```
** initialization complete. **\r
Welcome to Meta-the-Difference-Between-the-Two-Font.
Today is Fri Mar  2 15:27:30 EST 2012
*
Current working directory is /Users/reinfurt/Documents/Projects/META THE DIFFERE
NCE BETWEEN THE 2 FONT/Source/Meta-the-difference between-the-two-Font/v0.6c

              SLANT    | SUPERNESS
                  \    |
                   \   |
                    \  |
                     \ |
                      \|_____________ WEIGHT

                         PEN ===>

WEIGHT=50.00000000000000000000
SLANT=.20000000000000000000
SUPER=.57500000000000000000
PENTYPE=0
PENX=349.50000000000000000000
PENY=100
PENR=216.00000000000000000000
Welcome to Meta-the-Difference-Between-the-Two-Font.
Today is Fri Mar  2 15:27:30 EST 2012
*
Current working directory is /Users/reinfurt/Documents/Projects/META THE DIFFERE
NCE BETWEEN THE 2 FONT/Source/Meta-the-difference between-the-two-Font/v0.6c
mftrace 1.2.16
Font `mtdbt2f4d'...
Using encoding file: `/usr/local/texlive/2011basic/texmf/fonts/enc/dvips/tetex/m
tdbt2f.enc'
Running Metafont...
Tracing bitmaps... [0][1][2][3][4][5][6][7][8][9][10][11][12][13][14][15][16][17
][18][19][20][21][22][23][24][25][26][27][28][29][30][31][32][33][34][35][36][37
][38][39][40][41][42][43][44][45][46][47][48][49][50][51][52][53][54][55][56][57
][58][59][60][61][62][63][64][65][66][67][68][69][70][71][72][73][74][75][76][77
][78][79][80][81][82][83][84][85][86][87][88][89][90][91][92][93][94][95][96][97
][98][99][100][101][102][103][104][105][106][107][108][109][110][111][112][113][
114][115][116][117][118][119][120][121][122][123][124][125][126][127][129][130][
131][132][134][135][136][137][138][140][141][142][143]
Assembling raw font to `mtdbt2f4d.pfa.raw'...
Copyright (c) 2000-2011 by George Williams.
 Executable based on sources from 13:48 GMT 22-Feb-2011-D.
 Library based on sources from 13:48 GMT 22-Feb-2011.
** metafont ok **
** fontforge ok **
** mtdbt2f ok **
Bye.
** mtdbt2f-make ok **
Bye.
** sleep for 0 seconds **
```

This bulletin flows directly from "A Note on the Type" by Dexter Sinister, first published in *The Curse of Bigness*, Queens Museum of Art (2010), then as wall vinyl that comprised an exhibition called "The Plastic Arts," Gallery 400 at University of Illinois, Chicago (2010), subsequently as a text in *Dot Dot Dot 20* (2010), in vinyl for the exhibition "A Note on the Signs" at Artissima, Torino, Italy (2010), and the exhibition "A Note on the T" at Graphic Design Worlds, Milan, Italy (2011), as a text in *Bulletins of the Serving Library #1*, *Afterall* (2011), and in the forthcoming *Graphic Design (History in the Making)*, Occasional Papers (2012).

The full caption for the image on p.158 is: Herbert Bayer, *Research in the development of Universal Type*, 1925. Black ink on paper, 11 3/4 x 23 5/8" (29.8 x 60 cm). Harvard Art Museums/Busch-Reisinger Museum, Gift of the artist. Photo: Imaging Department © President and Fellows of Harvard College. © 2012 Artists Rights Society (ARS), New York/ VG Bild-Kunst, Bonn

Cover image: from The Hollows

BoTSL#3 2012 JUN 11 1:57 PM

In the early 1980s, on the pages of academic design journal *Visible Language*, a classic thesis-antithesis-synthesis played out around the technological and philosophical fine points of computer-assisted type design. Stanford professor Donald Knuth begins with his article, "The Concept of a Meta-font" (Winter 1981). Two years prior, Knuth had conceived and programmed MetaFont—a software that enabled users to generate unlimited numbers of fonts by controlling a limited set of parameters. The article is a performative account of his intervening attempts, using MetaFont to harness the essential "intelligence" of letterforms. In Knuth's view, the way a single letter is drawn—an *a priori* A, say—presupposes and informs all other letters in the same font. This information can be isolated, turned into a set of instructions, and put to work computer-automating the generation of new characters by filling in the features between two or more variables such as weight or slant.

Such intelligence is (and has always been) implicit in any typeface, but Knuth is out to omit all ambiguity and install a more definite system. He acknowledges that this preoccupation with designing meta-level instructions rather than the fonts themselves is typical of the contemporary inclination to view things "from the outside, at a more abstract level, with what we feel is a more mature understanding." From this elevated vantage, MetaFont was set up to oversee "how the letters would change in different circumstances."

A year later, fellow mathematician Douglas Hofstadter responded with his "MetaFont, Metamathematics, and Metaphysics" (Autumn 1982). While "charmed" by Knuth's thesis, and admitting the bias of his own interests in artificial intelligence and aesthetic theory, Hofstadter proceeds to shoot down his colleague's apparent claim that the shape of any given letterform is "mathematically containable." To support his case, he invokes mathematician Kurt Gödel's Incompleteness Theorems, which assert that any account of a logically coherent system always contains one root-level instance that cannot itself be contained by that account. Hofstadter's antithesis then usefully couches the debate in terms of "the letter of the law" versus "the spirit of the law," a familiar antinomy that posits an absolute deference to a set of set rules against a consistent-yet-fluid set of principles. Our prevailing legal system is, of course, based on both: judges base their decisions on firmly established precedent, but also map

uncharted territory by bringing the full range of their experience to bear on specific cases "in a remarkably fluid way." In this manner, the law itself adapts.

Hofstadter argues that an accordingly *spirited* conception of type design would therefore renounce Knuth's ur-A-FORM in favor of a yet-higher-level abstraction, an ur-A-ESSENCE; the fundamental difference being that Hofstadter's notion of "intelligence" extends beyond a Platonic shape, allowing for the concept of *what constitutes an A* to change, too—beyond what we can reasonably conceive of this possibly being in the future. Each new instance of an A adds to our general understanding of this idea (and ideal), which is necessarily assembled backwards over time.

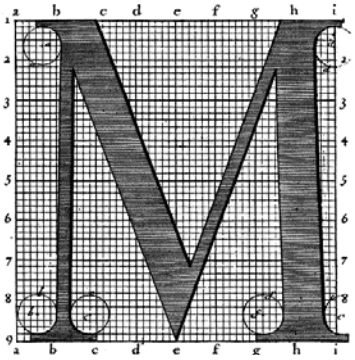
Hofstadter includes this illustration of two letters vying for the same "typographic niche," to make himself clear:

Neatly enough, the following year a linguistics professor called Geoffrey Sampson drafted a brief response to Hofstadter's response to Knuth, titled "Is Roman Type an Open-Ended Question?" (Autumn 1983), which, it turns out, is decidedly rhetorical. Sampson argues that Hofstadter's hairsplitting unfairly and unnecessarily exaggerates Knuth's claims to the point of warping both his meaning and intentions. There is enough metaphysical latitude, the linguist referees, to accommodate both points of view without recourse to the misery of analytical one-upmanship. Sampson's synthesis of letter and spirit contends that it is perfectly reasonable to conceive of letterforms as both a closed system (Knuth's A-shape) AND as an open-ended system (Hofstadter's A-ness).

Relatively speaking, it depends *what you're after.*

. . .

The history of typography is marked by a persistent drive to rationalize. Following the invention of movable type in the mid-15th century, the Renaissance saw several attempts to prescribe the construction of the Roman alphabet: Fra Luca Pacioli's alphabet of perfect relations, Albrecht Dürer's letters of mathematical instructions, and Geoffroy Tory's humanistic rationalizations. These attempts were, however, essentially calligraphic exercises in determining "divine proportions;" the first to apply Enlightenment rationality to properly technical ends was the so-called Romain du Roi, or the "King's Roman." Commissioned by Louis XIV in Paris at the end of the 17th century, it was a typical Age of Reason project—the imposition of a mathematically-rigorous structure on forms that had, until now, developed organically, initially shaped by the human hand (calligraphy, inscriptions, woodcuts) and adapted according to the various demands and opportunities of the printing press and its attendant technologies. Designed by "a royal committee of philosophers and technologists" from the Academy of Sciences, the Romain du Roi was initially plotted on an orthogonal 48 x 48 grid, and a corollary "sloped Roman" italic variant derived by skewing the upright version.



The coordinates were first engraved as a set of instructions, then cut into punches to make metal type, which were to be used exclusively on official or state-approved materials. In this way, the King's letters exerted state power like a great seal or particular signature.

Such ratiocination was revived at the Bauhaus in the 1920s, in line with two of the school's foundational principles set up to meet the demands of industrialization: the omission of ornament and the reduction to geometric elements. The most celebrated outcome was Herbert Bayer's 1925 Universal Alphabet, a pared-down sans-serif comprised exclusively of lower-case characters. Bayer adapted the basic glyphs for typewriter and handwriting, experimented with phonetic alternatives, and proposed a wide family of variants, such as the condensed bold version drawn on this panel:

Alongside the basic character set (minus a presumably redundant o, but with alternatives to a and g, as well as two d's that anticipate lighter weights), Bayer has further abstracted the tools he used to draw it: ruler, T-square, set square, compass and protractor. As such, the drawing captions itself, pointing to its point—that this is a project *intrinsically concerned with a particular mode of construction.* Around the same time, fellow Bauhausler Josef Albers followed similar principles to slightly different ends with his Stencil Alphabet. This, too, was a single-case font, now entirely configured from ten rudimentary shapes, also typically isolated and presented alongside the assembled letters. Drawn and photographed for exclusive use in the school's own publications and publicity, these elemental Bauhaus fonts remained closeted explorations rather than properly industrial products. Neither was properly developed into a "working" typeface, mass-manufactured in metal for wider use. Outside the school, though, prominent *Werkbunder* Paul Renner toned down the hard geometry with gentler, "humanist" sensibilities—more modulation, less harsh on the eye—to yield

his commercially successful Futura. When it was issued in 1927, godfather of the nascent "New Typography," Jan Tschichold, wrote that

it cannot be open to one person to create the letterform of our age, which is something that must be free of personal traces. It will be the work of several people, among whom one will probably find an engineer.

During the 1930s, British type designer Stanley Morison was in charge of Monotype, the most significant type foundry of the day. Morison was solicited by *The Times.*, London's principal newspaper, to take out a £1,000 full-page ad. Morison responded yes, as long he could typeset the page himself, because the newspaper's existing design was in such a dire state. This conversation reportedly carried itself up the *Times*' chain of command, prompting its director to invite Morison to oversee a complete overhaul of the paper's typography. Morison accepted, again on one condition—that the paper abolish the use of full points after isolated proper nouns, which he (rightly) considered superfluous and a prime example of the sort of typographic depravity he intended to stamp out. The paper removed the offending punctuation, and Morison climbed aboard.

Newspaper typography is a particularly sensitive art. Minute adjustments have critical knock-on effects for the amount of news that can be issued —especially when multiplied by the massive circulation figures of *The Times*. In a 25-page memorandum, Morison concluded that the house typeface needed to be updated. What became Times New Roman, however, was neither redrawn from scratch nor merely an amendment of the existing version, but rather *amalgamated* from a number of different typefaces made at various points over the previous 400 years. The mongrel result was effectively collaged from past forms, so the lowercase e doesn't exactly "match" the lowercase a—at least not according to the usual standards of typographic consistency. Up close, Times New Roman is full of such quirks.


THE TIMES

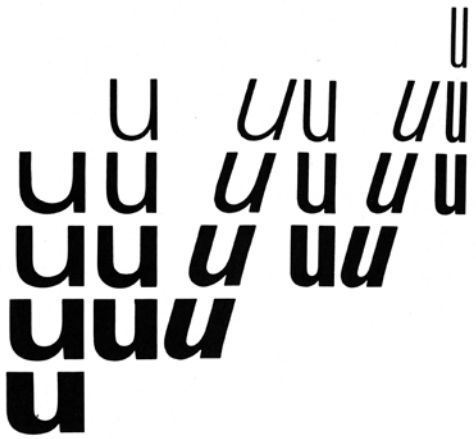
LATE LONDON EDITION — LONDON MONDAY OCTOBER 3 1932 — PRICE 2d

DEATHS (continued) | PERSONAL | PERSONAL | PERSONAL | BUSINESS OFFERS | CLUB ANNOUNCEMENTS

CHEPSTOW RACE CLUB.

The design of letterforms usually manifests an individual designer's aesthetic impulse at a given point in time, but Times New Roman was the bastard offspring of MANY designers working ACROSS time, with Morison's role something like that of producer, editor, or arranger. The most frequently repeated account of the type's development suggests that Morison gave an existing type sample and some rough sketches to an assistant in the paper's advertising department, who duly cobbled together the new font. Whatever the story, in a note on HIS type, Morison concluded, auspiciously enough: "Ordinary readers, for whom a type is what it does, will be pleased to leave them to analyze the spirit of the letter."

French type designer Adrian Frutiger took the rational mapping of the Romain du Roi to another plateau with Univers, released by the foundry Deberny & Peignot in 1957. In line with the all-encompassing aspirations of mid-20th century Swiss design—locus of the so-called International Style—Univers was conceived as an unusually extended family of fonts. The standard palette of variants, traditionally limited to regular, italic, bold, and sometimes bold italic, was expanded sevenfold, yielding a total of 21 fonts to be cut at any given size. In the foundry's publicity, the family was usually housed in a two-dimensional matrix: an X-axis charts relative WIDTH interspersed with POSITION (Frutiger's term for slant), while the Y-axis charts relative WEIGHT. The family DNA is manifest in a few eccentricities, such as a square dot over the i and a double-barred lower-case a, while individual character sets are named according to their position in the matrix—55 for standard roman, 56 for standard oblique, 65 for medium roman, 66 for medium oblique, and so on.



Univers' matrix implies that the family could potentially procreate in any direction *ad infinitum*, and, in fact, the project has remained notably open since its inception. Frutiger himself reworked the typeface for digital release by Linotype in 1997, raising the total number of distinct character sets from the original 21 to 63. These included additions to both ends of the chart (Ultra Light and Extended Heavy), along with new monospace variants, requiring a third number to be added to the identifying code. In the wake of Univers' popularity, further dimensions have since been introduced, including extended character sets such as Central European, and non-Latin alphabets such as Greek, Cyrillic, Arabic, and Japanese. This globalization culminated in 2011 with Linotype rechristening the entire design "Univers Next."

. . .

Towards the end of "The Concept of a Meta-font," an admirably frank Knuth wonders: "The idea of a meta-font should now be clear. But what good is it?"

Hofstadter, for one, had an idea: "Never has an author had anything remotely like this power to control the final appearance of his or her work." Indeed, seeing his own writing in print years earlier, Knuth had been so upset by the shoddy standards of early digital typesetting that he resolved to do it himself—not unlike Morison with his *Times* ad. It took longer than expected, but a decade later, Knuth had designed TeX, an automated typesetting system still in wide use today within academic publishing. MetaFont was initally developed as handmaiden to TeX, to generate the fonts to be used within the broader tasks of document markup and page assembly. However, as MetaFont developed as a project in its own right, its purpose was less immediately apparent. At the time of his *Visible Language* article at least, MetaFont appears to be more a case of hobbyist tinkering in search of an eventual application.

To be fair, Knuth does propose a few uses, all of which were already possible but certainly enhanced by the speed of computer processing. One is the ability to adjust the details of a particular font in line with the limits of a given output device—to make letters thinner or less intricate, for instance, so as to resist type "filling in" with either ink (on paper) or pixels

(on low-resolution monitors). A second is the possibility of generating countless iterations of the same basic design with slight differences in order to compare and contrast. But a more surprising (and most emphatically-stated) third function of MetaFont, according to its creator, is to meet the "real need" of "mankind's need for variety." In other words, to create difference for the sake of difference.

And so the notion of developing MetaFont as an autonomous project rather than as one of TeX's machine-parts appears to aim foremost at expanding the possibilities of literary expression—anticipating "greater freedom," a "typeface of one's own," "multiple fonts to articulate multiple voices," and so on. It's worth recalling, though, that when Knuth invented TeX in order to better typeset his own pages, or Morison refurbished *The Times*, their impetus was fundamentally reactive, not constructive. They weren't out to expand the possibilities for expression *per se*, only to reinstate standards that had been eroded—ones that had been established in the first place to articulate written language as clearly as possible, not to pile on the effects. As Knuth himself states, typefaces are more medium than message, to the extent that "A font should be sublime in its appearance but subliminal in its effect." What he didn't foresee (or at least worry over) is that mankind's real need for variety would tend towards the wholesale takeoever of novelty as an end in itself.

. . .

In his 1928 book *One-Way Street*, the German cultural critic Walter Benjamin had already anticipated Knuth's "power to control the final appearance of his or her work," alluding to the artistic ends that an increased intimacy between writer and technology might foster. Specifically, he predicted that the writer will start to compose his work with a typewriter instead of a pen when "the precision of typographic forms has entered directly into the conception of his books," to the degree that "new systems with more variable typefaces might then be needed."

By writing directly into a mechanical form rather than a manuscript (as we're doing right now) the writer would be working closer to the nature of the multiplied result, and through an increasing awareness and gradual mastery of the form's new limitations and possibilities *the writing itself

would evolve;* the shorter the distance between the raw material of words and their processed output, the more entwined the content and form from the outset. This line of thinking was more famously expounded by Benjamin in his 1936 essay "The Work of Art in the Age of Mechanical Reproduction," which more broadly argues that an authentic, pertinent art is the result of engagement with the latest technological innovations.

Benjamin was an active Marxist, committed to the notion that the technologies of manufacture—the "means of production"—ought to be owned by the people who operate them. In 1934's "The Author as Producer," instead of focusing on factories and workers, he attempts to pinpoint the nature of a *socially committed art.* Writing and the other arts, he writes, are grounded in social structures such as educational institutions and publishing networks, but rather than merely asking how an artist's work stands in relation TO these structures, he queries how it stands IN them. He demands that artists refrain from merely adopting political "content," propagating an ideological cause, and work instead to transform the root-level MEANS by which their work is produced and distributed. This "progressive" artistic approach INEVITABLY manifests a "correct" political tendency. The work practices in lieu of preaching.

Benjamin's first case study in "The Author as Producer" is the Soviet writer Sergei Tretiakov, who lived and worked on an agricultural commune for extended periods before writing his experiences up into a novel. He is offered as an exemplary "operative writer," implicating himself in the matter at hand, as opposed to the common hack who merely observes and "gives information." Benjamin's Exhibit A, though, is his immediate contemporary Bertolt Brecht, who subverted orthodox drama by way of his epic theatre's celebrated "distancing effects"—leaving the lights on, renouncing expository narrative, presenting a series of objective "situations" in order that the spectators draw their own conclusions. Via these and other manipulations of "technique," Brecht transformed "the functional relation between the stage and the public, text and production, director and actor."

Necessarily leading by his own and others' example, then, Benjamin urges the artist to perpetually reconsider his role away from prevailing norms, job descriptions, professional standards, and outside expectations

generally. What MIGHT the work of a constructively-minded "writer" constitute? Are the abilities to distill an opinion and turn a phrase adequately deployed via the regular mediums—newspaper columns, books, journals and pamphlets—or might they be more usefully channeled through writing, say, captions to photographs, or scripts to make films; or indeed by renouncing writing altogether and taking up photography instead? Hence the essay's title is also its proposition: the writer (or artist) should be less a hemmed-in author than a free-ranging producer, closing the divide between her "intellectual" and "productive" activities.

. . .

In "A Note on the Type" (2010) we previously offered a history and extension of Knuth's MetaFont project. Our appreciative "note" (more a love-letter written 30 years late) was then typeset in our own updated version of MetaFont—basically Knuth's project rebooted for the PostScript generation and, following a throwaway remark by the late David Foster Wallace, rechristened Meta-The-Difference-Between-The-Two-Font. That "single" note has since been published in multiple contexts and formats—on screens, pages, and walls. While all conform to the same basic essay template, each new instance adds three bits of writing by other people, each typeset in unique, freshly-generated MTDBT2-fonts to demonstrate the software's essential plasticity. These extra texts have alluded to various facets of the project—*repetition,* *habit,* or *the gray area between art and design,* for example—that have suggested themselves as it has rolled palimpsestuously along.

Meta-The-Difference-Between-The-Two-Font picked up where Knuth's MetaFont left off. In fact, the only OSTENSIBLE difference between the two is that the new version was re-scripted in contemporary code to run on current computers. When typefaces are reduced to on/off bits of information, the typographic norms established by metal type (and carried over into photocomposition) are no longer bound to material necessity —they can be ignored and modified, and this is precisely what Knuth did. However, it was only with the advent and proliferation of PostScript in the early 1980s that typefaces became "device independent," freed from their association with particular composing machines and their controlling companies. But beyond this nominal "language difference," MTDBT2F

remained more or less faithful to MetaFont's founding principles—not least its wacko parameters borrowed from Knuth's Computer Modern font, which include "SUPERNESS," "CURLINESS," and so on.

The ACTUAL difference between the two, on the other hand, is less easy to discern. One clue is the simple difference in time: what it meant to make it *then,* and what it means to make it *now.*

In his essay "On the New" (2002), Russian art theorist Boris Groys wrote:

Being new is, in fact, often understood as a combination of being different and being recently-produced. We call a car a NEW car if this car is different from other cars, and at the same time the latest, most recent model produced … But as Kierkegaard pointed out, to be new is by no means the same as being different … the new is a DIFFERENCE WITHOUT DIFFERENCE, or a difference which we are unable to recognize because it is not related to any pre-given structural code.

He continues:

For Kierkegaard, therefore, the only medium for a possible emergence of the new is the ordinary, the "non-different," the identical—not the OTHER, but the SAME.

MTDBT2F is, more-or-less, the same as MetaFont, abiding the obvious fact that it swallows its predecessor. Although the result may look the same, it clearly can't be, because in addition to the "productive" software, the new version embeds its "intellectual" backstory—a story which is not merely supplementary but absolutely essential. MTDBT2F is a tool to generate countless PostScript fonts, sure, but it is *at least equally* a tool to think around and about MetaFont.

This broader notion is already ingrained in that original *Visible Language* debate, again most keenly foreseen by Hofstadter, who wrote that one of the best things MetaFont might do is inspire readers to chase after the intelligence of an alphabet, and "yield new insights into the elusive 'spirits' that flit about so tantalizingly, hidden just behind those lovely shapes we call 'letters.'" Hofstadter is still referencing fonts and computers here, but

his sentiments can easily be read under what art critic Dieter Roelstraete recently called "the taunting of thought." In fact, Walter Benjamin closed "The Author as Producer" with the following summary:

You may have noticed that the chain of thought whose conclusion we are approaching only presents the writer with a single demand, the demand of REFLECTING, of thinking about his position in the process of production.

At least as much as MTDBT2F serves as a functioning typeface, or set of typefaces, then, it is also a red herring, a carrot, and a mirror. It is a nominal setup for a nominal subject to play out, typically moving in and out of focus, veering off into other fields, and trespassing on other topics. In this unruly manner, the font serves us (or anyone else) exactly as it serves language—as rubber cement, a bonding agent.

. . .

In "The Designer as Producer," a quick riff on "The Author as Producer" from 2004, design critic Ellen Lupton writes that Benjamin "celebrated the proletarian ring of the word 'production,' and the word carries those connotations into the current period," offering us "a new crack at materialism, a chance to reengage the physical aspects of our work." To claim, or reclaim, the "tools of production" in the arts today, though, shouldn't imply some form of engagement, or worse, REengagement, with heavy machinery, hand tools, hard materials, or the studio (art-equivalent of the factory floor). More plausibly, it implies digital code.

Code resides in The Hollows, the curiously-named engine room of immaterial media, domain of scripts and programs, that has been likened by design group Metahaven to the stock market crash: "surface without surface, the exposure of the naked infrastructure or root level system language which precedes surface itself, surface without its effects."

Another recent essay titled after Benjamin and written by Boris Groys, "Religion in the Age of Digital Reproduction," invokes the protagonists of *The Matrix* as being uniquely equipped to perceive the workings of The Hollows. While Neo and co. were able to read image files as code, the average spectator "does not have the magic pill … that would allow him

or her to enter the invisible digital space otherwise concealed behind the digital image." And auspiciously enough, Groys also draws on our by-now-familiar terms, letter and spirit.

In updating Benjamin's title, Groys signals the same basic investigation —of an existing phenomenon (this time religion rather than art) in a new milieu (digital rather than mechanical). Religious practice, he writes, has always involved the reproduction of institutionalized forms, but as Western religion has become increasingly personal and privatized, an unconditional "freedom of faith" has developed alongside traditional, conditional forms. Contemporary fundamentalist religion remains, by definition, grounded in the devout repetition of a fixed "letter" rather than a free "spirit" —material and external rather than essential and implied. This antinomy of "dead letter vs. living spirit" (which tallies easily enough with the legal one related by Hofstadter) informs all Western discourse on religion. On one hand, the typically "spirited" anti-fundamentalist account favors a living, powerful tradition capable of adapting its central message to different times and places, thus maintaining its vitality and relevance. Conversely, the ritualized repetition of the fundamentalist "letter" amounts to a kind of revolutionary stasis or violent rupture in the ever-changing order of things. Religious fundamentalism can thus be conceived as religion *after the death of the spirit:* letter and spirit are separated and polarized to the extent that the former no longer guarantees the latter. "A material difference is now JUST a difference," Groys writes, "—there is no essence, no being, and no meaning underlying such a formal difference at a deeper level."

While earlier media suited and so precipitated the circulation of conditional religion (1:1 mechanically-reproduced texts and images disseminated via orthodox channels), contemporary web-based media more closely approximate and so facilitate the unconditional—the wild dissemination of idiosyncratic views. And as digital reproduction supplants mechanical reproduction, the video image becomes the medium of choice. The cheap, anonymous, promiscuous character of digital information guarantees reproduction and dissemination more than any other historical medium. But what's REALLY being duplicated is, of course, the image's code —its invisible DNA.

In the 1930s, Benjamin had reasonably assumed that future technologies would only continue to guarantee the resemblance between an original and its copy, but now the opposite is true: each manifestation of the original is actually *different;* because typically overridden and recalibrated according to each spectator's local preferences (resolution, color calibration, style sheets, etc.) while ONLY THE CODE REMAINS THE SAME. In Groys' final analysis, spirit and letter are transposed from a metaphysical to a technological plane, where "spirit" is script, and each new visualization of that script is a corresponding "letter." (Picture m4v's, jpeg's and mp3's as angels "transmitting their divine command.") By now the terms are confused to the point of inversion: the so-called "spirit" of digital code is fixed, while the so-called "letter" of its various manifestations is fluid. Consequently, forms—surfaces—are no longer tethered to definite meaning, no longer plausible, and so no longer to be trusted.

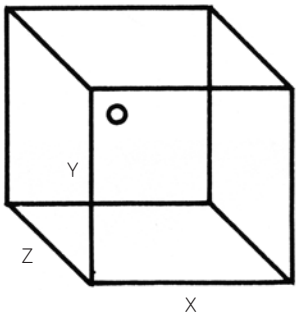
This is old news. However, as digital media become increasingly ubiquitous, templates increasingly homogenous and entrenched, the most likely place a "writer" might usefully "produce" today is in The Hollows. Hidden or invisible, and otherwise inaccessible to most, this is where we might conceivably reconnect spirit and letter, essence and identity —for "Ordinary readers, for whom a type is what it does."

. . .

How to keep things moving?

MetaFont and MTDBT2F were both set up to generate an infinite number of individual typefaces by tweaking a few simple parameters at different points in time. But what if we make one of those parameters *time itself*?

First let's transpose the extant ones onto a 3-D graph, running WEIGHT (a kind of bold) along the X-axis, SLANT (more or less italic) up the Y, and extending SUPERNESS (a kind of chutzpah) off into the Z beyond. We'll ignore CURLINESS for the time being, but we do have to account for a fourth factor, PEN, best conceived as a digital "nib" that determines the line's fundamental shape and angle at any given point.



Now let's send that point *constantly moving* through this imaginary cube. As it wanders randomly and aimlessly through the space, it trails a script that renders an alphabet whose form morphs according to its position relative to the other parameters—not forgetting the fact that the point-nib-pen itself is in perpetual flux. And, crucially, it never stops. The outcome might be usefully apprehended as the potentially endless matrix of Frutiger's Univers, amalgamated over time like Morison's Times New Roman, articulating itself in the manner of Bayer's Geometric Alphabet, over the precise wireframe of Louis XIV's Romain du Roi. Which amounts to a typographic oxymoron: a SINGLE typeface that's simultaneously MANY typefaces and never stops moving.

Naming this shapeshifter is easy enough—just shunt another couple of boxcars onto the end of the night train to arrive at (deep breath) Meta-The-Difference-Between-The-Two-Font-4-D, or MTDBT2F4D for short.

. . .

Writing in one place inevitably *performs* in another.

Here, for example, reflecting on Hofstadter's and Morison's and Groys' various assimilations of the terms "letter" and "spirit" fosters a more robust, compound sense of their allegorical purpose. It produces a cosmopolitan thought. When grappling with ideas in one domain is brought to bear on another, those ideas are more firmly grasped and so more readily utilized somewhere else … towards considering (say) the ways in which relative chauvinism and relative open-mindedness manifest themselves in daily life and work.

Or, equally, writing the first small script when learning a new programming language, the sole purpose of which is to generate two words that mark the border between instruction & instance. Swaddled in asterisks and set without a full point, this text always reads:

Hello world