefaces. The designers use techniques such as outlining, layering, and framing to create depth, detail, and the sense of a human touch. These elements work together to express the personality of the brand.
During the early years of the World Wide Web, designers were forced to work within the narrow range of typefaces commonly installed on the computers of their end users. Since then, several techniques have emerged for embedding fonts within web content or for delivering fonts to end users when they visit a site. In one approach, specially formatted fonts are hosted on a third-party server and then downloaded by users; designers pay a fee for the service. Another approach implements the @font-face rule in CSS, which can download any kind of digital font hosted on a server; only typefaces licensed for this use can be accessed legally via @font-face.

**Web Typography**

**Main Headline:**
A smaller, secondary headline that usually elaborates on the main headline above it.

**Separate Article Title:**
Another title that can be used independently of the main headline. It may be used for subheadings or section titles.

**Font Embedding:**
Screen shot, detail, 2009. Typefaces: Greta and Fedra, designed by Peter Bilak/Typotheque. In 2009, the digital type foundry Typotheque launched a pioneering service that allows designers to display Typotheque fonts on any website in exchange for a one-time license fee. Typotheque’s Open Type fonts, which support global languages including Arabic and Hindi, are hosted by Typotheque and accessed using the CSS @font-face rule.

**Bobulate**

**Everything About Liz**

Danzico is part designer, part educator, and part editor. As an independent information architect and user experience consultant, she is a frequent speaker on the role of the individual in the digital age. She is also the author of several books on the subject, including *The Power of Information*.

**Work**
Today, Liz spends her days in Brooklyn, where she designs information architecture and interacts with clients from around the world. She is currently working on a book about the future of the internet and its impact on society.

**Bobulate Website, 2009. Designed by Jason Santa Maria for Liz Danzico. Typeface: Skolar, designed by David Brezina/Typetog.** This site uses Typekit, a third-party service that delivers fonts to end users when they visit a site. Typekit deters piracy by obscuring the origins of the font. Designers or site owners pay a subscription fee to the service.
Anti-aliasing creates the appearance of smooth curves on screen by changing the brightness of the pixels or sub-pixels along the edges of each letterform. Photoshop and other software packages allow designers to select strong or weak anti-aliasing. When displayed at very small sizes, strongly anti-aliased type can look blurry. It also increases the number of colors in an image file.

**letterscapes**

by peter cho

Letterscapes Website, 2002.
Design: Peter Cho. Simple bitmapped letters are animated in three-dimensional space.
Bitmap typefaces are built out of the pixels (picture elements) that structure a screen display or other output device. While a PostScript letter consists of a vector outline, a true bitmap character contains a fixed number of rectilinear units that are displayed either on or off. True bitmap characters are used on devices such as cash registers, signboard displays, and various small-scale screens.

Most contemporary bitmap typefaces are not true bitmaps. They are drawn as outlines on a grid and then output as PostScript, TrueType, or OpenType fonts. Thus they can be easily used with any standard layout software. Many designers like to exploit the visible geometry of pixelated characters.

LoResNine
LoResTwelve
LoResFifteen
LoResTwentyEight
All set at 28 pts

Lo-Res Narrow, designed by Zuzana Licko, Emigre. Released in 2001, the Lo-Res type family is a collection of outline (PostScript) fonts based on bitmap designs created by Licko in 1985. Lo-Res Narrow consists of a series of different sizes, each one constructed with a one-pixel stroke weight. Thus Lo-ResTwentyEight Narrow has dramatically lighter and tighter forms than Lo-ResNine Narrow, which gets blockier as it is enlarged. Designed for display on screen at low resolutions, a bitmap font should be used at its root size or at integer multiples of that size. (Enlarge 9-pixel type to 18, 27, 36, and so on.).
Our fascination with bitmaps is driven as much by our lust for technology as by its limits.

Elementar, designed by Gustavo Ferreira in 2009 and distributed by Typotheque. Elementar is a bitmap type family consisting of dozens of weights and styles made by manipulating common parameters such as height, width, and the degree of contrast between horizontal and vertical elements. Elementar is suitable for print, screen, and interfaces. It is inspired by Adrian Frutiger’s Univers type family.
Fontlab and other applications allow designers to create functional fonts that work seamlessly with standard software programs such as InDesign and Photoshop.

The first step in designing a typeface is to define a basic concept. Will the letters be serif or sans serif? Will they be modular or organic? Will you construct them geometrically or base them on handwriting? Will you use them for display or for text? Will you work with historic source material or invent the characters more or less from scratch?

The next step is to create drawings. Some designers start with pencil before working digitally, while others build their letterforms directly with font design software. Begin by drawing a few core letters, such as o, u, h, and n, building curves, lines, and shapes that will reappear throughout the font. All the letters in a typeface are distinct from each other, yet they share many attributes, such as x-height, line weight, stress, and a common vocabulary of forms and proportions.

You can control the spacing of the typeface by adding blank areas next to each character as well as creating kerning pairs that determine the distance between particular characters. Producing a complete typeface is an enormous task. However, for people with a knack for drawing letterforms, the process is hugely rewarding.

Castaways Drawing and finished type, 2001. Art and type direction: Andy Cruz. Typeface design: Ken Barber/House Industries. Font engineering: Rich Roat. House Industries is a digital type foundry that creates original typefaces inspired by popular culture and design history. Designer Ken Barber makes pencil drawings by hand and then digitizes the outlines. Castaways is from a series of typefaces based on commercial signs from Las Vegas. The shapes of the letters recall the handpainted strokes made by traditional sign painters and lettering artists.
Mercury Bold Page proof and screen shot, 2003. Design: Jonathan Hoefler/Hoefler & Frere-Jones. Mercury is a typeface designed for modern newspapers, whose production demands fast, high-volume printing on cheap paper. The typeface's bullet-proof letterforms feature chunky serifs and sturdy upright strokes. The notes marked on the proof below comment on everything from the width or weight of a letter to the size and shape of a serif. Many such proofs are made during the design process. In a digital typeface, each letterform consists of a series of curves and lines controlled by points. In a large type family, different weights and widths can be made automatically by interpolating between extremes such as light and heavy or narrow and wide. The designer then adjusts each variant to ensure legibility and visual consistency.
Create a prototype for a bitmap typeface by designing letters on a grid of squares or a grid of dots. Substitute the curves and diagonals of traditional letterforms with gridded and rectilinear elements. Avoid making detailed “staircases,” which are just curves and diagonals in disguise. This exercise looks back to the 1910s and 1920s, when avant-garde designers made experimental typefaces out of simple geometric parts. The project also speaks to the structure of digital technologies, from cash register receipts and LED signs to on-screen font display, showing that a typeface is a system of elements.

Examples of student work from Maryland Institute College of Art

Wendy Neese
Brendon McClean
Bruce Willen
James Alvarez
Joey Potts
Where do fonts come from, and why are there so many different formats? Some come loaded with your computer’s operating system, while others are bundled with software packages. A few of these widely distributed typefaces are of the highest quality, such as Adobe Garamond Pro and Hoefler Text, while others (including Comic Sans, Apple Chancery, and Papyrus) are reviled by design snobs everywhere.

If you want to expand your vocabulary beyond this familiar fare, you will need to purchase fonts from digital type foundries. These range from large establishments like Adobe and FontShop, which license thousands of different typefaces, to independent producers that distribute just a few, such as Underware in the Netherlands or Jeremy Tankard Typography in the U.K. You can also learn to make your own fonts as well as find fonts that are distributed for free online.

The different font formats reflect technical innovations and business arrangements developed over time. Older font formats are still generally usable on modern operating systems.

**PostScript/Type 1** was developed for desktop computer systems in the 1980s by Adobe. Type 1 fonts are output using the PostScript programming language, created for generating high-resolution images on paper or film. A Type 1 font consists of two files: a screen font and a printer font. You must install both files in order to fully use these fonts.

**TrueType** is a later font format, created by Apple and Microsoft for use with their operating systems. TrueType fonts are easier to install than Type 1 fonts because they consist of a single font file rather than two.

**OpenType**, a format developed by Adobe, works on multiple platforms. Each file supports up to 65,000 characters, allowing multiple styles and character variations to be contained in a single font file. In a TrueType or Type 1 font, small capitals, alternate ligatures, and other special characters must be contained in separate font files (sometimes labelled “Expert”); in an OpenType font they are part of the main font. These expanded character sets can also include accented letters and other special glyphs needed for typesetting a variety of languages. OpenType fonts with expanded character sets are commonly labeled “Pro.” OpenType fonts also automatically adjust the position of hyphens, brackets, and parentheses for letters set in all-caps.

```
((HALF-BAKED?))
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**Scala, PostScript/Type 1 font format**

```
((HALF-BAKED?))
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**Scala Pro, OpenType font format**

**Small caps and old-style numerals, where are you hiding?**

**Nerd alert:** Access small caps and numerals quickly through the Type>OpenType options menu or other OpenType layout tool in your design software. Small caps will not appear as a style variant in the Font menu, because OpenType treats them as part of the main font. With any font, you can view all the special characters through the Type and Tables>Glyphs menu. You will find many unexpected elements, including swashes, ligatures, ornaments, fractions, and more. Double click a glyph to insert it into your text frame.
SAVE YOURSELF SOME EMBARRASSMENT
AND LEARN TO USE THESE COMMONLY
ABUSED TERMS CORRECTLY.

typeface or font?
A typeface is the design of the letterforms; a font is the delivery mechanism. In metal type, the design is embodied in the punches from which molds are made. A font consists of the cast metal printing types. In digital systems, the typeface is the visual design, while the font is the software that allows you to install, access, and output the design. A single typeface might be available in several font formats. In part because the design of digital typefaces and the production of fonts are so fluidly linked today, most people use the terms interchangeably. Type nerds insist, however, on using them precisely.

character or glyph?
Type designers distinguish characters from glyphs in order to comply with Unicode, an international system for identifying all of the world’s recognized writing systems. Only a symbol with a unique function is considered a character and is thus assigned a code point in Unicode. A single character, such as a lowercase a, can be embodied by several different glyphs (a, a, A). Each glyph is a specific expression of a given character.

Roman or roman?
The Roman Empire is a proper noun and thus is capitalized, but we identify roman letterforms, like italic ones, in lowercase. The name of the Latin alphabet is capitalized.
Who is the user of a typeface? In the end, the user is the reader. But before a set of letters can find their way onto the cover of a book or the back of a cereal box, they must pass through the hands of another user: the graphic designer.

Digital fonts are easy to copy, alter, and distribute, but when you purchase a font, you accept an *end user license agreement* (EULA) that limits how you can use it. Intellectual property law in the United States protects the font as a piece of software (a unique set of vector points), but it does not protect the visual design of the typeface. Thus it is a violation of standard EULAs to copy a digital font and share it with other people (your friends, your clients, or your Uncle Bob). It is also illegal to open a font file in FontLab, add new glyphs or alter some of its characters, and save the font under a new name or under its trademarked name. In addition to having economic concerns, typeface designers worry about their work being corrupted as users edit their fonts and then share them with other people.

Most EULAs do allow you to alter the outlines of a font for use in a logo or headline, however, as long as you do not alter the software itself. It is also legal to create new digital versions of printed type specimens. For example, you could print out an alphabet in Helvetica, redraw the letters, digitize them with font design software, and release your own bespoke edition of Helvetica. If nothing else, this laborious exercise would teach you the value of a well-designed typeface. A broadly usable typeface includes numerous weights, styles, and special characters as well as a strong underlying design. Fonts are expensive because they are carefully crafted products.

**FREE FONTS**

Most of the **FREE FONTS** found on the Internet have poor spacing and incomplete character sets. Many are *stolen property* distributed without consent. The fonts displayed here, however, are freely given by their creators. A typeface comes to life and finds a voice as people begin to use it.

*Fontin*, designed by Jos Buivenga/Ex Libris, 2004

*Designers* have long sought to control the behavior of users, clients, manufacturers, retailers, and the press. How will a work be interpreted? Will it survive over time in its desired state of completion? An architect succeeds when the occupants of his house behave according to plan. The rise of online tools has challenged designers’ sense of control in every discipline: the user has become a designer.

*Audimat*, designed by Jack Usine/SMetal.ly, 2003

Some fonts are distributed freely in order to preserve unfamiliar traditions. Disseminating a historic revival at no cost to users encourages a broader understanding of history. Reviving typefaces is a deep-rooted practice. Why should one creator claim ownership of another’s work? Who controls the past?

*Antykiwa Półtawskiego*, designed by Adam Półtawski, 1920–1930; digitized by Janusz Marian Nowacki, 1996

**SOME FREE FONTS** are produced for underserved linguistic communities for whom few typefaces are available. Still others are created by people who want to participate in the open source movement. The OFL (Open Font License) permits users to alter a typeface and contribute to its ongoing evolution.

*Gentium*, Open Font License, designed by Victor Gaultney, 2001

To participate in a viable, diverse ecology of content (journalism, design, art, typography, and more), *everyone has to pay. But perhaps everyone shouldn’t have to pay for everything.* If some resources are willingly given away, the result is a richer world.

*OFL Sorts Mill, Goudy*, revival of Frederic W. Goudy’s Goudy Old Style, 1916, designed by Barry Schwartz, 2010; distributed by the League of Moveable Type
EVERY OBJECT IN THE WORLD CAN PASS FROM A
LEAGUE GOTHIC, designed by the League of Moveable Type, 2009; revival of Morris Fuller Benton's
CLOSED, SILENT EXISTENCE TO AN ORAL STATE,
ALTERNATE GOTHIC NO.1., released by American Type Founders Company (ATF) in 1903.
OPEN TO APPROPRIATION BY SOCIETY, FOR THERE
DOWNCOME, designed by Eduardo Recife/ Misprinted Type, 2002
IS NO LAW, WHETHER NATURAL OR NOT, WHICH
FORBIDS TALKING ABOUT THINGS. A TREE IS A
SHORTCUT, designed by Eduardo Recife, 2003
TREE. YES, OF COURSE. BUT A TREE AS EXPRESSED BY
MINOU DROUET IS NO LONGER QUITE A TREE, IT IS A
DIRTY EGO, designed by Eduardo Recife, 2001
TREE WHICH IS DECORATED, ADAPTED TO A CERTAIN
TYPE OF CONSUMPTION, LADEN WITH LITERARY SELF-
MISPROJECT, designed by Eduardo Recife, 2001
INDULGENCE, REVOLT, IMAGES, IN SHORT WITH A TYPE
OF SOCIAL USAGE WHICH IS ADDED TO PURE MATTER.

CYBERSPACE AND CIVIL SOCIETY Poster, 1996.
Designer: Hayes Henderson.
Rather than represent cyberspace as an ethereal grid, the designer has used blotches of overlapping text to build an ominous, looming body.
LETTERS GATHER INTO WORDS, WORDS BUILD INTO SENTENCES. In typography, “text” is defined as an ongoing sequence of words, distinct from shorter headlines or captions. The main block is often called the “body,” comprising the principal mass of content. Also known as “running text,” it can flow from one page, column, or box to another. Text can be viewed as a thing—a sound and sturdy object—or a fluid poured into the containers of page or screen. Text can be solid or liquid, body or blood.

As body, text has more integrity and wholeness than the elements that surround it, from pictures, captions, and page numbers to banners, buttons, and menus. Designers generally treat a body of text consistently, letting it appear as a coherent substance that is distributed across the spaces of a document. In digital media, long texts are typically broken into chunks that can be accessed by search engines or hypertext links. Contemporary designers and writers produce content for various contexts, from the pages of print to an array of software environments, screen conditions, and digital devices, each posing its own limits and opportunities.

Designers provide ways into—and out of—the flood of words by breaking up text into pieces and offering shortcuts and alternate routes through masses of information. From a simple indent (signaling the entrance to a new idea) to a highlighted link (announcing a jump to another location), typography helps readers navigate the flow of content. The user could be searching for a specific piece of data or struggling to quickly process a volume of content in order to extract elements for immediate use. Although many books define the purpose of typography as enhancing the readability of the written word, one of design’s most humane functions is, in actuality, to help readers avoid reading.
psalter-hours English manuscript, thirteenth century. Walters Ms. W.102, fol. 33v. Collection of the Walters Art Museum, Baltimore. The monk is climbing up the side of the page to replace a piece of faulty text with the corrected line in the bottom margin.
Errors and Ownership

Typography helped seal the literary notion of “the text” as a complete, original work, a stable body of ideas expressed in an essential form. Before the invention of printing, handwritten documents were riddled with errors. Copies were copied from copies, each with its own glitches and gaps. Scribes devised inventive ways to insert missing lines into manuscripts in order to salvage and repair these laboriously crafted objects.

Printing with movable type was the first system of mass production, replacing the hand-copied manuscript. As in other forms of mass production, the cost of manufacturing (setting type, insuring its correctness, and running a press) drops for each unit as the size of the print run increases. Labor and capital are invested in tooling and preparing the technology, rather than in making the individual unit. The printing system allows editors and authors to correct a work as it passes from handwritten manuscript to typographic galley. “Proofs” are test copies made before final production begins. The proofreader’s craft ensures the faithfulness of the printed text to the author’s handwritten original.

Yet even the text that has passed through the castle gates of print is inconstant. Each edition of a book represents one fossil record of a text, a record that changes every time the work is translated, quoted, revised, interpreted, or taught. Since the rise of digital tools for writing and publishing, manuscript originals have all but vanished. Electronic redlining is replacing the hieroglyphics of the editor. Online texts can be downloaded by users and reformatted, repurposed, and recombined.

Print helped establish the figure of the author as the owner of a text, and copyright laws were written in the early eighteenth century to protect the author’s rights to this property. The digital age is riven by battles between those who argue, on the one hand, for the fundamental liberty of data and ideas, and those who hope to protect—sometimes indefinitely—the investment made in publishing and authoring content.

A classic typographic page emphasizes the completeness and closure of a work, its authority as a finished product. Alternative design strategies in the twentieth and twenty-first centuries reflect the contested nature of authorship by revealing the openness of texts to the flow of information and the corrosiveness of history.

Typography tended to alter language from a means of perception and exploration to a portable commodity. —Marshall McLuhan, 1962
On the Way to Language

FLAWS, FAULTS, RIVERS

"How indeed could I aim my argument at some singular at one or another among you whose proper name I might know? And then, is knowing a proper name tantamount someone?"

(MC, 1). Derrida demonstrates for his part that general structure of the mark participates in a speech advance to addresses (destinatures) who are not easily determinable or who, as far as any possible calculation is concerned, in any case come to a great reserve of indetermination. This involves a creating as a system of marks: "Language, however, is only one among those systems of marks that claim this curious tendency as their property: they simultaneously incline towards increasing the random indetermination as well as the capacity for coding and over-coding or, in other words, for control and self-regulation."

We begin to discern how the singularity of determining, coding, and even supercoding forms a deep cooperation with the inclination of language toward anticoding, or what Derrida sees as the reserves of random indeterminateness. This double-edged coding, we must remember, regards as it were, neurosynchronous language, if such a thing there be. "Such competition between randomness and code disrupts the very systematicity of the system while it also, however, regulates the restless, unstable interplay of the system. Whatever its singularity in this respect, the linguistic system of these traces or marks would merely be, it seems to me, part a particular example of the law of destabilization."

It may be useful to note that Derrida understands language in terms primarily of traces and marks, where Laing language concerns signs in the first place, and in particular the broken rapport of signs which signifies to what ostensibly lies hidden behind it, or the disconnection between signs and signs or signs and referents. Laing is led to assume the latency of a single, unique, localizable but tainted presence—rather than trace or residual mark—from which it could be securely determined who speaks, and to whom.

This all too brief excursion into "My Chances," which may unwittingly reproduce the effect and trauma of a chance encounter, means to engage a dialogue between the question of address raised by Laing and the ones raised in turn by Derrida. For it now appears that Laing places his bets on the sustained systematicity of the system which Derrida shows always already to fall under a law of destabilization. Moreover, Derrida does not suggest language to be some emanation of transparency that wants to make contact with you" (MC, 2). And Laing had things of a part, that, thrown or ego whose destination was in the case with their project is related to language were armed to the release-grounds they maintain and structurally maintains the system. The Other in its singularity is there to be given, it is the agreement begins with some or alive, traversing you by fort.
Design is as much an act of spacing as an act of marking. The typographer’s art concerns not only the positive grain of letterforms, but the negative gaps between and around them. In letterpress printing, every space is constructed by a physical object, a blank piece of metal or wood with no raised image. The faceless slugs of lead and slivers of copper inserted as spaces between words or letters are as physical as the relief characters around them. Thin strips of lead (called “leading”) divide the horizontal lines of type; wider blocks of “furniture” hold the margins of the page.

Although we take the breaks between words for granted, spoken language is perceived as a continuous flow, with no audible gaps. Spacing has become crucial, however, to alphabetic writing, which translates the sounds of speech into multiple characters. Spaces were introduced after the invention of the Greek alphabet to make words intelligible as distinct units. Try reading a line of text without spacing, see how important it becomes.

With the invention of typography, spacing and punctuation ossified from gap and gesture to physical artifact. Punctuation marks, which were used differently from one scribe to another in the manuscript era, became part of the standardized, rule-bound apparatus of the printed page. The communications scholar Walter Ong has shown how printing converted the word into a visual object precisely located in space: “Alphabet letterpress printing, in which each letter was cast on a separate piece of metal, or type, marked a psychological breakthrough of the first order.... Print situates words in space more relentlessly than writing ever did. Writing moves words from the sound world to the world of visual space, but print locks words into position in this space.” Typography made text into a thing, a material object with known dimensions and fixed locations.

The French philosopher Jacques Derrida, who devised the theory of deconstruction in the 1960s, wrote that although the alphabet represents sound, it cannot function without silent marks and spaces. Typography manipulates the silent dimensions of the alphabet, employing habits and techniques—such as spacing and punctuation—that are seen but not heard. The Latin alphabet, rather than evolve into a transparent code for recording speech, developed its own visual resources, becoming a more powerful technology as it left behind its connections to the spoken word.

That a speech supposedly alive can lend itself to spacing in its own writing is what relates to its own death. —JACQUES DERRIDA, 1976

LINEARITY

In his essay “From Work to Text,” the French critic Roland Barthes presented two opposing models of writing: the closed, fixed “work” versus the open, unstable “text.” In Barthes’s view, the work is a tidy, neatly packaged object, proofread and copyrighted, made perfect and complete by the art of printing. The text, in contrast, is impossible to contain, operating across a dispersed web of standard plots and received ideas. Barthes pictured the text as “woven entirely with citations, references, echoes, cultural languages (what language is not?), antecedent and contemporary, which cut across and through in a vast stereophony....The metaphor of the Text is that of the network.” Writing in the 1960s and 1970s, Barthes anticipated the Internet as a decentralized web of connections.

Barthes was describing literature, yet his ideas resonate for typography, the visual manifestation of language. The singular body of the traditional text page has long been supported by the navigational features of the book, from page numbers and headings that mark a reader’s location to such tools as the index, appendix, abstract, footnote, and table of contents. These devices were able to emerge because the typographic book is a fixed sequence of pages, a body lodged in a grid of known coordinates.

All such devices are attacks on linearity, providing means of entrance and escape from the one-way stream of discourse. Whereas talking flows in a single direction, writing occupies space as well as time. Tapping that spatial dimension—and thus liberating readers from the bonds of linearity—is among typography’s most urgent tasks.

Although digital media are commonly celebrated for their potential as nonlinear potential communication, linearity nonetheless thrives in the electronic realm, from the “CNN crawl” that marches along the bottom of the television screen to the ticker-style LED signs that loop through the urban environment. Film titles—the celebrated convergence of typography and cinema—serve to distract the audience from the inescapable tedium of a contractually decreed, top-down disclosure of ownership and authorship. Basic electronic book readers, such as Amazon’s Kindle (2007), provide a highly sequential, predominantly linear experience; flipping back or skipping ahead is more cumbersome in some electronic books than in paper ones.

Linearity dominates many commercial software applications. Word processing programs, for example, treat documents as a linear stream.

A text...is a multi-dimensional space in which a variety of writings, none of them original, blend and clash. —ROLAND BARTHES, 1971

(In contrast, page layout programs such as Quark XPress and Adobe InDesign allow users to work spatially, breaking up text into columns and pages that can be anchored and landmarked.) PowerPoint and other presentation software programs are supposed to illuminate the spoken word by guiding the audience through the linear unfolding of an oral address. Typically, however, PowerPoint enforces the one-way flow of speech rather than alleviating it. While a single sheet of paper could provide a map or summary of an oral presentation, a PowerPoint show drags out in time across numerous screens.

Not all digital media favor linear flow over spatial arrangement, however. The database, one of the defining information structures of our time, is a nonlinear form. Providing readers and writers with a simultaneous menu of options, a database is a system of elements that can be arranged in countless sequences. Page layouts are built on the fly from chunks of information, assembled in response to user feedback. The web is pushing authors, editors, and designers to work inventively with new modes of microcontent (page titles, key words, alt tags) that allow data to be searched, indexed, tagged, or otherwise marked for recall.

Databases are the structure behind electronic games, magazines, and catalogues, genres that create an information space rather than a linear sequence. Physical stores and libraries are databases of tangible objects found in the built environment. Media critic Lev Manovich has described language itself as a kind of database, an archive of elements from which people assemble the linear utterances of speech. Many design projects call for the emphasis of space over sequence, system over utterance, simultaneous structure over linear narrative. Contemporary design often combines aspects of architecture, typography, film, wayfinding, branding, and other modes of address. By dramatizing the spatial quality of a project, designers can foster understanding of complex documents or environments.

The history of typography is marked by the increasingly sophisticated use of space. In the digital age, where characters are accessed by keystroke and mouse, not gathered from heavy drawers of manufactured units, space has become more liquid than concrete, and typography has evolved from a stable body of objects to a flexible system of attributes.

Database and narrative are natural enemies. Competing for the same territory of human culture, each claims an exclusive right to make meaning of the world. —LEV MANOVICH, 2002
visual thesaurus 2.0. Interactive media, 2003. Designers: Plumb Design Inc. This digital thesaurus presents words within a dynamic web of relationships. The central term is linked to nodes representing that word's different senses. The more connections each of these satellite nodes contain, the bigger and closer it appears on the screen. Clicking on a satellite word brings it to the center.
Concordance and text stats for Roland Barthes’s book *Image/Music/Text*. Publisher: Amazon.com, 2010. Amazon presents automated analyses of a book’s text in order to give readers an idea of what is inside. The concordance feature lists the book’s one hundred most commonly used words in alphabetical order and sizes them according to their frequency.

Succeeding the Author, the scriptor no longer bears within him passions, humours, feelings, impressions, but rather this immense dictionary from which he draws a writing that can know no halt.
—ROLAND BARTHES, 1968
Katherine Michael McCoy

As science

Nothing pulls you into the territory between art and science quite so quickly as design. It is the

existence between the quantifiable and and necessity. Designers thrive in that
territory. A typical critique at Cranbrook can

be described as a validation of a discussion of the object as a validation of the poetic. It is the field between desire

conditions, moving between land and water in a matter of minutes between

being to the precise mechanical proposal for actuating the object. The discussion

material of the week or from Lyotard to be fast. The free flow of ideas, and the leap

from the technical to the mythical, stem from the attempt to maintain a studio plat-

form that supports each student’s search to find his or her own voice as a designer. The

process that is at times chaotic and faculty to encounter their own

visions of the world and act on them — a conflicting, and occasionally inspiring.

Watching the process of students absorbing new ideas and in-

formal, and the incredible range of in-
discourse

Fluxus is warming up the cold precision of the Bauhaus.

Unlike the Bauhaus, teaching method or philosophy, other than

the mutual search, although not the mutual,

shouldn’t it have all the complexity, var-

Much of the work done at Cranbrook has been dedicated
to changing the status quo. It is polemical,

demanding, rigorous.
BIRTH OF THE USER

Barthes’s model of the text as an open web of references, rather than a closed and perfect work, asserts the importance of the reader over the writer in creating meaning. The reader “plays” the text as a musician plays an instrument. The author does not control its significance: “The text itself plays (like a door, like a machine with ‘play’) and the reader plays twice over, playing the Text as one plays a game, looking for a practice which reproduces it.” Like an interpretation of a musical score, reading is a performance of the written word.

Graphic designers embraced the idea of the readerly text in the 1980s and early 1990s, using layers of text and interlocking grids to explore Barthes’s theory of the “death of the author.” In place of the classical model of typography as a crystal goblet for content, this alternative view assumes that content itself changes with each act of representation. Typography becomes a mode of interpretation.

Redefining typography as “discourse,” designer Katherine McCoy imploded the traditional dichotomy between seeing and reading. Pictures can be read (analyzed, decoded, taken apart), and words can be seen (perceived as icons, forms, patterns). Valuing ambiguity and complexity, her approach challenged readers to produce their own meanings while also trying to elevate the status of designers within the process of authorship.

Another model, which undermined the designer’s new claim to power, surfaced at the end of the 1990s, borrowed not from literary criticism but from human-computer interaction (HCI) studies and the fields of interface and usability design. The dominant subject of our age has become neither reader nor writer but user, a figure conceived as a bundle of needs and impairments—cognitive, physical, emotional. Like a patient or child, the user is a figure to be protected and cared for but also scrutinized and controlled, submitted to research and testing.

How texts are used becomes more important than what they mean. Someone clicked here to get over there. Someone who bought this also bought that. The interactive environment not only provides users with a degree of control and self-direction but also, more quietly and insidiously, it gathers data about its audiences. Barthes’s image of the text as a game to be played still holds, as the user responds to signals from the system. We may play the text, but it is also playing us.

Design a human-machine interface in accordance with the abilities and foibles of humankind, and you will help the user not only get the job done, but be a happier, more productive person. —JEFF RASKIN, 2000

CRANBROOK DESIGN: THE NEW DISCOURSE
Book, 1990. Designers: Katherine McCoy, P. Scott Makela, and Mary Lou Kroh. Publisher: Rizzoli. Photographs: Dan Meyers. Under the direction of Katherine and Michael McCoy, the graduate program in graphic and industrial design at Cranbrook Academy of Art was a leading center for experimental design from the 1970s through the early 1990s. Katherine McCoy developed a model of typography as discourse, in which the designer and reader actively interpret a text.
Graphic designers can use theories of user interaction to revisit some of our basic assumptions about visual communication. Why, for example, are readers on the web less patient than readers of print? It is commonly believed that digital displays are inherently more difficult to read than ink on paper. Yet HCI studies conducted in the late 1980s proved that crisp black text on a white background can be read just as efficiently from a screen as from a printed page.

The impatience of the digital reader arises from culture, not from the essential character of display technologies. Users of websites have different expectations than users of print. They expect to feel “productive,” not contemplative. They expect to be in search mode, not processing mode. Users also expect to be disappointed, distracted, and delayed by false leads. The cultural habits of the screen are driving changes in design for print, while at the same time affirming print’s role as a place where extended reading can still occur.

Another common assumption is that icons are a more universal mode of communication than text. Icons are central to the GUIs (graphical user interfaces) that routinely connect users with computers. Yet text can often provide a more specific and understandable cue than a picture. Icons don’t actually simplify the translation of content into multiple languages, because they require explanation in multiple languages. The endless icons of the digital desktop, often rendered with gratuitous detail and depth, function more to enforce brand identity than to support usability. In the twentieth century, modern designers hailed pictures as a “universal” language, yet in the age of code, text has become a more common denominator than images—searchable, translatable, and capable of being reformatted and restyled for alternative or future media.

Perhaps the most persistent impulse of twentieth-century art and design was to physically integrate form and content. The Dada and Futurist poets, for example, used typography to create texts whose content was inextricable from the concrete layout of specific letterforms on a page. In the twenty-first century, form and content are being pulled back apart. Style sheets, for example, compel designers to think globally and systematically instead of focusing on the fixed construction of a particular surface. This way of

**Web users don’t like to read....They want to keep moving and clicking.**
—JAKOB NIELSEN, 2000


thinking allows content to be reformatted for different devices or users, and it also prepares for the afterlife of data as electronic storage media begin their own cycles of decay and obsolescence.

In the twentieth century, modern artists and critics asserted that each medium is specific. They defined film, for example, as a constructive language distinct from theater, and they described painting as a physical medium that refers to its own processes. Today, however, the medium is not always the message. Design has become a “transmedia” enterprise, as authors and producers create worlds of characters, places, situations, and interactions that can appear across a variety of products. A game might live in different versions on a video screen, a desktop computer, a game console, and a cell phone, as well as on t-shirts, lunch boxes, and plastic toys.

The beauty and wonder of “white space” is another modernist myth that is subject to revision in the age of the user. Modern designers discovered that open space on a page can have as much physical presence as printed areas. White space is not always a mental kindness, however. Edward Tufte, a fierce advocate of visual density, argues for maximizing the amount of data conveyed on a single page or screen. In order to help readers make connections and comparisons, as well as to find information quickly, a single surface packed with well-organized information is sometimes better than multiple pages with a lot of blank space. In typography as in urban life, density invites intimate exchange among people and ideas.

In our much-fabled era of information overload, a person can still process only one message at a time. This brute fact of cognition is the secret behind magic tricks: sleights of hand occur while the attention of the audience is drawn elsewhere. Given the fierce competition for their attention, users have a chance to shape the information economy by choosing what to look at. Designers can help them make satisfying choices.

Typography is an interface to the alphabet. User theory tends to favor normative solutions over innovative ones, pushing design into the background. Readers usually ignore the typographic interface, gliding comfortably along literacy’s habitual groove. Sometimes, however, the interface should be allowed to fail. By making itself evident, typography can illuminate the construction and identity of a page, screen, place, or product.

If people weren’t good at finding tiny things in long lists, the Wall Street Journal would have gone out of business years ago. —JEF RASKIN, 2000
Typography, invented in the Renaissance, allowed text to become a fixed and stable form. Like the body of the letter, the body of text was transformed into an industrial commodity that gradually became more open and flexible.

Critics of electronic media have noted that the rise of networked communication did not lead to the much feared destruction of typography (or even to the death of print), but rather to the burgeoning of the alphabetic empire. As Peter Lunenfeld points out, the computer has revived the power and prevalence of writing: “Alphanumeric text has risen from its own ashes, a digital phoenix taking flight on monitors, across networks, and in the realms of virtual space.” The computer display is more hospitable to text than the screens of film or television because it offers physical proximity, user control, and a scale appropriate to the body.

The printed book is no longer the chief custodian of the written word. Branding is a powerful variant of literacy that revolves around symbols, icons, and typographic standards, leaving its marks on buildings, packages, album covers, websites, store displays, and countless other surfaces and spaces. With the expansion of the Internet, new (and old) conventions for displaying text quickly congealed, adapting metaphors from print and architecture: window, frame, page, banner, menu. Designers working within this stream of multiple media confront text in myriad forms, giving shape to extended bodies but also to headlines, decks, captions, notes, pull quotes, logotypes, navigation bars, alt tags, and other prosthetic clumps of language that announce, support, and even eclipse the main body of text.

The dissolution of writing is most extreme in the realm of the web, where distracted readers safeguard their time and prize function over form. This debt of restlessness is owed not to the essential nature of computer monitors, but to the new behaviors engendered by the Internet, a place of searching and finding, scanning and mining. The reader, having toppled the author’s seat of power during the twentieth century, now ails and lags, replaced by the dominant subject of our own era: the user, a figure whose scant attention is our most coveted commodity. Do not squander it.

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**Hypertext means the end of the death of literature. —STUART MOUTHROP, 1991**
Howling at the Moon: The Poetics of Amateur Product Reviews

By Alex Feminine

An Amazon reviewer called S. K. Cat Lover, who lives and dies to be a doctor from Tampa, Florida, bought a self-heating, self-filling cat bowl. Her review is not just hilarious, it can also be seen as an example of a democratizing impulse in design criticism.

Moshe Safdie

The Public Works

By Hayanne Landecker

The Social Transformation of the U.S.A. (1930–1960) for a New York arts organization that includes public works such as this day. Our Current Condition: The Necessity for a New Role for Activism is a treatise on how activism should be seen as a necessary role for today's designers. It is a treatise on how activism should be seen as a necessary role for today's designers. It is a treatise on how activism should be seen as a necessary role for today's designers. It is a treatise on how activism should be seen as a necessary role for today's designers. It is a treatise on how activism should be seen as a necessary role for today's designers. It is a treatise on how activism should be seen as a necessary role for today's designers. It is a treatise on how activism should be seen as a necessary role for today's designers. It is a treatise on how activism should be seen as a necessary role for today's designers. It is a treatise on how activism should be seen as a necessary role for today's designers. It is a treatise on how activism should be seen as a necessary role for today's designers.
Kerning is an adjustment of the space between two letters. The characters of the Latin alphabet emerged over time; they were never designed with mechanical or automated spacing in mind. Thus some letter combinations look awkward without special spacing considerations. Gaps occur, for example, around letters whose forms angle outward or frame an open space (W, Y, V, T). In metal type, a kerned letter extends past the lead slug that supports it, allowing two letters to fit more closely together. In digital fonts, the space between letter pairs is controlled by a kerning table created by the type designer, which specifies spaces between problematic letter combinations.

Working in a page layout program, a designer can choose to use metric kerning or optical kerning as well as adjusting the space between letters manually where desired. A well-designed typeface requires little or no additional kerning, especially at text sizes.

**Metric Kerning** uses the kerning tables that are built into the typeface. When you select metric kerning in your page layout program, you are using the spacing that was intended by the type designer. Metric kerning usually looks good, especially at small sizes. Cheap novelty fonts often have little or no built-in kerning and will need to be optically kerned.

**Optical Kerning** is executed automatically by the page layout program. Rather than using the pairs addressed in the font’s kerning table, optical kerning assesses the shapes of all characters and adjusts the spacing wherever needed. Some graphic designers apply optical kerning to headlines and metric kerning to text. You can make this process efficient and consistent by setting kerning as part of your character styles.

**Takes Two**

**Scala Pro, with Kerning Suppressed**

Spacing appears uneven, with gaps around T/a, T/w, and w/o.

**Takes Two**

**Scala Pro, with Metric Kerning**

Spacing appears more even between T/a and T/w.

**Takes Two**

**Scala Pro, with Optical Kerning**

Spacing seems more even between T/a, T/w, and w/o.

**Warm Type**

**Scala Pro Italic, with Kerning Suppressed**

Spacing appears uneven between W/a and T/y.

**Warm Type**

**Scala Pro Italic, with Metric Kerning**

Spacing appears more even between W/a and T/y.

**Warm Type**

**Scala Pro Italic, with Optical Kerning**

Spacing is comparable to metric kerning.

**Love Letters**

**Scala Pro All Capitals, with Kerning Suppressed**

Spacing is tight between T/T.

**Love Letters**

**Scala Pro All Capitals, with Metric Kerning**

Improved spacing between T/T.

**Love Letters**

**Scala Pro All Capitals, with Optical Kerning**

Improved spacing between T/T and O/V.
Kerning headlines The subtle differences between metric and optical kerning become more apparent at larger sizes. Most problems occur between capital and lowercase letters. The spacing between H/a, T/a, and T/o improves with optical kerning. The optical kerning applied here in InDesign has created tighter spacing for large text and looser spacing for small text. Look at both effects before choosing a kerning method.

Metric versus optical kerning

Books and Harlots Have Their Quarrels In Public.

Books And Harlots Can Be Taken To Bed.

—Walter Benjamin, 1925

Quadrat Sans, with metric kerning

Books and Harlots—footnotes in one are as banknotes in the stockings of the other.

Books and Harlots Have Their Quarrels In Public.

Books And Harlots Can Be Taken To Bed.

—Walter Benjamin, 1925

Quadrat Sans, with optical kerning

NERD ALERT: In addition to using optical kerning, the text above has word spacing reduced to 80 percent. With large type, normal word spacing often looks too wide. Adjust word spacing in the Paragraph-Justification menu in InDesign.
Adjusting the overall spacing of a group of letters is called tracking or letter spacing. By expanding the tracking across a word, line, or entire block of text, the designer can create a more airy, open field. In blocks of text, tracking is usually applied in small increments, creating a subtle effect not noticeable to the casual reader. Occasionally, a single word or phrase is tracked for emphasis, especially when CAPS or SMALL CAPS are used within a line. Negative tracking, rarely desirable in text sizes, can be used sparingly to help bring up a short line of text. White type on a black background is considered more legible when it is tracked.

Books and harlots—both have their type of man, who both lives off and harasses them. In the case of books, critics. WALTER BENJAMIN, 1925

Books and harlots—both have their type of man, who both lives off and harasses them. In the case of books, critics. WALTER BENJAMIN, 1925

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**TRACKING TEXT TYPE**

**NORMAL TRACKING**
Letters do love one another. However, due to their anatomical differences, some letters have a hard time achieving intimacy. Consider the letter V, for example, whose seductive valley makes her limbs stretch out above her base. In contrast, L solidly holds his ground yet harbors a certain emptiness above the waist. Capital letters, being square and conservative, prefer to keep a little distance from their neighbors.

**POSITIVE TRACKING (+20)**
Letters do love one another. However, due to their anatomical differences, some letters have a hard time achieving intimacy. Consider the letter V, for example, whose seductive valley makes her limbs stretch out above her base. In contrast, L solidly holds his ground yet harbors a certain emptiness above the waist. Capital letters, being square and conservative, prefer to keep a little distance from their neighbors.

**NEGATIVE TRACKING (-20)**
Letters do love one another. However, due to their anatomical differences, some letters have a hard time achieving intimacy. Consider the letter V, for example, whose seductive valley makes her limbs stretch out above her base. In contrast, L solidly holds his ground yet harbors a certain emptiness above the waist. Capital letters, being square and conservative, prefer to keep a little distance from their neighbors.

**TYPE CRIME**
TIGHTLY TRACKED TEXT
Letters are tracked too close for comfort.

---

Designers most commonly apply tracking to headlines and logos (where kerning adjustments are also frequently required). As text gets bigger, the space between letters expands, and some designers use tracking to diminish overall spacing in large-scale text. Loose or open tracking is commonly applied to capitals and small capitals, which appear more regal standing slightly apart.

**Tracking Headlines and Logotypes**

**Love Letters**

**Capital: Normal Tracking**

**Love Letters**

**Capital: Loose Tracking (+75)**

**Love Letters, Love Letters**

**Small Caps: Normal vs. Loose Tracking (+75)**

**love letters, love letters**

**Lower Case: Normal Tracking**

**love letters, love letters**

**Lower Case: Loose Tracking (+75)**

**Type Crime: Tracking Lowercase Letters**

Loosely spaced lowercase letters—especially italics—look awkward because these characters are designed to sit closely together on a line.

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**Eros**

Eros Logotype, 1962. Design: Herb Lubalin. Ultra-tight letter spacing was a hallmark of progressive commercial graphics in the 1960s and 1970s. Here, the letters cradle each other with an intimacy appropriate to the subject matter.

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**Cruet & Whisk and Thymes Logotypes, 2006**

Design: Duffy & Partners. The generously tracked capitals in these logotypes give them an affable, antiquarian flavor while imparting an overall lightness to the designs.
You can express the meaning of a word or an idea through the spacing, sizing, and placement of letters on the page. Designers often think this way when creating logotypes, posters, or editorial headlines. The compositions shown here express physical processes such as disruption, expansion, and migration through the spacing and arrangement of letters. The round Os in Futura make it a fun typeface to use for this project.

Examples of student work from
Maryland Institute College of Art

Johnschen Kudos

Johnschen Kudos

Johnschen Kudos
LINE SPACING

The distance from the baseline of one line of type to another is called line spacing. It is also called leading, in reference to the strips of lead used to separate lines of metal type. The default setting in most layout and imaging software is 120 percent of the type size. Thus 10-pt type is set with 12 pts of line spacing. Designers play with line spacing in order to create distinctive typographic arrangements. Reducing the standard distance creates a denser typographic color, while risking collisions between ascenders and descenders. Expanding the line spacing creates a lighter, more open text block. As leading increases, lines of type become independent graphic elements rather than parts of an overall visual shape and texture.

VARIATIONS IN LINE SPACING

- The distance from the baseline of one line of type to another is called line spacing. It is also called leading, in reference to the strips of lead used to separate lines of metal type. The default setting in most layout and imaging software is 120 percent of the type size. Thus 10-pt type is set with 12 pts of line spacing. Designers play with line spacing in order to create distinctive layouts. Reducing the standard distance creates a denser typographic color—while risking collisions between ascenders and descenders.

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NERD ALERT: A baseline shift is a manual adjustment of the horizontal position of one or more characters. Baseline shifts are often used when mixing different sizes or styles of type. The baseline shift tool can be found in the Type tool bar of standard software applications.

6/6 Scala Pro
(6 pt type with 6 pts line spacing, or “set solid”)

6/7.2 Scala Pro
(Auto spacing; 6 pt type with 7.2 pts line spacing)

6/8 Scala Pro
(6 pt type with 8 pts line spacing)

6/12 Scala Pro
(6 pt type with 12 pts line spacing)
Ancient maps of the world

An

when the world was flat

Avid

inform us, concerning the void

Dream

where America was waiting

Of

to be discovered,

Trans-

Here Be Dragons.  James Baldwin

for-

O to be a dragon.  Nortense Moore

mation

MARGO JEFFERSON

DANCE INK: AN AVID DREAM
OF TRANSFORMATION
Designer: Abbott Miller.
Publisher: Patsy Tarr. The
dline spacing allows two
strands of text to interweave.
Designers experiment with extreme line spacing to create distinctive typographic textures. Open spacing allows designers to play with the space between the lines, while tight spacing creates intriguing, sometimes uncomfortable, collisions.
VISIONARY CITIES: THE ARCOLOGY OF PAOLO SOLERI
Book, 1970. Design: Paolo Soleri. This classic work of postmodern design uses ultratight line spacing to create dramatic density on the page. Produced long before the era of digital page layout, this book exploited the possibilities of phototypesetting and dry transfer lettering.
Choosing to align text in justified, centered, or ragged columns is a fundamental typographic act. Each mode of alignment carries unique formal qualities, cultural associations, and aesthetic risks.

**Centered**

Lines of uneven length on a central axis

Centered text is formal and classical. It invites the designer to break a text for sense and create elegant, organic shapes. Centering is often the simplest and most intuitive way to place a typographic element. Used without care, centered text can look staid and mournful, like a tombstone.

**Justified**

Left and right edges are both even

Justified text makes a clean shape on the page. Its efficient use of space makes it the norm for newspapers and books. Ugly gaps can occur, however, as text is forced into lines of even measure. Avoid this by using a line length that is long enough in relation to the size of type. As type gets smaller, more words will fit on each line.

**Type Crime**

Poorly shaped text block. In most uses, centered text should be broken into phrases with a variety of long and short lines.

**Type Crime**

Full of holes. A column that is too narrow is full of gaps.
In flush left/ragged right text, the left edge is hard and the right edge soft. Word spaces do not fluctuate, so there are never big holes inside the lines of text. This format, which was used primarily for setting poetry before the twentieth century, respects the flow of language rather than submitting to the law of the box. Despite its advantages, however, the flush left format is fraught with danger. Above all, the designer must work hard to control the appearance of the rag that forms along the right edge. A good rag looks pleasantly uneven, with no lines that are excessively long or short, and with hyphenation kept to a minimum. A rag is considered “bad” when it looks too even (or too uneven), or when it begins to form regular shapes, like wedges, moons, or diving boards.

Flush right/ragged left is a variant of the more familiar flush left setting. It is common wisdom among typographers that flush right text is hard to read, because it forces the reader’s eye to find a new position at the start of each line. This could be true, or it could be an urban legend. That being said, the flush right setting is rarely employed for long bodies of text. Used in smaller blocks, however, flush right text forms effective marginal notes, sidebars, pull quotes, or other passages that comment on a main body or image. A flush or ragged edge can suggest attraction (or repulsion) between chunks of information.

**FLUSH LEFT/RAGGED RIGHT**
*Left edge is hard; right edge is soft*

Flush left text respects the organic flow of language and avoids the uneven spacing that plagues justified type. A bad rag can ruin the relaxed, organic appearance of a flush left column. Designers must strive vigilanty to create the illusion of a random, natural edge without resorting to excessive hyphenation.

**FLUSH RIGHT/RAGGED LEFT**
*Right edge is hard; left edge is soft*

Flush right text can be a welcome departure from the familiar. Used for captions, side bars, and other marginalia, it can suggest affinities among elements. Because flush right text is unusual, it can annoy cautious readers. Bad rags threaten flush right text just as they afflict flush left, and punctuation can weaken the hard right edge.

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**TYPE CRIME**

**BAD RAG**

An ugly wedge shape spoils the ragged edge.

**TYPE CRIME**

**PUNCTUATION EATS THE EDGE**

Excessive punctuation weakens the right edge.

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A bad rag will fall into weird shapes along the right edge, instead of looking random.
The four modes of alignment (centered, justified, flush left, and flush right) form the basic grammar of typographic composition. Each one has traditional uses that make intuitive sense to readers.

**Centered**

**The Works of Virgil:**
Containing His Pastoral, Georgics, and Aeneis.

Translated into English Verse; By Mr. Dryden.

Adapted with a Hundred Songs.

Sponsore Patrum se piissimi Aeneis. Virg. Min. 2.


London, Printed for Jacob Tonson, 1698.

for Coppet. But when the eighty days had passed and the bugaboo was safely on board the Bellerophon, she came back to the scenes she loved so well and to what for her was the only heaven: Paris. ¶ She has been called a philosopher and a literary light. But she was only socioliterary. Her written philosophy does not represent the things she felt were true—simply those things she thought it would be nice to say. She cultivated literature, only that she might shine. Love, wealth, health, husband, children—all were sacrificed that she might lead society and win applause. No one ever feared solitude more: she must have those about her who would minister to her vanity and upon whom she could shower her wit. As a type her life is valuable, and in these pages that traverse the entire circle of feminine virtues and foibles she surely must have a place. ¶ In her last illness she was attended daily by those faithful subjects who had all along recognized her sovereignty—in Society she was Queen. She surely now had won her heart’s desire, for to that bed from which she was no more to rise, courtiers came and kneeling kissed her hand, and women by the score whom she had befriended paid her the tribute of their tears. ¶ She died in Paris at the age of fifty-one.

**Justified**

**The Complete Writings of Elbert Hubbard,** Volume Two

Printed by the Roycroft Shop, 1908. This neo-Renaissance book page harkens back to the first century of printing. Not only is the block of text perfectly justified, but paragraph symbols are used in place of indents and line breaks to preserve the solidity of the page.

The works of Virgil. Printed for Jacob Tonson, 1698. Title pages are traditionally set centered. This two-color title page was printed in two passes of the press (note the off-register registration of the two colors of ink). Large typefaces were created primarily for use on title pages or in hymn books.
L'ENNEMI
Ma jeunesse ne fut qu'un éclat de tonnerre,
Traversé d'une foudre de brillants soleils,
Le tonnerre et la pluie ont fait un tel ravage,
Qu'il reste en mon jardin bien peu de fruits vernus.
Voûte que j'ai touché l'automne des idées,
Et qu'il faut employer la pelle et les râteaux
Pour rassembler à neuf les terres inondées,
Où l'eau creuse des trous grands comme des tombeaux.
Et qui sais si les fleurs nouvelles que je rêve
Trouveront dans ce sol lavé comme une grève
Le mystère aliment qui ferait leur vigueur?
— O douleur! ô douleur! Le Temps mange la vie,
Et l'obscur Ennemi qui nous rend le cœur
Du sang que nous perdons croit et se fortifie!

Technique

things that could not have been done at all had he stuck to his original idea.

No shields
Trade-markery is a country cousin of heraldry; it can claim that kin, but native good taste will keep it from trying to ape its noble relative. I mean that trade-marks in the form of shields are a joke—as comical as those mid-Victorian trade devices surrounded by the Garter. Things like that, in first instances (they are now meaningless survivals), were efforts on the part of Trade to sit in the same pew with Race. Under the modern dispensation, with kings at a discount, the feudal touch may be dispensed with. One makes this comment about shields as trade-marks because a cosmic law operates to convince every expectant proprietor of a new trade-mark that he wants his device in the shape of a shield.

Flexible
A good trade-mark is the thing that lives inside a boundary line—not the boundary line itself. It should be possible for the device to step outside its circle, or triangle, or whatever, and still be the same—an unmistakable emblem. In other words, marks that depend for their individuality upon triangular frames, circles, squares, etc., are weak brethren; they are of a low order of trade-mark vitality.

Typographic flavor
For the greater number of advertising uses a trade-mark design needs to be given a typographic flavor. It will stand in close relation to type in the usual advertisement and its stance will be more comfortable if it is brought into sympathy with type. This means that the proprietor will have to relax the rigor of his rule and allow his design (originally rendered in soft lithographic grays and stippled) to be redrawn in positive line, with considerable paper showing. It is not necessary to ape the style of a woodcut in this effort after typographic flavor; but it is necessary to echo, to a certain extent, the crisp black lines and

CHARLES BAUDELAIRE/LES FLEURS DU MAL Printed by Bill Lansing, 1945. Traditionally, poetry is set flush left, because the line breaks are an essential element of the literary form. Poetry is not usually set centered, except in greeting cards.

LAYOUT IN ADVERTISING Designed and written by W. A. Dwiggins, 1928. In this classic guide to commercial art practices, Dwiggins has placed callouts or subject cues in the margins. On the left-hand (verso) page shown here, the cues are set flush right, drawing them closer to the content they identify.
Designers sometimes use the archetypal modes of alignment in ways that emphasize their visual qualities. Combining different types of alignment can yield dynamic and surprising layouts.

“Grandma! Grandma! Look at me! I did it!” Oval jetted from the water, her youth salt as a yolkslam.

“I saw you darling!” Mother waved. Then she sat back and smiled, nature on her side after all.

“Well sure,” Square began—
He heard the suck of Circle’s chest cavity, speech lobes echoing the startle of her brain’s emotive region to vibrate vocal chords so that the up-rush of breath through her body would come out as,

“What?”

She pushed her sunglasses up onto her head to reveal that her eyes had widened to the size of an animal’s before it pounces. And in response, an electro-chemical jolt contracted his muscles to quickly voice “But it’s more complicated than that” (accelerando) as he tried to recover.

Tried and failed, he saw, realizing that Mother would take his words as confirmation of Circle’s phobia of conceiving. Circle’s eyes remained trained on him. “Sometimes more kids just aren’t in the cards,” he tried.

“What he means,” Circle said, emotion beginning to raise veins, “is that we’ve decided to limit our family.”

“Limit your?”—

“It’s not like when you and dad were raising a family. Kids cost a lot. The public schools are worthless so you can’t even think about sending them there. And anyway, who’s going to watch a baby while I’m at work? Square doesn’t have time. He can’t even figure out the ending to his dumb story.”

...story, watching Oval after school like he does and I don’t have time to be around them. Not like you were with us.

“Dumb?”

“Well, things have certainly changed,” Mother sighed in that exhausted victim tone she adopted whenever she was about to play her “tired blood” card. “In my day, children just came or they didn’t. We were just the organ they did it through.”

“Gees, that’s what you want me to go back to?”
Circle laughed, her smile an incipient “tear grin” primates often exhibited just before tension broke into flight or fight. “A crap shoot? This last was meant for him. He decided to let pass the crack about his ‘dumb’ story,

“I only meant—”

“Mother, I can’t not know what I know!” Her exasperated tone left a pregnant silence at the table.

“Excuse me,” she said, “I need a refill on my tea.”
She stood up and there was the shock of her body: a flat athletic torso, muscular shoulders and arms in a cheetah-print swimsuit (a legacy of African i.e. savage sexuality) that made him want her.

“Anybody else want anything?”
EXPERIMENTING WITH ALIGNMENT

FLUSH LEFT AND FLUSH RIGHT: INFORMAL BOOK, 2002. Designer: Januzzi Smith. Author: Cecil Balmond. Photograph: Dan Meyers. This book is a manifesto for an informal approach to structural engineering and architecture. The text columns juxtapose flush right against flush left alignments, creating a tiny but consistent seam or fissure inside the text and irregular rags along the outer edges.

BEYOND NOSTALGIA

Louise: But designers do the same thing, don’t they? They often set themselves with impressive statements that don’t really fit the facts of what they make.

Use modes of alignment (flush left, flush right, justified, and centered) to actively interpret a passage of text. The passage here, from Walter Ong’s book *Orality and Literacy: The Technologizing of the Word*, explains how the invention of printing with movable type imposed a new spatial order on the written word, in contrast with the more organic pages of the manuscript era. The solutions shown here comment on the conflicts between hard and soft, industrial and natural, planning and chance, that underlie all typographic composition.

**Examples of student work from Maryland Institute College of Art**

*Print*

Print situates words in space more relentlessly than writing ever did. Writing moves words from the sound world to a world of visual space, but print locks words into position in this space. Control of position is everything in print. Printed texts look machine-made, as they are. Typographic control typically impresses most by its tidiness and invisibility: the lines perfectly regular, all justified on the right side, everything coming out even visually, and without the aid of guidelines or ruled borders that often occur in manuscripts. In handwriting, control of space tends to be ornamental, ornate, as in calligraphy.

Randomly spaced words break free from a rigidly justified column.
Lu Zhang

*Writing*

Writing moves words from the sound world to a world of visual space, but print locks words into position in this space. Control of position is everything in print. Printed texts look machine-made, as they are. In handwriting, control of space tends to be ornamental, ornate.

Print situates words in space more relentlessly than writing ever did.

In handwriting, control of space tends to be ornamental, ornate.

This is an insistent world of cold, non-human, facts.

*Passages of flush left and flush right text hinge from a central axis.*
Johnschen Kudos

Long, centered lines are bridges between narrow, ragged columns.
Benjamin Lutz

118 | THINKING WITH TYPE
Print situates words in space more relentlessly than writing ever did. Writing moves words from the sound world to a world of visual space, but print locks words into position in this space. Control of position is everything in print. Printed texts look machine-made, as they are. In handwriting, control of space tends to be ornamental, ornate, as in calligraphy. Typographic control typically impresses most by its tidiness and invisibility: the lines perfectly regular, all justified on the right side, everything coming out even visually, and without the aid of guidelines or ruled borders that often occur in manuscripts. This is an insistent world of cold, non-human, facts.

**The beginning of the paragraph is moved to the end.**
Daniel Arbello

**A single line slides out of a justified block.**
Kapila Chase

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**Elements break away from a justified column.**
Efrat Levush

**Text is forced into a grid of rugged squares.**
Kim Bender
Roman letters are designed to sit side by side, not on top of one another. Stacks of lowercase letters are especially awkward because the ascenders and descendents make the vertical spacing appear uneven, and the varied width of the characters makes the stacks look precarious. (The letter l is a perennial problem.) Capital letters form more stable stacks than lowercase letters. Centering the column helps to even out the differences in width. Many Asian writing systems, including Chinese, are traditionally written vertically; the square shape of the characters supports this orientation. The simplest way to make a line of Latin text vertical is to rotate the text from horizontal to vertical. This preserves the natural affinity among letters sitting on a line while creating a vertical axis.

BOOK SPINES Stacked letters sometimes appear on the spines of books, but vertical baselines are more common. Starting from the top and reading down is the dominant direction in the United States.

VERTIGO A FILM BY ALFRED HITCHCOCK

top to bottom  bottom to top  both directions

VERTICAL BASELINES There is no fixed rule determining whether type should run from top to bottom or from bottom to top. It is more common, however, especially in the United States, to run text on the spines of books from top to bottom. (You can also run text up and down simultaneously.)
MEXICAN STREET SIGNS
Photographs by Andrea Marks. Stacked letters often appear on commercial street signs, which often employ thin, vertical slices of space. The letters in these signs were drawn by hand. Wide characters and squared-off Os stack better than narrow letters with traditional rounded forms. In some instances, the letters have been specially aligned to create vertical relationships, as in the “Optica” sign at right, painted on a sliver of flat molding inside a door frame.
**Simpatico** Poster for the Public Theater, 1994. Designer: Paula Scher/Pentagram. Type set on a vertical baseline creates movement across the poster. The theater’s logo, which also employs a vertical baseline, can be easily placed on street banners.

**Parallelen im Schnittpunkt** (Crossing Parallels) Poster, 1997. Designer: Gerwin Schmidt. Publisher: Art-Club Karlsruhe. The axes of type and landscape intersect to create posters that are simple, powerful, and direct. The text is mirrored in German and French.
A VIEW of the Monuments

In the beginning of a text, the reader needs an invitation to come inside. Enlarged capitals, also called versals, commonly mark the entrance to a chapter in a book or an article in a magazine. Many medieval manuscripts are illuminated with elaborately painted rubrics. This tradition continued with the rise of the printing press. At first, initials were hand-painted onto printed pages, making mass-produced books resemble manuscripts, which were more valuable than printed books. Initials soon became part of typography. A printer could set them together with the main text in wood blocks or cast lead characters, or add them with a separate process such as engraving. Today, enlarged caps are easily styled as part of a publication's typographic system.

A VIEW of the Monuments Book page, eighteenth century. This page was printed in two passes: letterpress type with engraved illustrations.

In this paragraph, the enlarged capital sits on the same baseline as the text that follows. This simple solution is easy to implement on both page and screen. Setting the first few words of the text block in small capitals helps smooth the transition between the initial and the text.

An enlarged letter cut into the text block is called a dropped capital or drop cap. This example was produced using the Drop Caps feature in InDesign. The software automatically creates a space around one or more characters and drops them the requested number of lines. The designer can adjust the size and tracking of the capital to match it to the surrounding text. Similar solutions can be implemented on the web in CSS. The space around the capital is rectangular, which can be visually awkward, as seen here with the sloping silhouette of the letter A.

Was it the best of times, the worst of times, or just Times New Roman? The dropped capital used here (The Serif Bold) was positioned as a separate element. A text wrap was applied to an invisible box sitting behind the capital, so that the text appears to flow around the intruding right prow of the W. Likewise, the left prow extends out into the margin, making the character feel firmly anchored in the text block. Hand-crafted solutions like this one cannot be applied systematically.

Designers sometimes adapt the drop cap convention for other purposes. An illustration or icon can appear in place of a letterform. Purely typographic alternatives are also possible, such as inserting a title or subtitle into space carved from the primary text block. Such devices mobilize a familiar page structure for diverse and sometimes unexpected uses.
Paragraphs do not occur in nature. Whereas sentences are grammatical units intrinsic to the spoken language, paragraphs are a literary convention designed to divide masses of content into appetizing portions.

Indents have been common since the seventeenth century. Adding space between paragraphs (paragraph spacing) is another standard device. On the web, a paragraph is a semantic unit (the \texttt{<p> tag in HTML}) that is typically displayed on screen with space inserted after it.

A typical indent is an \textit{em space}, or a \textit{quad}, a fixed unit of space roughly the width of the letter’s cap height. An em is thus proportional to the size of the type; if you change the point size or column width, the indents will remain appropriately scaled. Alternatively, you can use the tab key to create an indent of any depth. A designer might use this technique in order to align the indents with a vertical grid line or other page element. Avoid indenting the very first line of a body of text. An indent signals a break or separation; there is no need to make a break when the text has just begun.

Despite the ubiquity of indents and paragraph spacing, designers have developed numerous alternatives that allow them to shape content in distinctive ways.

\textbf{NED ALERT:} Use the Space After Paragraph feature in your page layout program to insert a precise increment of space between paragraphs. Skipping a full line often creates too open an effect and wastes a lot of space. Get in the habit of inserting a full paragraph return (Enter key) only at the end of paragraphs; insert a line break when you don’t want to add additional space (Shift + Enter).

---

The table is covered with a table cloth which itself is protected by a plastic table cloth. Drapes and double drapes are at the windows. We have carpets, slipcovers, coasters, wainscoting, lampshades. Each trinket sits on a doily, each flower in its pot, and each pot in its saucer.

Everything is protected and surrounded. Even in the garden, each cluster is encircled with wire netting, each path is outlined by bricks, mosaics, or flagstones.

This could be analyzed as an anxious sequestration, as an obsessional symbolism: the obsession of the cottage owner and small capitalist not only to possess, but to underline what he possesses two or three times. There, as other places, the unconscious speaks in the redundancy of signs, in their connotations and overworking.

— Jean Baudrillard, 1969

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\textbf{LINE BREAK AND 1/2 LINE SPACE (PARAGRAPH SPACING)}
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— Jean Baudrillard, 1969

**OUTDENT (HANGING INDENTATION) AND LINE BREAK**

The table is covered with a table cloth which itself is protected by a plastic table cloth. Drapes and double drapes are at the windows. We have carpets, slipcovers, coasters, wainscoting, lampshades. Each trinket sits on a doily, each flower in its pot, and each pot in its saucer. Everything is protected and surrounded. Even in the garden, each cluster is encircled with wire netting, each path is outlined by bricks, mosaics, or flagstones. This could be analyzed as an anxious sequestration, as an obsessional symbolism: the obsession of the cottage owner and small capitalist not only to possess, but to underline what he possesses two or three times. There, as other places, the unconscious speaks in the redundancy of signs, in their connotations and overworking.

— Jean Baudrillard, 1969

**EXTRA SPACE INSIDE LINE, WITHOUT LINE BREAK**

The table is covered with a table cloth which itself is protected by a plastic table cloth. Drapes and double drapes are at the windows. We have carpets, slipcovers, coasters, wainscoting, lampshades. Each trinket sits on a doily, each flower in its pot, and each pot in its saucer.

Everything is protected and surrounded. Even in the garden, each cluster is encircled with wire netting, each path is outlined by bricks, mosaics, or flagstones.

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— Jean Baudrillard, 1969

**SYMBOL, WITHOUT INDENT OR LINE BREAK**

**TYPE CRIME: TOO MANY SIGNALS** Using paragraph spacing and indents together squanders space and gives the text block a flabby, indefinite shape.
Different kinds of content invite different approaches to marking paragraphs. In early printed books, paragraphs were indicated with a symbol, such as ||, with no additional space or line break. In the seventeenth century, it became standard to indent the first line of a paragraph and break the line at the end. Commercial printing tends to embrace fragmentation over wholeness, allowing readers to sample bits and pieces of text. Modern literary forms such as the interview invite designers to construct inventive typographic systems.
MUSEUMS OF TOMORROW:
A VIRTUAL DISCUSSION BOOK SPREAD

DESIGN BEYOND DESIGN
The placement and styling of captions affect the reader’s experience as well as the visual economy and impact of page layouts. Some readers are primarily attracted to pictures and captions, while others prefer to follow a dominant written narrative, consulting illustrations in support of the text. From a reader’s perspective, close proximity of captions and images is a welcome convenience. Placing captions adjacent to pictures is not always an efficient use of space, however. Designers should approach such problems editorially. If captions are essential to understanding the visual content, keep them close to the pictures. If their function is merely documentary, adjacency is more easily sacrificed.
CAPTIONS FOR THE WEB

Online content management systems coordinate pictures and captions in a database. Designers use rules, frames, overlays, and color blocks to visually connect images and captions, creating coherent units. Shown here are four different ways to style captions for the web.

INTERACTIVE WEB CAPTIONS

A typographic hierarchy expresses the organization of content, emphasizing some elements and subordinating others. A visual hierarchy helps readers scan a text, knowing where to enter and exit and how to pick and choose among its offerings. Each level of the hierarchy should be signaled by one or more cues, applied consistently across a body of text. A cue can be spatial (indent, line spacing, placement) or graphic (size, style, color). Infinite variations are possible.

Writers are trained to avoid redundancy as seen in the expressions “future plans” or “past history.” In typography, some redundancy is acceptable, even recommended. For example, paragraphs are traditionally marked with a line break and an indent, a redundancy that has proven quite practical, as each signal provides backup for the other. To create an elegant economy of signals, try using no more than three cues for each level or break in a document.

Emphasizing a word or phrase within a body of text usually requires only one signal. *Italic* is the standard form of emphasis. There are many alternatives, however, including *boldface*, *small caps*, or a change in color. A full-range type family such as Scala has many weight and style variations designed to work together. You can also create emphasis with a different font. If you want to mix font families, such as Scala and *Futura*, adjust the sizes so that the x-heights align.

---

**bold, italic, underlined caps!**

*Type Crime*

*Too Many Signals*

Emphasis can be created with just one shift.

---

**Expressing Hierarchy**

<table>
<thead>
<tr>
<th>Division of angels</th>
<th>Division of angels</th>
<th>Division of angels</th>
<th>Division of angels</th>
<th>Division of angels</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Angel</td>
<td>Angel</td>
<td>Angel</td>
<td>angel</td>
<td>division</td>
</tr>
<tr>
<td>B. Archangel</td>
<td>Archangel</td>
<td>Archangel</td>
<td>archangel</td>
<td>of angels</td>
</tr>
<tr>
<td>C. Cherubim</td>
<td>Cherubim</td>
<td>Cherubim</td>
<td>cherubim</td>
<td></td>
</tr>
<tr>
<td>D. Seraphim</td>
<td>Seraphim</td>
<td>Seraphim</td>
<td>seraphim</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ruling body of clergy</th>
<th>Ruling body of clergy</th>
<th>Ruling body of clergy</th>
<th>Ruling body of clergy</th>
<th>Ruling body of clergy</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Pope</td>
<td>Pope</td>
<td>Pope</td>
<td>pope</td>
<td></td>
</tr>
<tr>
<td>B. Cardinal</td>
<td>Cardinal</td>
<td>Cardinal</td>
<td>cardinal</td>
<td></td>
</tr>
<tr>
<td>C. Archbishop</td>
<td>Archbishop</td>
<td>Archbishop</td>
<td>archbishop</td>
<td></td>
</tr>
<tr>
<td>D. Bishop</td>
<td>Bishop</td>
<td>Bishop</td>
<td>bishop</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parts of a text</th>
<th>Parts of a text</th>
<th>Parts of a text</th>
<th>Parts of a text</th>
<th>Parts of a text</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Work</td>
<td>Work</td>
<td>Work</td>
<td>work</td>
<td></td>
</tr>
<tr>
<td>B. Chapter</td>
<td>Chapter</td>
<td>Chapter</td>
<td>chapter</td>
<td></td>
</tr>
<tr>
<td>C. Section</td>
<td>Section</td>
<td>Section</td>
<td>section</td>
<td></td>
</tr>
<tr>
<td>D. Subsection</td>
<td>Subsection</td>
<td>Subsection</td>
<td>subsection</td>
<td></td>
</tr>
</tbody>
</table>

**Symbols, Indents, and Line Breaks**

<table>
<thead>
<tr>
<th>Indents and Line Breaks Only</th>
<th>Indents and Line Breaks Only</th>
<th>Indents and Line Breaks Only</th>
<th>Indents and Line Breaks Only</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Font Change, Indents, and Line Breaks</th>
<th>Alignment, Font Change, and Line Breaks</th>
</tr>
</thead>
</table>

132 | Thinking with Type
COMMON TYPOGRAPHIC DISEASES

Various forms of dysfunction appear among populations exposed to typography for long periods of time. Listed here are a number of frequently observed afflictions.

**Typophilia** An excessive attachment to and fascination with the shape of letters, often to the exclusion of other interests and object choices. Typophiliacs usually die penniless and alone.

**Typophobia** The irrational dislike of letterforms, often marked by a preference for icons, dingbats, and—in fatal cases—bullets and daggers. The fears of the typophage can often be quieted (but not cured) by steady doses of Helvetica and Times Roman.

**Typochondria** A persistent anxiety that one has selected the wrong typeface. This condition is often paired with *OKD* (optical kerning disorder), the need to constantly adjust and readjust the spaces between letters.

**Typothermia** The promiscuous refusal to make a lifelong commitment to a single typeface—or even to five or six, as some doctors recommend. The *typothermic* is constantly tempted to test drive “hot” new fonts, often without a proper license.

There are endless ways to express the hierarchy of a document.
COMMUNICATING HIERARCHY

Complex content requires a deeply layered hierarchy. In magazines and websites, a typographic format is often implemented by multiple users, including authors, editors, designers, and web producers. If a hierarchy is clearly organized, users are more likely to apply it consistently. Designers create style guides to explain the principles of a hierarchy to the system’s users and demonstrate how the system should be implemented.

SOLIDARIETÀ INTERNAZIONALE Magazine redesign, 2009. Design: Sezione Aurea. Publications often commission design firms to create new formats that can be implemented by staff designers and editors. This redesign uses the typefaces Myriad and Utopia, designed by Robert Slimbach. A comprehensive style guide serves to communicate the new format to the magazine’s staff.
**Structural Hierarchy** Designers and editors should organize content structurally rather than stylistically, especially in digital documents. When creating style sheets in a page layout program, label the elements with terms such as “title,” “subtitle,” and “caption” rather than “bold,” “tiny,” or “apple green Arial.” In CSS, elements such as *em* (emphasis), **strong**, and *p* (paragraph) are structural, whereas *i* (italic), **b** (bold), and <br> (break) are visual. As a body of content is translated into different media, the styles should continue to refer to the parts of the document rather than to specific visual attributes.

Structural hierarchies help make websites understandable to search engines and accessible to diverse users. A document should have only one h1 heading, because search engines apply the strongest value to this level of the document. Thus to conform with web standards, designers should apply heading levels (h1, h2, and so on) structurally, even when they choose to make some levels look the same. Using structural, semantic markup is a central principle of web standards.


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**The City Website, 2010. Designer: Graham Stinson. The City is a social networking site that helps churches and non-profits engage in community activities. Auto-detection determines whether the reader is using a desktop or mobile phone and then re-routes layout characteristics in order to create a custom view. Each layout references a different CSS file; the main HTML for each page remains the same.**
HIERARCHY AND ACCESSIBILITY

The web was invented in order to provide universal access to information, regardless of a person’s physical abilities or access to specialized hardware or software. Many users lack the browsers or software plug-ins required for displaying certain kinds of files, while visually impaired users have difficulty with small type and non-verbal content. Creating structural hierarchies allows designers to plan alternate layouts suited to the software, hardware, and physical needs of diverse audiences.

Sometimes good typography is heard, not seen. Visually impaired users employ automated screen readers that linearize websites into a continuous text that can be read aloud by a machine. Techniques for achieving successful linearization include avoiding layout tables; consistently using alt tags, image captions, and image descriptions; and placing page anchors in front of repeated navigation elements that enable users to go directly to the main content. Various software programs allow designers to test the linearization of their pages.

CLAPHAMINSTITUTE.ORG Website, 2003.
Designer: Colin Day/Exclamation Communications. Publisher: The Clapham Institute. This site was designed to be accessible to sighted and non-sighted users. Below is a linearized version of the home page. A visually impaired reader would hear this text, including the alt tags for each image. The “skip to content” anchor allows users to avoid listening to a list of navigation elements.

The Clapham Institute | Historical Context

Historical Context

A FORGOTTEN PAST

The Clapham Society helped shape the modern world by bringing a new vision to England. Despite the destruction of the craftsmen and the struggle of the people, Clapham was a center of intense activity. The Society’s publications, written in Latin and German, helped shape the thinking of the people. The Clapham Society was a voice for change in the English-speaking world. The Society was a center of intense activity and helped shape the thinking of the people.

A FUTURE HOPE

The Clapham Institute believes the solution to the problem is not to adopt an alternative model to reverse the damage that has been done to the church, but to pursue a model that restores the church to its original, biblical state. The Clapham Institute believes that the church should be the center of everything, from the family to the community to the country. The Clapham Institute believes that the church should be the center of everything, from the family to the community to the country.

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**Lighthouse.org Website, 2010.** Design: Dan Mall and Kevin Sharon/Happy Cog. Front-end code: Jenn Lukas. Information architecture: Kevin Hoffman. Accessibility research and testing: Angela Colter and Jennifer Sutton. The visual layout of this website (left) is optimized for sighted users, while the source order of the code (below) is optimized for the visually impaired, allowing users to linearize the text with an automated screen reader. For example, in the visual display, the navigation menu appears immediately below the logo. In the source code, however, the organization name is followed directly by the tagline, presenting the top of the page from coggling up with navigation elements. Such differences between the visual display and the source order are kept to a minimum because not everyone who uses a screen reader is blind, and some people with disabilities who navigate via source order can see the visual layout with their eyes. If the visual layout differs too much from the source code, these users would be confused. The relationship between the visual layout and the source order is also optimized for search engines.
Karl Kraus zählt Wilhelm II. zu „den Schwerverbrechern auf dem Thron“ mit der „Beteuerung, daß sie es nicht gewollt haben, woran sie, da sie es taten, doch schuldig sind“ [F 595,2].

und daß das »gemeinsame Vorgehen« für den war, »sobald Kraus die Satire auf Kaiser Wilhelm werde«, beweist eine Vertrautheit der Innsbrucker Stimmung, die ich selbst am Nachmittag noch nicht in der Falle gegangen! Aber wenn einer die Demonstrationen ausgehen, bis hinauf zu den Schuluren, die Ahnung von dem Vorhandensein der anderen, macht es die vielen, daß er es nicht gern will, daß er alles rechtfertigt hat. Die Wahrheit einer vagen Kenntnis meiner Gesinnung, aber von die ihre auszuleben, in den Saal geführten Individuen der bedeutungsvollster der Laut auf den Lippen und das Abends ein Dutzend weiterer Anlässe — von zwei Diebgenscharen — hatten vorübergehen lassen, ihre Anwesenheit legitimiert, indem sie die
WÖRTERBUCH DER REDENSARTEN/KARL KRAUS, DIE FACKEL
Book, 1999. Designer: Anne Burdick. Publisher: Österreichische Akademie der Wissenschaften. This book presents essays from the journal Die Fackel, published by the Viennese writer Karl Kraus from 1899 to 1936. The journal's text appears in the center of each page. This text is sometimes represented with an image of the original publication and sometimes filtered through the modern typography of the new edition. In the beige-colored margins, different styles and sizes of type indicate different modes of editorial commentary.
Radar Magazine, 2008. Designed by Luke Hayman/Pentagram and Kate Elazegui/Radar. Mass-market magazine covers often combine a big photograph, a big headline, and a big logo with a swarm of teasers about articles to be found inside. Radar’s covers present feature stories front and center while enticing readers with numerous compact headlines. In contrast, the magazine’s table of contents provides a more leisurely overview. Here, the typographic hierarchy emphasizes the articles’ titles and uses the page numbers as easy-to-find anchors.
THE BELIEVER Magazine, front and back covers, 2009. Design: Dave Eggers. Illustrations: Charles Burns. The busy but readable covers of this literary magazine use slab serif text in multiple sizes and weights to advertise the content found inside. The line illustrations integrate comfortably with the text. A full table of contents appears on the back cover, providing readers with an easy-to-use interface. Influenced by nineteenth-century almanacs, the design of The Believer uses borders and frames to draw attention to the content and create a memorable visual identity.
Yale School of Architecture Posters, 2003–2006. Designers: Michael Bierut and team/Pentagram. Produced over a series of years for a single client, these posters apply diverse typographic treatments and hierarchies to similar bodies of content. The black-and-white palette creates consistency over time.
Choose a text that has a recurring structure, such as a table of contents, a news aggregator, or a calendar of events. Analyze the structure of the content (main title, subtitles, time, location, body text, and so on) and create a visual hierarchy that expresses this structure. Make it easy for readers to find the information they want. For example, in a crime report some readers might scan for location, looking for data about their neighborhood, while others might be more drawn to the lurid details of particular crimes. Use changes in size, weight, leading, style, and column structure to distinguish the levels of the hierarchy. Make a style sheet (in a page layout program for print or in CSS for the web) in order to create several variations quickly.

**Crime Blotter**

**EAST VILLAGE**

06 00 AM

**Upper East Side**

11 30 AM

**Williamsburg**

07 00 PM

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**EAST VILLAGE**

Noun Found Smothered by Adjectives Message lost in dense cloud of confused signals.

**Upper East Side**

Verb Defrauded by Misplaced Modifier Missing the point, revenge is sought by victim.

**Williamsburg**

Flood of Clichés Wrecks Havoc Hipster kicks bucket after biting bullet.

---

Katie Burk, Paulo Lopez
Crime Blotter

8:00am East Village
Noun Found Smothered by Adjectives
Message lost in dense cloud of confused signals.

11:30am Upper East Side
Verb Defrauded by Misplaced Modifier
Missing the point, revenge is sought by victim.

7:00pm Williamsburg
Flood of Clichés Wreaks Havoc
Hipster kicks bucket after biting bullet.

These typographic variations were generated in CSS using the structural hierarchy presented above.

Examples of work by staff designers in a workshop at National Public Radio, 2010.

David Wright, Nelson Hsu
In the real world of graphic design, managing large quantities of text is a routine challenge. Designers use the principles of hierarchy, alignment, and page layout to make content easy to scan and enjoyable to read. You can try this exercise with any long list of entries: calendar events, dictionary definitions, pithy quotes, classified ads, or a page from a college course catalog. Numbering the elements in the list gives you a graphic element to manipulate. Design a poster that presents the content in a visually interesting way. Work with style sheets to test different type treatments quickly and consistently.
Examples of student work from Maryland Institute College of Art.

Brain Shopping
40 Tips and Tricks for Getting in the Mood to Get Ideas

1. Think about the problem, such as "explain..." "value..." or "clarity..."
2. Make a sketch. Make sketches simple and abstract, such as a simple line or a circle.
3. Think like a journalist. Think like a journalist, such as "why..." "who..." or "what..."
4. Make a word cloud. Make a word cloud to see the words that come to mind.
5. Do a Google check. Do a Google check to see if the word or phrase is already in use.
6. Go to the library. Go to the library and look for books or articles on the topic.
7. Describe the problem. Describe the problem in detail.
8. Imagine the obvious solution. Imagine the obvious solution.
9. Look for solutions online. Look for solutions online.
10. Think like an interior designer. Think like an interior designer.
11. Fix up your ideas somewhere and ask other to give feedback.

On shopping:
12. Apply thinking from another field. Apply thinking from another field, such as sociology, psychology, or art history.
13. Break it down into smaller parts. Break it down into smaller parts.
14. Make it more concrete or abstract. Make it more concrete or abstract.
15. Write down every obvious solution. Write down every obvious solution.
16. Think like a curator. Think like a curator.
18. Ask people what they like and don’t like.
19. Ask people what they would do.
20. Ask people about their personal experiences.
21. Find a place to think.
22. Think like an anthropologist. Think like an anthropologist.
23. Take a walk outside.
24. Design a system or tool.
25. Compare and contrast.
26. Write a poetic essay or story.

On decisions:
27. Think about what you would do.
29. Chew more gum. Chew more gum.
30. Put all your ideas on index cards.
31. Think about your idea.
32. Wear farm tools. Wear farm tools.
33. Sketch in 3-D. Sketch in 3-D.
34. Visualize the competition.
35. Visualize the bigger picture.
36. Impurification. Impurification.
37. Simplicity. Simplicity.
38. Set boundaries. Set boundaries.
40. When you see a dead end, try again later.

By: Becky Slogeris

By: Andy Mangold
Historia naturalis
Book, 1472. Printed by Nicolaus Jenson, Venice
Collection of the Walters Art Museum, Baltimore. This book features an elegant, unbroken text block set in one of the earliest roman typefaces. The page has no line breaks or indents.
A grid breaks space or time into regular units. A grid can be simple or complex, specific or generic, tightly defined or loosely interpreted. Typographic grids are all about control. They establish a system for arranging content within the space of a page, screen, or the built environment. Designed in response to the internal pressures of content (text, image, data) and the outer edge or frame (page, screen, window), an effective grid is not a rigid formula but a flexible and resilient structure, a skeleton that moves in concert with the muscular mass of information.

Grids belong to the technological framework of typography, from the concrete modularity of letterpress to the rulers, guides, and coordinate systems employed in graphics applications. Although software generates illusions of smooth curves and continuous tones, every digital image or mark is constructed—ultimately—from a grid of neatly bounded blocks. The ubiquitous language of the GUI (graphical user interface) creates a gridded space in which windows overlay windows in a haphazard way.

In addition to their place in the background of design production, grids have become explicit theoretical tools. Avant-garde designers in the 1910s and 1920s exposed the mechanical grid of letterpress, bringing it to the polemical surface of the page. In Switzerland after World War II, graphic designers built a total design methodology around the typographic grid, hoping to construct with it a new and rational social order.

The grid has evolved across centuries of typographic development. For graphic designers, grids are carefully honed intellectual devices, infused with ideology and ambition, and they are the inescapable mesh that filters, at some level of resolution, nearly every system of writing and reproduction.
in librum Job

LVI

Petrus Nicolai de Trappis, Joh. laev. ille sive diuturnae temporis propinquus, in libro de Job inscriptum.

Altemuis habemus eum qui certum reddat uti Matthaeum

princeps, qui praeclarum est prophetarum librum, ab octavo versiculo in libro Hic est desideria: neque ponatur in libro. Neque sequitur: se autem in libro esse interpretatur. Neque sequitur: se autem in libro esse interpretatur.
GRID AS FRAME

Alphabetic writing, like most writing systems, is organized into columns and rows of characters. Whereas handwriting flows into connected lines, the mechanics of metal type impose a stricter order. Each letter occupies its own block, and the letters congregate in orderly rectangles. Stored in gridded cases, the characters become an archive of elements, a matrix of existing forms from which each page is composed.

Until the twentieth century, grids served as frames for fields of text. The margins of a classical book page create a pristine barrier around a flush, solid block of text. A page dominated by a solitary field of type remains today’s most common book format, although that perfect rectangle is now broken with indents and line breaks, and the margins are peppered with page numbers and running heads (text indicating the book or chapter title).

In addition to the classical norm of the single-column page, various alternative layouts existed during the first centuries of printing, from the two-column grid of Gutenberg’s Bible to more elaborate layouts derived from the medieval scribal tradition, where passages of scripture are surrounded by scholarly commentary. Polyglot (multilingual) books display a text in several languages simultaneously, demanding complex divisions of the surface.

Such formats permit multiple streams of text to coexist while defending the sovereignty of the page-as-frame. The philosopher Jacques Derrida has described the frame in Western art as a form that seems to be separate from the work, yet is necessary for marking its difference from everyday life. A frame or pedestal elevates the work, removing it from the realm of the ordinary. The work thus depends on the frame for its status and visibility.

Typography is, by and large, an art of framing, a form designed to melt away as it yields itself to content. Designers focus much of their energy on margins, edges, and empty spaces, elements that oscillate between present and absent, visible and invisible. With print’s ascent, margins became the user interface of the book, providing space for page numbers, running heads, commentary, notes, and ornaments.

The frame... disappears, buries itself, effaces itself, melts away at the moment it deploys its greatest energy. The frame is in no way a background... but neither is its thickness as margin a figure. Or at least it is a figure that comes away of its own accord. —JACQUES DERRIDA, 1987
SUPPLEMENT DE L'ANT. EXPLIQ. LIV. VI.

CHAPITRE SECONDE.

I. La colonne de Pompée. II. On ne convient pas sur ses motifs. III. Colonne d'Alexandre Sornve.

A la fameuse colonne de Pompée est auprès d'Alexandrie : on ne fait pas pour quelle raison elle porte le nom de Pompée ; je crois que celle-ci est quelque chose d'étrange et que c'est pour quelque chose de grand que nous la voyons. Deux des plus modernes en sont donnés le dessin et les mesures ; mais ils offrent une contradiction entre eux sur la hauteur du piedestal, de la colonne et du chapiteau ; cependant tous deux disent qu'ils ont le même.

Pour ce qui est de la colonne, dire l'un, (C'est Cornelle Brun p. 241.) elle est forée dans un piedestal carré, haut de deux ou trois pieds et large de quatre fois moins, et incorporée à chacune de ses faces. Ce piedestal est foré dans une boîte carrée, qui mesure environ un demi pied, et large de dix pieds, fait de plusieurs pierres maçonnées ensemble. Le corps de la colonne même n'est que d'une seule pièce, et ses angles sont droits, comme le reste de la colonne. On y a ajouté un chapiteau par l'époque que j'en ai fait. Et si cela est vrai, comme je l'ai dit, et que la colonne a été construite avec le même temps, il y a deux ans, et qu'elle est une colonne de grande beauté, tel que j'ai vu, elle est bien meilleure.

Pour moi je crois que c'est une vraie pièce de taille, du moins autant que j'ai pu le reconnaître par l'époque que j'ai fait. Et si cela est vrai, comme je l'ai dit, et que la colonne a été construite avec le même temps, il y a deux ans, et qu'elle est une colonne de grande beauté, tel que j'ai vu, elle est bien meilleure.

I. Colonnes Pompée, II. De ces colonnes une certaine est mise en qui plus loin abonde, III. Colonnes Alexandre Sornve.


QuaTEM ad columnas, inquit Cassius

H. Brun. p. 241. in tempora e. quam vel Fiselas, la
ter cujus dictum est figurum coloris pelas, la

im seneque, in laticiis sunt quaestoribus

plebi. Stylihse autem illum quoniam latens

permanet, abscindit diviniti polis, et lapidum

platonum habet ilia et. Hypatiasa eum

munimur eum quam moderum habent. Columnas

unique efficitur, etiamque eum efficitur, etiamque

eum efficitur, etiamque eum efficitur, etiamque

colonnæ sunt, ut dicat. Une première part colonnæ Pompæi

adit, quoniam Alexandrinæ est velitis, ou colonnæ. Difficile autem est ea menisar

SUPPLEMENT AU LIVRE
DE L'ANTIQUITÉ (LEFT) Book page, Paris, 1724. The two-column grid devised for this bilingual book provides a large, single-column block for the French text, with two columns below for the Latin. The quotation marks serve as a frame along the left edge of the quoted passage.

THE ILLUSTRATED LONDON NEWS (RIGHT) Newspaper page, 1861. Early newspaper advertisements were designed by the paper’s printer, not supplied by the client or an advertising agency. This dense field of entries occupies a four-column grid, with ruled lines to create order.

THE IMPERIAL FAMILY BIBLE (NEXT SPREAD) Book, 1854. In this unusual book structure, the notes appear in the center of the page rather than along the bottom or the edges. The margin has moved from outside to inside.

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God's judgment upon Jerusalem.

ISAIAH, XXIX.

of one that hath a familiar spirit, out of the ground, and thy speech shall whisper out of the dust.

5 Moreover, the multitude of thy strangers shall be like small dust, and the multitude of the terrible ones shall be as chaff that passeth away; yea, it shall be as at an instant suddenly.

6 Thou shalt be visited of the Lord of hosts with thunder, and with earthquake, and great noise, with storm and tempest, and the flame of devouring fire.

7 And the multitude of all the nations that fight against Ariel, even all that fight against her and her munition, and that distress her, shall be as a dream of a night-vision

8 It shall even be as when an hungry man dreameth, and, behold, he eateth; but he awaketh, and his soul is empty: or as when a thirsty man dreameth, and, behold, he drinketh; but he awaketh, and, behold, he is faint, and his soul hath appetite: so shall the multitude of all the nations be that fight against mount Zion.

9 * Stay yourselves, * and wonder; ye out, and cry: * they are drunken, * but not with wine; they stagger, but not with strong drink.

10 For the Lord hath poured out upon you the spirit of deep sleep, and hath closed your eyes: the prophets and your rulers, * the seers, hath he covered.

11 And the vision of all is become unto you as the words of a book that is sealed; which men deliver to one that is learned, saying, Read this, I pray thee: and he saith, I cannot; for it is sealed.

12 And the book is delivered to him that is not learned, saying, Read this, I pray thee: and he saith, I am not learned.

13 Wherefore the Lord said, Forasmuch as this people draw near me with their mouth, and with their lips do honour me, but have removed their heart far from me, and * their fear toward me is taught by the precept of men:

14 Therefore, behold, I will proceed to do a marvellous work among

CHAPTER XXIX.


WOE to Ariel, to Ariel, the city where David dwelt! * add ye year to year; let them kill sacrifice.

2 Yet * I will distress Ariel, and there shall be heaviness and sorrow: and it shall be unto me as Ariel.

3 And I will camp against thee round about, and will lay against thee with a mount, and I will raise forts against thee.

4 And thou shalt be brought down, and shall speak out of the ground, and thy voice shall be low out of the dust, and thy voice shall be as (745)
The people threatened for

ISAIAH, XXX.

their confidence in Egypt.

The people threatened for

this people, even a marvellous work and a wonder; for the wisdom of their wise men shall perish, and the understanding of their prudent men shall be hid.

15 Woe unto them that seek deep to hide their counsel from the Lorp, and their works are in the dark, and they say, Who seeth us? and who knoweth us?

16 Surely thy turning of things upside down shall be esteemed as the potter's clay: for shall the work say of him that made it, He made me not? or shall the thing framed say of him that framed it, He had no understanding?

17 Is it not yet a very little while and Lebanon shall be turned into a fruitful field, and the fruitful field shall be esteemed as a forest?

18 And in that day shall the deaf hear the words of the book, and the eyes of the blind shall see out of obscurity, and out of darkness.

19 The meek also shall increase their joy in the Lorp, and the poor among men shall rejoice in the Holy One of Israel.

20 For the terrible one is brought to nought, and the scorner is consumed, and all that watch for iniquity are cut off:

21 That make a man an offender for a word, and lay a snare for him that reproveth in the gate, and turn aside the just for a thing of nought.

22 Therefore thus saith the Lorp, who redeemed Abraham, concerning the house of Jacob, Jacob shall not now be ashamed, neither shall his face now wax pale.

23 But when he seeth his children, the work of mine hands, in the midst of him, they shall bless him, and sanctify the Holy One of Jacob, and shall fear the God of Israel.

24 They also that err in spirit shall come to understanding, and they that murmured shall learn doctrine.

CHAPTER XXXX.

The prophet threatens the people for their confidence in Egypt, 1-5; and against God's word, 6-12. God's mercy turned his scourch, 13-15. Go in wrath, and the people's joy in the destruction of Zions, 21-23.

Woe to the rebellious children, saith the Lorp, that take coun-
LES MOTS EN
LIBERTÉ FUTURISTES:
LETTRE D’UNE JOLIE FEMME
À UN MONSIEUR PASSEISTE
Poem, 1912. Author: F. T. Marinetti. In this Futurist poem, Marinetti attacked the conventions of poetry and the restrictions imposed by the mechanical grid of letterpress. The rectilinear pressures of the grid are nonetheless evident in the composed work.

MERZ-MATINEEN Poster, 1923. Designer: El Lissitzky. The Russian Constructivist artist and designer traveled extensively in Europe in the 1920s, where he collaborated with other members of the international avantgarde, including the Dadaist Kurt Schwitters. This precisely assembled poster for a Dada event is organized and activated by the rectilinear grid of letterpress.

FORTOLLET Postcard, 1925. Designer: Piet Zwart. Collection of Elaine Lustig Cohen. The Dutch graphic designer Piet Zwart was influenced by the De Stijl movement as well as Constructivism. In the visual identity he created for Fortollet, a flooring company, Zwart built monumental letters out of typographic rules.
DIVIDING SPACE

In the nineteenth century, the multi-columned, multimedia pages of newspapers and magazines challenged the supremacy of the book and its insular edge, making way for new typologies of the grid. By questioning the protective function of the frame, modern artists and designers unleashed the grid as a flexible, critical, and systematic tool. Avant-garde artists and poets attacked the barriers between art and everyday life, creating new objects and practices that merged with urban experience.

Leading the assault against print’s traditional syntax was F. T. Marinetti, who established the Futurist movement in 1909. Marinetti devised poems that combined different styles and sizes of type and allowed lines of text to span multiple rows. Marinetti’s ingenious manipulations of the printing process work against—but inside—the constraints of letterpress, exposing the technological grid even while trying to overturn it. Dada artists and poets performed similar typographic experiments, using letterpress printing as well as collage, montage, and various forms of photomechanical reproduction.

Constructivism, which originated in the Soviet Union at the end of the 1910s, built on Futurist and Dada typography, bringing a more rational approach to the attack on typographic tradition. El Lissitzky employed the elements of the print shop to emphasize the mechanics of letterpress, using printer’s rules to make the technological matrix actively and physically present. Constructivism used rules to divide space, throwing its symmetry into a new kind of balance. The page was no longer a fixed, hierarchical window through which content might be viewed, but an expanse that could be mapped and articulated, a space extending beyond the edge.

For Dutch artists and designers, the grid was a gateway to the infinite. The paintings of Piet Mondrian, their abstract surfaces crossed by vertical and horizontal lines, suggest the expansion of the grid beyond the limits of the canvas. Theo van Doesburg, Piet Zwart, and other members of the Dutch De Stijl group applied this idea to design and typography. Converting the curves and angles of the alphabet into perpendicular systems, they forced the letter through the mesh of the grid. Like the Constructivists, they used vertical and horizontal bars to structure the surface of the page.

Typography is mostly an act of dividing a limited surface. —WILLI BAUMEISTER, 1923
The new typography not only contests the classical “framework” but also the whole principle of symmetry. —Paul Renner, 1931
Jan Tschichold’s book *The New Typography*, published in Germany in 1928, took ideas from Futurism, Constructivism, and De Stijl and conveyed them as practical advice for commercial printers and designers. Functionally zoned letterheads using standard paper sizes were central to Tschichold’s practical application of modernism. Whereas Futurism and Dada had aggressively attacked convention, Tschichold advocated design as a means of discipline and order, and he began to theorize the grid as a modular system based on standard measures.

By describing the expansion of space in all directions, the modern grid slipped past the classical frame of the page. Similarly, modern architecture had displaced the centered facades of classical building with broken planes, modular elements, and continuous ribbons of windows. The protective frame became a continuous field.

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**I have intentionally shown blocks of different and “accidental” widths, since this is what usually has to be contended with (although in the future, with standard block-sizes, it will happen less often).**

—Jan Tschichold, 1928
ZAHN-NOPPER Store identity, 1961–63. Designer: Anton Stankowski. This identity system demonstrates a programmatic approach to design, using a limited set of elements to construct diverse yet genetically linked solutions. The system is governed by flexible rules for construction rather than a fixed logotype.
During the post–World War II period, graphic designers in Switzerland honed ideas from the New Typography into a total design methodology. It was at this time that the term grid (Raster) became commonly applied to page layout. Max Bill, Karl Gerstner, Josef Müller-Brockmann, Emil Ruder, and others were practitioners and theorists of a new rationalism that aimed to catalyze an honest and democratic society. Rejecting the artistic clichés of self expression and raw intuition, they aspired to what Ruder called “a cool and fascinating beauty.”

Gerstner’s book Designing Programmes (1964) is a manifesto for systems-oriented design. Gerstner defined a design “programme” as a set of rules for constructing a range of visual solutions. Connecting his methodology with the new field of computer programming, Gerstner presented examples of computer-generated patterns that were made by mathematically describing visual elements and combining them according to simple rules.

Expanding on the pioneering ideas of Bayer, Tschichold, Renner, and other designers of the avant garde, the Swiss rationalists rejected the centuries-old model of the page-as-frame in favor of a continuous architectural space. Whereas a traditional book would have placed captions, commentary, and folios within a protective margin, the rationalist grid cut the page into multiple columns, each bearing equal weight within the whole, suggesting an indefinite progression outward. Pictures were cropped to fit the modules of the grid, yielding shapes of unusual proportion. Constructing ever more elaborate grids, the Swiss designers used the confines of a repeated structure to generate variation and surprise. Such grids could be activated in numerous ways within a single publication, always referring back to the root structure.

This approach, which quickly became known as “Swiss design,” found adherents (and detractors) around the world. Many American designers dismissed Swiss rationalism as irrelevant to a society driven by pop culture and hungry for rapidly transforming styles. Programmatic thinking is now being revived, however, as designers today confront large-scale information projects. The need is greater than ever for flexible “programs” designed to accommodate dynamic bodies of content.

The typographic grid is a proportional regulator for composition, tables, pictures, etc.…..
The difficulty is: to find the balance, the maximum of conformity to a rule with the maximum of freedom. Or: the maximum of constants with the greatest possible variability.”
—KARL GERSTNER, 1961
2 Mehrfamilienhäuser im Doldental Zürich

Räumliche Organisation


Technische Ausstattung

- Die Häuser verfügen über moderne Kesseldächer und Dachgiebel mit Solarthermen-Systemen, die die Energieeffizienz erhöhen.
- Die Heizungssysteme sind wärmeleitend und verbrauchen minimalen Energieverbrauch.
- Die Dächer wurden sorgfältig ausgewählt, um eine optimale Wärmedämmung zu gewährleisten.
- Die Fenster sind aus hochwertigen Materialien hergestellt, um das Energieverlust minimieren.

Wohnungsbau

- Die Wohnungen sind auslegerartig an der Fassade befestigt, um eine bessere Nutzung des Raumes zu ermöglichen.
- Die Einbauküchen sind vollständig ausgestattet und bieten genug Platz für alltägliche Arbeiten.
- Die Dielenboden sind aus Holz und bieten eine angenehme Atmosphäre.
- Die Bäder sind modern ausgestattet und haben eine gut funktionierende Sanitärtechnik.

Ergänzungen: Die Häuser sind mit Solarthermenanlagen ausgestattet, die die Energieeffizienz der Gebäude erhöhen. Die Verwendung von Holz als Material für die Fassaden und Dielenboden ergibt einen warmen Eindruck und verbessert die Wärmedämmung.

Die beiden Häuser sind Privathäuser von Herrn Dr. S. Gisell, Zentral- schiff der Internationalen Kongresse für Neue Bauten. Die Park- bauten (zweifache Abteilen) bestehen aus 150.000 quadratischen Flächen pro m² im Gesamtgebäude. Die durchlaufigen Bodenfliese für normale Wohnzimmer in Zürich, begehbar in Stufen, von 30 × 30 cm pro m² umhüllt Rauten. (Hofm.-F. 73/1935/40).

Architektonischer Aufbau
Die Schräglage der Wände ergibt eine einheitliche, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, geschlossene, 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Abbildung 13 zeigt die Struktur. Fixiert sind die Elemente Schrift und Rahmen; ferner die Verbindung von beiden und das Prinzip der Variabilität: der Rahmen kann, ausgehend von der Ecke unten rechts, nach oben sowie nach links beliebig um ganze Einheiten vergrößert werden. Einen innerhalb proportional hervorragenden Fall gibt es nicht. Es gibt nur wertgleiche Varianten; und hervorragend ist die Variante dann, wenn sie der jeweiligen Aufgabe am besten angemessen ist.

Abbildung 14 zeigt die Neujahrskarte mit gleichzeitig verschiedenen proportionierten Varianten: 15 den Briefbogen, wo das Signum dem (gegebenen) Dim Format angepasst ist; 16 und 17 Inserate, wieder entsprechend dem zur Verfügung stehenden Insertionsraum bemessen; 18 ein Geschenkkarten.
Some text

Programme Entwerfen
(Designing Programmes)
Publisher: Arthur Niggli.
Photograph: Dan Meyers.
Karl Gerstner's book Designing Programmes is a design theory classic whose relevance has been renewed in the age of networked media. Shown here is Gerstner's identity for Boîte à Musique (Music Box), in which a system of elements changes in response to its context.
GRID AS TABLE

Tables and graphs are a variant of the typographic grid. A table consists of vertical columns and horizontal rows, each cell occupied by data. A graph is a line mapped along the x and y axes of a grid, each dimension representing a variable (such as time and stock value, shown below). As explained by Edward Tufte, the leading critic and theorist of information design, tables and graphs allow relationships among numbers to be perceived and rapidly compared by the eye. In tables and graphs, the grid is a cognitive tool.

Tables are a central aspect of web design. The table feature was incorporated into HTML code in 1995 so that web authors could present tabular data. Graphic designers, eager to give shape to the web’s wide and flacid text bodies, quickly devised unauthorized uses for the HTML table, transforming this tool for representing data into nothing more, nor less, than a typographic grid. Designers have used the table feature to control the placement of images and captions and to build margins, gutters, and multicolumn screens. Designers also use tables to combine multiple styles of alignment—such as flush left and flush right—within a document, and to construct elegantly numbered and bulleted lists.

CLIMBING KILIMANJARO

(Opposite) Interactive information graphic, 2007. Graphics director: Steve Dueñas/NYTtimes.com. Courtesy of the New York Times. This interactive three-dimensional travelogue traces Tom Bissell’s harrowing climb to the top of Mount Kilimanjaro. The fever graph plots the distance Bissell traveled in relation to the changing elevation. The graphic coordinates his path with photographs shot along the way and an ongoing account of Bissell’s rising heart rate and plummeting oxygenation level.
By creating cells that span multiple columns and rows, designers build layout structures that bear little relation to the logically ordered fields of a data chart. A master table typically establishes areas for navigation, content, and site identity, and each region contains a smaller table—or tables—inside itself. Grids propagate inside of grids.

Advocates of web standards reject such workarounds as spurious and unethical design tactics. Visually driven, illogical layout tables can cause problems for sight-impaired users, who implement various devices to translate digital pages into sound, cell by cell, row by row. Assistive screen readers “linearize” digital text into a stream of spoken words. Accessibility experts encourage web designers to “think in linear terms” wherever possible, and to make sure their tables make sense when read in a continuous sequence. Accessible websites also consider the needs of users working with older software or text-only browsers. Linear thinking helps not only sight-impaired audiences but also the users of mobile devices, where space is tight.
HTML, the mark-up system that allowed the Internet to become a global mass medium, is the virtual counterpart to letterpress, which mechanized the production of the book and cleared the ground for a world culture of print. Like letterpress, HTML is a text-hungry medium that can be coaxed, with some resistance, to display images.

HTML coexists with other languages on the web, just as alternative technologies appeared alongside letterpress. Lithography, invented for the manufacture of images in the eighteenth century, soon incorporated words in addition to pictures, just as letterpress made space in its mechanical grid for woodcuts, engravings, and photographic halftone blocks. In the twentieth century, lithography replaced letterpress as the world’s dominant printing method; used with digital or photographic typesetting, it conveys text and pictures with equal comfort.

Lithography is not governed by grids as relentlessly as letterpress; neither is Flash, the animation software that became a common web-design tool at the turn of the twentieth century. Flash was originally designed for the creation of vector-based cartoons. Although Flash’s primary purpose was pictorial, designers were soon using it to construct the interfaces of entire websites. The Flash sites that became, in the late 1990s, icons of a new web aesthetic were more cinematic than typographic, often featuring a painterly mix of word and image. They were soon supplanted by template-driven sites built dynamically by content management systems. In such sites, elements are placed via CSS (Cascading Style Sheets); the resulting designs have a structured appearance that is predictable over time.
Joshuadavis.com Website, 2009. Designer: Joshua Davis. In this template-driven site, elements are automatically arranged in a uniform grid.
RETURN TO UNIVERSALS

William Gibson’s 1984 novel Neuromancer envisions cyberspace as a vast ethereal grid. Gibson’s data cowboy leaves behind the “meat” of his body and drifts off into a “transparent 3d chessboard extending to infinity.” In Gibson’s novel, this chessboard grid is projected on an internal surface of the mind, bound by no screen or window.

The grid as infinite space—defying edges and dominated by the mind rather than the body—is a powerful instrument within modernist theory, where it is a form both rational and sublime. In the early twentieth century, avant-garde designers exposed the grid in order to dramatize the mechanical conditions of print. After World War II, Swiss designers built a total design methodology around the grid, infusing it with ideological intentions. The grid was their key to a universal language. With the postmodern turn toward historical, vernacular, and popular sources in the 1970s and 1980s, many designers rejected the rationalist grid as a quaint artifact of Switzerland’s own orderly society.

The rise of the Internet has rekindled interest in universal design thinking. The web was invented in the early 1990s (in Switzerland) to let scientists and researchers share documents created with different software applications. Its inventor, Tim Berners-Lee, never guessed that the web would become a design-driven medium connecting vast numbers of differently abled and divergently motivated people around the globe.

Universal design systems can no longer be dismissed as the irrelevant musings of a small, localized design community. A second modernism has emerged, reinvigorating the utopian search for universal forms that marked the birth of design as a discourse and a discipline nearly a century earlier. Against the opacity and singularity of unique visual expressions—grounded in regional preferences and private obsessions—ideas of commonality, transparency, and openness are being reborn as information seeks once again to shed its physical body.


To produce designs that are objectively informative is primarily a socio-cultural task. —JOSEF MÜLLER-BROCKMANN, 1961
The grid is a navigation device that warps and changes as the user rolls over it. The vertical axis represents departments in the school, and the horizontal axis represents types of program information. As the user passes over the grid, cells fill with light and appear to lift away from the screen, indicating the availability of information at that intersection.
No book about typography would be complete without a discussion of the golden section, a ratio (relationship between two numbers) that has been used in Western art and architecture for more than two thousand years. The formula for the golden section is \( a : b = b : (a+b) \).

This means that the smaller of two elements (such as the shorter side of a rectangle) relates to the larger element in the same way that the larger element relates to the two parts combined. In other words, side \( a \) is to side \( b \) as side \( b \) is to the sum of both sides. Expressed numerically, the ratio for the golden section is \( 1 : 1.618 \).

Some graphic designers are fascinated with the golden section and use it to create various grids and page formats—indeed, entire books have been written on the subject. Other designers believe that the golden section is no more valid as a basis for deriving sizes and proportions than other methods, such as beginning from standard industrial paper sizes, or dividing surfaces into halves or squares, or simply picking whole-number page formats and making logical divisions within them.
A grid can be simple or complex, specific or generic, tightly defined or loosely interpreted. Typographic grids are all about control. They establish a system for arranging content within the space of page, screen, or built environment. Designed in response to the internal pressures of content (text, image, data) and the outer edge or frame (page, screen, window), an effective grid is not a rigid formula but a flexible and resilient structure, a skeleton that moves in concert with the muscular mass of content. Grids belong to the technological framework of typography, from the concrete modularity of letterpress to the ubiquitous rules, grids, and coordinate systems of graphics applications. Although software generates illusions of smooth curves and continuous lines, every digital image or mark is constructed—ultimately—from a grid of nearly bounded blocks. The ubiquitous language of the gui (graphical user interface) creates a gridded space in which windows overlay windows. In addition to their

Golden rectangle of text on
8.5 x 11-inch page (U.S. standard)

Golden rectangle of text on
A4 page (European standard)

Commercial printers generally prefer to work with pages trimmed to even measures rather than with obscure fractions. However, you can float golden rectangles within a page of any trim size.

For a more detailed account of design and the golden section, see Kimberly Elam, Geometry of Design (New York: Princeton Architectural Press, 2001).

For an emphasis on applying the golden section to typography, see John Kane, A Type Primer (London: Laurence King, 2002).

It may well be absurd to base a website on the golden section, but here, nonetheless, is a design for one. This wire frame diagram describes a webpage that is 500 x 809 pixels. The “golden screen” is then divided with squares and golden rectangles.
Every time you open a new document in a page layout program, you are prompted to create a grid. The simplest grid consists of a single column of text surrounded by margins. By asking for page dimensions and margin widths from the outset, layout programs encourage you to design your page from the outside in. (The text column is the space left over when the margins have been subtracted.)

Alternatively, you can design your page from the inside out, by setting your margins to zero and then positioning guidelines and text boxes on a blank page. This allows you to experiment with the margins and columns rather than making a commitment as soon as you open a new document. You can add guidelines to a master page after they meet your satisfaction.
Books and magazines should be designed as spreads (facing pages). The two-page spread, rather than the individual page, is the main unit of design. Left and right margins become inside and outside margins. Page layout programs assume that the inside margins are the same on both the left- and right-hand pages, yielding a symmetrical, mirror-image spread. You are free, however, to set your own margins and create an asymmetrical spread.

In this symmetrical double-page spread, the inside margins are wider than the outside margins, creating more open space at the spine of the book.

In this asymmetrical layout, the left margin is always wider than the right margin, whether it appears along the inside or outside edge of the page.
MULTICOLUMN GRID

Grid systems

A grid can be simple or complex, specific or generic, tightly defined or loosely interpreted. Typographic grids are all about control. They establish a system for arranging content within the space of page, screen, or built environment. Designed in response to the specific parameters of context (post, image, display, and the outer edge or frame (page, screen, window)), effective grids are not a rigid formula but a flexible and evolving structure, a skeleton that grows in concert with the material needs of content. Grids belong to the technological framework of typography from the concrete modularity of叼烂是到的the Kabyle meandering grids, girders, and the ultimate results of graphic applications. Although software generates illusions of smooth curves and continuous lines, the digital image is made of pixels—discrete points from a grid of nearly bounded blocks. The illusionary language of the grid (a pixel's size interrelates within a grid of borders between visual spaces) is an illusionistic one. In addition to their place in the background of design production, grids have become explicit theoretical tools. Graphic designers use the mechanical grid to understand the potential surface of the page and the relationships between elements. Grids are popular tools for visualizing complex systems of graphic applications. Although software generates illusions of smooth curves and continuous lines, every digital image is made of pixels—discrete points from a grid of nearly bounded blocks.

There are numerous ways to use a basic column grid. Here, one column has been reserved for images and captions, and the others for text.

In this variation, images and text share column space.

Elements of varying width are staggered within the structure of the grid.

While single-column grids work well for simple documents, multicolumn grids provide flexible formats for publications that have a complex hierarchy or that integrate text and illustrations. The more columns you create, the more flexible your grid becomes. You can use the grid to articulate the hierarchy of the publication by creating zones for different kinds of content. A text or image can occupy a single column or it can span several. Not all the space has to be filled.
A horizontal band divides a text zone from an image zone. Elements gravitate toward this line, which provides an internal structure for the page.

**Hang line** In addition to creating vertical zones with the columns of the grid, you can also divide the page horizontally. For example, an area across the top can be reserved for images and captions, and body text can “hang” from a common line. In architecture, a horizontal reference point like this is known as a **datum**.

**Columns of text hang from a datum, falling downward with an uneven rag across the bottom.**
und verdichtet, wie dies im Betonbau üblich ist. Da der Beton bei diesem Vorgang die Vor- und Rücksprünge der Rückseite der Steinplattenwand umfließt, entstand eine vorzügliche Verzahnung und Verbindung der beiden Materialien Kunststein (Beton) und Naturstein. Allerdings konnten die Wände nicht in ihrer ganzen Höhe auf einmal hintergossen werden. Das musste in Höhenetappen von 50 cm erfolgen. Erst wenn der Beton einer Lage eine bestimmte Festigkeit erreicht und sich mit dem Mauerwerk verbunden hatte, konnte die nächste Lage von 50 cm darüber betoniert werden. Eine höhere Schützmasse von flüssigem Beton hätte die freistehenden Steinplattenwände seitlich weggedrückt.

Insgesamt wurden für die Wände der Therme 450 m³ oder 1300 Tonnen Valser Quarzitplatten zu 3100 m² Wandfläche in 20 Schichten pro m² verarbeitet. Die Länge aller verwendeten Plattenstreifen zusammen ergibt ein Total von 62.000 Lauffmetern, was der Strecke von Vals nach Haldenstein entspricht.

Peter Zumthor

<table>
<thead>
<tr>
<th>Valser Quarzit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Druckfestigkeit: etwa 217 N/mm²</td>
</tr>
<tr>
<td>Rohdichte: 2.098 kg/m³</td>
</tr>
<tr>
<td>Wasseraufnahmekoeffizient: Masse – % 0.25</td>
</tr>
<tr>
<td>Gefäärse Steinplatten: Stärken 6, 3, 4, 7 und 3,1cm</td>
</tr>
<tr>
<td>Breiten: 12 – 30 cm</td>
</tr>
<tr>
<td>Längen: bis 3,20 m über 80.000 tfm</td>
</tr>
<tr>
<td>Fugenbreite: etwa 2 mm</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Boden</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breiten der Bahnen: 8 – 110 cm</td>
</tr>
<tr>
<td>Längen: bis 3,20 m, je Platte zum Teil über 3 m in einer Stärke von 2 cm</td>
</tr>
<tr>
<td>Oberflächen: poliert, gefräst, gestoekt, geschliffen in allen Möglichkeiten und einer Fugenbreite von 1 mm</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Fugen und Mörtelmasse</th>
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<tbody>
<tr>
<td>EMADD R 304</td>
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<tr>
<td>BARRA 80 Firma MBT</td>
</tr>
<tr>
<td>Eckverbindungen, Schwellen, Sturzplatten, Treppenunter- sichtete und Tritte, Sitze als einzelne Werkstücke gefertigt, minimale Toleranzen (weiter unter PIXA-Norm) beim Schneiden und Vermauern der Steine, wie zum Beispiel auf 6 m Höhe weniger als 5 mm Toleranz</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grotten</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trinkstein: polierte Quadern aufeinander-geschichte Grösse etwa 0,5 – 1 m² Quellgrotte gebrochener Stein im Innern Schwitzstein: eingefärbte und polierter Beton Steinsinsel: großformatige gespalten Platten bis zu 3 m² je Platte</td>
</tr>
</tbody>
</table>
STEIN UND WASSER,
WINTER 2003/04 Booklet,
2003. Designer: Clemens
Schedler/Büro für konkrete
Gestaltung. Publisher: Hotel
Therme, Switzerland. This
publication for a spa in
Switzerland uses a five-column
grid. The main text fills a four-
column block, and the smaller
texts occupy single columns.
Béla Bartók
Kenneth Chalmers

- Sets Béla Bartók (1881–1945) and his work in the context of his homeland Hungary and his native city Budapest, where he lived for most of his adult life.
- Covers the full range of his work from his early explorations of the folklore of Hungary to his Third Piano Concerto composed on his deathbed in the United States.
- Brings out the singular nature of his genius and the originality of his contribution to music.

Kenneth Chalmers is an author, translator and composer who has written on Bartók, Berg, Stravinsky, Verdi and Wellic, and collaborated on Decca’s 20-volume Mozart Album.
The Beatles
Allan Kozinn

Follows the extraordinary development of the four self-taught musicians from Liverpool from their beginnings until the break-up in 1970.

Examines why the innovative music of the Beatles — created, at least initially, as ephemera — has remained so durable.

Considers not only the commercially released disks but also studio outtakes, demos, unreleased recordings and broadcast performances.

Sets the group's evolution against the backdrop of the popular culture explosion of the 1960s.

Allan Kozinn has written musical criticism for the New York Times since 1977 and won ASCAP awards for his work, including the book Mischa Elman and the Romantic Style.

'A well-rounded, readable account. Makes a convincing case for putting the Beatles on the shelf between Bartók and Boulez.' (The Sunday Times)
Play serves learning though experimentation without risk. Learning occurs through quick, imprecise actions, conducted within understood rules of a game, and free from threat or consummation. Play does not use up so much as build.

Builds is common sense. Play’s endlessly variable series of awkward, exaggerated motions seek out the approximate arena for later development of true competence.

There is much to be said for play in a medium. If a medium is defined by its affordances and constraints, then learning consists of exploring these properties. Experimentation is especially useful for becoming familiar with constraints: we learn from our mistakes. We must accept that beginning work in a new medium will be full of setbacks. There will also be fortuitous discoveries, however particularly of affordances. Design is not only invention, but also sensitivity to a medium. Craft cannot be merely in service of technique, or of inappropriately conceived ends. The craftsman must begin to feel something about the artifacts, and only certain moves will feel right.

Of course when it comes to computation, we all must learn. In a sense, we’re all children—the medium is that new. And of course, the most fluent experts here are often quite young. As all of us learn about this promising new domain, a chain of developments should be clear: play shapes learning; learning shapes the mind; mental structures shape software; and software data structures afford work and play.

Structure and Improvisation

The master at play improvises. Consider the jazz pianist. In Ways of the Hand — The Organization of Improvised Conduct (1978), the musician David Sudnow gives us a rare description of otherwise tacit knowledge in action. Improvising on a piece takes much more talent than simply playing from a notation or learning by rote. Sudnow explains. Moreover, improvising begins with a sense of structure, from which it builds a cognitive map. For example, the ‘way in’ to an arpeggio is mentally mapped. The structure of the keyboard presents a physical map of a chord, which may be modified in countless ways by physical moves. One could play the adjacent keys, for example, or one could translate by any arbitrary interval. One could transpose or invert. One could change the order in which the notes were played, or the
the same pitch as the first, the doubled back and went fast again, but over different pitches... There were innumerable variations possible; looking at 'structure' in this way and corresponding to various continuity practices, ways of the hand were cultivated that suited to the performance of such manoeuvres...

Transposition of such a figure to a new segment and correct repetition with respect to pitch, without slowing it down or slowing down parts of it, invoked coping with the topography of the terrain by the hand as a navigative organ with various potentials and limitations.

Although jazz is the obvious case, it is hardly alone. Improvisation plays a role in many contemporary practices, and in many traditional crafts. Few of these worlds employ such a singular instrument as the piano; few are able to turn so much over to the hands, but all involve playful response to a structure. For example, of industrial design, Herbert Read insisted that "Art implies values more various than those determined by practical necessity." As a modernist and industrialist, he felt admiration for fundamental structural laws, such as the golden section also admired by his contemporary Le Corbusier. He was convinced, however, that metrical irregularities based on a governing structure, rather than slapdash adherence to the laws in their precision, was the basis for pleasurable expression. He cited Ruskin's line that "All beautiful lines are drawn under mathematical laws organically transgressed." He held that this was the case even in the useful (industrial) arts.

Consider the case of processing a digital photograph. The makeup of the raster image file, the various tone scale and filtration operators, provides a very clear structure in which to work but demands no particular order of operation. The complex microstructure of the sampled pixels provides a sub-

5 Ibid.

The natural tendency of the hand is not to repeat itself, even in a series of figural repetitions. Thus once a sufficient repertoire of runs is learned, this tendency inherently ensures a richness to the sound. The hand searches its territory for sequences, which process replaces a faithfulness to the score, and that makes jazz.

The new run could be in various other ways only lexically related to the preceding run. Say the first started slow and went up fast, then doubled back and went fast again, while the second started slowly and came back down through...
Franz Hessels architekturwarnt sich in seinen Beobachtungen berlindischen Lebens an die merkwürdigen Behausungen der Tiere: Liebe das Zebra sein afrikanisches Gehöft, der Büffel sein Borkenplan? Die Steine von Biberzwingen, Vogelhaus und Löwenhain deutet Hessels als Baukasteneisten, der Zoo wird in seiner Interpretation zur natürlichen Fortsetzung eines Kinderspiels und einem Ort, wo die vorzeitlichen Tierkulturen Gelegenheit haben, wiederzubeleben. E. Lichterfelde bezieht sich in einem Artikel der 

Grid Computing... and Design

The layout grid I used for Subtraction 3.x.x was improvised and inconsistent — I hobbled it together without much consideration or foresight, more interested in getting something finished than building something that would continue to make sense as I got more and more detached from the writing I post here. Over time, by virtue of repeated use, I became increasingly and lamentably invested in its tremendous shortcomings. When you make fairly liberal use of illustrations in your posts, you essentially wed yourself to the particulars of the CSS you’ve established, creating graphics of a certain width or ordering content in a particular method. It works in the short term, but it presents problems when you sit down to redesign.

BOXED IN

By late this year, it pained me to know that I had written over three hundred posts that relied, in varying degrees, on that dodgy framework. So when I finally sat down to think seriously about designing version 4.0 of the site, I put serious attention to establishing a rational and sustainable layout grid that would see me through at least a few more years of doing this. Yes, I hope to keep at it that long.

The new layout uses eight columns and four ‘super columns,’ and it streamlines everything into that structure, which is a kind of ‘for better or worse’ decision, though I think it’s definitely better. Each column is 95 pixels wide and separated by a 10 pixel gutter, which means I can create graphics of logical widths in increments of roughly 95 pixels each (things get a little more complicated when accounting for in-column padding). For me, this is a big methodological improvement over the arbitrary widths imposed by the old layout.

THE OLD WAYS ARE DEAD

I spent a tremendous amount of time fiddling the CSS so that it would match up very carefully with the grid, and so it would work across all modern browsers — and Internet Explorer too, though with decidedly less faithfulness. That was difficult but it was an intellectual challenge.

The hard part came when I had to sit down to reformat all the posts I’d made over the past twenty-plus months which used graphics that break the grid — like this one. Rewriting the styles wasn’t that difficult; it was making sure that the special hacks I had used in the last layout to achieve various layout effects didn’t produce absolute gibberish in the new one. Many of them did, and I tended to painstakingly sift them out and change the flow of captions and images within the body to ensure that they’d look right. That took a long time.

To always stay on the grid, I used a background-image property on the &lt;body&gt; to reveal the grid throughout development for the new layout — if you’re looking at this through a Web browser (versus a screen reader or a news client) you’d see the columns running under the content in this very article. While no stroke of genius, coming up with this little trick left me very pleased with myself, as it allowed me to produce easily the most precise layouts of my career; it’s those little moments that are some of the reward for all of this otherwise pointless free work that I do.
**Subtraction** Website, 2008. Designer: Khoi Vinh. While countless websites are divided into three or more columns, a fully functioning grid should allow some components to “break the grid” by crossing over multiple columns within a content area. The generous swaths of white space in Vinh’s webpages free the eye from relentless clutter while emphasizing the underlying grid structure. Vinh sometimes uses a grid as a background image to check alignments as he works.
Alison Weir, Arguing The Case For Anne Boleyn

January 24, 2010

Right up until the very end, Anne Boleyn professed her innocence. A few days before she was beheaded for plotting to kill her husband, Henry VIII of England, the latter queen accused her of adultery and eventually caused her death. She was executed nonetheless, on May 18, 1536, and 11 days later the king married Jane Seymour, the third of his six wives.

It was in part the irresponsibility of that judgment that made historian Alison Weir want to take a closer look at Anne Boleyn's story. A history book written with all the intrigue and tension of a novel, Weir's just-published The Lady in the Tower is what the author calls a "forensic investigation" of the

"I was quite astonished," she tells NPR's Guy Raz, "All those revelations came toward the end of my research, and it was quite exciting after..."
The New Republic Online magazine, 2009. The homepage of this online magazine uses a three-column grid to provide readers with direct links to a vast quantity of editorial content. Opinion sections each have their own logotypes, designed to reflect the literary tone of the overall brand.
MODULAR GRID

DESIGNING PROGRAMS Grid diagram, 1963 (redrawn). Designer: Karl Gerstner. Publisher: Arthur Niggli, Zurich. This square grid consists of six vertical columns and six horizontal modules, overlayed by grids of one, two, three, and four units. Vertically, the grid is governed by a 10-pt measure, which would determine the spacing of type from baseline to baseline.
A grid can be simple or complex, specific or generic, tightly defined or loosely interpreted. Typographic grids are all about control. They establish a system for organizing content within the space of paper, screen, or built environment.

This modular grid has four columns and four rows. An image or a text block can occupy one or more modules.

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Seiten 226/227/228
Ein Bild- und Textbuch, auf der Grundlage einer Raster von 9 Quadraten aufgebaut. Der Raster ist hier das Mittel, das die unterschiedlichen Textmengen, unterschiedlichen Bildformen und Bildformate zu einer ordnungsmäßigen Zusammenleben. Im Einzelnen soll der Raum nicht auffallen, er soll von der Wirksamkeit der Worte und Bildbaren übernommen werden.

Pages 226/227/228: A book containing pictures and text based on a grid pattern of nine squares. This pattern is intended as a means of establishing a formal unity between the different amounts of text and different sizes and shapes of images. The pattern should not be conspicuous in the final result but rather be concealed by the diversity of pictorial subjects and typographic values.

Pages 226/227/228
Un livre illustré constitué sur la base d’une grille de 9 carrés. Le texte et les éléments d’uniformité sont construits avec des textes et des formes d’images. Le but est d’obtenir une grille qui ne dérange pas trop l’œil, mais qui permet de concevoir des textes et des sujets d’illustration.
Modular grids are created by positioning horizontal guidelines in relation to a baseline grid that governs the whole document. Baseline grids serve to anchor all (or nearly all) layout elements to a common rhythm. Create a baseline grid by choosing the type size and leading of your text, such as 10-pt Scala Pro with 12 pts leading (10/12). Avoid auto leading so that you can work with whole numbers that multiply and divide cleanly. Use this line space increment to set the baseline grid in your document preferences. Adjust the top or bottom page margin to absorb any space left over by the baseline grid.

Determine the number of horizontal page units in relation to the number of lines in your baseline grid. Count how many lines fit in a full column of text and then choose a number that divides evenly into the line count to create horizontal page divisions. A column with forty-two lines of text divides neatly into seven horizontal modules with six lines each. If your line count is not neatly divisible, adjust the top and/or bottom page margins to absorb the leftover lines.

To style headlines, captions, and other elements, choose line spacing that works with the baseline grid, such as 18/24 for headlines, 14/18 for subheads, and 8/12 for captions. Web designers can choose similar increments (line height in CSS) to create style sheets with neatly coordinated baselines.

Where possible, position all page elements in relation to the baseline grid. Don’t force it, though. Sometimes a layout works better when you override the grid. View the baseline grid when you want to check the position of elements; turn it off when it’s distracting.

**Baseline Grid** In InDesign, set the baseline grid in the Preferences>Grids and Guides window. Create horizontal divisions in Layout>Create Guides. Make the horizontal guides correspond to the baselines of the page’s primary text by choosing a number of rows that divides evenly into the number of lines in a full column of text.

**NERD ALERT:** Working in InDesign, you can make your text frames automatically align with the baseline grid. Go to Object>Text Frame Options>Baseline Options and choose Leading. If your leading (line spacing) is 12 pts, the first baseline will fall 12 pts from the top of the text frame.

**Better Text Frames** The first line of the text starts 12 pts from the top of the text frame. In the default setting, the first line is positioned according to the cap height.
**baseline grids**

*create a common rhythm*

---

<table>
<thead>
<tr>
<th>Modular grids are created by positioning horizontal guidelines in relation to a baseline grid that governs the whole document. Baseline grids serve to anchor all (or nearly all) elements to a common rhythm. Such as 18/24 for headlines, 14/18 for subheads, and 8/12 for captions. (Web designers can choose similar increments [line height] to create style sheets with coordinated baselines.)</th>
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</thead>
<tbody>
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</tr>
</tbody>
</table>

---

**CAPTION**

9/12 Scala Sans Pro Italic

**PRIMARY TEXT:**

10/12 Scala Pro.

*This measure determines the baseline grid.*
**MODULAR GRID**

**DESIGN LIKE YOU GIVE A DAMN BOOK, 2006.**

Designers: Paul Carlos, Urshula Barbour, Katharina Seifert, and Farha Khan/Pure + Applied. Authors: Architecture for Humanity, Kate Stohr, and Cameron Sinclair. This book design uses a modular grid to bring order to complex content. Some pages are dense with body text, captions, and small images, while others feature full-bleed photography layered with short statements and hard-hitting statistics.

---

**Architecture is a process of giving form and pattern to the social life of the community. Architecture is not an individual act performed by an artist-architect and charged with his emotions. Building is a collective action.”**

James Meier, director at Bauder, 1998-1999

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**Floor Plan of the Unit of the Modern House, 1933.**

---

**Materials and Components:**

- **Concrete:** used for the foundation and structural elements.
- **Walls:** typically constructed with rigid panels of concrete or brick.
- **Roof:** often flat or gently sloped, made of concrete slabs or lightweight materials.
- **Windows:** large, rectangular, or square, allowing for maximum light penetration.
- **Doors:** typically minimal, ensuring security and energy efficiency.

---

**Connection to the Past:**

- **Historical Context:** The design of the Modern House can be traced back to early 20th-century architectural movements, particularly the International Style.
- **Influence:** The use of concrete and minimal design elements reflect the principles of勒·柯布西耶 (Le Corbusier) and Frank Lloyd Wright.

---

**Conclusion:**

The Modern House exemplifies the integration of technology and design, demonstrating how architecture can serve as a catalyst for change and progress. Its enduring influence continues to shape contemporary design and inspire new generations of architects to explore the possibilities of modern materials and construction methods.
In war-torn countries and areas devastated by disaster, the presence of UNICEF tents is one of the first signs of aid. The lightweight Emergency Tent is a simple, yet functional design that can be easily set up and taken down. It is made of durable, lightweight materials that can withstand harsh conditions. The tent can be used for a variety of purposes, from providing temporary shelter to supporting disaster relief efforts.

GripClips

It would be safe to say that few people know the ins and outs of tents better than Robert Flack. He is the technical director of the American Red Cross, and his expertise in tent design and manufacturing is unparalleled. Flack has been involved in the design and testing of tents for humanitarian aid organizations for over 30 years. In the grip of disaster, the need for sturdy and enduring tents becomes even greater. Flack has been instrumental in developing the GripClip, a tent clip that can significantly enhance the durability of tent structures.
Use a modular grid to arrange a text in as many ways as you can. By employing just one size of type and flush left alignment only, you will construct a typographic hierarchy exclusively by means of spatial arrangement. To make the project more complex, begin adding variables such as weight, size, and alignment.

<table>
<thead>
<tr>
<th>Common typographic disorders</th>
<th>Common typographic disorders</th>
</tr>
</thead>
<tbody>
<tr>
<td>Various forms of dyslexia appear among populations exposed to typography for long periods of time. Listed here are a number of frequently observed afflictions.</td>
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</tr>
<tr>
<td>Hypophoria</td>
<td>Hypophoria</td>
</tr>
<tr>
<td>An excessive attachment to and fascination with the shape of letters, often to the exclusion of other interests and object choices.</td>
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</tr>
<tr>
<td>Hypophoria usually die penniless and alone.</td>
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</tr>
<tr>
<td>Hypophoria</td>
<td>Hypophoria</td>
</tr>
<tr>
<td>The irrational dislike of letterforms, often marked by a preference for icons, dingbats, and— in fatal cases—bullets and daggers. The fears of the hypophoria can often be quelled (but not cured) by steady doses of Helvetica and Times Roman.</td>
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</tr>
<tr>
<td>-----------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Hypophobia</td>
<td>An excessive attachment to and fixation with the shape of letters, often to the exclusion of other interests and object choices. Hypophobics usually die penniless and alone.</td>
</tr>
<tr>
<td>Hypophobia</td>
<td>The irrational dislike of and fixation with the shape of letters, often referred to as hypophobia. The fears of this hypophobe can often be quelled (but not cured) by steady doses of Helvetica and Times Roman.</td>
</tr>
<tr>
<td>Hypochondria</td>
<td>A persistent anxiety that one has selected the wrong typeface. This condition is often paired with OCD (obsessive-compulsive disorder), the need to constantly adjust and readjust the spaces between letters.</td>
</tr>
</tbody>
</table>

**GRID | 203**
The design of charts and graphs is a rich area of typographic practice. In a data table, the grid acquires semantic significance. Columns and rows contain different types of content that readers can scan and quickly compare. Designers (and software defaults) often over-emphasize the linear grid of a table rather than allowing the typography to command the page and stake out its own territory. As columns of text align visually, they create implied grid lines on the page or screen.

### DATA TABLES

<table>
<thead>
<tr>
<th>ACCOUNT</th>
<th>ACCOUNT NAME</th>
<th>TOTAL FOR ACC</th>
</tr>
</thead>
<tbody>
<tr>
<td>101001</td>
<td>Instructional Supplies</td>
<td>$3,65</td>
</tr>
<tr>
<td>101002</td>
<td>Office Supplies</td>
<td>$48</td>
</tr>
<tr>
<td>102004</td>
<td>Equipment Non-Capital</td>
<td>$1,28</td>
</tr>
<tr>
<td>105000</td>
<td>Travel/Conference Fees</td>
<td>$56</td>
</tr>
<tr>
<td>110004</td>
<td>Miscellaneous Entertainment</td>
<td>$8</td>
</tr>
<tr>
<td>114208</td>
<td>Postage/Shipping/Local Courier</td>
<td>$21</td>
</tr>
<tr>
<td>151108</td>
<td>Temp Staff Contractual</td>
<td>$7</td>
</tr>
<tr>
<td>151181</td>
<td>Honors/Grants/Acct艺</td>
<td>$1,00</td>
</tr>
<tr>
<td>DEPARTMENTAL EXPENDITURES</td>
<td></td>
<td>$7,95</td>
</tr>
</tbody>
</table>

**TYPE/CREDIT: DATA PRISON** The rules and boxes used in data tables should illuminate the relationships among data, not trap each entry inside a heavily guarded cell.

### NEW JERSEY TRANSIT, NORTHEASTERN CORRIDOR TIMETABLE

Original schedule with redesign by Edward Tufte. From Edward Tufte, *Envisioning Information* (Cheshire, Conn.: Graphics Press, 1990). The original design (top) is organized with heavy horizontal and vertical divisions. Tufte calls this a “data prison.” His redesign uses the alignment of the typographic elements themselves to express the table’s underlying structure.

<table>
<thead>
<tr>
<th>Train No.</th>
<th>37°30’ to 37°31’</th>
<th>38°30’ to 38°31’</th>
<th>A to Z</th>
<th>Z to A</th>
<th>A to Z</th>
<th>Z to A</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York, N.Y.</td>
<td>1.30</td>
<td>1.32</td>
<td>1.34</td>
<td>1.36</td>
<td>1.38</td>
<td>1.40</td>
</tr>
<tr>
<td>Newark, N.J.</td>
<td>1.31</td>
<td>1.33</td>
<td>1.35</td>
<td>1.37</td>
<td>1.39</td>
<td>1.41</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>1.32</td>
<td>1.34</td>
<td>1.36</td>
<td>1.38</td>
<td>1.40</td>
<td>1.42</td>
</tr>
<tr>
<td>Trenton, N.J.</td>
<td>1.33</td>
<td>1.35</td>
<td>1.37</td>
<td>1.39</td>
<td>1.41</td>
<td>1.43</td>
</tr>
</tbody>
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**NEW JERSEY TRANSIT, NORTHEASTERN CORRIDOR TIMETABLE** Original schedule with redesign by Edward Tufte. From Edward Tufte, *Envisioning Information* (Cheshire, Conn.: Graphics Press, 1990). The original design (top) is organized with heavy horizontal and vertical divisions. Tufte calls this a “data prison.” His redesign uses the alignment of the typographic elements themselves to express the table’s underlying structure.

204 | THINKING WITH TYPE
PERIODIC BREAKFAST TABLE Magazine page (detail), 1998. Designer: Catherine Weese. Photography: John Halpern. Publisher: Patsy Tarr, zwice Magazine. This chart organizes breakfast cereals by shape and annotates them according to a dozen characteristics, from fiber content to price per pound. Visual displays of data allow readers to quickly compare items. One might observe, for example, that in breakfast cereals, intensity of sugar is usually accompanied by intensity of color.
**EXERCISE: DATA TABLES**

Find a chart from an old science book or other source and redesign it. Shown at right is a nineteenth-century table documenting an experiment about ants. The old design emphasizes vertical divisions at the expense of horizontal ones, and it jumbles together text and numbers within the table cells.

The redesign below eliminates many of the ruled lines, replacing them, where needed, with a pale tone that unifies the long horizontal rows of data. The redesigned chart also replaces most of the numerals with dots, a technique that lets the eye visually compare the results without having to read each numeral separately.

<table>
<thead>
<tr>
<th>PT 10</th>
<th>14</th>
<th>15</th>
<th>20</th>
<th>CT 02</th>
<th>06</th>
</tr>
</thead>
<tbody>
<tr>
<td>****</td>
<td>****</td>
<td>*</td>
<td>**</td>
<td>****</td>
<td>****</td>
</tr>
<tr>
<td>**</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>**</td>
</tr>
<tr>
<td>04</td>
<td>20</td>
<td>01</td>
<td>02</td>
<td>20</td>
<td>03</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LEFT ALONE</th>
<th>TAKEN TO NEST</th>
<th>THROWN IN WATER</th>
<th>BOTH NEST AND WATER</th>
<th>LEFT ALONE</th>
<th>TAKEN TO NEST</th>
<th>THROWN IN WATER</th>
<th>BOTH NEST AND WATER</th>
</tr>
</thead>
<tbody>
<tr>
<td>OV 20</td>
<td>***</td>
<td>**</td>
<td>*</td>
<td>***</td>
<td>****</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>**</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EC 01</td>
<td>********</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>********</td>
<td>****</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AN 15</td>
<td>****</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>****</td>
<td>**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AL</td>
<td>06</td>
<td>32</td>
<td>09</td>
<td>02</td>
<td>02</td>
<td>43</td>
<td>07</td>
</tr>
</tbody>
</table>
Intoxicated friends. Data table from Sir John Lubbock, *Ants, Bees, and Wasps* (New York: D. Appleton and Company, 1893). The author of this experiment studied how ants responded upon meeting either "friends" (members of their own colony) or "strangers." In the first experiment, the friends and strangers were rendered unconscious with chloroform. In the second experiment, the ants were merely intoxicated. The chloroformed ants—whether friends or strangers—were usually taken for dead and pitched into a moat of water surrounding the colony. The intoxicated ants were treated with more discrimination. Many of the drunken friends were taken back to the nest for rehabilitation, whereas drunken strangers were generally tossed in the moat. Ants, one might conclude, should not rely on the kindness of strangers.
APPENDIX
SPACES AND PUNCTUATION

Writers or clients often supply manuscripts that employ incorrect dashes or faulty word spacing. Consult a definitive work such as The Chicago Manual of Style for a complete guide to punctuation. The following rules are especially pertinent for designers.

**Word Spaces** are created by the space bar. Use just one space between sentences or after a comma, colon, or semicolon. One of the first steps in typesetting a manuscript is to purge it of all double spaces. Thus the space bar should not be used to create indents or otherwise position text on a line. Use tabs instead. **HTML** refuses to recognize double spaces altogether.

**En Spaces** are wider than word spaces. An en space can be used to render a more emphatic distance between elements on a line: for example, to separate a subhead from the text that immediately follows, or to separate elements gathered along a single line in a letterhead.

**Em Dashes** express strong grammatical breaks. An em dash is one em wide—the width of the point size of the typeface. In manuscripts, dashes are often represented with a double hyphen (–); these must be replaced.

**En Dashes** serve primarily to connect numbers (1–10). An en is half the width of an em. Manuscripts rarely employ en dashes, so the designer needs to supply them.

**Hyphens** connect linked words and phrases, and they break words at the ends of lines. Typesetting programs break words automatically. Disable auto hyphenation when working with ragged or centered text; use discretionary hyphens instead, and only when unavoidable.

**Discretionary Hyphens**, which are inserted manually to break lines, only appear in the document if they are needed. (If a text is reflowed in subsequent editing, a discretionary hyphen will disappear.) Wayward hyphens often occur in the mid-dle of a line when the typesetter has inserted a “hard” hyphen instead of a discretionary one.

**Quotation Marks** have distinct “open” and “closed” forms, unlike hatch marks, which are straight up and down. A single close quote also serves as an apostrophe (“It’s Bob’s font.”). Prime or hatch marks should only be used to indicate inches and feet (5’2”). Used incorrectly, hatch marks are known as “dumb quotes.” Although computer operating systems and typesetting programs often include automatic “smart quote” features, e-mailed, word-processed, and/or client-supplied text can be riddled with dumb quotes. Auto smart quote programs often render apostrophes upside down (‘tis instead of ’tis), so designers must be vigilant and learn the necessary keystrokes.

**Ellipses** consist of three periods, which can be rendered with no spaces between them, or with open tracking (letterspacing), or with word spaces. An ellipsis indicates an omitted section in a quoted text or...a temporal break. Most typefaces include an ellipsis character, which presents closely spaced points.

---

**Mac OS Keystrokes** These keystrokes listed below are commonly used in word processing, page layout, and illustration software. Some fonts do not include a full range of special characters.

<table>
<thead>
<tr>
<th>Dashes</th>
<th>Keystrokes</th>
</tr>
</thead>
<tbody>
<tr>
<td>— em dash</td>
<td>shift-option-hyphen</td>
</tr>
<tr>
<td>— en dash</td>
<td>option-hyphen</td>
</tr>
<tr>
<td>- standard hyphen</td>
<td>(hyphen key)</td>
</tr>
<tr>
<td>- discretionary hyphen</td>
<td>command-hyphen</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Punctuation</th>
<th>Keystrokes</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘ single open quote</td>
<td>option-</td>
</tr>
<tr>
<td>’ single close quote</td>
<td>shift-option-</td>
</tr>
<tr>
<td>“ double open quote</td>
<td>option-</td>
</tr>
<tr>
<td>” double close quote</td>
<td>shift-option-</td>
</tr>
<tr>
<td>… ellipsis</td>
<td>option-;</td>
</tr>
</tbody>
</table>

**Other Marks**

| ( ) en space | option-space bar |
| ↑ dagger     | option-t |
| ↓ double dagger | shift-option-| 7 |
| © copyright symbol | option-g |
| ® resister symbol | option-r |
| € Euro symbol | shift-option-2 |
| fi ligature | shift-option-5 |
| fl ligature | shift-option-6 |
| é accent aigu | option-e + e |
| è accent grave | option-` + e |
| à accent grave | option-` + a |
| û accent grave | option-` + u |
| ç cédille | option-c |
| ü umlaut | option-u + u |
| ö umlaut | option-u + 0 |
These interruptions—especially the snide remarks—are killing my buzz.

**CRIME:** Two hyphen in place of an em dash

Dashes express a break in the flow of a sentence. In a word-processed document, dashes can be indicated with two hyphens. Em dashes are required, however, in typesetting. No spaces are used around dashes.


**CRIME:** Hyphen between numbers

An en dash connects two numbers. It means “up to and including,” not “between.” No spaces are used around en dashes.

It’s okay to be second-best, but never, ever second–best.

**CRIME:** En dash in hyphenated word

Do not use en dashes where the humble hyphen is required.

In the beginning was... the word... Typography came later.

An ellipsis character is used here in place of separate points.

The periods in an ellipsis can be separated with word spaces, or, as we prefer, they can be tracked open (letterspaced). Most typefaces include an ellipsis character, whose points are more tightly spaced. After a sentence, use a period plus an ellipsis (four dots).

She was 5'2" with eyes of blue. "I'm not dumb," she said. "I'm prime."

**CRIME:** Prime marks (a.k.a. dumb quotes) used in place of quotation marks

The purpose of prime marks, or hatch marks, is to indicate inches and feet. Their use to mark quotations is a common blight across the typographic landscape.

"I'm not smart," he replied. "I'm a quotation mark."

Unlike prime marks, quotation marks include an opening and closing character. Single close quotes also serve as apostrophes. Incorrectly used prime marks must be routed out and destroyed.

Don't put two spaces between sentences. They leave an ugly gap.

**CRIME:** Two spaces between sentences

Although writers persist in putting double spaces between sentences (a habit often learned in high school), all such spaces must be purged from a manuscript when it is set in type.
Since the onslaught of desktop publishing back in the dark days of the mid-1980s, graphic designers have taken on roles formerly occupied by distinct trades, such as typesetting and mechanical pasteup. Designers are often expected to be editors as well. Every project should have a true editor, a person with the training and disposition to judge the correctness, accuracy, and consistency of written content. Neither a project’s author nor its designer should be its editor, who is rightly a neutral party between them. If a project team includes no properly trained editor, try to find one. If that fails, make sure that someone is responsible for this crucial role, for the failure to edit carefully is the source of costly and embarrassing errors.

Editing a text for publication has three basic phases. Developmental editing addresses broad issues of the content and the structure of a work; indeed, it can include judging a work’s fitness for publication in the first place. Copy editing (also called line editing or manuscript editing) seeks to root out redundancies, inconsistencies, grammatical errors, and other flaws appearing across the body of the work. The copy editor—who must study every word and sentence—is not expected to question the overall meaning or structure of a work, nor to alter an author’s style, but rather to refine and correct. Proofreading, which checks the correctness, consistency, and flow of designed, typeset pages, is the final stage. Depending on the nature of the project and its team, each of these phases may go through several rounds.

Anatomy of an Error After a document has been written, edited, designed, and proofread, a printer’s proof is created by the printer from the digital files supplied by the designer. Many clients (or authors) fail to recognize errors (or make decisions) until the printer’s proofs are issued. This luxury has its costs, and someone will have to pay.

Pe’s (Printer’s Errors) These are errors that can be assigned to the printer, and they must be corrected at no expense to the designer or client. A printer’s error is an obvious and blatant divergence from the digital files and other instructions provided by the designer and agreed to by the printer. Printer’s errors are surprisingly rare in the digital age.

Aa’s (Author’s Alterations) These are not so rare. Author’s alterations are changes to the approved text or layout of the work. If the change originates with the designer, the designer is responsible. If it originates with the client or author, she or he is responsible. Keeping records of each phase of a project’s development is helpful in assigning blame later. Designers can charge the client a fee for the AA on top of the printer’s fee, as the designer must correct the file, print out new hard copy, get the client’s approval (again), communicate with the printer (again), and so on. If agreed to in advance, designers can charge AA fees for any change to an approved document, even before the printer’s proof is issued.

Ea’s (Editor’s Alterations) Errors made by the editor are the responsibility of the editor’s employer, typically the client or publisher of the work. Good editors help prevent everyone’s errors from occurring in the first place.


Manuscript editing, also called copyediting or line editing, requires attention to every word in a manuscript, a thorough knowledge of the style to be followed, and the ability to make quick, logical, and defensible decisions. —The Chicago Manual of Style, 2003
Only an editor can see beyond a writer’s navel.

No matter how brilliant your prose, an editor will discover errors in spelling, grammar, consistency, redundancy, and construction.

Writers should not over-format their texts.

The time you spend fiddling with formatting will be spent again by the editor and/or designer, removing extra keystrokes. Provide flush left copy, in one font, double-spaced.

Some lessons learned in high school are best forgotten.

One of them is dotting your i’s with hearts and smiley faces. The other is leaving two spaces between sentences. In typesetting, one space only must be left between sentences.

The space bar is not a design tool.

Don’t use the space bar to create indents (just key in a single tab), and don’t use extra spaces to create centered effects or layouts (unless you really are E. E. Cummings).

Every change threatens to introduce new errors.

Each time a file is “corrected,” new errors can appear, from problems with rags, justification, and page breaks to spelling mistakes, missing words, and botched or incomplete corrections.

Don’t wait for the proofs to seriously examine the typeset text.

Changes made after a printer’s proof has been made (blue line, press proof, or other) are expensive. They also will slow down your project, which, of course, is already late.

Famous last words: “We’ll catch it in the blue lines.”
Writers, editors, and designers use special symbols to mark changes such as deleting, inserting, or correcting words or phrases. If you change your mind about a deletion, place dots beneath it. Remove a comma by circling it. Add a period with a circled dot. If two words run together, insert a straight line and a space mark.

To combine two paragraphs, connect them with a line and note the comment “run-in” in the margin. (Circling notes prevents the typesetter from confusing comments with content.)

Insert two short lines to hyphenate a word such as secondrate. When removing a hyphen, close up the leftover space. To replace a hyphen with an em dash—a symbol that expresses a grammatical break—write a tiny m above the hyphen. If a manuscript indicates dashes with double hyphens—like this—the typesetter or designer is expected to convert them without being told.

Use an en dash, not a hyphen, to connect two numbers, such as 1914–1918.

In addition to correcting grammar, spelling, punctuation, and clarity of prose, editors indicate typographic styles such as italic (with an underscore) and boldface (with a wavy line). Underlining, which is rarely used in formal typography, is removed like this. Draw a line through a capital letter to change it to lowercase. Underline a letter with three strokes to capitalize it.

Use two underlines to indicate small capitals.

Double-space the manuscript and leave a generous margin to provide room for comments and corrections. Align the text flush left, ragged right, and disable automatic hyphenation.

Don't mark manuscripts or proofs with Post-it notes. They can fall off, block the text, and make the document hard to photocopy.
Editing an electronic file and allowing the author to see the changes is called *redlining* (also referred to as “editing online”). Basic housekeeping includes removing all double spaces and converting hatches (a.k.a. “dumb quotes”) to quotation marks and apostrophes (a.k.a. “smart quotes”). The editor need not point out these changes to the author.

Changes to the structure and wording of the text must be communicated to the author. A visual convention is needed for showing deleted and added material. Words to be removed are typically struck out, and words added or substituted can be underlined, highlighted, or rendered in color. A line in the margin indicates that a change has been recommended. [Queries to the author are set off with brackets.]

Underlining—or striking out; punctuation is visually confusing, so the editor often strikes out an entire word, or phrase, or phrase—and types in the freshly punctuated passage as an addition. To hyphenate a word such as *second-rate*, strike it out and add the hyphenated form. When converting hyphens to em dashes (1914–18)—or changing double hyphens to em dashes—the editor simply keys them in. Typographic styles such as *italic*, *boldface*, and small capitals can also be changed directly.

Although redlining is wonderfully fluid and direct, it can be dangerous. The editor must scrupulously remove all traces of the editing process before releasing the file for design and typesetting. Potential disasters include words that are stuck together, a missing , or a forgotten comment to the author [Are you out of your mother-loving mind?].

---

A. Queries to the author can also take the form of footnotes. Identify these notes with letters, so they are not confused with footnotes that belong to the text.
proofreading takes place after an edited manuscript has been designed and typeset. New errors can appear at any time during the handling of a document, and old errors previously unrecognized—
can leap to the eye once the text has been set in type. The proofreader corrects gross errors in spelling, grammar, and fact, but avoid changes in style and content. Changes at this stage are not only expensive, but they can affect the page design and introduce new problems.

Proofreading is different task from editing, although the editor may play a role in it, along with or in addition to the author or client. Although the designer or typesetter should not be given the role of proof reader, designers must nonetheless inspect their work carefully for errors before sending it back to the editor, author, or client.

Mark all corrections in the margin of the proof, and indicate the position of changes within the text. Don't write between the lines. Many of the same interline symbols are used in proofreading and in copy editing, but proofreaders use an additional set of flags for marginal notes.

Don't obliterate what is being crossed out and deleted so the typesetter can read it.

Mark all changes on one master proof. If several copies of the proof are circulated for approval, one person (usually the editor) is responsible for transferring corrections to a master copy.

Don't give the designer a proof with conflicting or indecisive comments.

Types of proofs Depending on how a project is organized and produced, some or all of the following proofs may be involved.

Galley proofs are typically supplied in a book-length project. They consist of text that has been typeset but not paginated and do not yet include illustrations.

Page proofs are broken into pages and include illustrations, page numbers, running heads, and other details.

Revised proofs include changes that have been recommended by the proofreader and input by the designer or typesetter.

Printer's proofs are generated by the printer. At this phase, changes become increasingly costly, complex, and ill-advised. In theory, one is only looking for printers' errors—not errors in design or verbal style—at this stage. Printer's proofs might include blue lines (one color only) and/or color proofs.

1. The designer and typesetter may be the same person. In a design studio, as opposed to a publishing house, designers are generally responsible for typesetting.
<table>
<thead>
<tr>
<th>Editorial Change</th>
<th>Mark in Text</th>
<th>Mark in Margin</th>
<th>Editorial Change</th>
<th>Mark in Text</th>
<th>Mark in Margin</th>
</tr>
</thead>
<tbody>
<tr>
<td>delete</td>
<td>delete</td>
<td></td>
<td>letterspace</td>
<td>letterspace</td>
<td></td>
</tr>
<tr>
<td>delete and close up</td>
<td>delete and close up</td>
<td></td>
<td>close up</td>
<td>close up</td>
<td></td>
</tr>
<tr>
<td>let it stand (set)</td>
<td>let it stand</td>
<td>#</td>
<td>insert space</td>
<td>insert space</td>
<td>#</td>
</tr>
<tr>
<td>insert text or character</td>
<td>insert</td>
<td>less #</td>
<td>reduce space</td>
<td>reduce space</td>
<td></td>
</tr>
<tr>
<td>run in paragraph</td>
<td>run in paragraph</td>
<td></td>
<td>transpose</td>
<td>transpose</td>
<td></td>
</tr>
<tr>
<td>start new paragraph</td>
<td>start new paragraph</td>
<td></td>
<td>flush right</td>
<td>flush right</td>
<td></td>
</tr>
<tr>
<td>insert punctuation</td>
<td>insert punctuation</td>
<td></td>
<td>flush left</td>
<td>flush left</td>
<td></td>
</tr>
<tr>
<td>change punctuation</td>
<td>change punctuation</td>
<td></td>
<td>indent 1 em</td>
<td>indent 1 em</td>
<td></td>
</tr>
<tr>
<td>insert hyphen</td>
<td>insert hyphen</td>
<td></td>
<td>move to next line</td>
<td>move to next line</td>
<td>T.O.</td>
</tr>
<tr>
<td>insert parentheses</td>
<td>insert parentheses</td>
<td></td>
<td>superscript</td>
<td>superscript</td>
<td></td>
</tr>
<tr>
<td>insert en or em dash</td>
<td>insert en dash</td>
<td></td>
<td>align vertically</td>
<td>align vertically</td>
<td></td>
</tr>
<tr>
<td>insert quotes</td>
<td>insert quotes</td>
<td></td>
<td>align horizontally</td>
<td>align horizontally</td>
<td></td>
</tr>
<tr>
<td>capitalize</td>
<td>capitalize</td>
<td>cap</td>
<td>spell out abbreviation</td>
<td>spell out abbreviation</td>
<td>SP</td>
</tr>
<tr>
<td>change to lowercase</td>
<td>change to lowercase</td>
<td></td>
<td>use ligature</td>
<td>use ligature (flour)</td>
<td></td>
</tr>
<tr>
<td>change to small caps</td>
<td>small caps</td>
<td></td>
<td>query that cannot be resolved by proofreader</td>
<td></td>
<td>query</td>
</tr>
<tr>
<td>change to bold</td>
<td>bold</td>
<td>bf</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>change to roman</td>
<td>roman</td>
<td>rom</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>wrong font</td>
<td>wrong font</td>
<td>wf</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Think more, design less.

Many desperate acts of design (including gradients, drop shadows, and the gratuitous use of transparency) are perpetrated in the absence of a strong concept. A good idea provides a framework for design decisions, guiding the work.

Say more, write less.

Just as designers should avoid filling up space with arbitrary visual effects, writers should remember that no one loves their words as much as they do.

Spend more, buy less.

Cheap stuff is usually cheap because of how it’s made, what it’s made of, and who made it. Buy better quality goods, less often.

May your thoughts be deep and your wounds be shallow.

Always work with a sharp blade. Although graphic design is not a terribly dangerous occupation, many late-night accidents occur involving dull X-Acto blades. Protect your printouts from senseless bloodshed.

Density is the new white space.

In an era of exurban sprawl, closely knit neighborhoods have renewed appeal. So, too, on page and screen, where a rich texture of information can function better than sparseness and isolation.

Make the shoe fit, not the foot.

Rather than force content into rigid containers, create systems that are flexible and responsive to the material they are intended to accommodate.

Make it bigger. (Courtesy of Paula Scher)

Amateur typographers make their type too big. The 12-pt default—which looks okay on the screen—often looks horsey on the page. Experienced designers, however, make their type too tiny: shown here, 7.5-pt Scala Pro.
It is easier to talk than to listen.

Pay attention to your clients, your users, your readers, and your friends. Your design will get better as you listen to other people.

Design is an art of situations.

Designers respond to a need, a problem, a circumstance, that arises in the world. The best work is produced in relation to interesting situations—an open-minded client, a good cause, or great content.

No job is too small.

A graphic designer can set out to change the world one business card at a time—as long as it is the business card of a really interesting person.

An interface calls attention to itself at its point of failure.

Design helps the systems of daily life run smoothly, letting users and readers ignore how things are put together. Design should sometimes announce itself in order to shed light on the system, exposing its construction, identity, personality, and politics.

The idea is the machine that makes the art. (Courtesy of Sol Lewitt)

A powerful concept can drive decisions about color, layout, type choice, format, and so on, preventing senseless acts of whimsy. (On the other hand, senseless acts of whimsy sometimes lead to powerful concepts.)

The early bird gets to work before everyone else.

Your best time for thinking could be early in the morning, late at night, or even, in rare circumstances, during class or between nine and five. Whether your best time is in the shower, at the gym, or on the train, use it for your hardest thinking.

Build the discourse.

Design is social. It lives in society, it creates society, and it needs a society of its own—a community of designers committed to advancing and debating our shared hopes and desires. Read, write, and talk about design whenever you can.

Go forth and reproduce.
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baseline grid 98–99
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