

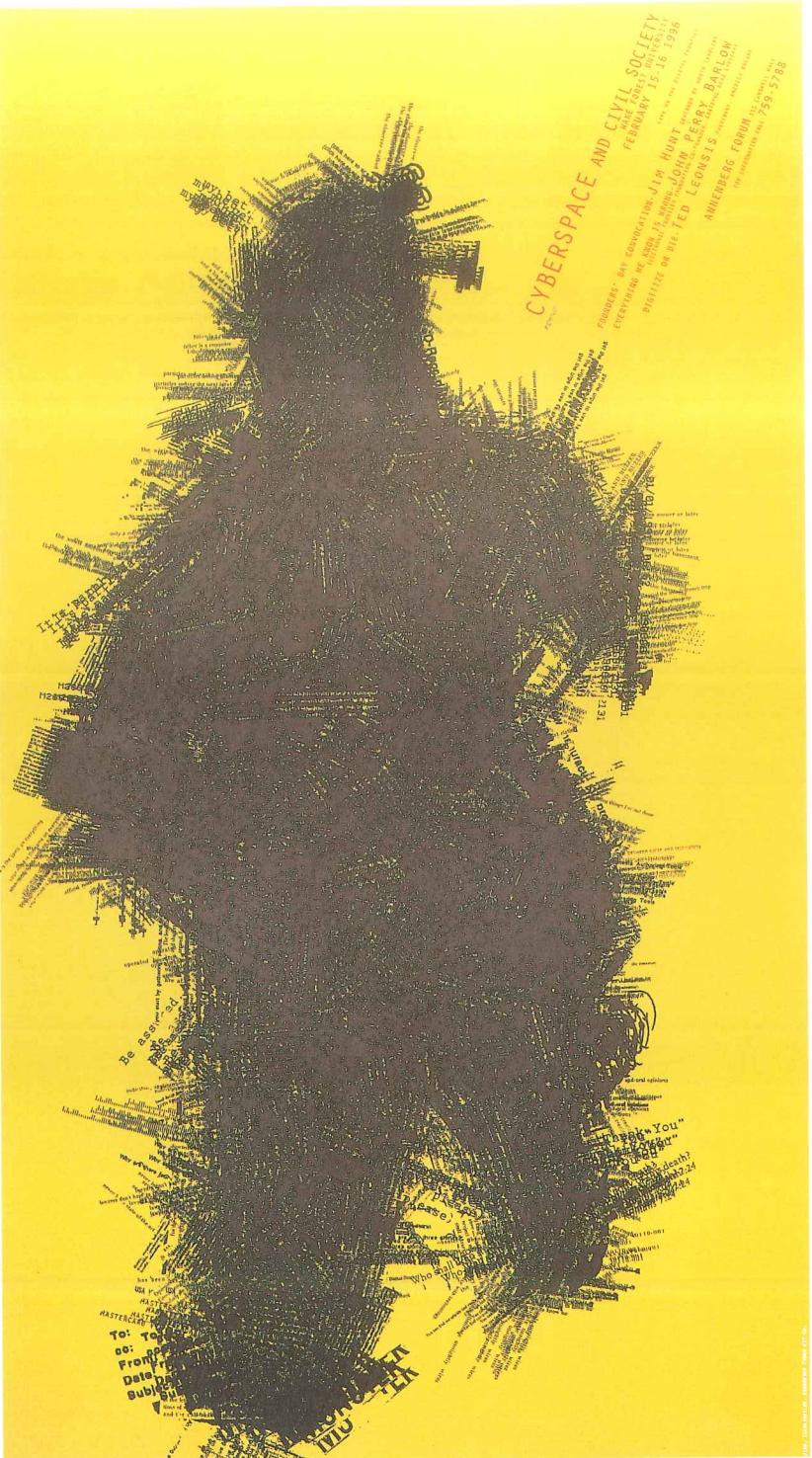
TEXT

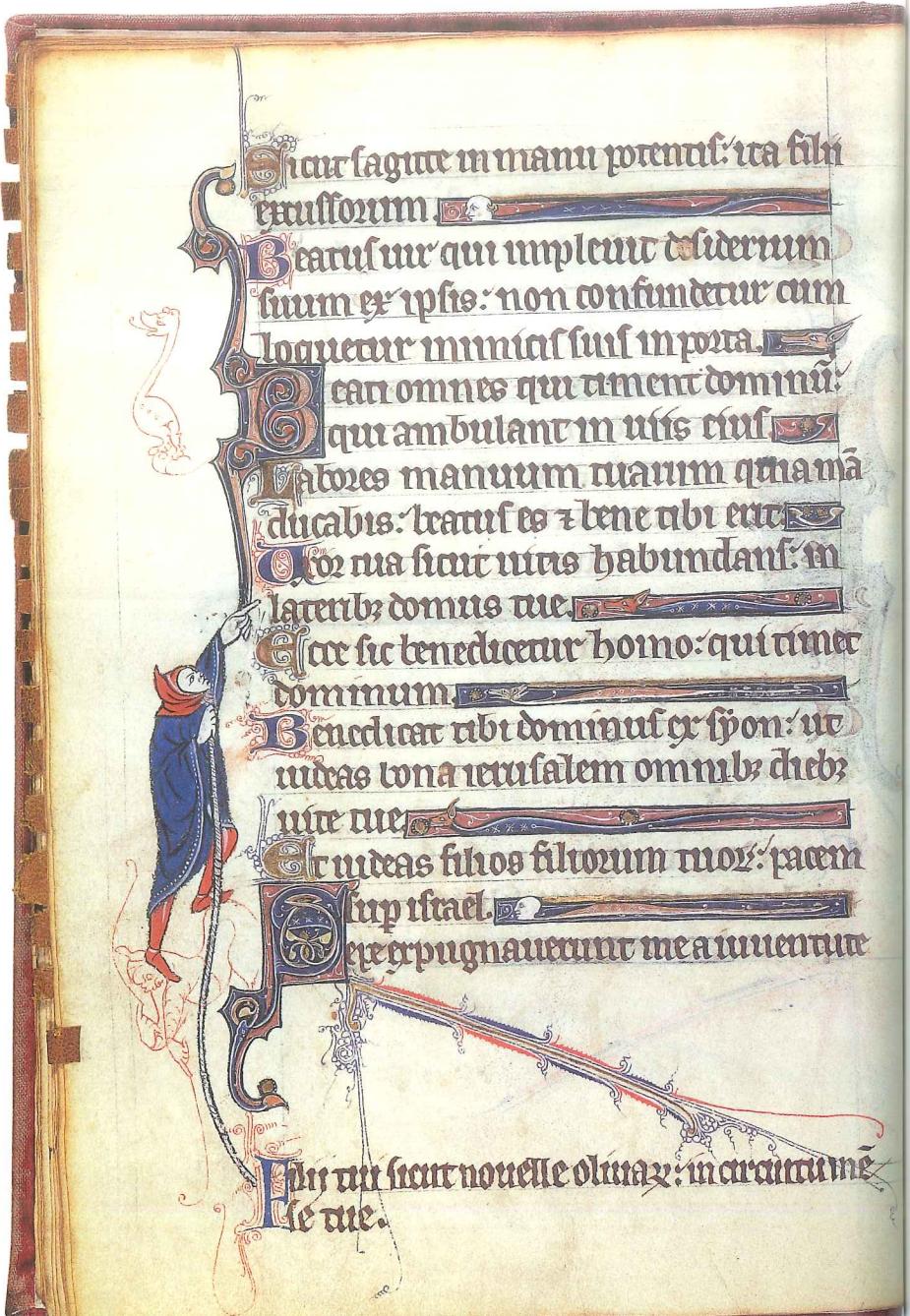
LETTERS GATHER INTO WORDS, WORDS BUILD INTO SENTENCES.

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*.





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 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.** On-line 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 future of intellectual property, see Lawrence Lessig, *Free Culture: How Big Media Uses Technology and the Law to Lock Down Culture and Control Creativity* (New York: Penguin, 2004).

Marshall McLuhan,
The Gutenberg Galaxy
(Toronto: University of Toronto Press, 1962).

THE TELEPHONE BOOK:
TECHNOLOGY, SCHIZOPHRENIA, ELECTRIC SPEECH
Book, 1989
Designer: Richard Eckersley
Author: Avital Ronell
Composer: Michael Jensen
Publisher: University of Nebraska Press
Photograph: Dan Meyers
This book, a philosophical study of writing as a material technology, uses typography to emphasize the rhetorical argument of the text. This spread, for example, is fractured by typographic "rivers," spaces that connect vertically through the page. Rivers violate the even, unified texture that is a sacred goal within traditional typographic design.

On the Way to Language

"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*, 2). Derrida demonstrates for his part that general structure of the mark participates in a speech advance to addressees (*destinataires*) who are not easily who, as far as any possible calculation is concerned, in command a great reserve of indetermination. This involves a system of marks: "Language, however, is only those systems of marks that claim this curious tendency as they simultaneously incline towards increasing the random indetermination as well as the capacity for coding coding or, in other words, for control and self-regulation" We begin to discern how the simultaneity of determining, and even supercoding forms a deep cooperation with the in language toward anticoding, or what Derrida sees as the serves of random indeterminateness. This double-edged must remember, regards, as it were, nonschizophrenic such a thing there be. "Such competition between randomness and code disrupts the very systematicity of the system while however, regulates the restless, unstable interplay of the Whatever its singularity in this respect, the linguistic these traces or marks would merely be, it seems to me, just a particular example of the law of destabilization" (*MC*, 2). It may be useful to note that Derrida understands language in terms primarily of traces and marks, where Lainguage concerns signs in the first place, and in particular the broken rapport of signifying 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 presence—rather than trace or residual mark—from 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 means to engage a dialogue between the question raised by Laing and the ones raised in turn by Derrida. For it now appears that Laing places his bets on the sustained systematicity law of destabilization.⁸⁹ Moreover, Derrida does not

destination, for example to knowing the most structure of the mark destined in advance determinable or any case common language operating as one among their properties reserves of and over- (*MC*, 2). coding, inclination inflated re-coding, we 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, just a particular example of the law of destabilization" (*MC*, 2). It may be useful to note that Derrida understands language in terms primarily of traces and marks, where Lainguage concerns signs in the first place, and in particular the broken rapport of signifying 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 presence—rather than trace or residual mark—from 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 means to engage a dialogue between the question raised by Laing and the ones raised in turn by Derrida. For it now appears that Laing places his bets on the sustained systematicity law of destabilization.⁸⁹ Moreover, Derrida does not

SPACING

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 to see how important it has become.

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.

Walter Ong, *Orality and Literacy: The Technologizing of the Word* (London and New York: Methuen, 1981). See also Jacques Derrida, *Of Grammatology*, trans. Gayatri Chakravorty Spivak (Baltimore: Johns Hopkins University Press, 1976).

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 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.

Linearity dominates many of the commercial software applications that have claimed to revolutionize everyday writing and communication. Word processing programs, for example, treat documents as a linear stream. (In contrast, page layout programs such as Quark XPress and Adobe InDesign allow users to work spatially, breaking up text into columns and

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

On the linearity of word processing, see Nancy Kaplan, "Blake's Problem and Ours: Some Reflections on the Image and the Word," *Readerly/Writterly Texts*, 3.2 (Spring/Summer 1996), 125. On PowerPoint, see Edward R. Tufte, "The Cognitive Style of PowerPoint," (Cheshire, Conn.: Graphics Press, 2003).

On the aesthetics of the database, see Lev Manovich, *The Language of New Media* (Cambridge: MIT Press, 2002).

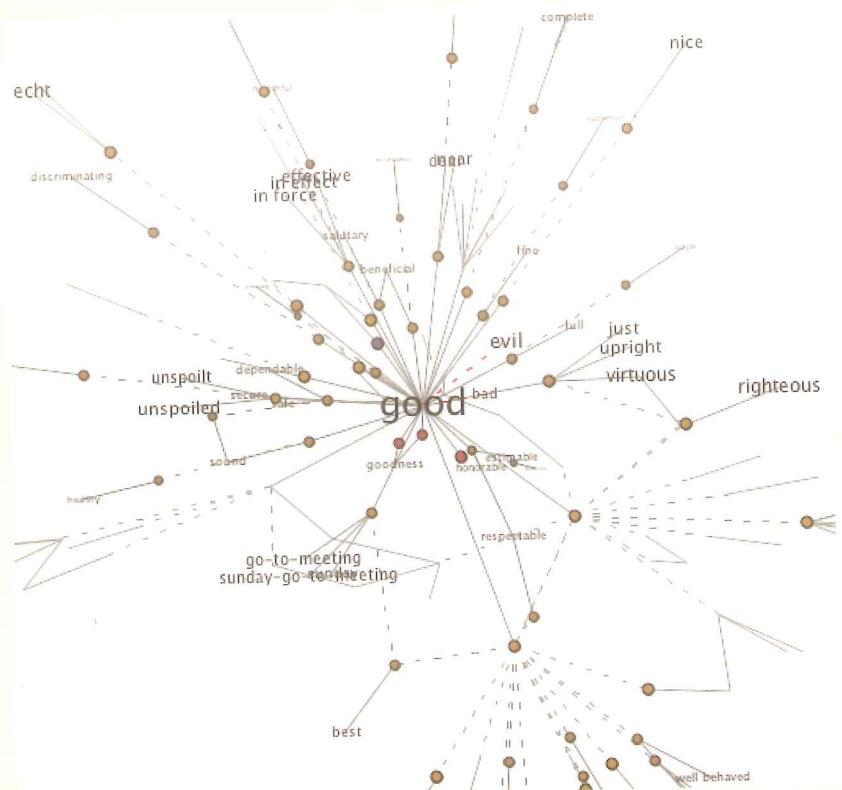
pages that can be anchored and landmarked.) PowerPoint and other presentation software programs are supposed to illuminate the spoken word by guiding the audience through the linear unfolding of an oral address. Typically, however, PowerPoint enforces the one-way flow of speech rather than alleviating 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 an essentially 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 freestanding 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, bookmarked, translated into audio, 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

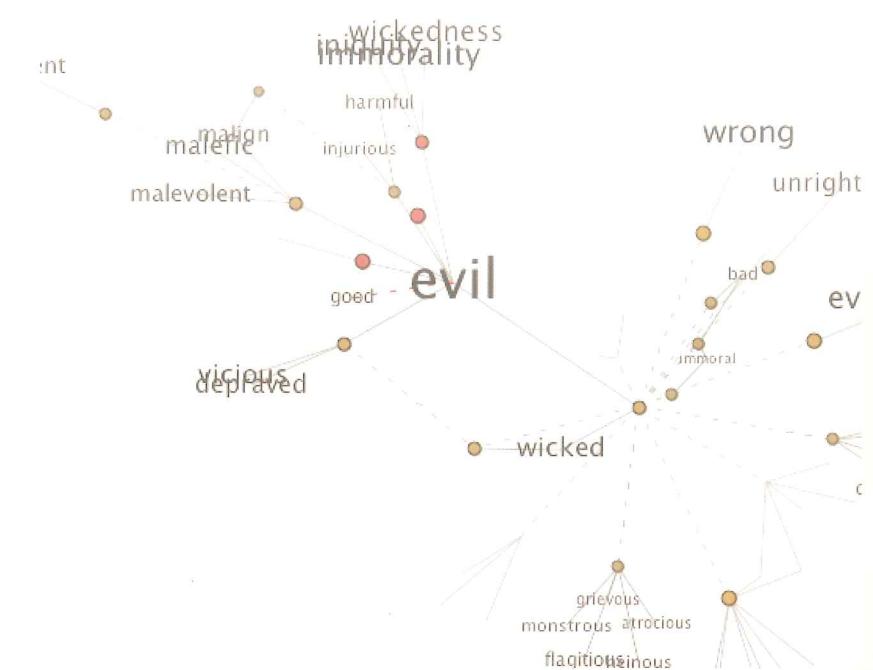


VISUAL THESAURUS 2.0

Interactive media, 2003

Designers: Plumb Design Inc.

This digital thesaurus presents words within a three-dimensional web of relationships. The central term is linked to nodes representing that word's different senses. The more connections each of these satellite nodes contains, the bigger and closer it appears on the screen. Clicking on a satellite word brings that term to the center.



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

BIRTH OF THE USER

Roland 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 that reproduces it" (102). 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 trying also 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 respond 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.
Jef Raskin, 2000

KATHERINE MCCOY MICHAEL MCCOY

ART SCIENCE

Nothing pulls you into the territory between art and science quite so quickly as design. It is the borderline where contradictions and tensions exist between the quantifiable and the poetic. It is the field between desire and necessity. Designers thrive in those conditions, moving between land and water. A typical critique at Cranbrook can easily move in a matter of minutes between MATHÉMATIQUE poétique a discussion of the object as a validation of being to the precise mechanical proposal for actuating the object. The discussion moves from Heidegger to the "strange material of the week" or from Lyotard to printing technologies without missing a beat. The free flow of ideas, and the leaps from the technical to the mythical, stem from the attempt to maintain a studio platform that supports each student's search to find his or her own voice as a designer. The studio is a hothouse that enables students

the and faculty to encounter their own visions of the world and act on them — a new process that is at times chaotic, conflicting, and occasionally inspiring.

Watching the process of students absorbing new ideas and influences, and the incredible range of interpretations of those ideas into design, is an annual experience that is always amazing. In recent years, for example, the department has had the experience of watching wood craftsmen metamorphose into high technologists, and graphic designers into software humanists. Yet it all seems consistent. They are bringing a very personal vision to an area that desperately needs it. The messiness of human experience is warming up the cold precision of Purist pluralism technology to make it livable, and lived in.

Unlike the Bauhaus, Cranbrook never embraced a singular teaching method or philosophy, other than Saarinen's exhortation to each student to find his or her own way, in the company of other artists and designers who were engaged in the same search. The energy at Cranbrook seems to come from the fact of the mutual search, although not the mutual conclusion. If design is about life, why shouldn't it have all the complexity, variety, contradiction, and sublimity of life?

Much of the work done at Cranbrook has been dedicated to changing the status quo. It is polemical, calculated to ruffle designers' feathers. And

DANGEROUS RIGOROUS

CRANBROOK DESIGN:
THE NEW DISCOURSE
Book, 1990
Designers:
Katherine McCoy,
P. Scott Makela, and
Mary Lou Kroh
Publisher: Rizzoli
Photograph: 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
an author's 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 Web sites 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

On screen readability, see John D. Gould *et al.*, “Reading from CRT Displays Can Be as Fast as Reading from Paper,” *Human Factors*, 29, 5 (1987): 497–517.

On the restless user, see Jakob Nielsen, *Designing Web Usability* (Indianapolis: New Riders, 2000).

On the failure of interface icons, see Jef Raskin, *The Humane Interface: New Directions for Designing Interactive Systems* (Reading, Mass.: Addison-Wesley, 2000).

On transmedia design thinking, see Brenda Laurel, *Utopian Entrepreneur* (Cambridge: MIT Press, 2001).

Jef Raskin talks about the scarcity of human attention as well as the myth of white space in *The Humane Interface: New Directions for Designing Interactive Systems*, cited on p. 74.

Web users don’t like to read....They want to keep moving and clicking.
Jakob Nielsen, 2000

of 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

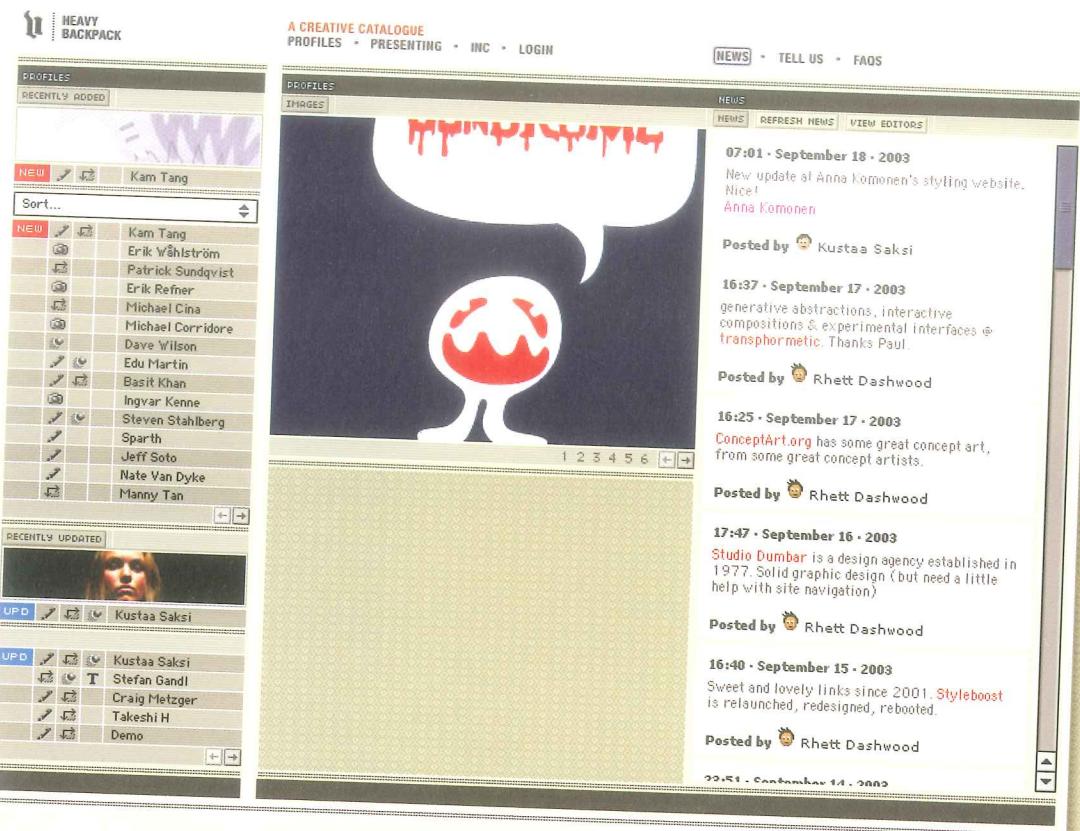
TYPGRAPHY, INVENTED IN THE RENAISSANCE, allowed text to become a fixed and stable form. Like the body of the letter, the body of text was transformed by print into an industrial commodity that gradually became more open and flexible.

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 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, Web sites, 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.

On electronic writing, see Peter Lunenfeld, *Snap to Grid: A User’s Guide to Digital Arts, Media, and Cultures* (Cambridge: MIT Press, 2001); Jay David Bolter, *Writing Space: Computers, Hypertext, and the Remediation of Print* (Mahwah, NJ: Lawrence Erlbaum Associates, 2001), and Stuart Moulthrop, “You Say You Want a Revolution? Hypertext and the Laws of Media,” *The New Media Reader*, ed. Noah Wardrip-Fruin and Nick Montfort (Cambridge: MIT Press, 2003), 691–703.



HEAVY BACKPACK
Web site, 2003
A celebration of visual density is seen in this site that collects and annotates links to other sites.

Do we not have hands
organs, dimensions



The corpse of the Australopithecus he had killed lay nude before him. Using two flat stones, he made a cradle to hold his music, the thick book of mysteries he had found in the weeds: *Grant's Anatomy and Dissector*. He knelt down beside her, a cellist about to perform. *Hold the scalpel like a cello bow*, he read, gripping a sharpened clam shell. Then—a quick check against the diagram in the book—he pressed the shell's point into the ape-woman's chest—the flesh yielded easily, blood oozing out not as from a mortal puncture but with no pressure or urgency, as though it was okay, and he continued his bow's stroke—the low opening of a requiem—gaining confidence as he lengthened the incision toward her *Mons Veneris* (fig. A). He wiped the sweat from his eyes. Since she was more simian than a Neanderthal, he had expected her hide to be at least as thick as a callus so was surprised to find how much like himself an Australopithecus could be.



5489742

PROCESS FOR THE MANUFACTURE OF WHOLLY MICROFABRICATED BIOSENSORS

rw D 105

He took a deep breath, then began a second long cut, curving around the other breast, then the navel, duplicating the pattern in the book till her torso was dominated by a brilliant red Y
...senses, affections, passions?—

As it said in *Grant's*, Square cut a "buttonhole" near her navel. Hooking a finger through it Are we not fed with the same food, hurt with the same weapons, subject to he pulled the skin of her torso up and over her face. Just as quick, she was transfigured before his eyes: a shimmering anatomical sculpture of rropy muscles, pink and red with striations of yellow fat. A scent of fresh meat wafted up, making his nostrils twitch.

In the book, transparent overlays, smooth as membranes, presented the body as layers where everything rhymed, and turning a leaf, he wished it were that easy. His thumb left a bloody smudge print on one stanza.
...divide the pleura, being careful to....



5546131

TRANSGENIC ANIMAL MODELS OF INFLAMMATORY DISEASE

rw B 36



Are we not fed with the same food, hurt with the same weapons, subject to the same diseases?...

VAS: AN OPERA IN FLATLAND
Book, 2002

Designer: Stephen Farrell
Author: Steve Tomasula
Publisher: Station Hill Press,
In this typographic novel about post genetic civilization, texts and images align against a series of thin rules incising the outer margins. The boldface letters along the flush edge of the text body accentuate the column structure. The book is printed throughout in three colors (flesh, blood, and black). The body of text is explored as an open system.

Takes two

SCALA, WITH KERNING SUPPRESSED
Spacing appears uneven, with gaps around the T and w.

Takes two

SCALA, WITH KERNING
Spacing seems more even, although some characters nearly touch.

nearly touch

SCALA ITALIC, WITH KERNING SUPPRESSED
A gap appears between the l and y.

nearly touch

SCALA ITALIC, WITH KERNING
The characteristic intimacy of italic requires kerning.

rub my back

rub my back

rub my back

KERNING If letters in a typeface are spaced too uniformly, they make a pattern that doesn't look uniform enough. Gaps occur, for example, around letters whose forms angle outward or frame an open space (W, Y, V, T, L). In metal type, a *kerned* letter extends past the lead slug that supports it, allowing two letters to sit more closely together. In the digital typefaces used today, the space between letters is controlled by a table of *kerning pairs*, which specify spaces between different letter combinations.

LOVE LETTERS

The VE and TT combinations make the words look mismatched.

LOVE LETTERS

Kerning has been manually adjusted for a more even appearance.

LOVE LETTERS

SCALA CAPITALS, NORMAL TRACKING

LOVE LETTERS

SCALA CAPITALS, LOOSE TRACKING

LOVE LETTERS LOVE LETTERS

SCALA SMALL CAPITALS, NORMAL VS. LOOSE TRACKING

love letters love letters

SCALA, ROMAN AND ITALIC, LOOSE TRACKING

love letters love letters

SCALA, ROMAN AND ITALIC, NORMAL TRACKING

TRACKING Adjusting the overall space between letters, rather than the space between two characters, is called *tracking*, also known as letterspacing. It is common practice to letterspace capitals and small capitals, which appear more regal when standing apart. By slightly expanding the tracking across a body of text, the designer can create a more airy field. Negative tracking is rarely desirable. This device should be used sparingly, to adjust one or more lines of justified type.

Lowercase letters respond less favorably to letterspacing than do uppercase letters, because they are designed to sit together intimately on a line.

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. Automated kerning tables solve these problems in most situations, but some letters may require personal attention at larger sizes. Capital letters, being square and conservative, prefer to keep a little distance from their neighbors.

POSITIVE 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. Automated kerning tables solve these problems in most situations, but some letters may require additional guidance at larger sizes. Capital letters, being square and conservative, prefer to keep a little distance from their neighbors.

NEGATIVE 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. Automated kerning tables solve these problems in most situations, but some letters may require additional guidance at larger sizes. Capital letters, being square and conservative, prefer to keep a little distance from their neighbors.

TYPE CRIME:

TOO MUCH SPACE
*Mind the gap,
especially at larger sizes.*

KERNING LARGER SIZES Because the space between characters expands as the type size increases, designers often fine-tune letterspacing when working with large letters. As the word "rub" gets bigger, the gap between u and b grows more obvious.

rub my back

TYPE CRIME:
TOO MUCH SPACE
*Mind the gap,
especially at larger sizes.*

NEGATIVE TRACKING
*Make the shoe fit, not the foot.
Don't use negative tracking to save space.*

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. Marianne Moore
mation Adrienne Kennedy, People Who Led to My Play

MARGO JEFFERSON

DANCE INK: AN AVID DREAM
OF TRANSFORMATION
Magazine page, 1992
Designer: Abbott Miller
Publisher: Patsy Tarr
The extreme line spacing
(leading) allows two strands
of text to interweave.

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 slightly greater than the cap height of the letters. Expanding this distance creates a text block with a lighter, more open color. As line spacing increases further, the lines of type become independent linear elements rather than parts of an overall texture.

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 slightly greater than the cap height of the letters. Expanding this distance creates a text block with a lighter, more open color. As line spacing increases further, the lines of type become independent linear elements rather than parts of an overall texture.

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 slightly greater than the cap height of the letters. Expanding this distance creates a text block with a lighter, more open color. As line spacing increases further, the lines of type become independent linear elements rather than parts of an overall texture.

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 slightly greater than the cap height of the letters. Expanding this distance creates a text block with a lighter, more open color. As line spacing increases further, the lines of type become independent linear elements rather than parts of an overall texture.

7/7 SCALA
7-pt type with
7 pts line spacing

This is called "set solid." When lines are set this closely together, the ascenders and descenders begin to touch, an uncomfortable effect.

7/8.5 SCALA
Auto spacing; 7-pt type with
8.5 pts line spacing

In most page layout programs, the default line spacing (leading) is 120%, or slightly greater than the cap height.

7/9 SCALA
7-pt type with
9 pts line spacing

This column is set with wider line spacing (leading) than the standard default.

7/10 SCALA
7-pt type with
10 pts line spacing

As the line spacing becomes more extreme, the block of text begins to read as separate lines rather than a shade of gray.

The arrangement of text into columns with hard or soft edges is called *alignment*. Each basic style of alignment brings aesthetic qualities and potential hazards to the design of page or screen. *Justified* text, which has even edges on both left and right, has been the norm since the invention of printing with movable type, which enabled the creation of page after page of straight-edged columns. Justified type makes efficient use of space, and it also creates a clean shape on the page. Ugly gaps can occur, however, when the line length is too short in relation to the size of type used. Hyphenation breaks up long words and helps keep the lines of text tightly packed. Letterspacing can also be used to adjust a line.

JUSTIFIED

The left and right edges are both even.

When it is good: Justified text makes a clean, figural shape on the page. Its efficient use of space makes it the norm for newspapers and books of continuous text.

When it is evil: Ugly gaps can occur as text is forced into lines of even measure. Avoid this by making sure the line length is long enough in relation to the size of type. As the font gets smaller, more words will fit on each line.

Ugly gaps appear **TYPE CRIME:**
when the designer has
FULL OF HOLES
A column that is too narrow is full of gaps.
l o n g .

In *flush left/ragged right* text, the left edge is hard and the right edge is soft. Word spaces do not fluctuate, so there are never big holes inside the lines of text. This format, which was rarely used 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* along the left edge. A good rag looks pleasantly uneven, with no lines that are excessively long or short, and with hyphenation kept to an absolute 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 LEFT/RAGGED RIGHT

The left edge is hard, and the right edge is soft.

When it is good: Designers choose to set text flush left when they want to respect the organic flow of language and avoid the uneven spacing that plagues narrow columns of justified type.

When it is evil: The flush left column loses its organic appearance when disgraced with a “bad rag.” Strive vigilantly to create the illusion of a random, natural edge without yielding to the sin of hyphenation.

A bad rag will fall into weird shapes along the right edge, instead of looking random.
TYPE CRIME:
BAD RAG
An ugly wedge-shape spoils the ragged edge.

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.

At any rate, 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.

Centered text is symmetrical,

like the facade of a classical building.

Centered type is often employed on invitations, title pages, certificates, and tomb stones.

The edges of a centered column are allowed to be dramatically uneven.

Centered lines are often broken to emphasize a key phrase such as the name of the bride or the date of her wedding)

or to allow a new thought to begin on its own line.

Breaking lines in this manner is called

breaking for sense.

CENTERED

Uneven lines are centered between the left and right edges.

When it is good: Centered text is formal and classical, bearing rich associations with history and tradition. It invites the designer to break a text for sense and create an organic shape in response to the flow of content.

When it is evil: Centered text is static and conventional. Used without care, it looks stodgy, static, and mournful, like a tombstone.

Death is not a crime, and neither is centered type. Embrace the staid formality of this setting with caution, however.

FLUSH RIGHT/RAGGED LEFT

The right edge is hard, and the left edge is soft.

When it is good: Flush right text can be a welcome departure from the familiar. It makes effective captions, sidebars, and marginal notes, suggesting affinities among elements on the page.

When it is evil: Flush right text can be an unwelcome departure from the familiar, annoying cautious readers. Bad rags can threaten flush right text just as they afflict flush left, with the added difficulty that punctuation at the ends of lines can weaken the hard right edge.

TYPE CRIME:
PUNCTUATION EATS THE EDGE
This is not a true crime so much as a situation of compromise.

REST
IN
PEACE

HIERARCHY

- I Division of angels
 - A. Angel
 - B. Archangel
 - C. Cherubim
 - D. Seraphim

- II Ruling body of clergy
 - A. Pope
 - B. Cardinal
 - C. Archbishop
 - D. Bishop

- III Parts of a text
 - A. Work
 - B. Chapter
 - C. Section
 - D. Subsection

**SYMBOLS, INDENTS,
AND LINE BREAKS**

Hierarchy

Division of angels

- Angel
- Archangel
- Cherubim
- Seraphim

Ruling body of clergy

- Pope
- Cardinal
- Archbishop
- Bishop

Parts of a text

- Work
- Chapter
- Section
- Subsection

**INDENTS AND
LINE BREAKS ONLY**

HIERARCHY

DIVISION OF ANGELS

- Angel
- Archangel
- Cherubim
- Seraphim

RULING BODY OF CLERGY

- Pope
- Cardinal
- Archbishop
- Bishop

PARTS OF A TEXT

- Work
- Chapter
- Section
- Subsection

**FONT CHANGE, INDENTS,
AND LINE BREAKS**

HIERARCHY

ANGEL

- angel
- archangel
- cherubim
- seraphim

CARDINAL

- pope
- cardinal
- archbishop
- bishop

CHAPTER

- work
- chapter
- section
- subsection

**ALIGNMENT, FONT
CHANGE, AND LINE BREAKS**

HIERARCHY A typographic *hierarchy* expresses an organizational system for content, emphasizing some data and diminishing others. A 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 on page) or graphic (size, style, color of typeface). Infinite variations are possible.

REDUNDANCY Writers are generally trained to avoid redundancy, as 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.

BOLD, ITALIC, UNDERLINED CAPS!

**TYPE CRIME:
TOO MANY SIGNALS.
Emphasis can be created
with just one shift.**

CREATING EMPHASIS WITHIN RUNNING TEXT
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**. You can also create emphasis with a **different font**; a full-range type family such as Scala has many font variations designed to work together. If you want to mix font families, such as Scala and **Futura**, adjust the sizes so that the x-heights align.

MAIN HEAD

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 *typothermiac* is constantly tempted to test drive “hot” new fonts, often without a proper license.

SUBSECTIONS

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 *typothermiac* is constantly tempted to test drive “hot” new fonts, often without a proper license.