

# Laws of the Letter

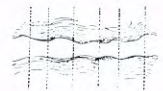
**What sort of sign system is typography?** Is the history of letterforms a logical evolution toward perfect shapes, or a string of responses to the changing philosophy, technology, and social uses of writing? This essay, which considers typography in relation to structuralist theory, charts a shift from the humanist understanding of printed letters as reflections of handwritten marks or classical proportions toward the modernist view of typography as the endless manipulation of abstract elements. In modern typography, systematic relations across the body of the alphabet took precedence over the “character” of individual letterforms.

**Structuralism** emerged from the teachings of Ferdinand de Saussure in the early twentieth century. Saussure’s theory of language infused many later currents of thought, including the anthropology of Claude Levi-Strauss, the philosophy of Jacques Derrida, and the social mythology of Roland Barthes. These writers have looked at the products of human culture—from marriage rituals to soap bubbles—in terms of systems of opposition, patterns of difference that generate meaning.

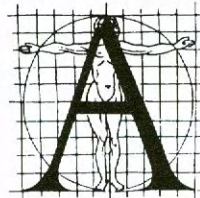
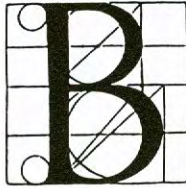
**Saussure attacked the assumption** that language exists to represent ideas. Against the common sense view of language as a passive collection of names assigned to pre-existing concepts, Saussure argued that both thought and sound are shapeless masses before the acquisition of speech. Without language, the realm of potential human sounds is just a field of noise; the plane of concepts is an equally vague nebula of emotions and perceptions. Language links these two layers and cuts them up into discrete, repeatable segments, or signs. “Ideas” emerge only when both of these formless slabs are sliced into units.

**For Saussure**, the most troublesome feature of the linguistic sign was its *arbitrariness*: there is no resemblance between the sound “horse” and the concept of a horse. No natural link binds the material, phonic aspect of the sign (the *signifier*) to the mental concept (the *signified*): only a social agreement appears to hold the two elements together. If the connection between the signifier and signified, the sound and the concept, is arbitrary, what, then, binds the two together? If there is no iconic, natural relationship between the sound “horse” and the concept it invokes, why is the link between them so reliable?

**To explain this link**, Saussure introduced the principle of linguistic *value*. The identity of a sign rests not in the sign itself, but on its relation to other signs in the system. The sound *horse* is recognizable only in opposition to other English sounds: *horse* is distinct from *morse*, *force*, *bourse*, *house*, *hearse*, etc. Likewise the concept “horse” has identity only in opposition to other concepts, such as “cow,” “antelope,” and “pony.” The meaning of a sign does not reside within the sign itself, but is generated from the surrounding system. The sign alone is empty.



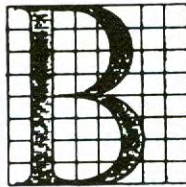
Renaissance theorists sought to derive roman letters from the proportions of the human body and from mathematical relationships endowed with divine significance. See Millard Meiss, "The First Alphabetical Treatises in the Renaissance," *Visible Language* III, 1 (January 1969): 3-30.



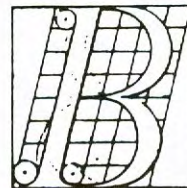
The fusion of rationalism and mysticism is seen in the

theoretical constructions of Geofroy Tory, 1529.

In 1693, a committee of the Académie des Sciences commissioned a study of roman letters constructed on a rational



grid. A typeface based on these diagrams was designed by Philippe Grandjean around 1700. Called the *romain du roi*, it was endorsed by Louis XIV.



The italic version of the king's alphabet was generated by shifting the underlying grid.

This abstract, geometric method of constructing the italic form anticipated mechanical and digital manipulations of letterforms.

The geometrical constructions of the Renaissance and Enlightenment



distanced the printed letter from the gestures of the hand. In the typefaces designed by Giambattista Bodoni in Parma in the late eighteenth century, the serif is a flattened, attenuated slab.



The French typefounder François Ambroise Didot, a contemporary of Bodoni,

produced a typeface in 1784 that surpassed Bodoni's in articulating the serifs as discrete structural elements detachable from the stem.

## STRUCTURALIST TYPOGRAPHY

**What sort of semiotic system** is typography? The alphabet is designed to represent speech. Writing is thus a language depicting another language, a set of signs for representing signs. The design of letterforms is removed one step farther: it is a medium whose signified is not words but rather the alphabet.

"You have two goblets before you.  
One is of solid gold, wrought in the  
most exquisite patterns. The other is  
of crystal-clear glass, thin as a bubble,  
and as transparent...[an] amateur of  
fine vintages...will choose the crystal,  
because everything about it is  
calculated to reveal rather than  
to hide the beautiful thing  
which it was meant

to contain.  
...the virtues  
of the  
perfect  
wine  
glass  
also  
have a

parallel in typography"

BEATRICE WARDE, *The Crystal Goblet*, 1932

**In what ways** has typography responded to its alphabetic signified? While Gutenberg's fonts naturalistically simulated the variety and aura of handwriting, humanist designers at the turn of the sixteenth century distanced the letter from calligraphy by constructing roman alphabets with the tools of geometry. The letterform was no longer thought of as a sequence of manual pen strokes, but as a conceptual ideal bound to no particular technology. This Platonic structure became typography's new signified.

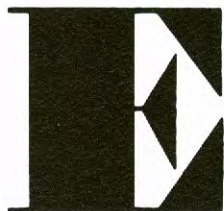
**A committee** established by Louis XIV in 1693 further idealized the alphabet. Embracing the current passion for scientific method, the *romain du roi* imposed an orthogonal grid over the organic forms of traditional lettering. Italic letters were generated by shifting the grid,

a procedure divorced from calligraphy and prophetic of the mathematical distortions enabled by nineteenth- and twentieth-century technologies. The grid was seen as an objective field on which to glimpse the ideal shadow of the alphabet, cast as clearly as the image on the gridded glass of a *camera obscura*.

**Bodoni and Didot** completed the typographic erasure of calligraphy; these faces polarized letterforms into extremes of thick and thin and reduced serifs to wafer-thin slices. While the humanists had hoped to discover absolute proportions legislating the forms of letters, and the creators of the *romain du roi* pursued a norm grounded in scientific and bureaucratic legality, Bodoni and Didot reduced the alphabet to a system of oppositions—thick and thin, vertical and horizontal, serif and stem. Typography was no longer compelled to refer back to an ideal canon of proportions: instead, letterforms were understood as a set of elements open to manipulation. While Bodoni and Didot called their work *classic*, typographers since the early nineteenth century have classified these typefaces as *modern*, for they completed a development away from the organic origins of written forms.

**Modern typography** replaced idealism with relativism. The notion of a direct ancestral bond between contemporary typefaces and a divine classical past was displaced by a code of relationships that could yield infinite variations. The alphabet had lost its center: operating in its place was a mode of designing letters that we call *structuralist typography*.

The radical classicism of Bodoni and Didot opened the way for inventive manipulations of the alphabet's linguistic elements by designers of advertising display faces.



Beginning in the early nineteenth century, Fat

Face fonts exaggerated Bodoni's polarization of letterforms into thick and thin elements.



Severe condensing was another popular form of manipulation.

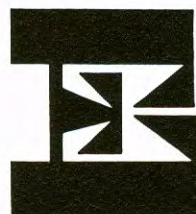
The effect is particularly startling in the letter A in this sample from an 1870 wood type catalogue.

The wholly vertical stress of Bodoni replaced the oblique stress of old-style fonts, which were modelled on calligraphy. This Roman Grotesque, published in 1838, adds a second and more shocking twist to the geometric regularity of modern faces.



The Italian style is another perverse exploration of linguistic

possibility, turning serifs inside out and rotating the thick strokes from vertical to horizontal.



The sans serif display fonts of the nineteenth century are linguistic manipulations in which the serif axis and

the contrast axis have been reduced to zero. This font was published in 1834.



Egyptian or Antique fonts shift the linguistic

function of the serif from a passive, ornamental ending to an active, load-bearing structure.



## TYPOGRAPHIC NOVELTY

The **break** initiated by Didot and Bodoni triggered a population explosion in nineteenth-century commercial typography. A profusion of bizarre new specimens rejected classical norms in favor of the incessant pursuit of novelty. Technology encouraged the spawning of new fonts. The introduction of the combined pantograph and router in 1834 revolutionized wood-type manufacture. The

“Abominable are the tumblers into which he [the bartender] pours his poison. Though true cylinders without—within, the villainous green goggling glasses deceitfully tapered downwards to a cheating bottom. Parallel meridians rudely pecked into the glass surround these goblets. Fill to *this* mark, and your charge is *but a penny*; to *this*, a penny more; and *so on to the full* glass...which you may gulp down for a shilling.”

HERMAN MELVILLE, *Moby Dick*, 1851

pantograph is a tracing device which, when linked to a router for carving letters out of wood or metal, allows different sizes and styles of a font to be generated from a single parent drawing, eliminating the painstaking task of cutting individual punches by hand. This automated approach to type design led the historian Daniel Berkeley Updike to later denounce the pantograph for its tendency to “mechanize the design of types.”

The **programmatically shifts** in scale enabled by the pantograph encouraged an understanding of the alphabet as a flexible system, susceptible to systematic variations divorced from a calligraphic origin. The swelling population of typographic mutants—compressed, expanded, outline, inline, shadowed, extruded, faceted, floriated, perspectival, bowed—signaled a shift in the “signified” of typography. The notion of

letterforms as essential, archetypal structures gave way to a recognition of letters as units within a larger system of formal features (weight, stress, cross-bars, serifs, angles, curves, ascenders, descenders, etc.). The relationships between letters within a font became more important than the identity of individual characters. The variety of nineteenth-century display faces suggested that the “alphabet” is a flexible system of differences, not a pedigreed line of fixed symbols.

The **proliferation of typefaces** available for use in books and advertising led the American Typefounders Company (ATF) to organize fonts into “type families” in the early twentieth century. Each family consists of variations of a single parent design—book, italic, bold, condensed, etc. This system—still in use today—encouraged printers and their clients to use genetically related characters rather than combining fonts of mixed heritage. The use of type families, claimed ATF, had “added dignity and distinction...to commercial printing.” It also reflected the structuralist view of a typeface as a set of genetic traits that could be translated across a series of offspring.

## MODERNISM

**Avant-garde designers** produced fonts in the early twentieth century that tested the structural limits of the alphabet.

A B C D E F G H I J A B C D E F G

**Theo van Doesburg's** 1919 font and Bart van der Leek's 1941 design for *Het Vlas* are typographic translations of the geometric principles of De Stijl painting.

a b c d e f g h i j k l m n o p q r s t u v

**The stencil construction** of Josef Albers's 1925 stencil typeface generates an alphabetic ensemble out of a restricted repertoire of elementary shapes.

a b c d e f g h i j k l m n o p q r s t u v w x y z

**Similarly,** Herbert Bayer's 1925 "universal," designed at the Bauhaus, relies on interchangeable geometric parts to produce a self-consciously rational font.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

**An even more radical reduction** is Wladyslaw Strzeminski's 1931 font, which generates letterforms out of right angles and the arcs of a single circle. The formal parameters of these avant-garde typefaces suppress the individuality of letters by forcing attention to the system—the discrete figures in Strzeminski's font, for example, are indecipherable apart from the surrounding code. These fonts are a typographic analogue for structuralist philosophy and linguistics, which seeks to find, as Derrida has written, "a form or function organized according to an internal legality in which elements have meaning only in the solidarity of their correlation or opposition."

**Structuralist typography** was inaugurated by Bodoni and Didot and was continued by the designers of advertising display faces. By shifting the emphasis from the individual letter to the overall *series* of characters, structuralist typography exchanged the fixed identity of the letter for the relational system of the font. In the twentieth century, modernism invested this mode of formal manipulation with ideological significance by replacing the solicitous novelty of advertising display faces with a visual assault on mass culture and the middle classes.

**The modernism** of De Stijl, Dada, Futurism, Constructivism, and the Bauhaus aimed to "defamiliarize" writing. Defamiliarization, as theorized by the Russian formalist critic Victor Shklovsky in the 1910s, held that the everyday world is invisible until we are forced to see it differently, and that art is a primary means for "making strange" the already-seen and already-known. Cinematic shock techniques, the "New Vision" in photography, and typographic experimentation were facets of the modernist attack on the familiar.

## NEO-MODERNISM

**Designers have** continued to invent typefaces that manipulate the formal system of the alphabet and attempt to defamiliarize the experience of reading.

AaBbCcDdEeFfGgHhIiJ AaBbCcDdEeFfGgHh

**Zuzana Licko's** font Emperor, 1985, embraces the limits of coarse-resolution output. Jeffrey Keedy's 1989 font NeoTheo is an homage to the early avant-garde.

ABCDEFGHIJKLMN OPQRSTUVWXYZ

**The reduced template** of angles behind Max Kisman's 1988 Zwartvet is akin to the minimal geometric vocabulary used in Albers's 1925 stencil letters.

Aabbccddeeffgghhijjkkllmmnnooppqqrrsst

**The emphatic constructedness** of Licko's 1988 Variex family shares the fascination with system and geometry found in Bayer's 1925 "universal."

AaBbCcDdEeFfGgHhIiJjKkLlMmNnOoPp

**These neo-avant-garde** fonts do not take the structuralist idea to the extremes approached by the historical avant-gardes. Licko's 1989 Lunatix, for example, conserves the conventional core of the alphabet, while in contrast, Strzeminski's elliptical font expresses a vast range of functional roles with minimal elements. Like the fonts of the historical avant-gardes, many of these neo-modern typefaces look to technology for aesthetic cues, rather than imitating traditional typographic forms. In the 1920s Bayer and others saw industry as the foundation for a universal and democratic society. A similar technological optimism appears to inform many neo-modern typefaces; these were produced, however, in a post-industrial world where technology is no longer seen as a benign source of liberation.

Jbcdefcdhll 7tL abcdefghijklmn

**The roots of neo-modern** typographers' celebration of digital technology can be seen in the typeface New, constructed by the Dutch designer Wim Crouwel in 1967. Embracing the limitations of CRT display terminals, Crouwel substituted the curves and diagonals traditionally used to construct the alphabet with a minimal array of perpendicular elements. In addition to such serious interpretations of "high" technology, Crouwel's work includes designs linked to the low culture and low technology of Pop. His font Oldenburg (above right) translated the artist's "soft alphabet" into the medium of type. While this second font shares the systematic character of the typeface New, it introduced irony, narrative, and figurative representation into a traditionally abstract realm of communication.

Of Light/Primitive Processes:

Dorothy Potter Barnett

Daniel G. Pohlman  
Jack O. Summers

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Some Shows - La crosse at the Detroit Institute of Arts, Sp. 10

The work of Ed Fella has broadly influenced recent developments in type design. Fella's posters for the Detroit Focus Gallery, produced between 1987 and 1990, feature damaged and defective forms—from third-generation photocopies to broken pieces of transfer type. These imperfect elements are meticulously assembled by hand into free-form compositions. Fella's experiments inspired other designers to construct digital fonts with battered features and hybrid origins. Collection Cooper-Hewitt, National Design Museum.

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LINCOLN EDDY

honorariums provided by the arts foundation of michigan  
curators: richard axson professor of art history, university of michigan, dearborn  
sheree rENSEL, artist, exhibition coordinator, paintcreek center for the arts



## POST-STRUCTURALISM

**Post-structuralist theory** built upon and revised Saussure's ideas by questioning the supremacy of the system as the generator of meaning. While Saussure faulted writing for not being a transparent medium or "crystal goblet" for conveying speech, Derrida challenged this devaluation by foregrounding the typographic and rhetorical materiality of writing. Derrida and other writers have provoked suspicion of coherent "master-codes," such as Marxism or functionalism, that try to ground meaning in a totalizing structure or theory. This destabilizing (de-structuring, deconstructing) approach to language and culture has been called *post-structuralism*.

Template Gothic

AaBbCcDdEeFfGgJjKkLlMmNnO

Dead History

AaBbCcDdEeFfGgHhIiJjKk

Beowulf

AaBbCcDdEeFfGgHhIiJjKkLl

Narly

AaBbCcDdEeFfGgHhIiJjKk

The field of typographic design has seen a shift from the structuralist approach of modernism and neo-modernism to a more skeptical and inclusive view of digital technology.

**Template Gothic**, designed by Barry Deck in 1990, mixes references to hand-made and machine-made forms, low and high technologies. In contrast with Albers's 1925 stencil characters, which celebrated

industrial production and standardization, Deck's Template refers to an imperfect matrix yielding irregular yet mechanically mediated characters. **Dead History**, designed by P. Scott Makela in 1990, splices the traditional serif font Centennial with the rounded sans serif VAG, commonly used in packaging and advertising. Dead History grafts the classical with the Pop, the sharp with the blunt.

**Beowulf**, designed by Erik von Blokland and Just van Rossum in Holland in 1990, is a randomized typeface whose edges change each time the letters are printed. Beowulf exploits digital technology not as a means for seamless reproduction but as a channel for injecting chance and uncertainty into the tidy typographic world.

**Narly**, designed by Zuzana Licko in 1993, is a jubilantly organic revision of structuralist typography. Licko, one of the first designers to match neo-modernism with the Mac, is now breeding new life forms in her typographic hothouse. Strange organisms spawn along the limbs of her letters, from tendrils of ornament to knobby, crusty growths.

These typefaces have exchanged the clean, mechanical paradigm of structuralism for a model that merges biology and technology. Such narrative, referential typographic practices have participated in the broader cultural re-evaluation of modernism. While the avant-garde institutionalized the "shock of the new," post-modernism replaced this faith in renewal with parody, quotation, pastiche, and an uneasy alliance with technology.