Visible Language

57 . 2

the journal of visual communication research

august 2023

ISSN 0022-2224

Published continuously since 1967.

Visible Language

the journal of visual communication research

Visible
Language

57 • 2

2023

august

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Dirty Concrete Poetry and White Space:

The Visual Texts of Steve McCaffery and Douglas Kearney

Steven McCarthy

Abstract

Concrete poets Steve McCaffery and Douglas Kearney created exuberant graphic compositions of their words, almost a half century apart, using the typewriter and desktop publishing software on a personal computer, respectively. Because of the gritty, energetic, expressionistic quality of their work, this style is referred to as "dirty concrete poetry." They also approached white space in their poems with a mix of compositional and conceptual intention, although for Kearney, a Black man, the term "white space" takes on additional meaning. This paper explores the visual similarities and differences between the poets and considers how they bridge the verbal, vocal, and visual in their intermedia artform. Because these poets are not well known in the world of visual communications, this paper seeks to bring exposure to a new and relevant audience.

Keywords

Steve McCaffery
Douglas Kearney
concrete poetry
white space
visual text

Introduction

Poets Steve McCaffery and Douglas Kearney share an intermedia triangulation. Although their seminal creative works are separated by half a century, these poets have staked out a territory that sits within the literary traditions of poetry, the visualizations of text as art, and the sonic performances of these pieces as a form of theater. McCaffery and Kearney's works break down conventional discursive boundaries – whether through media, intellectual domain, or artistic genre – into an innovative and integrative whole that challenges, delights, and provokes readers, viewers, and listeners.

The term "verbivocovisual," an alliterative albeit awkward mouthful, attempts to singularly label these three modes of communication and expression. The neologism appeared initially in James Joyce's *Finnegan's Wake* in 1939, influentially in Augusto de Campos' "Concrete Poetry: A Manifesto" in 1956, and finally in Marshall McLuhan's 1967 book title *Verbi-Voco-Visual Explorations* (Emerson, 2014, p. 90). Referring to his own process, Kearney describes this overlapping verbal, vocal, and visual trio as "thinking about sonic composition, at the same time I'm thinking about typographic composition, at the same time I'm thinking about lexical composition" (Opera America, 2021, min. 00:33). Although the integrated qualities of McCaffery and Kearney's approach to "intermedia" – a termed coined in the 1960s by Fluxus artist Dick Higgins (Rinaldo, 2018, p. 151) – are inseparable, this paper will focus on the visual aspects.

The limiting term "poet" for McCaffery and Kearney is both professional title and primary academic affiliation – McCaffery was Professor and David Gray Chair of Poetry and Letters at the University at Buffalo (State University of New York system), and Kearney is Associate Professor of Creative Writing at the University of Minnesota. Kearney adds "performer" and "librettist" (writer of operas) to his poet identity on his website douglaskearney.com (2023) while McCaffery is often referred to as a sound poet, performer, and critic. Accolades for both poets have come primarily from within this literary arts community. Kearney received the Foundation of Contemporary Arts' Cy Twombly Award for Poetry, the Poetry Society of America's New American Poet Award, and the Theodore Roethke Memorial Poetry Award, and his recent book *Sho* was a 2021 National Book Award Finalist in the poetry category. McCaffery was twice honored with the Gertrude Stein Award for Innovative North American Poetry.

To the question "What are their poems about?" in terms of literal content, Kearney's topics include "politics, African-American culture, masks, the Trickster figure, and contemporary music" (Poetry Foundation, 2023) as well as his family, his identity, and in light of America's heightened race consciousness, being a "professional Negro" (Foundation for Contemporary Arts 2019, min. 00:15). Kearney uses expressive visual form to amplify and comment on his subject matter. McCaffery's "poetry is interested in exploding the habits of language use, and he has consistently tried to release the sound and emotion of poetry from the intellectual control of language," (Boyd, 2015) while some of his poems address topics of spirituality and philosophy. McCaffery's work asserts that form as content can contest the very nature of language, less "about something" and more a deconstruction of vocabulary, syntax, and semantics.

An expansive definition of authorship is required for both poets considering their wide-ranging creative practices, which have resulted in unorthodox graphic artifacts. Indeed, to the "designer as author" theories and self-referential projects that emerged from the discipline of graphic design in the 1990s (Burdick, 1995 & 1996; McCarthy & de Almeida 1996; Lupton, 1998; Poynor, 1998; McCarthy, 2013), one might consider the inversion "author as designer" to describe the process and products of these two artist-poet-performers.

The aim of this paper is threefold: one, to site McCaffery's and Kearney's works within a chronology of concrete poetry as impacted by each poet's milieu; two, to show how technological affordances (the typewriter and the personal computer) contributed to their aesthetic and conceptual approaches to "dirty concrete poetry" and "white space" – both visual and sociocultural; and three, to expose those in the discipline of visual communications (graphic design, typography, advertising, art, art history, etc.) to the lively and innovative visual works of heretofore un- or little-known artists working primarily in the allied fields of literary and performance arts.

Concrete Poetry: A Very Brief Background

The category of "concrete poetry" is the obvious label for graphic works that consider page layout, typographic composition, typeface personality, letter, word, and line spacing as core to the poet's literal and figurative intentions. Concrete poetry has a multifaceted history that emerged during the late nineteenth and early twentieth centuries, as the following examples demonstrate.

French poet Stéphane Mallarmé's seminal work "*Un Coup de Dés Jamais N'Abolira Le Hasard*" ("A Throw of the Dice will Never Abolish Chance") from 1897 considered voluminous white space as a key element. Guillaume Apollinaire's poem from 1916 "*Il Pluet*" ("The Rain") showered words diagonally across the page. He created the neologism "*calligramme*" (Apollinaire, 1918 in Apollinaire, Greet & Lockerbie, 1980) – combining the French words for calligraphy and ideogram – to describe his visual poems. Filippo Marinetti and the Futurists created frenetic visual-verbal compositions in the nineteen-teens, as governed by Marinetti's philosophy of "*Parole in Libertà*" ("Words in Freedom") (McCaffery & Nichol,

1978), which advocated for an unmooring of text from traditional structures and conventions like parallel lines, congruent typography, rational hierarchies, and linear syntax. The collages of printed material in *Merz*, a Dadaist magazine edited by Kurt Schwitters during the 1920s, championed a juxtaposed arrangement of found words that was visually and conceptually a first cousin to concrete poetry.

Concurrent to the development of concrete poetry at the turn of the previous century, although separate intellectually and artistically, the new technology of the manual typewriter led to creative impulses. Called "art-typing," examples exist from the 1890s and beyond of typists exploring the machine's rectilinear and monospace engineering to produce purely visual geometric shapes, patterns, decorative borders, and illustrative designs (Tullett, 2014, p. 20). Layering several glyphs over one another created a dense arrangement of strokes that was novel and newly enabled by the act of inventive typewriting. These experiments were embraced by neither the mainstream art nor the literary communities of the time, however, and seem to have had little bearing on avant-garde practice.

Concrete poetry came in to its own as a formal movement in the 1950s and '60s with several key contributors: the Brazilian Augusto de Campos, Scottish poets Ian Hamilton Finlay and Edwin Morgan (to whom the 1963 coining of the term "typestract," a mashup of typewriter and abstraction, is attributed) (Thomas, 2017, p. 11), and Dom Sylvester Houédard, a British poet and Benedictine monk. Unlike the more free-ranging and explosive graphic compositions of the earlier concrete poets, the work of these mid-century creators was cooler, cleaner, more controlled, and more conceptual.

An alignment with the era's Swiss Modernist graphic design can be found in their use of rectilinear grids, generous white space, sans serif typefaces, and rational geometries. Tools these poets used, like the letterpress and the manual typewriter, had built-in 90˚ grids with X and Y axes and were exploited graphically to achieve a certain look. Houédard's work in particular veered closest to pure abstraction with its flatness, fields of color, acute angles, moiré patterns, and textures. Regarding his poem's page layouts, "the counterspace of the white page … is frequently contemplated" (Simpson, 2012, p. 44). Design critic Rick Poynor establishes "that the connections between concrete poetry and graphic design, in the 1960s and later, were in pressing need of investigation, and that Houédard's text was an essential starting point for this research" (2012).

The Visual Poems of Steve McCaffery

Houédard's concrete poetry preceded and overlapped Steve McCaffery's in the 1960s, with both using typewriters as tools of creation. Houédard used a manual Olivetti Lettera 22, an inexpensive and popular machine released in 1950, while McCaffery used a "sky-blue Smith Corona typewriter" (McCaffery, 2021, unpaginated preface) initially and an IBM Selectric, an electric machine from 1961 with its innovative typeball instead of discrete keys. McCaffery, however, took the typewritten poem into uncharted territory with his unorthodox compositions, his novel use of typewriting technology and the oral performances of his poetry. He made concrete poetry dirty.

"Dirty concrete poetry" was a term in circulation between McCaffery, his contemporary bp Nichol, and others in the Toronto-based poetry scene of the 1960s and '70s. It referred to the grittiness, the layering, the messy expressiveness of McCaffery's poetical typestracts – "those [poems] with amorphous visual shape and complex and involute arrangements of linguistic elements. In dirty concrete there can be no immediate to the whole, only a cumulative interpretation gained by painstaking labor" (Emerson, 2011). "Dirty" applied to the non-syntactical, to asemic writing, to the abstract expressionistic designs of the poems, and possibly to the printed material as well – smudged ink, bleeding colors, cheap paper worn through from the persistent hammering of metal keys.

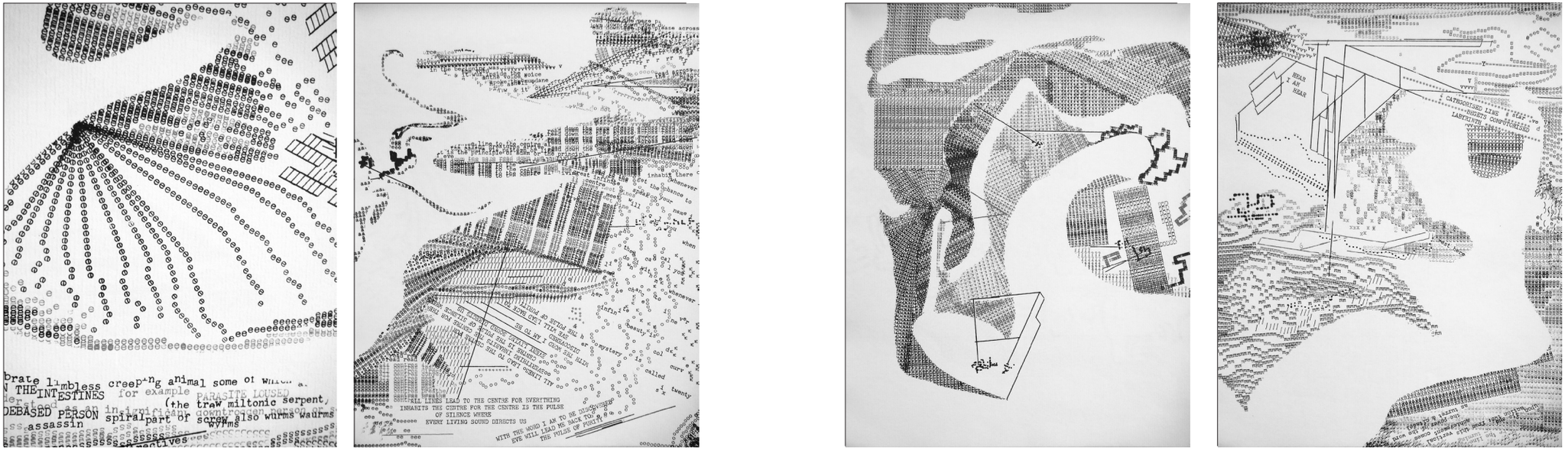
As this paper's author put it in another publication:

> *Using a typewriter to create typestracts, McCaffery applied letters to paper in the way an abstract expressionist painter applies paint: energetically and freely, but not without purpose. While the definition of typestract refers to the creation of abstract forms with a conventional typewriter, McCaffery must have enjoyed the double entendre of* ***type's tract*** *– with type referring to categories of things in common and tract referring to an area of indefinite extent. This is conceptually and graphically evident in his works* ***Carnival, the First Panel*** *created in 1967–1970 (McCaffery, 1973) (Figure 1) and* ***Carnival, the Second Panel*** *from 1970–1975 (McCaffery, 1975).* ***Carnival, the First Panel*** *was imprinted with red and black ink solely from the typewriter's ribbons, while* ***Carnival, the Second Panel*** *added larger rubber-stamped letterforms. (McCarthy, 2013, pp. 72–73)*

McCaffery states that "*Carnival* is planned as a multi-panel language environment, constructed largely on the typewriter and designed ultimately to put the reader, as perceptual participant, within the center of his language" (McCaffery, 1973). The *Panel* series exist as perforated book pages that can be torn from their bindings and assembled into 16-panel grids, with the result a "visual performance of type" (McMahon, 2007, p. 139) akin to a painting or print (McCarthy, 2013, p. 73). That Kearney refers to his own approach as "performative typography" (Poetry Foundation, 2023) is revealing of these poets' similar interests in words as kinetic elements.

Figure 1.

Selection of unpaginated pages from Carnival *the First Panel by Steve McCaffery, 1973 (photos courtesy the author).*



Carnival draws upon the work of earlier concrete poets, but operates less at the level of text or word and more at the level of the discrete phoneme. Rows of individual letters – ooooooooooooo for example – invite readers to decode as "oh oh oh oh…" or as the "u" sound of *moon*, or as a chain, a string of pearls, open mouths, and so on.[1] McCaffery explains: "Above all it is a structure of strategic counter-communication designed to draw a reader inward to a locus where text surrounds her. Language units are placed in visible conflict, in patterns of defective messages, creating a semantic texture by shaping an interference within the clear line of statement" (McCaffery, 1973).

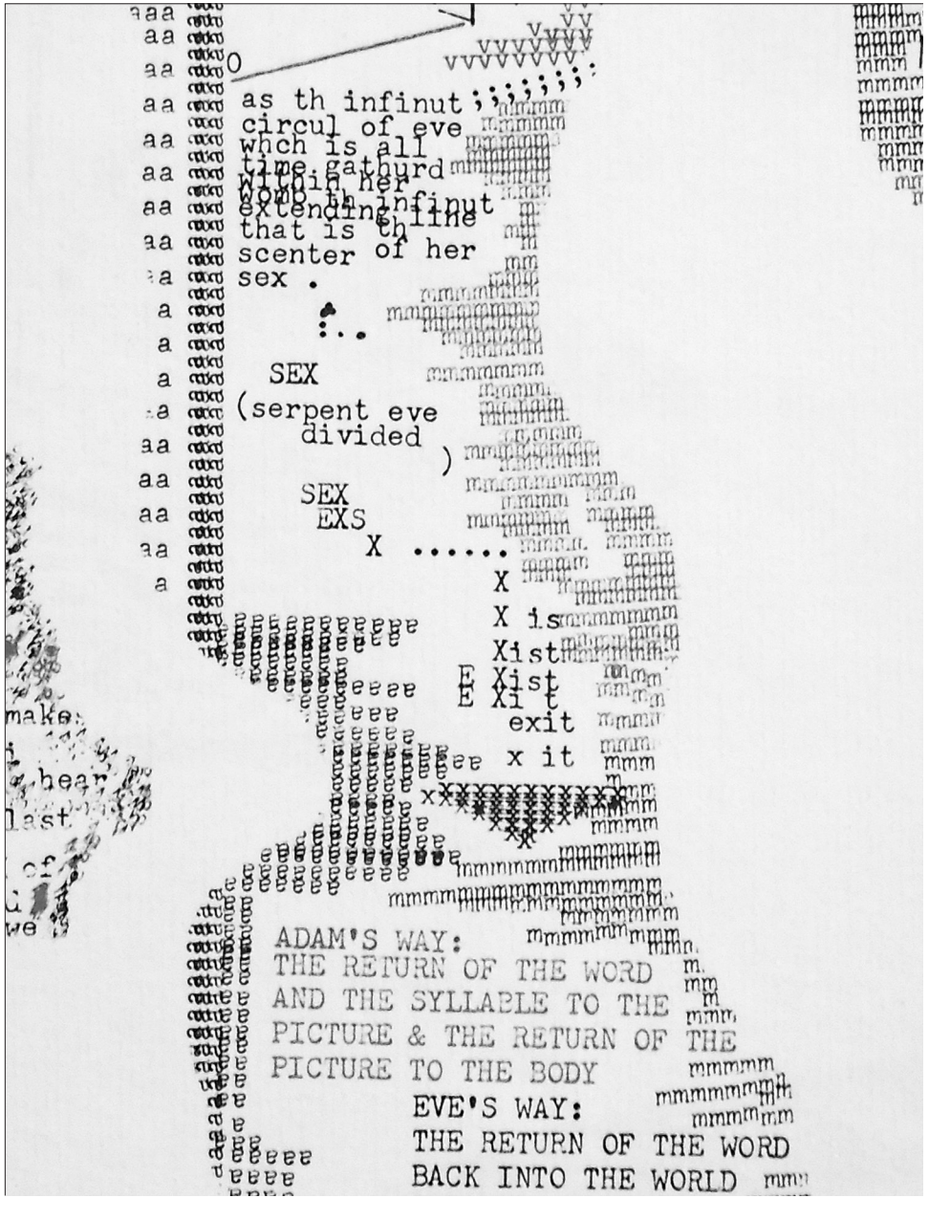
In this kaleidoscopic, overlapping, textural field, words and phrases do emerge "filtered through paragramatic play to arrive at multiple variables" (McMahon, 2007, p. 139). Wordplay is central to McCaffery's work with slanting rhymes and morphing words, as is evident in this particular example from *Carnival the First Panel*. He uses the typewriter's mono-width alignment of characters and spaces effectively: "exist" loses its "s" to become "exit" which loses the "e" but adds a space, creating the phonetically identical "x it." A biblical reading posits the snake-like "s" as the cause of Adam and Eve's expulsion from paradise, with the "x" as a cross symbolizing Christianity and redemption. An existentialist interpretation might be that one simply exists before exiting, before being crossed out where *x marks the spot* [2] (Figure 2).

1 From presentation author made titled Fearless Type Writing: Self-Actualization through Design Authorship at the Type Writing symposium, Birmingham (UK) Institute of Art & Design in 2011.

2 ibid

Figure 2.

Page (detail) from Carnival the First Panel *by Steve McCaffery, 1973 (photo courtesy the author).*



McCaffery's *Carnival* project is described with arcane terms that reference the open range: "acoustic paragramatism," "textual cartography," "psychogeographic wandering," "post-bop jazz" (Cox, 2007), and a "phonetic semantic allegory" (McCaffery in McMahon, 2007). McCaffery is referred to as a "'post-concrete' poet" (Perloff, 1991) because of his emphasis on the page and book rather than the individual poem. One could also use this term to recognize his exploitation of the visual over the literal, and the letter, as micro element over the word and text as macro elements. Scholar Johanna Drucker claims that "he uses visuality as an integral element of textuality, not as a decorative surplus or afterthought" (1999).

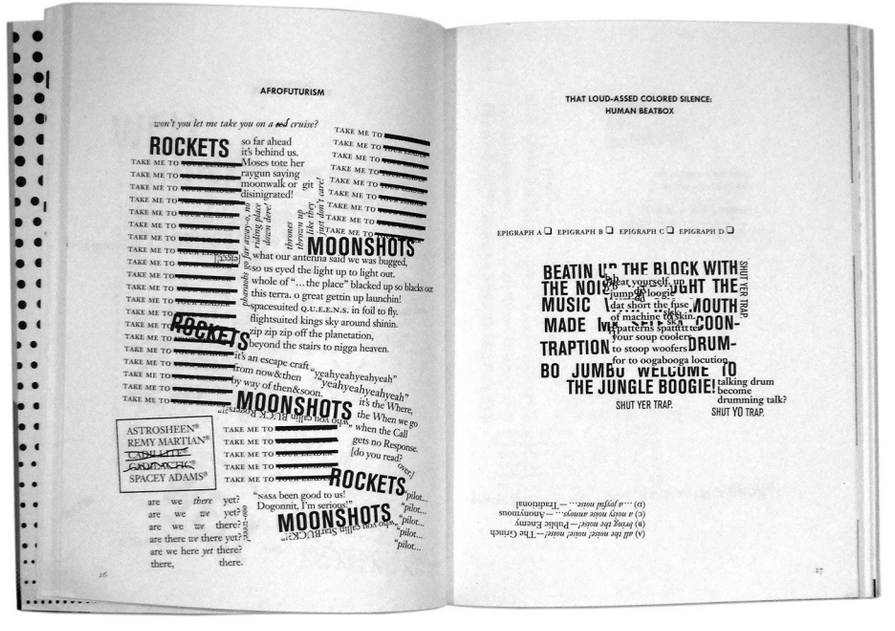
The Visual Poems of Douglas Kearney

Contemporary poet Douglas Kearney's work also fits the definition of dirty concrete poetry for reasons both similar to and different from McCaffery's. Kearney creates his compositions on a personal computer using Microsoft Word and the Adobe suite of software: Illustrator, InDesign, and Photoshop. Although he uses an industry-standard QWERTY keyboard (relatively unchanged since Remington designed its typewriting machines in the 1870s), Kearney's computer key strikes are not percussive onto the paper, physically transferring a character via an ink ribbon. He creates using a range of digital tools, techniques and processes: cut, copy, paste, layer, rotate, select, delete, undo, scan, save as, print… (Kearney, 2021, min. 48:43).

Working solely in black and white and in modest resolution, his high-contrast images have certainty, unlike greyscale's compromised gradation. Often made from found snippets of text, graphic shapes, and images, Kearney's concrete poems' overlaps, angles, crops, repetitions, fragments, and mix of type fonts and sizes give the work a gritty, punk-rock affect. The overall graphic look is that of a third-generation photocopy of a collage sourced mostly from generic food packaging, deaccessioned library books, and 1970s-era, dry-transfer lettering used on cassette mixtapes. They are raw and profound (Figure 3).

Figure 3.

Spread from book Buck Studies *by Douglas Kearney, 2016 (photo courtesy the author).*



As mentioned earlier, Kearney uses the term "performative typography" (Poetry Foundation, 2023) to describe his approach to designing his poems, explaining through active verbs, "I follow an association, put a line down, move a collaged piece of text between two others and half-bury a fourth" (Kearney, 2021). In his poem "Wolves," rows of elliptical shapes – condensed, italic letter "O"s perhaps – touch to the point of merging their black strokes and foregrounding the white toothlike counterspaces within (Poetry Foundation, 2020). Kearney's poem reveals the digestive detritus of words and word fragments in its "swollen belly" as the wolves gnash "their teeth," (text that is repeated three times) and the whole composition lunges at the reader (Figure 4).

Figure 4.

Poem "Wolves" by Douglas Kearney, 2020. https://www.poetryfoundation.org/poetrymagazine/poems/152480/wolves

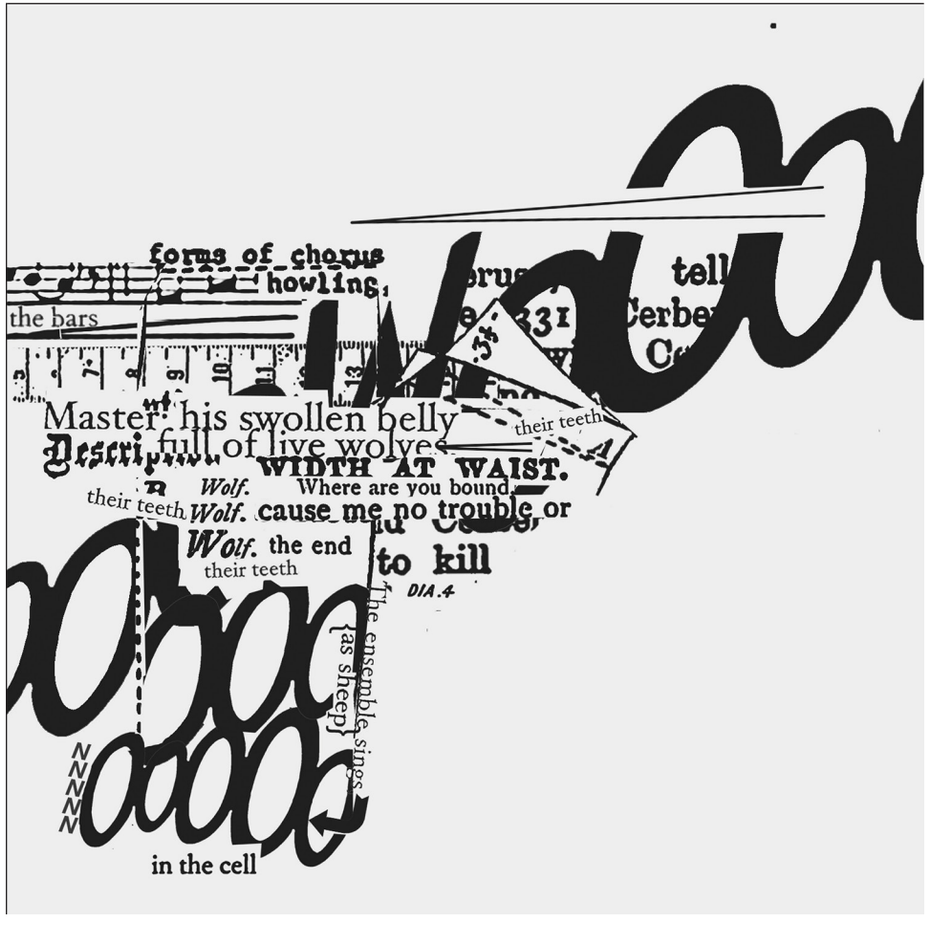
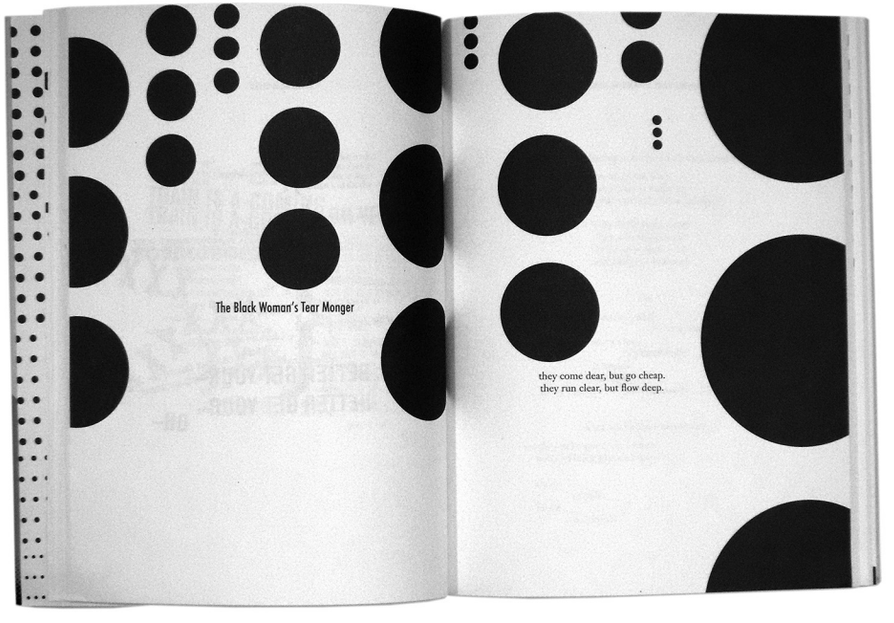


Figure 5.

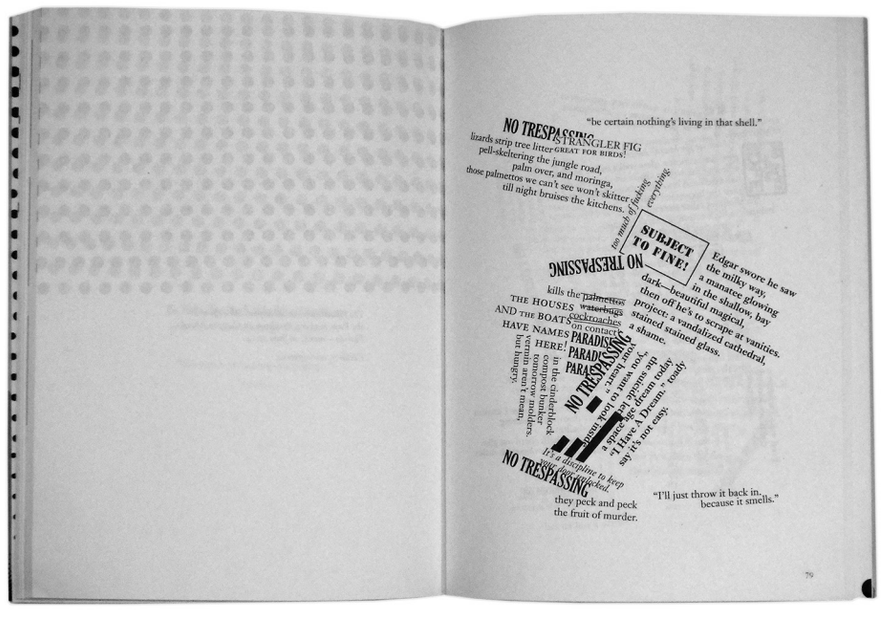
Spread from book Buck Studies *by Douglas Kearney, 2016 (photo courtesy the author).*



Kearney does not stop at artfully designing his poems. He designed all 108 pages of his 2016 publication *Buck Studies*, which consists of both "dirty" and classically typeset poems (in the typeface Janson Text). Operating at the level of the book, Kearney considers page sequencing, flow, pacing, and transitions. Graphic shapes serve as illustrative elements. A black circle repeated becomes ellipses in one context, a pattern not unlike perforated sheet metal in another, and when large and isolated, the high-noon shadow of a lost baseball (Figures 5 and 6).

Figure 6.

Spread from book Buck Studies *by Douglas Kearney, 2016 (photo courtesy the author).*



On White Space in Dirty Concrete Poems

Because Kearney and McCaffery use blank white paper as substrate, the ink color – black in Kearney's work or black, blues, and reds in McCaffery's – establishes figure/ground contrast. The graphic build-up of letters, words, shapes, patterns, and textures exists as positive form while the remaining area exists as negative space. One can interpret the positive printing of the poems as the "dirty" area while the unsullied white space remains, conversely, clean.

McCaffery's *Carnival* series used masks cut from paper to create – in their negative shapes – amorphous white space that delineates the curvilinear edges to the fields of type. To achieve this effect

of crisp delineation, McCaffery would have had to type over the masks and remove them to preserve the white space beneath. In this regard, the typestract bleeds into the curvy white shape, as well as off the edge of the letter-sized paper. The mask method is subtractive; the inked letterforms are additive. The masks conceal and then reveal the white space (Figure 7).

Regarding white space in concrete poetry: "One of the most influential of the first generation of visual poets was the Swiss artist Eugen Gomringer, who, in seminal compositions such as "Silencio" (1954), made bold use of blank page space in order to highlight its potential as a metaphor for the reader's contemplative silence" (Powell, 2013). Could white space also be a metaphor for a pending avalanche, threatening and oppressive? Or an absence – nothingness, loss, lack? Or an opportunity, an invitation, a blank canvas, a tabula rasa?

Kearney's white space is a framing device. His compositions are almost always contained with the paper, asymmetrically arranged and roughly centered without bleeding off the page. The white space around his concrete poems acts like a generous matboard on a framed artwork: it surrounds, protects, and separates the work from competition, from unwelcomed association through proximity. The white space is not accidental or leftover, however – Kearney considers its void as a presence. The compacted, gnarled white spaces within Kearney's dirty concrete poems behave differently. They're crushed, they're overwhelmed. But the white still defines the blackness of the ink, via the highest possible contrast, a symbiosis of achromatic polarity (Figures 8 and 9).

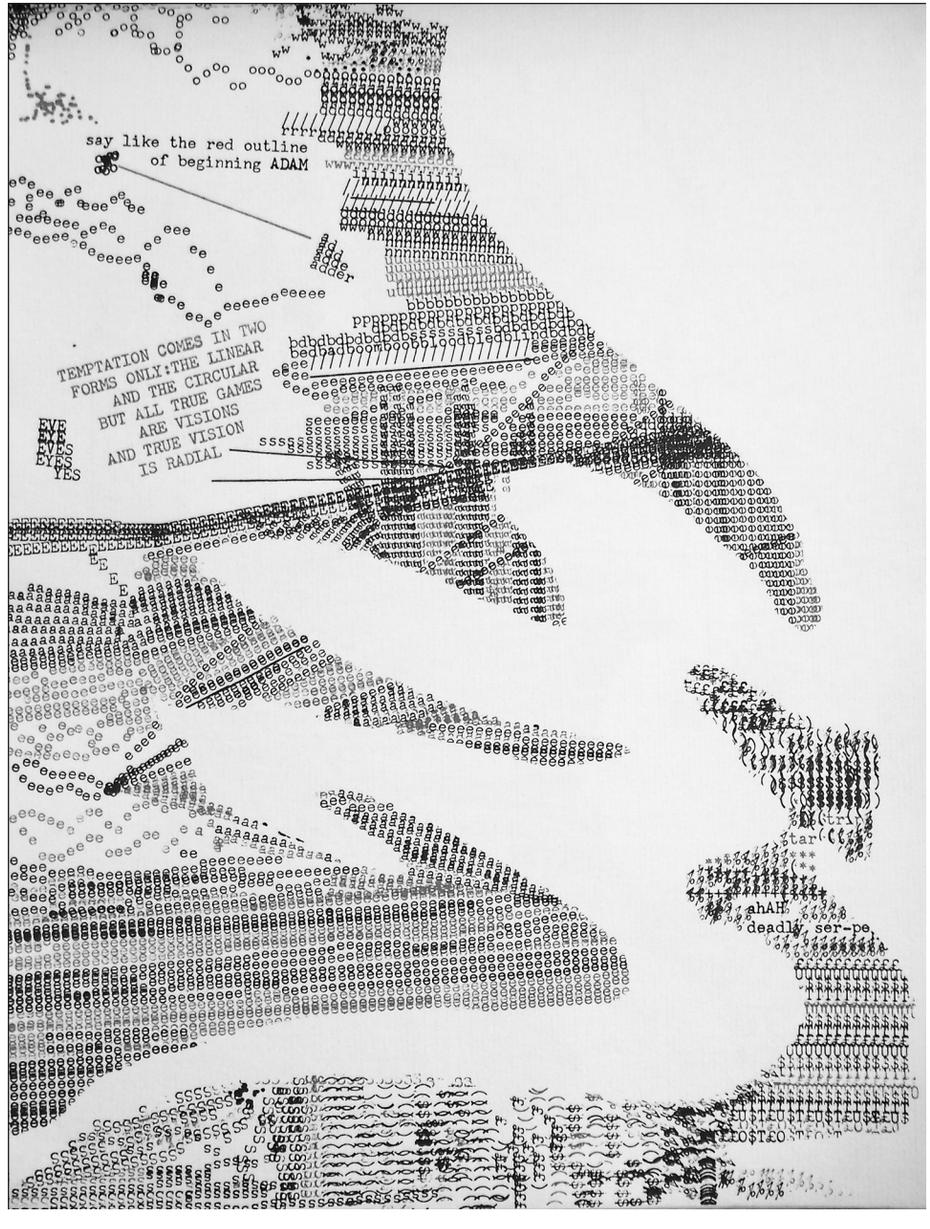
The poem "That Loud-Assed Colored Silence: Modernism" (Kearney, 2016, p. 28) in *Buck Studies*, reads:

> who among us has not
> entertained a silence,
>
> standing there loud-assed
> and colored besides the white
> chickens?

Kearney then leaves the other 90% of the page blank – not blank empty, but blank white. The phrase "besides the white," protruding farthest right, describes the space; modifying "chickens" is only a partial role. If considered with the poem's subtitle – "Modernism" – the white page becomes a rectilinear gallery, invoking the white boxes of modern artists, architects, and designers: Malevich, Le Corbusier, Gropius, Rauschenberg, Rams, and Esslinger. Writing the poem, typesetting the poem, composing the poem on a page in a book of his own comprehensive design gives Kearney unfettered authorial control. McCaffery masked and revealed white; Kearney tempts it, taunts it, and tames it.

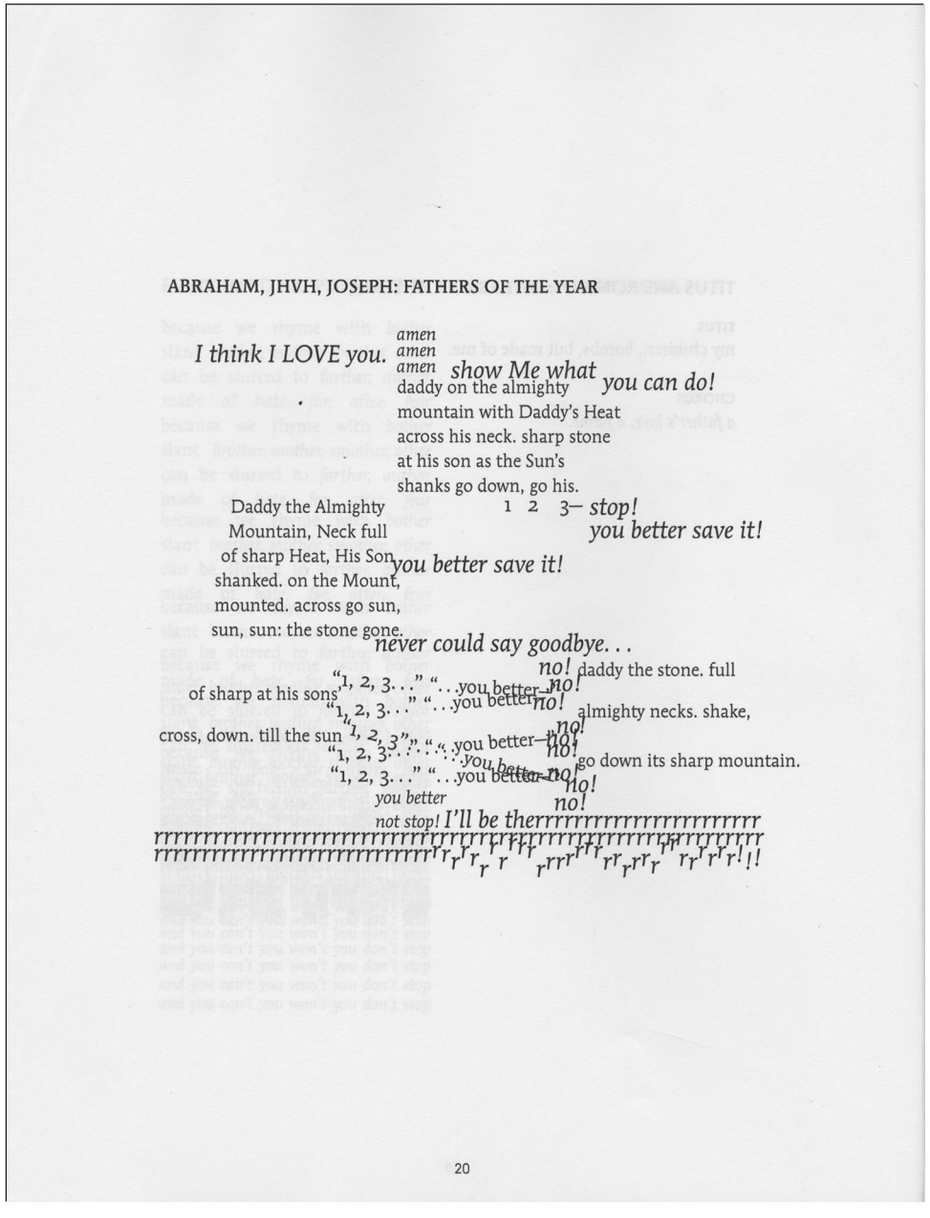
Figure 7.

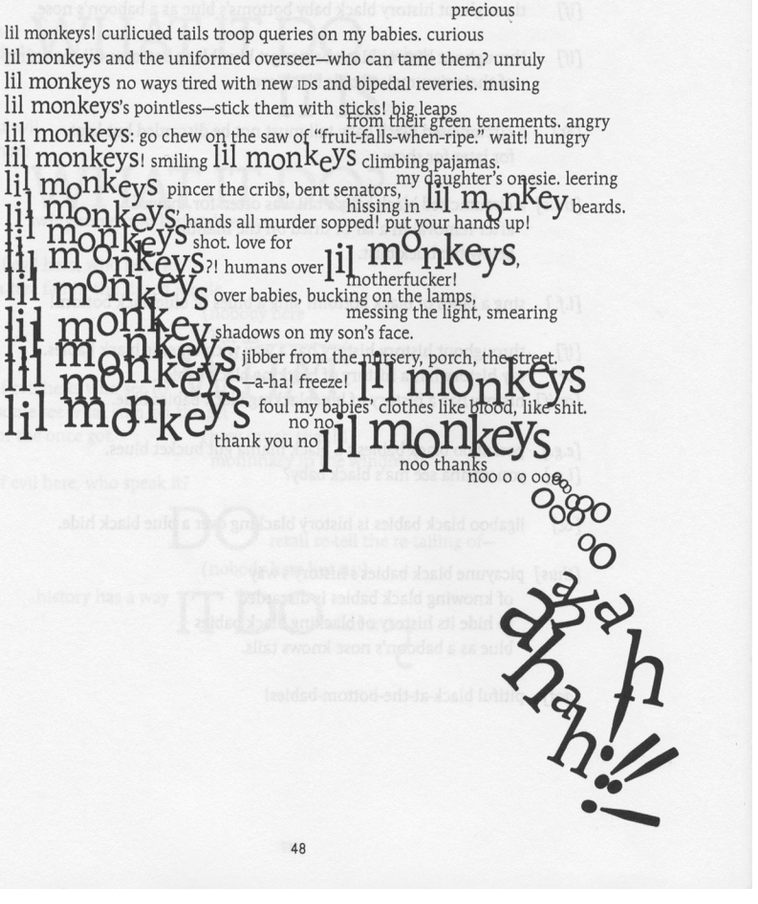
Page from Carnival the First Panel *by Steve McCaffery, 1973, showing white areas created by masks (photo courtesy the author).*



Figures 8 and 9.

Pages from Patter *by Douglas Kearney, 2014 (photo courtesy the author).*





Another interpretation of "white space" – especially deserving mention considering that Blackness as racial identity is a recurring topic in Kearney's poems – is that of a culturally and racially unwelcoming place. Scholar Elijah Anderson (2015) described white space restaurants, clubs, schools, stores, events and so on as social places "in which black people are typically absent, not expected, or marginalized when present. In turn, blacks often refer to such settings colloquially as 'the white space' – a perceptual category – and they typically approach that space with care" (p. 10).

Perhaps Kearney's approach to white space in his poems' layouts reflects a similar sensitivity and awareness, even as his presence is seemingly bolstered by the confidence of belonging. Doubt persists, however, as Kearney extends this foreignness of occupying white space beyond race and into disciplinary and cultural transgression: "The poetry wants to claim the secrets of other arts. To steal them away. To take them and make them work in strange fields of *white space*. Ain't this a failure of character?" (Kearney, 2011, emphasis added). To fail one's character acknowledges, through Kearney's code switching into African-American Vernacular English, that succeeding in white spaces might require too much of a moral and artistic compromise.

A Cameo Appearance by John Baskerville

Not all of Kearney's performative typography poems are dirty. Designs in his book *The Black Automaton* use a more classical approach to layout and typography. Many employ a graphic device from scientific exposition, humanities lectures, and corporate PowerPoint presentations: the flow chart. Brackets, lines, arrows, and typographic hierarchies (change of type weight, size, caps, alignment, and so on) are propel the reader's eye along pathways both syntactical and visual (Figure 10). One poem, titled "The Black Automaton in de Despair ub Existence #2: Our New Day Begun," uses the typeface Baskerville for the text, in a lively mix of Roman, italic, and small caps in several point sizes (Kearney, 2009) (Figure 11).

Figure 10.

Page from book The Black Automaton *by Douglas Kearney, 2009 (photo courtesy the author).*

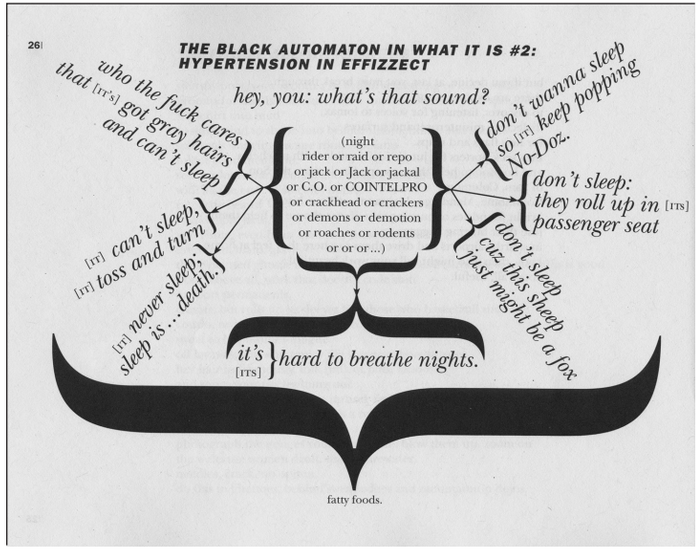
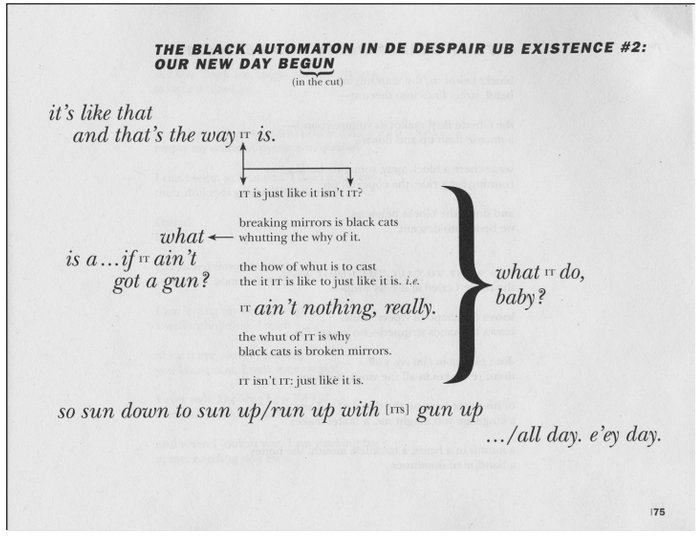


Figure 11.

Page from book The Black Automaton *by Douglas Kearney, 2009 (photo courtesy the author).*



Designed by Englishman John Baskerville in the 1750s, this bookish font was radical for its time – crisper, more contrasting serif letterforms printed with blacker, denser ink of Baskerville's own formulation, and onto smoother, whiter paper achieved through a method called calendering, again a technological advance by Baskerville. In a 2012 article in *The New York Times* about a study of typefaces and the perception of truth, the Baskerville font won over all others tested as the most credible font when readers were asked to rate the veracity of the same text set in different types. Whether this is due to Baskerville's so-called "starchiness" (a classical formality) (Morris, 2012) or familiarity, one cannot be certain, but Kearney's use of the font in this context adds intrigue.

What does it mean when Kearney sets the line "what it do, baby?" in Baskerville, menaced by the sharp point of a bracket (Kearney, 2009)? It brings to mind an eighteenth-century critic of Baskerville's printed typeface – as revealed in a letter from Baskerville's fellow printer and supporter Benjamin Franklin – who claimed that it could "hurt the [reader's] eye" (Franklin, 1760) due to the heightened contrast between acutely rendered letters, blacker ink, and whiter space. From a memory of Kearney's junior high school weekend course in graphic design – perhaps in a prescient quest for literary credibility – he discloses: "Baskerville was actually the first typeface I ever identified and used by name" (Kearney, 2022).

In spite of, or perhaps because of, McCaffery's radically interdisciplinary work and the concrete poems by others – dirty or clean – Johanna Drucker (1991), a book artist and experimental writer herself, claimed that "the attitude of contemporary poets and editors toward typographically manipulated works… has been one of suspicion bordering on hostility" (p. 255). Perhaps these editors' eyes "hurt" from the radical work of these intermedia innovators. Once-edgy Baskerville – initially shunned, remember – is now solidly credible. Since then, in the era of digitization, desktop publishing, and expanded notions of authorship, attitudes have changed. Kearney's performative typography poems are widely published and well received through book sales, frequent invitations to poetry readings, critical acclaim, and numerous prestigious awards.

Kearney's Background

Douglas Kearney earned his Master of Fine Arts degree in creative writing at the California Institute of the Arts (CalArts) in the decade after Drucker's criticism. By then, CalArts was a leading program in graphic design graduate education and at the vanguard of deconstruction and other theories that encouraged experimentation and boundary breaking with graphic form and language. The faculty roster during Kearney's time on campus, including

his dozen years as a CalArts professor of writing, reads like a who's who of influential graphic design educators and practitioners: Jeffrey Keedy, Louise Sandhaus, Michael Worthington, Lorraine Wild, and Ed Fella. The confluence of Kearney's poetry writing and interest in oral performance was surely cross-pollinated through exposure to what was going on with CalArts graphic design faculty and students, and through local access to influential graphic design work.

The CalArts Library has a copy of playwright Eugene Ionesco's 1965 book *The Bald Soprano*, one such influential work. The book is legendary for Robert Massin's radical approach to its graphic design, and it is canonical to the field of visual communication history. By innovatively combining text typography (the script), high-contrast images of people (the actors), and the temporal and spatial aspects inherent to books (the stage performance), Massin's design exemplifies the terms introduced earlier: *verbi-voco-visual* and *intermedia*. *The Bald Soprano* is also "dirty" in the most complimentary way; further, given its publication date, one wonders about the congruence with and influence on McCaffery's work. Exposed to a copy in graduate school, Kearney tracked down *The Bald Soprano* for his personal library via Amazon Germany – "it smells every bit of mildew" (Kearney, 2022) – where it may have languished in a root cellar next to the sauerkraut.

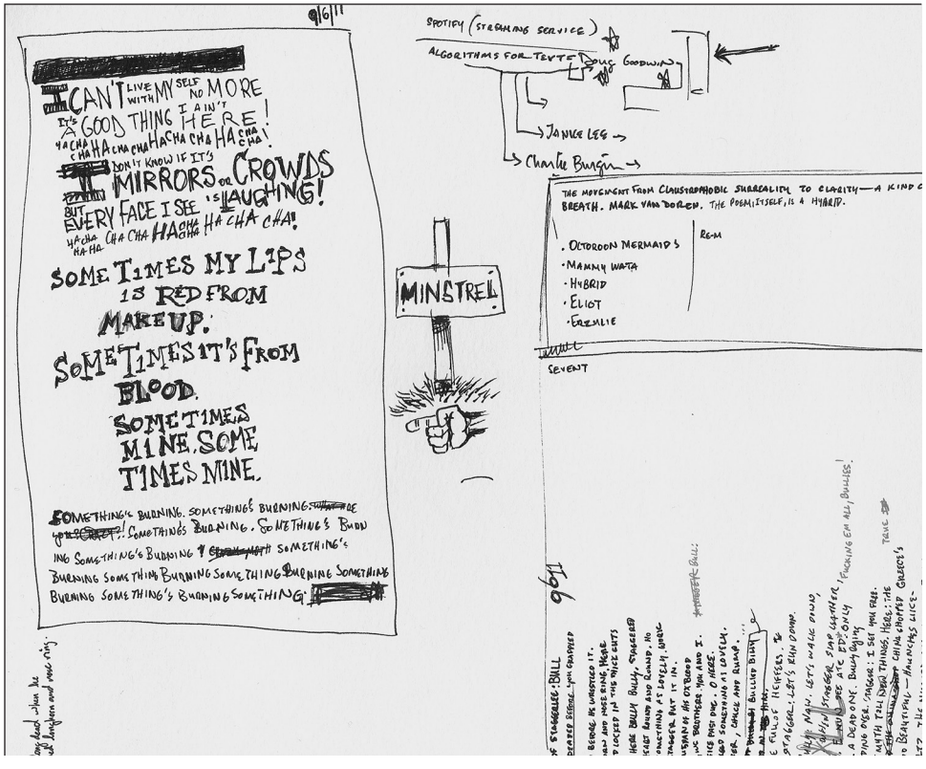
Well before CalArts and his bachelor's degree in English from Howard University, Kearney was exposed to visual communication and expression. He recalls:

I started learning about graphic design in middle school when I went to a weekend class put on by a student from Pasadena's Art Center College of Design. This was all hand drawn illustrations and lettering copied from type collections. I am so grateful I got some analog before it all went digital! (Cordero, 2014)

This analog grounding shows up in Kearney's journals as rough drafts: hand-rendered type that is not just written, but sketched of the fonts he's thinking of using, with lines, shapes, boxes, and illustrative elements. Even the white spaces are considered essential to these loose, in-progress compositions. For one poem, however, Kearney laments, "I tried typesetting it and couldn't stand looking at it, but I love the way it looked in my journal, all scrawled out" (Smoking Glue Gun, 2012) (Figure 12).

Figure 12.

Sketch (detail) from Douglas Kearney's journal, undated. https://smokingglluegun.com/2012/03/01/douglas-kearney/



Conclusion

Although this paper makes comparisons and offers contrasts between these poets, there is scant evidence of direct influence or of applied precedent. Kearney and McCaffery both appear in the book *Conceptualisms: The Anthology of Prose, Poetry, Visual, Found, E- & Hybrid Writing as Contemporary Art* (in separate sections – Kearney in "Architecture of the Page" and McCaffery in "Sound Writing") (Tomasula, 2022). Apparently, they both gave readings at a Los Angeles conference on experimental writing in 2008 called Untitled: Speculations on the Expanded Field of Writing (Kinnett, 2008). Otherwise, in one interview, Kearney says he was "conscious of experiments with type in poetry, advertising, comics, magazines" and credits "a great book called *Imagining Language* I got a hold of in grad school at CalArts" (Fife, 2015). That book was co-edited by Steve McCaffery, so perhaps a trail exists.

Does the long shadow of McCaffery and other twentieth-century concrete poets simply cast history upon Kearney? Or is it Kearney who is excavating, resurrecting, and reconfiguring this mother lode of material into contemporary times as *heir apparent* to the kingdom of dirty concrete poetry? What difference do their differences make, in era, in technology, in disposition, and in reception? One poet was part of the 1960s hippie counterculture, a white English-born Canadian, a typewriter percussionist and avant-gardist on the linguistic fringe, while the other is a social justice warrior, a humbled father, a Los Angeles-raised Black man, a Photoshop masseur, and riveting shamanic performer who summons rap and scat to critical acclaim. And yet keep in mind their similarities – the probing, questioning, asserting, border-defying integration of media to express and communicate. It wasn't dirt after all – it was gold dust.

To that end, this paper's definitions and interpretations of "dirty" (textural, free-ranging, messy, layered, gritty, expressive – McCaffery once used the term "entropy") and "white space" (clean, vacant, open, pure, intentional, unused, abandoned) are offered for interrogation. When applied to McCaffery's and Kearney's literary meanings or to their oral performances, the words might be appropriate concepts for research into their other media. For example, in live readings, are their pauses and silences, even their in-between-poems banter, "white space"? By contrast, do their words and sounds – inclusive of grunts, screeches, glottal stops, falsettos, and unorthodox prosody – make their recitations tonally "dirty?"[3] As this paper's concern is with the visual, critiques of those intriguing aspects of oral performance are best left to scholars in allied fields like drama, performance art and media studies.

Media scholar Lori Emerson is the director of the University of Colorado's Media Archaeology Lab and a PhD graduate of the Poetics Program at the University at Buffalo – Professor Steve McCaffery was her doctoral committee chair. In her chapter "Typewriter Concrete Poetry as Activist Media Poetics," she stated that the digital descendant of the dirty concrete poetry of the 1950s–70s might be best realized through interactive software packages like Flash (now largely defunct) and Processing (Emerson 2014, pp. 87–127). Kearney's work, while also using computer software, shows a different path. His visual poems continue a trajectory from the 1980s–90s' graphic designs of magazines like David Carson's *Raygun*, Martin Venezky's *Speak,* and Rudy Vanderlans and Zuzana Licko's *Emigre*, and demonstrate that the DIY ways of desktop publishing have contemporaneous validity, and when applied to poetry, renewed impact.

3 See, for example, these videos – McCaffery performing "The White Pages" at https://media.sas.upenn.edu/app/public/watch.php?file_id=189866, and Kearney performing "Sho" at https://www.youtube.com/watch?v=WNa6UalnK0o].

Of the trio of media that Kearney and McCaffery embrace – the verbal, the vocal, and the visual – this paper has focused on the latter using the lens of visual communication scholarship. These poets' iconoclastic oral performances, richly sonic and emotive, deserve deep analysis as well. A critical discourse around both poets' literal content – what the concrete poems' words mean – already exists by qualified scholars, and again, is beyond the purview of this paper. It is hoped, through this explication of their graphic choices, motivations, influences, and visual outcomes, that others can triangulate to the other two sides of the prism.

Returning to, and ending with, the term *typestract*, both McCaffery and Kearney used their pages, their canvases, as stages for performance and as geographic ranges for literary movement and graphic exploration. Their typographic choices give active voice – tone, dialect, accent, and volume – to their words. In one interview, Kearney (2021) declared, "The page is the stage and the stage is the page." He continued, referencing the notion of an open range: "A sense of space and movement and proximity and composition was something that I thought that the page could bring" (UMn College of Liberal Arts). This brings typestract back to "type's tract," or the place where dirty concrete poetry battles with, negotiates with, or coexists with white space to enable *terra incognita* to emerge from *terra firma*.

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The Perception of Qualities in Typefaces: *A Data Review*

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Abstract

The selection of an appropriate typeface is fundamental in numerous contexts. For example, a typeface that communicates the correct qualities increases the probability of buying a product, perceiving a brand as trustworthy, increasing the time spent exploring a website, and communicating a message effectively (Huang & Liu, 2020; Johnson-Sheehan, 2014; Velasco, 2019). However, professionals report struggling to find the most appropriate typeface for their project and, as a result, spending a considerable amount of time on the search (Wu et al., 2019). This is in part due to the lack of information regarding which qualities each typeface communicates (Wu et al., 2019). In fact, the data that exist on the subject are scattered across several research articles. Consequently, professionals have few tools to help them choose the appropriate typeface based on scientific data, and instead must often rely on personal experience (O'Donovan et al., 2014). The current review aims to provide professionals with scientific support for choosing an appropriate typeface by collecting these scattered data in a single place. We describe the findings of 34 studies that asked participants to rate the perception of 229 qualities in 635 typefaces, and we created a unified dataset where data are easily comparable across multiple studies. We believe this work will make the messages created by professionals in the design, marketing and communication industries more effective.

Keywords

Typefaces
Perception
Communication
Semantic qualities
Affective review

Open Science Framework link: https://doi.org/10.17605/OSF.IO/PTQUW

The Communication of Qualities

Professionals in multiple sectors are required to convey qualities to the user in indirect ways. For example, when choosing a product among multiple options, customers are highly influenced by visual identity and packaging (Favier et al., 2019; Steenis et al., 2017; Velasco, 2019). The final choice is more likely to fall on the product that shows the qualities that the customer is looking for (Barajas & Agard, 2011). It is therefore no surprise that designers strive to enhance the perception of key qualities during product design to gain a competitive edge.

Similarly, companies strive to create a unique and distinctive brand image that resonates with its target customers (Kohli & Suri, 2002; Melewar & Saunders, 1998). Anything related to a brand, from the logo to the staff uniform, should communicate the values and qualities promoted by the company (Bettels & Wiedmann, 2019; Henderson & Cote, 1998; Klink, 2001). As a result, customers have a clear impression of the company, which increases brand loyalty and the disposition to pay more for the product (Bairrada et al., 2018; Nandan, 2005).

Conveying values and qualities is also important for technical communicators, who create informative documents that describe ideas and concepts in an accessible format (Johnson-Sheehan, 2014). For these professionals, clarity is paramount, as evidenced by frequent use of infographics to improve the document's understanding (Bursi-Amba et al., 2016). However, technical communicators may also want to convey qualities such as urgency, particularly when writing documents aimed to persuade the reader of a proposal (Johnson-Sheehan, 2014). Furthermore, they may want to communicate qualities that are appreciated by the target reader; for example, in the 1890s, leaflets about bicycles and how to use them were created specifically for women because they developed an unexpected interest in bicycles (Hallenbeck, 2012).

In modern times, web designers are also expected to create websites that convey key qualities upon first glance (Akrimi & Khemakhem, 2014; Lal & Katole, 2021; Leech, 2016). Most websites need to communicate a sense of credibility in order to prevent users to look for another website with similar content that appears more reliable (Koiso-Kanttila, 2005). This is particularly true for online stores, where the user needs reassurance that the website is authentic and the purchased product will be delivered (Ha & Lennon, 2011). Furthermore, the website created by the graphic designer should communicate the company's personality (Poddar et al., 2009). These are only a few examples of professionals who need to communicate qualities; many more exist.

Considering that most visual identities, packaging, products, logotypes, informative documents, and websites include text, the selection or design of an appropriate typeface is one important aspect to consider when communicating a quality (McCarthy & Mothersbaugh, 2002; Velasco, 2019). In fact, typefaces themselves have qualities (Strizver, 2013), and should be in line with the qualities that the professional wants to communicate.

Semantic Qualities in Typefaces

Bartram (1982) divided typeface qualities into two categories: functional and semantic. Functional qualities are those that directly affect the text legibility, such as size and boldness. Numerous studies have been conducted to test the effect of the real or perceived size of the typeface on legibility (see Perondi, 2021; Tarasov et al., 2015 for review). Most importantly for this paper, semantic qualities are those that elicit associations to past knowledge, as well as emotional responses from the viewer. For example, viewers can perceive typefaces being masculine (e.g., Impact; Shaikh, 2007), cheap (e.g., Courier New; Shaikh, 2007) or fearful (e.g., Playbill; Li & Suen, 2010).

In the current manuscript, we use "semantic qualities" as an umbrella term that includes the numerous terms used in previous research that investigated nonphysical qualities of typefaces, such as tones (Evans et al., 2004), personas (Puškarević et al., 2013), emotions (Ho, 2013), and personalities (MacKiewicz, 2004). In fact, although these terms indicate different concepts, they all refer to the associative and emotional responses of the viewer to the typeface, the very definition of Bartram's "semantic qualities". With "semantic qualities", we therefore refer to anything that typefaces can communicate, from "elegance", to "happiness", to "distinctness".

It is important to specify that, as a consequence, the term "semantic" is here used differently as compared to previous articles, where "semantic" referred to associations with the individual's past experience (Sinico, 2015, 2019). From Bartram (1982), the current manuscript also adopts the term "perception" to indicate participants' ability to notice impressions, feelings, moods, and personalities (i.e., semantic qualities) communicated by typefaces. This is also in line with previous literature on the topic (e.g., Brumberger, 2003a, 2003b; Doyle & Bottomley, 2006, 2010; Gump, 2001; Li & Suen, 2010; Louch, 2011).

Numerous authors have stated that typefaces have an impact on the reader that goes beyond legibility and readability (Garfield, 2010; Strizver, 2013). Warde (1956) provided a vivid description of the phenomenon, and stated that reading the same text written with three typefaces is like *"hear[ing] three different people delivering the same discourse – [...] each through the medium of a different personality"* (p. 138; see also Bringhurst, 1996; Craig & Bevington, 1999; Earls, 2002).

Critically, evidence exists to argue that the

semantic qualities of the typeface should be congruent with those of the associated product in order to have the best impact on the customer (Bringhurst, 1996; Garfield, 2010; Velasco, 2019). A rugged typeface, such as Impact, may be considered appropriate for the packaging of a box of screws, but inappropriate for a ball of silk. By contrast, the appropriateness of Ballet may be reversed. Selecting the proper typeface increases the perception of the product's quality (Childers & Jass, 2002) and likelihood of purchase (Doyle & Bottomley, 2004, 2006). It is therefore in the designers' best interest to select the right typeface for the right product and its packaging.

In reading contexts, selecting an appropriate typeface increases the readers' processing speed, as well as their positive emotional response. This has been demonstrated in studies showing that people judge words faster when the qualities communicated by the typeface are in line with the words' meaning (Hazlett et al., 2013). An appropriate typeface also reduces the activation of the corrugator muscle during reading (Larson et al., 2007), which is indicative of a positive emotional response (Cacioppo et al., 1992). Furthermore, there is also evidence that an appropriate typeface has a lasting effect on the viewer, as demonstrated by improved performance on a creative cognitive task after exposure to the typeface (Larson et al., 2007). Therefore, to generate a fluid and positive experience for the reader, professionals working with a significant amount of content (e.g., technical communicators and web designers) should make a conscientious and informed decision about typeface.

Although there is general agreement about the importance of the typeface choice, limited scientific research exists that investigates which typefaces are most suited to communicate specific qualities. Furthermore, professionals who might be interested in using this evidence but do not have a research background may have difficulty extrapolating the information they are looking for due to the technical language and complex analysis used in previous research. Finally, although there are PhD theses summarizing the overall findings of previous research, the *data* obtained by different researchers are still scattered in multiple articles, adding to the difficulty of gaining a clear overall picture.

Altogether, these issues lead (at least) some professionals to select a typeface based on their feelings, beliefs, and personal experience rather than on scientific evidence (Wu et al., 2019), which is unlikely to result in the best possible choice considering the number of typefaces available for free or for a small fee. By contrast, selecting a typeface based on scientific evidence would increase the accuracy of the typeface selection because it would be based on judgments made by multiple people, who are likely to represent the final users, instead of a single or few professionals. Scientific evidence would help professionals, particularly when they need to communicate qualities that they have never communicated before, by minimizing the risk of being influenced by personal biases. Furthermore, scientific data would provide independent support that professionals could use to justify their typeface choice to the client.

The Current Review

The aim of the current paper is to address these issues and help professionals by reviewing the studies conducted to date that tested the perception of semantic qualities in typefaces using a subject sample. The review was linked to an Open Science Framework project, where we included the following: 1) The details of the studies that investigated the perception of qualities of typefaces (see the "Studies Selection" section for inclusion criteria); 2) the list of all semantic qualities and typefaces investigated to date with reference to the original article; 3) the original ratings of participants; and 4) a unified dataset where participants' ratings were included in a comparable format (see the "Unified Dataset" section).

Studies Selection

We sought journal articles, PhD theses, and books reporting studies where participants were asked to explicitly judge their perceptions of atmospheres, tones, qualities, personalities, personas, impressions, emotions, etc. in typefaces using the Latin alphabet. Manuscripts from all disciplines (e.g., vision science, psychology, etc.) were included in the search because the aim of the review was to be as comprehensive as possible, and to compare and discuss the *data* of the original articles rather than their *outcomes*, which were framed within the discipline of the original manuscript. In fact, the data could be transferred from one discipline to others – which could not be done with the outcomes. Focus on the data therefore allowed the present review to be useful to professionals from multiple sectors, such as marketing, communication, design, and more.

We excluded studies that exclusively asked participants how appropriate a group of typefaces was for text related to professions (e.g., bakers; Brinton, 1961) because the data cannot be generalized as much as the semantic qualities, which can be used in a variety of contexts. We also excluded studies where the typeface was one of multiple features investigated in the product (e.g., shape, color, etc) because it was impossible to extrapolate the judgments related only to the typefaces. For example, Orth and Malkewitz (2008) presented wine bottles with different shapes, labels, logos, colors and typefaces, and it was not possible to retrieve the mean ratings based on typefaces only. Finally, those typefaces that

were developed specifically for a study (e.g., modified Bodoni Poster Italic in Velasco et al., 2018) were not included in the review and the unified dataset, because such typefaces are not relevant to professionals who do not have access to them.

In total, we found 34 studies in 30 manuscripts that met the criteria. If data were not included in the original manuscript, we contacted the author(s) and asked them to share the data with us for the present review. A list of the studies and their details appears in Table 1, which reports the country of testing, the method, the sample size, age and sex, and the number of typefaces and qualities. An index code created with the authors' initials was assigned to each study for easy reference in other tables. Table 1 also indicates whether participants' ratings were reported in the original article, provided by the authors after request (see Acknowledgments), or impossible to retrieve. Finally, Table 1 shows whether the data was included in the unified dataset. The OSF project includes an expanded version of Table 1 with the list of typefaces and semantic qualities investigated in each study.

Studies Details

Most of the studies listed in Table 1 presented the full alphabet in uppercase and lowercase, sometimes together with numbers and symbols (e.g., Nedeljković et al., 2017; Rowe, 1982; Shaikh et al., 2006). However, a group of authors preferred to present meaningful text to participants – such as "The quick brown fox jumps over the lazy dog," a sentence that includes every letter in the alphabet (e.g., Brumberger, 2003b; Choi et al., 2016; Gump, 2001), emails (Louch, 2011), and text passages (Brumberger, 2003a). Finally, some researchers presented text with real words but no meaning, such as "over there. Again we might have expected zero. Just in" (Amare & Manning, 2012), or text with non-words, e.g., "NRESTA" (Tantillo et al., 1995).

Almost all the studies asked participants to evaluate the perception of semantic qualities communicated by the typeface itself. A few studies, however, asked participants to evaluate the stimulus associated with the typeface. For example, Velasco et al. (2018) conducted a series of studies asking participants to rate the sweetness and sourness of a jelly bean while they viewed "Eat me" written in different typefaces.

The studies also used a variety of methods to record participants' judgment. As indicated in Table 1, most studies presented one typeface at the time to participants, who were asked to rate how much they perceived each semantic quality in the typeface using a Likert scale. However, other studies asked participants to select the single (Choi et al., 2016; Davis & Smith, 1933) or the three (Amare & Manning, 2012)

semantic qualities that best fit with each typeface. Meanwhile, Poffenberger and Franken (1923) and Schiller (1935) asked participants to order the typefaces from most to least appropriate related to how well they conveyed each quality.

Furthermore, among those studies that used a Likert scale, most presented a single term to participants to indicate the semantic quality they had to judge (e.g., delicate; Davis & Smith, 1933). However, some studies preferred to use pairs of opposite terms, adopting Osgood and colleagues' (1957) semantic differential scales, to provide participants with a clearer reference to the concept expressed by the quality of interest (e.g., bold – delicate; Bartram, 1982). To be even clearer, a few studies provided participants with multiple words to indicate the semantic quality (e.g., soft, delicate, tender, weak, gentle – strong, hard, rugged, potent, tough; Doyle & Bottomley, 2006, 2010). Authors justified this decision by claiming that those terms were highly related in previous studies. The downside of presenting multiple terms, however, is that it is unlikely that other studies would use the exact same terms, making the findings of the study not comparable to those of others.

The use of single or multiple descriptors is a complex issue when using the Likert scale (Shaikh, 2007). A single word may be vague and each person may associate it with a different concept, which may not be the researchers' concept of interest. The use of bipolar terms, however, creates other issues because those terms may not be opposite qualities necessarily. For example, "feminine" and "masculine" have been often placed at the extremities of the scale, but a typeface can be viewed as both masculine and feminine. Nevertheless, participants cannot indicate that the typeface can communicate both qualities and they are forced to choose one.

The Unified Dataset

To make the results of previous studies as comparable as possible, we collected the data in a unified dataset, where participants' mean ratings of typeface according to each semantic quality were reported. Eleven studies did not report participants› ratings and it was not possible to contact the authors, or the data were lost at the time of this publication. Therefore, data from these studies could not be included in the unified dataset. Data from 11 more studies were also excluded because it was not comparable to other studies. In fact, it was not possible to include studies that asked participants to order the typefaces based on a quality, as the order produced could not be compared to other findings. We also excluded studies that asked participants to rate the semantic quality of stimuli associated with typefaces

Table 1.

List of studies included in the review with details.

Index	*Article (study)*	*Country*	*Sample size*	*Age*	*Males / Females*	*Text presented (format)*	*Object of evaluation*	*Method*	*N. of typefaces*	*N. of qualities*	*Data*	*Included in unified dataset*
AM	Amare & Manning, 2012	USA (online)	102	Range: 19-55	Not indicated	Brief text (digital)	Typeface	Choose the 3 qualities that best describe each typeface	36	12	Provided by the authors	No
Ba	Bartram, 1982	UK	90	Range: 18-20	46/45	Alphabet (paper)	Typeface	Likert scale 1 - 7	12	18 pairs	Irretrievable	No
Bra	Brumberger, 2003a (study 2)	USA	72	Not indicated	36/36	Text passages (paper)	Text content	Likert scale 1 - 7	3	20	Irretrievable	No
Brb	Brumberger, 2003b (study 1)	USA	80	Not indicated	40/40	Alphabet + brief text (paper)	Typeface	Likert scale 1 - 7	15	20	Irretrievable	No
CYA	Choi, Yamasaki, & Aizawa, 2016	USA (online)	72	Not indicated	Not indicated	Brief text (digital)	Typeface	Likert scale 1-9 for two qualities; Choose the quality that fits with the typeface	100	2 pairs + 6	Provided by the authors	Yes (2 pairs)
DSr	Davis & Smith, 1933 (Red method)	USA	90	Range: 16-38	Not indicated	Brief text (paper)	Typeface	Choose the typeface that fits with the quality	13	24	In article	No
DSb	Davis & Smith, 1933 (Blue method)	USA	90	Range: 16-38	Not indicated	Brief text (paper)	Typeface	Choose the quality that fits with the typeface	13	24	In article	No
DB06	Doyle & Bottomley, 2006 (pretest 1)	UK	142	Not indicated	Not indicated	Alphabet (digital)	Typeface	Likert scale -5 - 5	132	3 multi	Irretrievable	No
DB10	Doyle & Bottomley, 2010	UK	38	Not indicated	Not indicated	Alphabet (digital)	Typeface	Likert scale -5 - 5	102	3 multi	In article	Yes
GGP1	Grohmann, Giese & Parkman, 2013 (study 1)	USA	1216	Median: 36	552/664	Brand names (digital)	Brand names	Likert scale 1 - 5	35	5 FA	Provided by the authors	No

Index	*Article (study)*	*Country*	*Sample size*	*Age*	*Males / Females*	*Text presented (format)*
GGP2	Grohmann, Giese & Parkman, 2013 (study 2)	USA	123	Not indicated	Not indicated	Brand names (digital)
Gu	Gump, 2001	USA	84	Not indicated	40/44	Brief text (paper)
HLSC2	Hazlett, Larson, Shaikh, & Chaparro, 2013 (study 2)	USA	22	Not indicated	Not indicated	Text page (digital)
HGC	Henderson, Giese, & Cote, 2004	USA	336	Not indicated	Not indicated	Alphabet (digital)
KC	Kastl & Child, 1968	USA	40	Not indicated	31/9	Alphabet (slide projected)
Ko	Koch, 2012	USA	42	Not indicated	18/23	Alphabet (digital)
LS	Li & Suen, 2010	Canada	75	Range: 20-29	38/37	Alphabet + brief text (digital)
Lo	Louch, 2011	USA (online)	52	Range: 18-48	30/22	e-mails (digital)
MM	Mackiewicz & Moeller, 2004	USA	63	Not indicated	Not indicated	Brief text (digital)
Ma	Mackiewicz, 2005	USA	63	Not indicated	Not indicated	Brief text (digital)
NNP	Nedeljković, Novaković & Pinćjer, 2017	Serbia	40	Range: 20-30	20/20	Alphabet (digital)
Ov	Ovink, 1938	Holland	68	Not indicated	Not indicated	Alphabet (paper)
PF	Poffenberger & Franken, 1923	USA	40-50	Not indicated	Not indicated	Brief text (paper)

Object of evaluation	*Method*	*N. of typefaces*	*N. of qualities*	*Data*	*Included in unified dataset*
Brand names	Likert scale 1 - 5	4	5 FA	Irretrievable	No
Typeface	Choose the quality that fits with the typeface	10	4	In article	No
Page	Likert scale 1 - 4	2	6	In article	No
Typeface	Likert scale 1 - 7	209	4 FA	Provided by the authors	No
Typeface	Likert scale 0 - 5	32	8 multi	Irretrievable	No
Typeface	Likert scale 0 - 4	6	12	Provided by the authors	Yes
Typeface	Likert scale 1 - 5	24	10	Provided by the authors	Yes
Typeface	Likert scale 1-4	3	9 pairs	Provided by the authors	Yes
Typeface	Likert scale 1 - 7	15	10	In article (partially)	Yes
Typeface	Likert scale 1 - 7	15	2	In article	Yes
Typeface	Likert scale 1 - 7	8	20	In article	Yes
Typeface	Likert scale 1 - 5	30	8 multi	In article	Yes
Typeface	Put typefaces in order	29	5	In article	No

Index	*Article (study)*	*Country*	*Sample size*	*Age*	*Males / Females*	*Text presented (format)*
Ro	Rowe, 1982	USA	24	Not indicated	Not indicated	Alphabet (paper)
Sc	Schiller, 1935	USA	20	Not indicated	0/20	Brief text (paper)
SCF	Shaikh, Chaparro, & Fox, 2006 (Part A)	USA	561	Range: 20-39	157/404	Alphabet (digital)
Sh1	Shaikh, 2007 (study 1)	USA (online)	379	Range: 15-76	153/226	Brief text with no-words (digital)
TJN	Tannenbaum, Jacobson, & Norris, 1964	USA	75	Not indicated	Not indicated	Alphabet (paper)
TLM	Tantillo, Lorenzo-Aiss & Mathisen, 1995	USA	250	Mean: 24.4	110/140	Alphabet (paper)
VHS1	Velasco, Hyndman & Spence, 2018 (study 1)	UK	80	Not indicated	Not indicated	“eat me” (slide projected)
VHS2	Velasco, Hyndman & Spence, 2018 (study 2)	UK	166	Not indicated	Not indicated	“Eat Me” (paper)
VHS3	Velasco, Hyndman & Spence, 2018 (study 3)	UK	188	Range: 20-60	78/110	“tastes like” (paper)
VWHS1	Velasco, Woods, Hyndman & Spence, 2015 (study 1)	UK	101	Range: 20-69	59/42	“eat me” (digital)

Object of evaluation	*Method*	*N. of typefaces*	*N. of qualities*	*Data*	*Included in unified dataset*
Typeface	Likert scale 1 - 7	10	26 pairs	Irretrievable	No
Typeface	Put typefaces in order	15	5	In article	No
Typeface	Likert scale 1 - 4	20	15 pairs	Irretrievable	No
Typeface	Likert scale -3 - 3	40	16 pairs	In article	Yes
Typeface	Likert scale Not indicated	4	13 pairs	Irretrievable	No
Typeface	Likert scale 1 - 7	6	28 pairs	In article	Yes
Jellybean	Likert scale 0 - 10	1	2	In article	No
Jellybean	Likert scale 1 - 10	6	2	In article	No
Jellybean	Likert scale 0 - 10	1	2	In article	No
Typeface	Continuous scale 0 - 100	2	4	Irretrievable	No

Index	*Article (study)*	*Country*	*Sample size*	*Age*	*Males / Females*	*Text presented (format)*
WSL	Walker, Smith, & Livingston, 1986	UK	66	Not indicated	Not indicated	Alphabet (paper)
We	Wendt, 1968	Germany	10	Not indicated	Not indicated	Alphabet (paper)

Object of evaluation	*Method*	*N. of typefaces*	*N. of qualities*	*Data*	*Included in unified dataset*
Typeface	Likert scale 1 - 7	14	13 pairs	In article (partially)	Yes
Typeface	Likert scale 1 - 7	35	25 pairs	Irretrievable	No

Note. ‘pairs’ indicates that opposite terms were given to participants to identify the semantic quality. ‘multi’ indicates that two or more similar terms were given. ‘FA’ indicates that participants indicated ratings on multiple qualities that were later aggregated by the authors following a factorial analysis.

(e.g., jelly beans), because the ratings were largely affected by the stimulus itself and were therefore not comparable with ratings from other studies. We therefore only included the data from the 12 studies that asked participants to rate the perception of semantic qualities in typefaces, presented as alphabet or text, using a rating scale.

Given that previous studies used different rating scales (i.e., 1–5, 0–9, etc.), mean ratings originally reported were converted to a 0–10 rating scale to make data comparable. Data were transformed as follows: from the original mean rating, the lowest possible score of the scale was subtracted and the result divided by the number of points in the scale minus 1. Finally, the result was multiplied by 10. For example, if participants gave a mean rating of 5 on a 1–6 scale, the transformed value was 8 (= [(5-1)/(6-1)]*10). As another example, if participants gave a mean rating of 4 in a 0–5 scale, the transformed value was 8 (= [(4-0)/(6-1)]*10). The higher the score, the stronger the perception of the semantic quality in the typeface. In case of pair qualities presented at the extremities of the scale (e.g., beautiful – ugly), a low score (<5) indicates that the typeface is more representative of the first quality (beautiful); meanwhile, a high score (>5) indicates that the typeface is more representative of the second quality (ugly).

The unified dataset reported on OSF includes 108 semantic qualities and 315 typefaces. Anyone interested in a particular quality can arrange the dataset to see which typefaces had the highest ratings and which had the lowest. Similarly, anyone interested in a particular typeface can arrange the dataset to see which semantic qualities the typeface is most able to communicate. The next two sections show a few examples of the information that can be extracted from the unified dataset.

The Most Researched Qualities

Happiness and Sadness

Happiness and sadness were rated in 51 typefaces across 3 studies. As shown in Table 2, Curlz MT was rated as the happiest, followed by Gigi and Kristen ITC (Shaikh, 2007). All handwriting typefaces were perceived as happy. In general, results seemed to indicate that the feeling of happiness was communicated by curves and irregular lines.

In contrast, Helvetica Medium Condensed (Walker et al., 1986) was rated as the saddest, followed by Impact (Shaikh, 2007) and Evans (Walker et al., 1986). Overall, few typefaces were perceived as sad (i.e., had a score higher than 5). Nevertheless, it seems that the feeling of sadness was communicated mainly by typefaces that were condensed or intrinsically narrow. Finally, the thickness of the line seemed to be largely irrelevant for the communication of happiness or sadness.

Table 2.

Extract from the unified dataset. List of the typefaces that have been rated on how much they were perceived happy – sad.

happy–sad

Typeface	*Rating*	*Typeface*	*Rating*	*Typeface*	*Rating*
Curlz MT	1.88	Century Gothic	4.03	Verdana	4.77
Gigi	2.63	Perpetua	4.23	**Bauhaus 93**	4.78
Kristen ITC	2.70	Trebuchet MS	4.23	Arial	4.87
Hudson	2.72	Centaur	4.25	Lucida Bright	4.90
French Script MT	3.17	**Berlin Sans FB**	4.30	Avant Garde Gothic	4.93
Lucida Handwriting	3.25	Poor Richard	4.32	*Informal Roman*	4.95
Clarion Shaded[1]	3.27	Papyrus	4.40	Consolas	5.30
Bradley Hand	3.28	Incised901 Lt BT	4.42	Univers	5.38
Goudy Old Style	3.58	Corbel	4.45	Helvetica	5.43
Cooper Black	3.63	Georgia	4.48	Courier New	5.45
Tempus Sans ITC	3.65	High Tower Text	4.48	Agency FB	5.57
Monotype Corsiva	3.68	Calibri	4.53	Chiller	5.58
Vivaldi	3.78	Calisto	4.62	Lucida Console	5.62
Century Schoolbook	3.80	Juice ITC	4.65	**Playbill**	5.65
Times New Roman	3.88	Viner Hand ITC	4.65	Evans	5.70
Bauhaus Demi	3.88	**Broadway**	4.68	**Impact**	5.97
Brush Script	3.98	Cambria	4.75	Helvetica Medium Condensed	6.15

Hardness and Softness

Hardness and softness were rated in 49 typefaces across 2 studies. As shown in Table 3, Impact was rated as the hardest, followed by Playbill and Broadway (Shaikh, 2007). All typefaces with thick lines were perceived as hard, with the exception of Cooper Black. Typefaces with thin lines, monospaced typefaces, and typefaces with geometric and squared lines were perceived as hard.

By contrast, Bradley Hand was rated as the softest, followed by Vivaldi and French Script MT (Shaikh, 2007). Almost all handwriting typefaces were perceived as soft. Generally, an irregular line with high contrast appeared to drive the feeling of the typeface being perceived as soft. Finally, text typefaces with serifs were rated neither hard nor soft, with their score being around 5.

Loudness and Quietness

Loudness and quietness were rated in 48 typefaces across 2 studies. As shown in Table 4, Broadway was rated as the loudest (Shaikh, 2007), followed by Bauhaus 93 (Shaikh, 2007) and Braggadocio (Walker et al., 1986). It appeared that a thick line was the main feature driving the perception of loudness. However, it should be noted that the curvature of the line enhanced the effect of its thickness on the perception of loudness.

By contrast, Bradley Hand was rated as the quietest (Shaikh, 2007), followed by Vivaldi (Shaikh, 2007) and Avant Garde Gothic Book (Walker et al., 1986). It was unclear which typeface feature drives quietness. A thin line seemed to be essential, but not sufficient, as some typefaces with thin lines had scores around 5. Finally, most handwriting and text typefaces that contained serifs, were rated neither loud nor quiet as their scores were around 5.

Masculinity and Femininity

Masculinity and femininity were rated in 48 typefaces across 2 studies. As shown in Table 5, Impact (Shaikh, 2007) was rated as the most masculine, followed by Playbill (Shaikh, 2007) and Braggadocio (Walker et al., 1986). It is clear that a thick line and monospace were the main features driving the perception of masculinity. Furthermore, it seems that masculinity was communicated more by the typefaces that had regular and geometric lines.

By contrast, Virtuoso bold was rated as the most feminine typeface (Walker et al., 1986), followed by Vivaldi (Shaikh, 2007) and Curlz MT (Shaikh, 2007). All handwriting typefaces were rated as feminine. Generally, feminine typefaces had curved lines with additional flourish elements. Finally, text typefaces with serifs were rated neither feminine nor masculine, with their score being around 5.

Warmth and Coolness

Warmth and coolness were rated in 46 typefaces across 2 studies. As shown in Table 6, French Script MT was rated as the

Table 3.

Extract from the unified dataset. List of the typefaces that have been rated on how much they were perceived hard – soft.

hard–soft

Typeface	*Rating*	*Typeface*	*Rating*	*Typeface*	*Rating*
Impact	1.53	Cambria	4.05	Juice ITC	5.70
Playbill	2.20	Times New Roman	4.10	Papyrus	5.97
Broadway	2.43	Lucida Bright	4.15	Clarion Shaded[1]	6.00
Lucida Console	2.43	Verdana	4.18	**Cooper Black**	6.10
Braggadocio	2.47	Calibri	4.20	Kristen ITC	6.37
Agency FB	2.73	Corbel	4.53	*Brush Script*	6.38
Serpentine	2.77	Calisto	4.53	Tempus Sans ITC	6.43
Helvetica Medium Condensed	3.07	*Informal Roman*	4.53	**Hudson**	6.50
Consolas	3.15	Chiller	4.68	*Lucida Handwriting*	6.62
Evans	3.17	*Viner Hand ITC*	4.72	Gigi	6.82
Bauhaus 93	3.27	Perpetua	4.88	*Monotype Corsiva*	6.87
Dynamo	3.43	High Tower Text	4.90	Virtuoso bold	6.87
Arial	3.67	Poor Richard	5.00	Curlz MT	6.90
Courier New	3.73	Centaur	5.07	French Script MT	7.12
Berlin Sans FB	3.77	Century Gothic	5.53	*Vivaldi*	7.33
Georgia	3.87	Incised901 Lt BT	5.60	Bradley Hand	7.48
Trebuchet MS	4.02				

Table 4.

Extract from the unified dataset. List of the typefaces that have been rated on how much they were perceived loud – quiet.

loud–quiet

Typeface	*Rating*	*Typeface*	*Rating*	*Typeface*	*Rating*
Broadway	1.53	Poor Richard	4.20	Corbel	5.18
Bauhaus 93	2.05	Georgia	4.25	Lucida Handwriting	5.18
Braggadocio	2.17	Agency FB	4.32	Brush Script	5.20
Impact	2.18	Verdana	4.38	French Script MT	5.27
Dynamo	2.32	Informal Roman	4.40	Century Gothic	5.32
Playbill	2.67	Chiller	4.52	Centaur	5.38
Serpentine	3.17	Viner Hand ITC	4.55	Papyrus	5.55
Berlin Sans FB	3.28	Kristen ITC	4.55	Juice ITC	5.63
Helvetica Medium Condensed	3.33	Calibri	4.58	Monotype Corsiva	5.78
Evans[1]	3.48	Cambria	4.60	Eusebius Open	5.80
Gigi	3.85	Times New Roman	4.63	Palatino Italic	5.90
Trebuchet MS	3.92	High Tower Text	4.68	Tempus Sans ITC	6.00
Lucida Console	3.93	Calisto	4.82	Incised901 Lt BT	6.10
Curlz MT	3.95	Lucida Bright	4.90	Avant Garde Gothic Book	6.15
Arial	4.17	Courier New	5.00	Vivaldi	6.20
Consolas	4.18	Perpetua	5.15	Bradley Hand	6.80

Table 5.

Extract from the unified dataset. List of the typefaces that have been rated on how much they were perceived masculine – femenine.

masculine–feminine

Typeface	*Rating*	*Typeface*	*Rating*	*Typeface*	*Rating*
Impact	2.20	Berlin Sans FB	4.27	Poor Richard	5.73
Playbill	2.37	Cambria	4.33	Papyrus	5.97
Braggadocio	2.67	Times New Roman	4.37	Juice ITC	6.18
Helvetica Medium Condensed	2.97	Lucida Bright	4.38	Kristen ITC	6.32
Lucida Console	3.03	Trebuchet MS	4.38	Tempus Sans ITC	6.45
Dynamo	3.17	Calibri	4.50	Palatino Italic	6.60
Evans[1]	3.17	Calisto	4.60	Hudson	6.72
Serpentine	3.22	Corbel	4.65	Brush Script	6.87
Agency FB	3.30	Chiller	4.68	Monotype Corsiva	7.32
Consolas	3.43	Viner Hand ITC	4.97	Bradley Hand	7.38
Broadway	3.55	Perpetua	5.03	Lucida Handwriting	7.43
Courier New	3.77	Informal Roman	5.04	French Script MT	7.90
Arial	3.98	High Tower Text	5.10	Gigi	7.95
Bauhaus 93	4.12	Centaur	5.25	Curlz MT	8.03
Verdana	4.15	Incised901 Lt BT	5.40	Vivaldi	8.22
Georgia	4.15	Century Gothic	5.68	Virtuoso bold	8.50

Table 6.

Extract from the unified dataset. List of the typefaces that have been rated on how much they were perceived warm – cool.

warm–cool

Typeface	Rating	Typeface	Rating	Typeface	Rating
French Script MT	3.45	Berlin Sans FB	4.63	Arial	5.48
Monotype Corsiva	3.48	Georgia	4.67	Chiller	5.55
Lucida Handwriting	3.52	Cambria	4.77	Incised901 Lt BT	5.57
Vivaldi	3.60	Calisto	4.83	Calibri	5.62
Curlz MT	3.67	Viner Hand ITC	4.85	Playbill	5.63
Hudson	3.70	Centaur	4.85	Broadway	5.63
Kristen ITC	3.80	Perpetua	4.90	Bauhaus 93	5.93
Brush Script	3.87	Trebuchet MS	4.95	Courier New	6.20
Bradley Hand	3.95	Times New Roman	5.07	Evans	6.37
Cooper Black	4.00	Century Gothic	5.13	Impact	6.52
Gigi	4.02	Lucida Bright	5.18	Helvetica Medium Condensed	6.57
Tempus Sans ITC	4.07	Juice ITC	5.22	Consolas	6.63
Clarion Shaded[1]	4.10	Informal Roman	5.32	Lucida Console	6.73
High Tower Text	4.37	Corbel	5.35	Serpentine	6.78
Papyrus	4.45	Verdana	5.43	Agency FB	6.97
Poor Richard	4.50				

Table 7.

Extract from the unified dataset. List of the typefaces that have been rated on how much they were perceived weak – strong.

weak–strong

Typeface	Rating	Typeface	Rating	Typeface	Rating
Bradley Hand	3.23	Viner Hand ITC	5.38	Lucida Console	6.58
Juice ITC	3.28	Monotype Corsiva	5.40	Arial	6.65
Curlz MT	3.62	Century Gothic	5.47	Playbill	6.65
Gigi	3.73	Centaur	5.97	Cambria	6.72
Virtuoso bold[1]	3.85	Lucida Bright	6.02	Trebuchet MS	6.72
Chiller	3.95	Agency FB	6.05	Georgia	6.80
Vivaldi	4.28	Corbel	6.08	Bauhaus 93	6.85
Kristen ITC	4.37	Calisto	6.18	Clarion Shaded	6.98
Informal Roman	4.45	Perpetua	6.18	Berlin Sans FB	7.27
Lucida Handwriting	4.60	Poor Richard	6.22	Impact	7.48
Tempus Sans ITC	4.62	Consolas	6.23	Helvetica Medium Condensed	7.48
Papyrus	4.78	High Tower Text	6.30	Serpentine	7.48
French Script MT	4.92	Calibri	6.33	Broadway	7.80
Incised901 Lt BT	4.93	Times New Roman	6.47	Dynamo	7.83
Brush Script	5.27	Verdana	6.57	Braggadocio	7.98
Courier New	5.27				

warmest, followed by Monotype Corsiva and Lucida Handwriting (Shaikh, 2007). In fact, (almost) all handwriting typefaces were perceived warm. Generally, warm typefaces had curved lines.

By contrast, Agency FB was rated as the coolest typeface (Shaikh, 2007), followed by Serpentien (Walker et al., 1986) and Lucida Console (Shaikh, 2007). It appears that all monospaced typefaces were perceived as cool. Generally, cool typefaces were sans serifs with straight lines and low contrast. Finally, text typeface with serifs were rated neither cool nor warm, with their score being around 5.

Weakness and Strength

Weakness and strength were rated in 46 typefaces across 2 studies. As shown in Table 7, Bradley Hand was rated as the weakest, followed by Juice ITC and Curlz MT (Shaikh, 2007). Furthermore, most handwriting typefaces were perceived to be weak. Generally, weakness was communicated by typefaces with irregular lines and high contrast.

By contrast, Braggadocio was rated as the strongest typeface (Walker et al., 1986), followed by Dynamo (Walker et al., 1986) and Broadway (Shaikh, 2007). Similar to masculinity, it was clear that a thick line was the main feature driving the perception of strength. Furthermore, it seemed that strength was communicated more by those typefaces that had regular and geometric lines.

Finally, it should be noted that although a thick line communicated a feeling of strength, the opposite was not true; not all typefaces with thin lines were perceived as weak.

The Most Researched Typefaces

Times New Roman was rated on 68 qualities across 8 studies. As shown in Table 8, it was consistently rated high for legibility (Li & Suen, 2010; Shaikh, 2007; Tantillo et al., 1995) and readability (Tantillo et al., 1995). Furthermore, Times New Roman received low ratings for sloppiness and fearfulness (Li & Suen, 2010), and was found highly reassuring (Henderson et al., 2004), polite (Louch, 2011), confident (Li & Suen, 2010), professional and formal (MacKiewicz, 2005; Mackiewicz & Moeller, 2004). By contrast, participants rated Times New Roman low for cheerfulness and creativity (Li & Suen, 2010). Overall, this would suggest that Times New Roman is a typeface most appropriate in work-related contexts, where professionalism and formality are paramount.

Helvetica

Helvetica was rated on 42 qualities across 4 studies. As shown in Table 9, it was rated highly for legibility (Li & Suen, 2010; Tantillo et al., 1995) and readability (Tantillo et al., 1995). Furthermore,

Table 8.

Extract from the unified dataset. List of the typefaces that have been rated on Times New Roman.

Times New Roman

Quality	*Rating*	*Quality*	*Rating*	*Quality*	*Rating*
Fearful	1.13	Happy – Sad	3.88	Warm – Cool	5.07
Legible – Illegible	1.33	Good – Bad	3.93	Friendly	5.23
Sloppy	1.43	Honest – Dishonest	3.95	Cheap – Expensive	5.32
Polite - Rude	1.57	Supportive – Unsupportive	3.99	Rough – Gentle	5.33
Legible – Not Legible	2.22	Freshness – Stale	4.00	Ordinary – Extraordinary	5.37
Readable – Not Readable	2.37	Vitality – No Vitality	4.00	Passive – Active	5.38
Consistent – Inconsistent	2.75	Charming – Not Charming	4.03	Delicate – Rugged	5.43
Creative	2.97	Valuable – Worthless	4.08	Formal – Casual	5.62
Cheerful	3.13	Hard – Soft	4.10	Relaxed – Stiff	5.73
Distinct – Not Distinct	3.33	Calm – Exciting	4.18	Old – Young	5.75
High Quality – Low Quality	3.33	Emotional – Not Emotional	4.23	Pleasing CFA	5.87
Engaging CFA	3.45	Youthful – Mature	4.30	Old – New	5.90
Rich – Poor	3.52	Professional – Unprofessional	4.33	Lower Class – Upper Class	5.93
Interesting – Boring	3.57	Masculine – Feminine	4.37	Assertive – Passive	6.13
Smart – Not Smart	3.62	Attractive – Unattractive	4.42	Power CFA	6.31
Loud – Soft	3.67	Attractive	4.50	Weak – Strong	6.47
Personality – No Personality	3.67	Loud – Quiet	4.63	Formal	6.63
Powerful – Powerless	3.70	Calm – Agitated	4.67	Confident	6.80

Table 9.

Extract from the unified dataset. List of the typefaces that have been rated on Helvetica.

Helvetica

Quality	*Rating*	*Quality*	*Rating*	*Quality*	*Rating*
Fearful	0.90	Manly – Unmanly	3.85	Vitality – No Vitality	5.20
Sloppy	1.33	Rough – Gentle	4.03	Calm – Agitated	5.30
Legible – Not Legible	1.47	Honest – Dishonest	4.10	Happy – Sad	5.43
Artistic	1.53	Powerful – Powerless	4.27	Personality – No Personality	5.98
Readable – Not Readable	1.55	Attractive	4.30	Beautiful – Ugly	6.07
Dramatic	2.25	Old – New	4.42	Freshness – Stale	6.22
Individual	2.58	Distinct – Not Distinct	4.45	Charming – Not Charming	6.37
Creative	2.63	Lower Class – Upper Class	4.60	Interesting – Boring	6.45
Cheerful	2.93	Old – Young	4.68	Emotional – Not Emotional	6.45
Ordinary – Extraordinary	3.02	Friendly	4.83	Elegant – Not Elegant	6.85
Loud - Soft	3.22	Smart – Not Smart	4.85	Professional	6.95
Sturdy – Not Sturdy	3.37	High Quality – Low Quality	4.93	Confident	7.07
Traditional – Not Traditional	3.68	Valuable – Worthless	4.97	Formal	7.13
Relaxed	3.73	Rich – Poor	5.18	Legible	7.87

Table 10.

Extract from the unified dataset. List of the typefaces that have been rated on Century Schoolbook.

Century Schoolbook

Quality	*Rating*	*Quality*	*Rating*	*Quality*	*Rating*
Legible – Not Legible	2.03	Smart – Not Smart	3.60	Manly – Unmanly	5.03
Readable – Not Readable	2.18	Personality – No Personality	3.65	Rough – Gentle	5.12
Engaging CFA	2.60	Valuable – Worthless	3.80	Friendly	5.18
High Quality – Low Quality	3.12	Happy – Sad	3.80	Ordinary – Extraordinary	5.32
Distinct – Not Distinct	3.17	Charming – Not Charming	3.83	Pleasing CFA	5.57
Rich – Poor	3.20	Vitality – No Vitality	3.90	Old – Young	5.63
Beautiful – Ugly	3.40	Honest – Dishonest	4.08	Old – New	5.78
Sturdy – Not Sturdy	3.42	Emotional – Not Emotional	4.17	Lower Class – Upper Class	6.32
Powerful – Powerless	3.45	Freshness – Stale	4.18	Power CFA	6.41
Loud – Soft	3.47	Traditional – Not Traditional	4.48	Professional	6.85
Interesting – Boring	3.50	Calm – Agitated	4.73	Reassuring CFA	7.65
Elegant – Not Elegant	3.58				

Note. CFA indicates that participants indicated ratings on multiple qualities that were later aggregated by authors following a Factorial Analysis.

Table 11.

Extract from the unified dataset. List of the typefaces that have been rated on Impact.

Impact

Quality	*Rating*	*Quality*	*Rating*	*Quality*	*Rating*
Hard – Soft	1.53	Consistent – Inconsistent	3.79	Confident	6.10
Assertive – Passive	2.12	Pleasing CFA	4.24	Passive – Active	6.10
Sloppy	2.13	Old – Young	4.37	Professional – Unprofessional	6.21
Cheerful	2.17	Youthful – Mature	4.44	Power CFA	6.43
Relaxed	2.17	Formal	4.93	Warm – Cool	6.52
Loud – Quiet	2.18	Polite – Rude	5.16	Attractive – Unattractive	6.60
Masculine – Feminine	2.20	Slow – Fast	5.33	Reassuring CFA	6.71
Fearful	2.47	Supportive – Unsupportive	5.36	Good – Bad	7.05
Creative	2.53	Legible	5.63	Beautiful – Ugly	7.23
Engaging CFA	2.65	Legible – Illegible	5.75	Weak – Strong	7.48
Friendly	2.77	Calm – Exciting	5.77	Delicate – Rugged	7.78
Cheap – Expensive	3.35	Formal – Casual	5.83	Relaxed – Stiff	8.08
Attractive	3.50	Happy - Sad	5.97		

Note. CFA indicates that participants indicated ratings on multiple qualities that were later aggregated by authors following a Factorial Analysis.

Table 12.

Extract from the unified dataset. List of the typefaces that have been rated on Goudy Old Style.

Goudy Old Style

Quality	*Rating*	*Quality*	*Rating*	*Quality*	*Rating*
Readable – Not Readable	2.03	Personality – No Personality	3.58	Power CFA	5.24
Legible – Not Legible	2.05	Freshness – Stale	3.60	Loud – Soft	5.37
Distinct – Not Distinct	3.02	Calm – Agitated	3.63	Manly – Unmanly	5.50
Elegant – Not Elegant	3.20	Honest – Dishonest	3.73	Old – Young	5.68
Beautiful – Ugly	3.23	Valuable – Worthless	3.78	Ordinary – Extraordinary	5.70
High Quality – Low Quality	3.23	Engaging CFA	3.86	Old – New	5.98
Rich – Poor	3.25	Vitality – No Vitality	4.20	Pleasing CFA	6.37
Charming – Not Charming	3.42	Emotional – Not Emotional	4.27	Rough – Gentle	6.37
Smart – Not Smart	3.43	Powerful – Powerless	4.30	Lower Class – Upper Class	6.38
Interesting – Boring	3.53	Sturdy – Not Sturdy	4.47	Reassuring CFA	7.58
Happy – Sad	3.58	Traditional – Not Traditional	4.72		

Note. CFA indicates that participants indicated ratings on multiple qualities that were later aggregated by authors following a Factorial Analysis.

similar to Times New Roman, Helvetica received low ratings for sloppiness and fearfulness (Li & Suen, 2010) and was found highly confident (Li & Suen, 2010), professional, and formal (MacKiewicz, 2005). By contrast, Helvetica was not considered artistic (Mackiewicz & Moeller, 2004), creative (Li & Suen, 2010), or dramatic (Mackiewicz & Moeller, 2004).

The main differences between Helvetica and Times New Roman were in terms of novelty and aesthetics. While Times New Roman was perceived as more extraordinary, interesting, elegant, and beautiful, Helvetica was considered more ordinary, boring, not elegant, and ugly (Tantillo et al., 1995).

Century Schoolbook

Century Schoolbook was rated on 34 qualities across 3 studies. As shown in Table 10, it was rated highly for legibility and readability (Tantillo et al., 1995). Furthermore, it was perceived as professional, reassuring, rich, distinct, and high quality (Henderson et al., 2004; MacKiewicz, 2005; Tantillo et al., 1995). By contrast, Century Schoolbook was considered neither manly nor unmanly, rough nor gentle, and ordinary nor extraordinary (Tantillo et al., 1995). Overall, this suggests that Century Schoolbook could be a more distinct typeface compared to Times New Roman and Helvetica.

Impact

Impact was rated on 38 qualities across 4 studies. As shown in Table 11, it was rated highly for hardness, assertiveness, stiffness, ruggedness, loudness, and strength (Louch, 2011; Shaikh, 2007). It also received high ratings for badness and ugliness (Shaikh, 2007), which were in line with low ratings in attractiveness (Li & Suen, 2010). This, however, did not mean that Impact was perceived as sloppy or fearful, as it received low ratings on both qualities (Li & Suen, 2010). Furthermore, Impact received low ratings for creativity and cheerfulness (Li & Suen, 2010). Overall, Impact was a low creative typeface that communicated a sense of strength without being sloppy or fearful.

Goudy Old Style

Goudy Old Style was rated on 32 qualities across 2 studies. As shown in Table 12, it was rated highly for legibility and readability (Tantillo et al., 1995). Furthermore, similarly to Century Schoolbook, it was perceived as reassuring, rich, distinct and high quality (Henderson et al., 2004; Tantillo et al., 1995). Goudy Old Style was also considered neither manly nor unmanly, traditional nor untraditional, and loud nor soft (Tantillo et al., 1995). Contrary to Century Schoolbook, however, it was perceived as highly gentle (Tantillo et al., 1995). Overall, Goudy Old Style was perceived as a gentler alternative to Century Schoolbook that can be used for situations that call for a distinct typeface.

General Discussion

This article provided an overview of previous studies that asked participants to indicate their perception of semantic qualities in typefaces. Whenever possible, participants' judgments have been collected in a single place and were made comparable in the unified dataset. Due to the high number of qualities and typefaces, the tables in the previous two sections only included data regarding the most researched qualities and typefaces.

Specifically, the tables throughout the previous section provided scientific evidence regarding which typefaces are the most effective to communicate happiness/sadness, hardness/softness, loudness/quietness, masculinity/femininity, warmth/coolness, and weakness/strength. These tables can therefore help professionals identify those typefaces that are most appropriate for their project if they want to communicate these semantic qualities. In summary, the tables indicate that Curlz MT, Gigi, and Kristen ITC were perceived as the happiest; Helvetica Medium Condensed, Impact, and Evans as the saddest; Impact, Playbill, and Broadway as the hardest; Bradley Hand, Vivaldi, and French Script MT as the softest; Broadway, Bauhaus 93, and Braggadocio as the loudest; Bradley Hand, Vivaldi, and Avant Garde Gothic Book as the quietest; Impact, Playbill, and Braggadocio as the most masculine; Virtuoso bold, Vivaldi, and Curlz MT as the most feminine; French Script MT, Monotype Corsiva, and Lucida Handwriting as the warmest; and Agency FB, , and Lucida Console as the coolest.

These tables also indicated which physical features of the typefaces may drive the communication of the qualities. Some indications were expected; for example, that a thick line is the most important feature to communicate a sense of loudness and that curved lines enhance this feeling further. Others were more unexpected; for example, sadness was mainly communicated by narrow typefaces. These findings can therefore help professionals who are creating new typefaces by drawing correlations between typeface features and intended outcomes

The tables also provided scientific evidence regarding which semantic qualities each typeface did or did not communicate. These tables gave a comprehensive view of the feelings that each typeface can transfer to the viewer. In summary, Times New Roman was perceived as a typeface that communicated a high sense of professionalism, confidence, reassurance, and politeness, and a low sense of cheerfulness and creativity. Helvetica was perceived as a typeface that communicated a high sense of formality, professionalism, and confidence, and a low sense of creativity, sloppiness, and fearfulness. Century Schoolbook was perceived as a typeface that communicated a high sense of distinctness, high quality, and professionalism, and a low sense of both roughness and gentleness. Impact was perceived as a typeface that communicated a high sense of strength,

stiffness, and assertiveness, and a low sense of creativity, sloppiness, and fearfulness. Finally, Goudy Old Style was perceived as a typeface that communicated a high sense of distinctiveness, high quality, and gentleness, and a low sense of both traditionalism and untraditionalism.

These tables also allowed the detection of small differences across typefaces. For example, tables showed that Goudy Old Style was perceived as gentler compared to Century Schoolbook, even though they were able to communicate other qualities similarly. These tables could therefore help professionals gain a comprehensive understanding of which qualities a specific typeface can communicate to make sure that they are all in line with the message of their project. The data discussed in the present review is a fraction of what is available in the unified dataset present in the Open Science Framework project due to space limits. Interested readers are invited to explore the unified dataset for ratings on more qualities and typefaces.

All methods used in the manuscripts included in this review explicitly asked participant to judge the semantic qualities perceived in typefaces, an assessment method that has limits. Participants may find it difficult to explicitly perceive semantic qualities such as "hygiene" in typefaces. This does not necessarily mean that typeface cannot influence the perception of these qualities, but rather that participants are not aware of it. Secondarily, most of the impact that typeface has on users' choices and decisions in the real world is unconscious. Customers are rarely aware that they choose a particular product due to its typeface, and users are rarely aware that they are spending a significant amount of time on a website because of its typeface. Therefore, a method that measures the unconscious mechanism would be a more reliable way to test the strength of the effect in real-world contexts.

Numerous previous studies used implicit measures (i.e., measures that did not explicitly ask participants) to test the perception of semantic qualities in typefaces. For example, Lewis and Walker (1989) found that participants were faster in congruent trials when the word presented and the typeface used were in line (e.g., the word "slow" presented in Cooper Black, which had high scores for slow) compared to incongruent trials when the word presented and the typeface used were not in line (e.g., the word "slow" presented in Palatino Italic, which had high scores for fast).

This suggests a consistency between the conscious and unconscious perception of semantic qualities in typefaces and, most importantly, that it is not necessary to obtain explicit ratings to investigate the perception of semantic qualities in typefaces. It would therefore be helpful for the generalizability of previous research to use assessment methods that detect the unconscious association that participants make between typefaces and semantic qualities (see also Belboula & Ackermann, 2021; Hazlett et al., 2013).

A final point that should be noted is that it was not the aim of the current review to understand *how* semantic qualities arise from typefaces. The mechanisms underlying this phenomenon are still largely unclear. It could be argued that semantic qualities are cultural, that is, they arise from the associations that the reader makes between the typeface and past experience (Celhay et al., 2015). It could also be argued that the physical features of the typeface intrinsically communicate semantic qualities that are universally perceived by the viewers (Arnheim, 1960). More likely, both mechanisms occur and interact, which explains why some semantic qualities are universally perceived from the typeface, while others are more subjective.

Future studies should explore the mechanisms underlying this phenomenon further, for example by comparing ratings of people from different cultures. All studies in this review were conducted in Western countries, mostly the United States and the United Kingdom. More studies should be conducted in Asian, African and South American countries to test whether the ratings reported here are universal or specific to the Western population. However, these future studies may face significant challenges considering the different alphabets used across the globe, as well as the fact that the translation of the terms indicating the semantic qualities may reflect different concepts.

Limitations

Few studies included in this review were conducted in countries where English was not the first language, such as Germany (Wendt, 1968), Holland (Ovink, 1938) and Serbia (Nedeljković et al., 2017). Participants were therefore presented with qualities in the native language. Although authors reported the English translation in the manuscripts, they call for caution given that the translation may not always fully reflect the original word (Ovink, 1938).

Another point to be noted is that multiple of the studies included here were conducted decades ago, with the earliest being a century old (Poffenberger & Franken, 1923). This raises questions about the current validity of the findings. Considering that since the first study in 1923 there has been a substantial cultural change (e.g., World War II, the globalisation and the digital era), studies that presented printed typefaces to participants are not necessarily comparable with more recent studies. We therefore encourage future researchers to replicate previous studies to test whether the findings are still valid. This will also help to determine whether

physical properties of typefaces communicate consistent qualities independently of temporal trends and fashions.

A limitation of the unified dataset is that the ratings cannot be statistically compared because, although they are means, they are single values. Therefore, readers should not assume that differences between scores are statistically significant. Specifically, the closer the scores, the less confident the reader should be that they are statistically different. This is why we refrained from talking about significant differences when describing data from the unified dataset, and we limited the comparison of typefaces/qualities with low scores against those with high scores. Future studies should conduct appropriate studies with statistical analyses to confirm the trends that this review highlighted.

Conclusions

The aim was to provide useful and easily accessible data to professionals for the development of their work projects. The review described part of the data that we collected, but we encourage interested readers to visit the OSF link and download and explore the unified dataset in full. We believe that the dataset will help professionals to be more conscious of which typefaces are most appropriate to communicate specific qualities in their projects. We also encourage authors who published studies that fit the inclusion criteria of the present review and that we might have missed during the search to contact us in order to be included in the Open Science Framework project. Similarly, authors of future research are invited to contact us so that their data can be added to the OSF dataset, which we hope will grow further with time. We believe that the present review could be a reference point for future work on the subject and for the selection of appropriate typefaces in communication, marketing, and design projects.

Acknowledgements

We would like to thank the authors listed below for sharing their data with us.

— Nicole Amare and Alan Manning
— Saemi Choi, Toshihino Yamasaki, and Kiyoharu Aizawa
— Bianca Grohmann, Joan Giese, and Ian Parkman
— Pamela Henderson, Joan Giese, and Joseph Cote
— Beth Koch
— Ying Li and Ching Suen

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Language
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The Tacit Exhibition

An Experimental Display of Graphic Design Knowledge

Halldór Björn Halldórsson

Abstract

This article presents the Tacit exhibition, which formed the final part of a PhD thesis in graphic design, defended in June 2022. Building on the thesis' theme of knowledge externalization in graphic design, the exhibition was an experimental approach toward knowledge dissemination – an attempt to engage an audience otherwise not exposed to research within the field and to explore alternative ways of sharing research outcomes. The exhibition was a design study in itself and could be defined as a participatory study, as the author was present throughout the exhibition, interacting with visitors and simultaneously gathering material about the experience of the exhibition. The article presents the methodology behind the exhibition, its contents, and the outcomes of the project.

Keywords

Typography
Exhibition Design
Design Knowledge

Background

The Tacit exhibition represented the final study of this author's doctoral thesis, "Tacit: A research journey into the methods, processes and knowledge of graphic designers" (Halldórsson, 2022). The thesis was focused on tacit, experiential knowledge within graphic design and how that knowledge may be externalized and made more communicable. Composed of three studies, the thesis explored different methods to this end, an interview study, a participatory design study, and finally, the exhibition. The first two studies demonstrated that even though graphic design knowledge is largely tacit and experiential, it is possible to externalize that knowledge through interviews and design process documentation. But the outcomes also showed that graphic designers think visually, and when given the choice, they will present processes visually rather than in words.

Experiential knowledge has traditionally not been valued within research in the same way as propositional knowledge. In recent years, there has nevertheless been a growing interest in the use of studio- or practice-based research methods, with more established research fields embracing methods more common to the arts and design. The way to present knowledge generated through such research, however, has remained unclear, as Niedderer (2021) pointed out. Some researchers within art and design have deemed traditional publishing methods inadequate, but exploring alternative ways of knowledge dissemination has in turn often been criticized due to lack of purpose and clarity. In my own research, I have attempted to show that it is possible to externalize graphic design knowledge not only using images but in words as well – something that has rarely been done within the field. At the same time, I am painfully aware of the fact that such written accounts will not be considered accessible by everyone. I therefore chose to explore alternative means of expanding the reach of my work, while simultaneously endeavoring to raise to the profile of research within graphic design. To that end, I decided to hold an exhibition.

The presentation of results in the form of posters is common at seminars and conferences, which of course is a form of exhibition – albeit a somewhat constrained and regulated one. I designed my exhibition with a single theme and used my own artefacts. My exhibition was restricted to the presentation of the outcome of my research and as such it was more related to an exhibit of art or design objects in a museum setting. Considering the exhibition form's long-standing role in the creative arts, I saw in it the potential to gain the attention of those who would otherwise not be aware of design research. There has not been much research done on the use of exhibitions as tools for research, but exhibitions have obviously long been a fixture within design, art, and craft for presentation, inspiration, and knowledge dissemination. Architecture has a long history of planning exhibitions, which are used to inform and engage stakeholders, involve community members in the development of residential areas, and better understand local aspects such as culture or geography (Nakajima, 2021). Niedderer et al. (2006) used the existence of ineffable knowledge as an argument for the use of artefacts as submitted material in practice-based research, thereby accepting the artefact as the communicator of research outcomes. Biggs (2004) saw a need for the design community to develop and defend the use of artefacts (works of music, physical objects, performances, etc.) as a method of knowledge dissemination for design research outcomes, defining these as the tools of choice of design professionals and thereby logical to use for research in the field. In my efforts to bring experiential knowledge in graphic design to light, I have demonstrated that it is in fact possible to verbally communicate the knowledge at play in a design process. Keeping in mind the visual nature of graphic design cognition, I wanted to explore presenting design results in another manner than text.

On the subject of publishing research outcomes, the Swedish Research Council (2017) stated that "only if the results are made public does the research conducted contribute effectively to the dissemination of new knowledge to the wider society" (p. 52). In more established research areas where the abundance of publications can be overwhelming, the aims and purposes of research have sometimes been questioned, with researchers wondering who and what it is for (Burawoy, 2005). Assuming that one answer to those questions is the development of the profession's knowledge, it seems pertinent to also consider how research outcomes could be presented in such a way that this new knowledge could be shared with practitioners. In budding fields of research, such as graphic design, it is paramount to shine a light on any research effort simply to make it known that research is being done within the field. Right from the start, the exhibition was planned in such a way that it could be adapted to different locales to facilitate reaching a larger audience. I chose to design the exhibition as an auxiliary manner of presenting my research, a complement to the text-based thesis, and an attempt to accommodate as well as illustrate a key outcome of my research, i.e., the visual nature of graphic designers' accounts of their design processes.

I therefore consider the exhibition an alternate way to answer the research question of whether it is possible to externalize tacit knowledge in graphic design. Visitors obviously experience exhibitions in their own ways, but I wanted to explore the possibilities of engaging an audience that otherwise would not come in contact with design research. The exhibition thus offered an opportunity to express both my personal experiences of research and the generated outcomes of it. For me personally, this became both a knowledge dissemination method and a chance to present graphic design in an unusual setting.

Being fully aware of the similarities with an artistic project, I have not chosen to describe the exhibition as "artistic" for a few reasons. First, even though "design research" is an unclear concept, "artistic research" is even more so. While there is a consensus on knowledge creation being the aim of artistic research, Ehn (2012) emphasized that an artist's willingness to explore unusual topics in a playful manner could be a beneficial approach within scientific research as well. Taking a step further, Butt (2017) claimed that "the role of science as the organizing paradigm for knowledge must be displaced" (p. 86), where artistic research could be considered an alternative to more traditional forms of knowledge creation. A more pragmatic stance was presented by Haarman (2019), who stated that artistic research should not be compared with scientific research, but rather performed and focused on the practices and methods of the artists themselves. There are obvious similarities between my own work and artistic research, but my hesitation to use the term "artistic" stems from the fact that I do not consider myself to be an artist. The exhibition is certainly an interpretation of my research, but in my mind, it was in essence a design task – one with an intended audience, although a not-very-defined one at that. I therefore contend that my work on the exhibition is a design research project and that the use of an exhibition is one of my research methods.

Exhibition Methodology

Compared to conventional research projects, new challenges emerge when it comes to the use of exhibitions as a research method. In addition to economical and temporal restraints, the accessibility and reach of an exhibition will inevitably be restricted due to the confinements of a specific location. Additionally, creating permanent records of exhibitions poses different challenges, compared to the relatively straightforward ways of documenting more traditional research projects (Rust & Robertson, 2003). In the case of my own exhibition, it was intended as a complement to my written thesis and as such, aimed at generating interest and discussion, although limited in time and public reach. My approach can be regarded in relation to the work of Chamberlain and Yoxall (2012), where they consider the opportunities of using an exhibition as a platform for discussion on an academic level and do so with a historical reference to 17th century France and Italy, where the tradition of exhibitions in private "salons" was a forum for the exchange of ideas and knowledge, as well as for academic discussion. Modern society obviously offers a variety of such forums, but this 17th century reference is interesting.

The exhibition format tends to be very unidirectional in the sense that it is a place of observation where visitors are confronted with artefacts and information without a required, explicit response or reaction, as opposed to the salons where discussion and debate were encouraged. Niedderer et al. (2006) argued that since design artefacts require interpretation by the viewer, they can therefore be used as vehicles for conveying knowledge that has been obtained through research. Such dissemination of knowledge will inevitably make it more difficult to assess its worth, at least compared to the evaluation of text. In an effort to address that problem, Biggs (2003) highlighted the importance of context in the interpretation of knowledge that is embedded in artefacts (products), and Niedderer et al. (2006) proposed the use of new semantics in an effort to direct the interpretation of artefacts, thereby aiding in the design of an exhibition where knowledge is conveyed in a controlled manner as opposed to being only reliant on the individual visitor's interpretation. Seeing a distinction between "contextual" and "aesthetic" exhibitions, Vergo (1989) pointed out that whereas the former provides defining, explicatory information intended to define and direct the visitor's experience, the latter consciously omits such information and thereby encourages the observer's interpretation in order to convey knowledge. Accepting this distinction, it would seem that a contextual exhibition would be the preferred alternative if the aim were to be accepted as a form of knowledge dissemination for research, as it (potentially) controls the observer's understanding of its contents. However, it remains unclear what the nature of an exhibition's context should be and how it should be communicated. The use of a text-based approach is certainly conceivable to provide detailed information about the artefacts and their background, but the use of a nonverbal method is also an option. In their work, Niedderer et al. (2022) studied a variety of options and sought inspiration from gestalt theory (Koffka, 1999), where ordering, repetition, and juxtaposition are seen to be tools to build a semantic groundwork that will aid the observer's interpretation and understanding of exhibited work.

As already stated, the intention of my own exhibition was twofold: to extend the reach of my research and serve as an interpretation of my thesis using nonverbal means. To fulfill that intention, I had to take into consideration the different approaches presented above. Making an analogy to the world of music, we might compare visiting an exhibition to attending a concert, where music aficionados are often knowledgeable about the music and the performers beforehand. In the world of classical music, concertgoers might, for example, have read composer biographies and be familiar with the characteristics of different periods of music history. The realm of fine art places perhaps even more importance on the knowledge of history and culture, sometimes to the extent of such prerequisites preventing novices from being able to understand and enjoy the exhibited work. Dutton (2009) pointed out that "some kind of critical

language for judgment and appreciation" always exists in relation to artistic expression, a language that in effect can erect a barrier of exclusion to those who do not speak it. In my mind, this directly relates to the definition of professional knowledge within a field and what role that plays for practitioners and clients. The fact that design knowledge is, to a large extent, tacit and thereby hidden in nature represents a risk that a divide can be created both between clients and designers and between peers, hindering the exchange of experience as well as the judgment and appreciation of design outcomes. Nevertheless, and maybe conversely, the object of any design solution is to solve an existing problem – perhaps the communication of a message or the development of services or products – and in any case, the intended user should not need any experience or information to use the design solution. Therefore, defining my research outcomes as a design artefact, I wanted to design the exhibition as such, thereby allowing visitors to interpret its contents on their own terms, based on their own knowledge and experience. It therefore felt more in keeping with a design project to avoid "assisting" observers in their experience of the exhibited artefacts beyond providing brief background information on the research. The omission of textual information was intentional and aimed to further strengthen the contrast between the verbal thesis and the visual nature of graphic design.

Exhibition Design

Having decided upon an experiential approach in the design of my exhibition, I did not want to create a solution that was made for a specific locale, but rather to design a dynamic outcome that could be adapted through the use of movable and reusable artefacts intended for a contained space. Even though graphic designers mainly work with two-dimensional designs, their work has traditionally been published in three-dimensional media that the user interacts with – namely newspapers, magazines or books. I felt that this fact could be used in the exhibition to represent the contrast between experiential and theoretical knowledge by creating material, three-dimensional versions of glyphs from a typeface that I designed as part of my main PhD study. Through the tactility and physicality of these letters, observers would be allowed to experience graphic design artefacts in an unusual way, conceivably instilling in them a sense of contrast between the way they usually interact with typefaces and the "realness" of the physical letters. The "materialization" of the typeface would enhance this sense, having been designed digitally but finalized in physical forms.

The name of both my thesis and the typeface is "Tacit" (meaning expressed or carried on without words or speech (Merriam-Webster 2022)), referring to the experiential knowledge of graphic designers. The five glyphs that form Tacit were also the basis of the exhibition, represented in oversize two- and three-dimensional versions that challenged the way we usually experience graphic design. This allowed visitors to engage with the typographical shapes as they would with sculptures, or perhaps another living being. The design of the letters was rendered more approachable to elicit an alternative visual experience and scrutiny than in the case of observing two-dimensional shapes in smaller sizes. The glyphs were made of different materials with the aim of initiating a sense of craft and of raw materials. I used transparent, opaque, hollow, and solid forms to suggest the myriad ways of dealing with design problems and the challenge of choosing suitable forms to materialize an idea. Fixed typographical illustrations mounted on two adjacent walls accompanied the large letters, and photographs showing both digital and analog design processes were projected on a third wall. These images were submitted by participants in my main PhD study as well as by myself, and their inclusion in the exhibition was intended to prompt the recollection of work processes among visitors, potentially even eliciting thoughts of physicality, idea development, and the choice of appropriate techniques and tools. Both the static illustrations and the slideshow were intended to generate a two-dimensional counterpoint to the letters on the floor, both visually and informatively, thereby opening up the visitor's experience of the artefacts. Each observer's interpretation of the exhibition is nevertheless the central factor in that experience, regardless of background and knowledge. The exhibition can in this way be compared to the experience of any graphic design project, as regardless of our ambition, as designers, we can never fully know the minds of our intended audience and our work will therefore always rely on interpretations we cannot foresee.

Seeking to bring visitors beyond the simple act of regarding the artefacts, I used two elements that were intended to engage participation and perhaps give rise to thoughts on what it is that inspires and where inspiration can come from. First, one of the glyphs, a lowercase "t" cut out from white cardboard, was intended for visitors to draw or sketch on at will with permanent markers. Second, a dimension of sound was added by placing a loudspeaker behind the opaque, lowercase "a." I made a recording of myself practicing my trombone and played it through the speaker, with the intent of highlighting how seemingly unrelated activities are often a source of inspiration and are consequently integral to the solution of a design task. The aim of these elements of the exhibition was to inspire reflection on different creative approaches and how the act of sketching (practicing, experimenting) is not an aesthetic endeavour, but rather an exploration that can ultimately generate new ideas. Since I intended to be present at the museum throughout the exhibition, I also saw these interactive artefacts as tools for initiating conversation with visitors.

The following pages show images from the exhibition, and include descriptions of each of its elements.

figure 1.
An overview of the different elements of the exhibition:

1.

Design elements from the digital development of the Tacit typeface (left) and the full Tacit Medium font (right) were printed on cloth and mounted on the side walls.

2.

A free-standing lower case "t," made of sheet metal. Dimensions (H x W x D in mm): 1700 x 900 x 400.

3.

A lower case "a," made from lacquered polystyrene. A loudspeaker behind it played soft trombone music. Dimensions (H x W x D in mm): 1200 x 900 x 400.

4.

A lower case "c" made from translucent PVC. Dimensions (H x W x D in mm): 1200 x 900 x 400.

5.

Wall projection showing images of sketches and analog methods used in my own design process and those of participants in Study II.

6.

A lower case "i," positioned as a vinyl decal on the floor. Dimensions: (H x W in mm): 500 x 2000)

7.

A lower case "t" made out of thick cardboard. It was mounted in a floor stand for visitors to write or sketch on.

Figure 2.
The sheet metal lower case "t"

The hollow shape of the lower case "t" is intended to evoke a feeling of emptiness inspired by "a hole in my heart," which is how the author described the experience of working digitally without seeing the physical results of the work.

The letter is made of sheet metal. As the metalwork was beyond my capabilities the artefact was shaped and hand-built by a professional metalworker.

The choice of material thus represents the contrast between industry and craft, mirroring in part the topic of my PhD thesis. The surface finish of the metal is deliberately left quite rough to enhance the sense of the handmade.

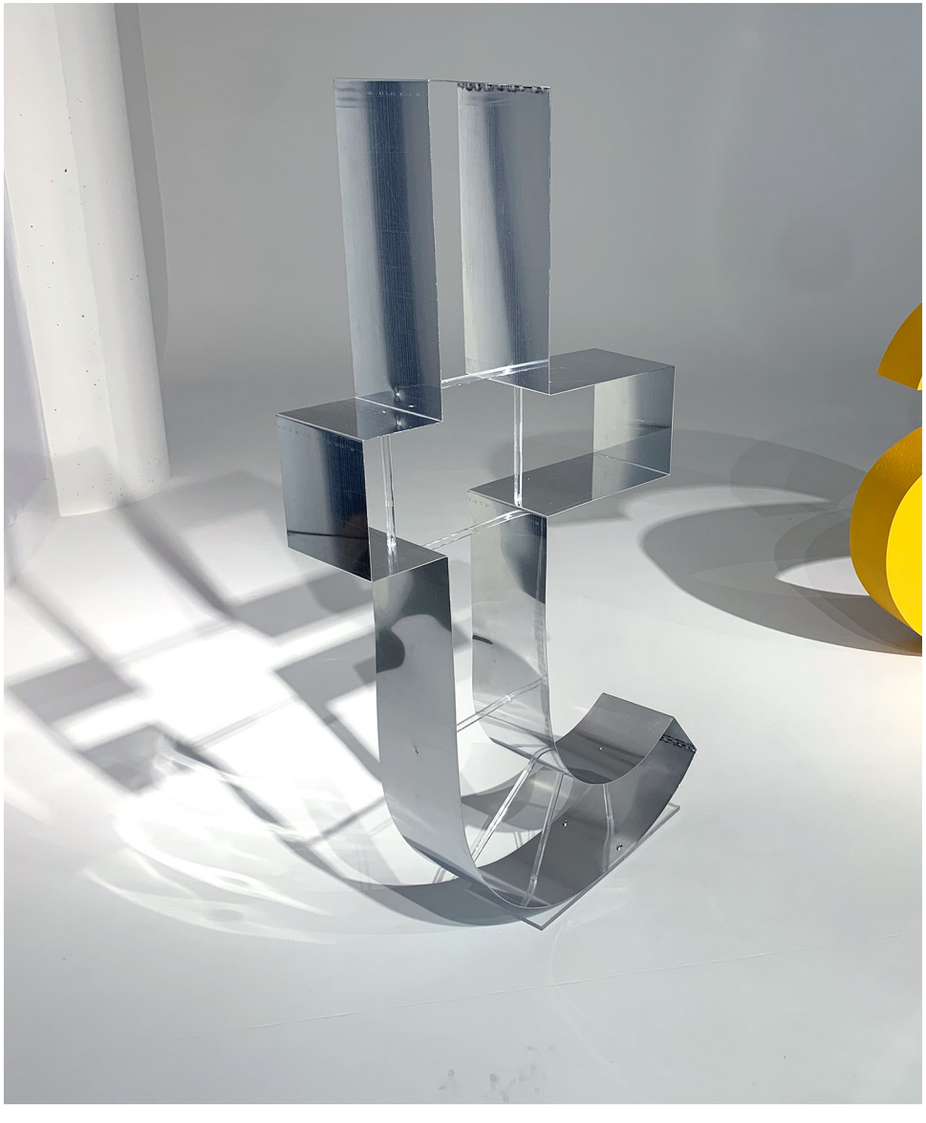

Figure 3.
The opaque polystyrene lower case "a"

Adjacent to the hollow "t," the lower case "a" appears more solid and closed, in a way that is reminiscent of the somewhat hidden world of design, shrouded in mystery and uncertain methods.

The clean, blank shape contrasts with the more industrial nature of the metal "t," hinting at the flawlessness that is often the hallmark of digital methods. However, as is often the case with digital tools, the interior hides a surprise:

a loudspeaker was placed behind it, playing a recording that I made of myself practicing my trombone, complete with mistakes and repetitions; this suggests how often surprising elements can inspire and influence the design process.

Figure 4.
The translucent PVC lower case “c”

The see-through appearance of the lower case “c” was intended to suggest the sometimes-invisible nature of graphic design and to illustrate the objective of my work – namely, to make graphic design knowledge more visible and less opaque.

Building the letter out of translucent PVC also suggests an effort to “look inside” design, to study it in a way that opens up and visualizes that which hitherto has remained unsaid, tacit.

The production of the letter represented one step further away from the handmade because its different segments were created using a CNC cutter and then assembled by hand.

Figure 5.
The vinyl lower case “i”

Just like much of the typography and graphic design that surrounds us, the vinyl floor decal may not be immediately discovered by visitors, and even overlooked by many.

Having seen it, though, they may realize that it interplays with the three-dimensional letters, playing its part in forming a word, just like any other letter in any piece of graphic design. Inconspicuous, overlooked and even neglected – such is often the fate of type.

Figure 6.
The white cardboard lower case "t"

Introducing an element of interactivity to the exhibition, this two-dimensional letter is made of white cardboard and observers were encouraged to draw, sketch, or design on it at their own discretion.

Placed upright on the floor, the cardboard "t" had the role of representing the handmade processes of the research study, allowing visitors to explore their own creativity and experimentality.

Being flat and mounted upright, the letter also represents the most "conventional" way of experiencing type, and its position at the edge of the exhibition area provided a certain closure to the whole experience.

Reflections On The Exhibition Outcomes

Challenges

Several obstacles had to be tackled during the exhibition design work. Having decided upon the use of oversize, three-dimensional glyphs, I explored various ways of realizing these in material form. Initially I planned to build the glyphs myself, but this proved to be beyond my craft skills, especially as I wanted the artefacts to be made from several different materials. Through contacts with acquaintances in the advertising industry I was referred to companies that manufacture signage, light boxes, and other such forms of brand-building materials. I was unable to find a company that could manufacture all the different elements of my exhibition, so four of the glyphs were made by one company, whereas the printed, wall-mounted textiles and one of the glyphs were made by another. The process of contacting manufacturers, reviewing offers and following up on production was time consuming, but the project was met with interest and enthusiasm – which, in turn, inspired me.

Cost of production was obviously a big factor, something that had to be taken into consideration when it came to the choice of materials and shapes. A grant from my institution allowed me to realize the ideas I wanted to pursue, but economic hurdles will inevitably often stand in the way of using an exhibition in a research project. However, if this is planned right from the beginning when seeking funding, the inclusion of an exhibition in the design of a research project should be quite feasible. As demonstrated here, the opportunities for inclusion and knowledge dissemination are very tangible when exhibitions are used alongside more conventional methods of research. I believe my work supports the further exploration of exhibitions as research tools, with benefits for both researchers and for the generation of knowledge.

Finally, an exhibition needs somewhere to be held, the physical space in which to be set up. The choice of locale proved to be a more challenging factor than I had anticipated, both in terms of space and accessibility. Here the constraints are varied; museums usually plan their schedules years in advance, so it is hard to get into the bigger ones at short notice. The cost of renting a privately owned gallery is usually exorbitant and thus out of reach for a PhD candidate. Setting up an exhibition in available spaces that do not have previous associations with art or design can make it hard to raise attention. All these factors made finding a suitable locale somewhat challenging. However, the search was facilitated by the fact that my exhibition was designed in a way that made it readily adaptable to different locales. My thesis defense exhibition was held at The Museum of Furniture Studies in Stockholm, Sweden, a venue that, sadly, has had to cease

operation. The museum's primary focus was on furniture design rather than graphic design, but my exhibition's three-dimensional nature did nevertheless fit well with the materiality of the museum's other displays. Further, the museum's theme provided a venue that was fitting for the subject of my work. The museum was situated somewhat out of the way, which did affect its exposure to the usual clientele of such establishments and thereby, the number of visitors.

Interactions with visitors

So, did the exhibition prove to be a useful tool for knowledge dissemination? To answer that question, it is important to first consider the difference in exposure between my PhD thesis and the exhibition. At the time of writing (May 2023), my thesis has been downloaded 236 times since it was published in June 2022. It is of course impossible to know if those who downloaded the thesis have read it or not but in terms of the exhibition, it is very possible to know if the visitors were introduced to the research outcomes to any extent. The total number of visitors was not immense given time restraints (i.e., the number of days the exhibition was open). All in all, over a period of a little less than three weeks, the exhibition was open for seven days, six hours each day. In that time, a total of 112 visitors came to the museum, staying on average for 2,1 hours.

It is important to point out that the museum's permanent exhibits were on display at the same time, which meant that some visitors were not aware of my exhibition before their visit. I was present at the museum every day throughout the period that the exhibition was open. Out of the 112 guests, I personally interacted with 74 of them; these interactions ranged from short exchanges of words and introductions to the work to longer discussions about graphic design in general and design research in particular. Most visitors that I spoke with were not familiar with research in the field of graphic design beforehand (78%); however, most were interested in design in one way or other. Several were active designers themselves and commented on the value of research within the creative, applied arts. Out of the 74 guests I talked to, 16 of them asked for a copy of my thesis, which they otherwise most likely would not have encountered. These interactions opened up the possibility of discussing both the contents of my exhibition and the research work behind it. Visitors were interested in practical matters, such as the production and material choices of the exhibits, as well as the theory, methods, and outcomes of my research. The discussion would often dwell on the subject of tacit, experiential knowledge and it was clear that many could relate to that in terms of their own professional experience, with people from as diverse professions as dentistry and industrial manufacturing commenting on how such knowledge can be difficult to pass on and develop within a group of peers. People of professions that had experienced dramatic changes in their work environment due to technological development or digitization were especially keen to discuss how embodied, experiential knowledge often is overlooked in such situations and that their professional skills were perhaps not as valued as before.

Opportunities to discuss design research usually happen in settings such as conferences where attendees are academics and involved in research of their own. In those cases, the discussion will inevitably be on a different level than when talking to members of the general public or to practitioners who are not engaged in academic research. My experience shows first and foremost that holding an exhibition as a part of a design research project can be a valuable tool for exposing both design professionals and others to the outcomes and knowledge generated through design research. In addition, the exhibition can serve as a method for the researcher to approach his or her results in a different fashion than through text. As such, the process of holding an exhibition can be seen as a tool for both knowledge dissemination and knowledge development and therefore, a method worthy of further research.

Conclusion

The purpose of the Tacit exhibition was to widen the reach and scope of my PhD research outcomes. In some sense, it was an effort to present graphic design research in a way that could communicate with people outside of academia. My primary goal was to evoke interest and thought among visitors. To achieve this, I sought inspiration in gestalt theory (Koffka, 1999), using juxtaposition and ordering in the exhibition design, creating counterpoints through material choices, and unusual sizes to "derail" thought and guide visitors toward alternative experiences of type and graphic design. The exhibition was therefore a vehicle for expression, representing the varied design methods discussed in my PhD thesis and the value of keeping an open attitude when choosing materials, forms, and processes in a design project to aid inspiration and discovery. My own mind was, in some ways, also derailed during the work on the exhibition design; I was forced to reconsider my perception of my own work in general and of design results and processes in particular. More specifically, the work has meant that I have moved graphic design outcomes away from their usual representation and instead created separate artefacts, presented as entities that are individual rather than elements of a composition – something I see as a way of making graphic design knowledge approachable and inviting. This is an indication that the exhibition form can be useful as a tool for analysis in a design research project, i.e., that employing the process of designing and organizing an exhibition offers a way to interpret and extract knowledge that has been generated through a design research study.

Further research is needed to build our understanding of the efficacy of different exhibition designs, which purposes they could best serve, and how an exhibition may fit into the design of a research project. With regard to my own exhibition design, I believe that it achieved the goal of showing a method to present design research results in a manner that introduces alternative and more "popular" ways of connecting with an audience. Even though the exhibition is not as concise and detailed as a dissertation, it nevertheless communicates the same material. Perhaps there are ways to design an exhibition in such a way that it could be the sole means of communicating research outcomes, but to me it represents a method that can be used in tandem with written results to enlarge and reinforce the reach and scope of the research project. Just as with any good design project, the outcome of the exhibition design can be experienced "as is" – i.e., regarded simply on terms of aesthetics and appearance – but it also has the potential to lead to novel approaches, to inspire new ideas and give rise to alternative design processes.

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book review

A Book to Think With: *After the Bauhaus, Before the Internet: A History of Graphic Design Pedagogy*

A Book to Think with: A Review

Sharon Helmer Poggenpohl

This ambitious book, edited by Geoff Kaplan, is well worth your time as it is a collection of essays from many perspectives. The collection will jog your thinking about graphic design past, present, and future. I propose that readers should think along with this book; sometimes I will digress as I ponder the essays in the collections. You will want to agree or disagree with some authors or even expand on the ideas presented. Several authors slip the frame established by the Yale conference, that is the title of the book. *After the Bauhaus and Before the Internet* is more than a history; many articles are provocations. I selectively sampled some articles that I found particularly compelling, although I read the entire book and scanned the extensive footnotes, which by themselves provide a rich resource given various academic and scholarly pursuits. The authors are serious academics dealing with thorny issues of substance that concern how to frame graphic design education now and in the future. The book is in four sections, which are used here as section headings.

From Practices to Disciplines

A thread running through the book relates to use of the terms *practice*, *profession*, *discipline*, and *theory*. These words are used almost casually by some, but Deborah Littlejohn parsed them carefully. Graphic design is caught in the realm of practice and seems unable to escape. Designers tend to move quickly from project to project, focusing on the work at hand. They are specialists rather than generalists who might see a bigger picture leading to research. In the context of universities, a profession and its school are second class, known as preparation for a job rather than preparation to engage in science and scholarship. By contrast, a discipline has the goal of creating new knowledge — with knowledge based on "true belief," according to Littlejohn. I would argue that true belief is relative to a certain time span and that evidence justifying a belief is the primary concern. As Littlejohn observed, knowledge development also has methods and critical analysis, but these are dynamic rather than stagnant. Looking at other established disciplines, I think we regard them as more fixed and stable than those who work within them. New insights and methods emerge; the context changes.

Littlejohn argued that graphic design is not a discipline because it has no theories or foundational texts; it has little research, little distribution of research findings, and little development of a programmatic approach to scholarship. While this is true, two counter exemplars can serve us well, from different points of view: John Dewey as a pragmatic philosopher and Josef Albers as an artist/designer/researcher/theoretician. The nature of design, with its complex interrelationships and trade-offs, is a practice involving problems, clients, users, technology, communication strategies, and more. We are necessarily practical and pragmatic even though pragmatism, like theory, has a bad reputation. Dewey's pragmatism is reflective and cannot be likened to a kind of vulgar expediency. Design is a clinical activity rather than a theoretical one. It could be likened to a profession in search of a discipline. It is an inquiry into the production of new artifacts and habits. "Pragmatism is an honest foundation for knowledge, and avoids the specious claim that only abstract, self-validating theory gives us genuine certainty."**1** Dewey put theory on the same level as practical work and activity. And regarding a search for certainty, he claimed the desire for certainty is based on anxiety whether individual or societal: "Theory (so to speak) is not a foundation on which we can safely construct practice; rather, it is a way of bringing our external commitments into line with our experience as practitioners."**2** Theory, when laid bare, does not precede action, but is hidden within action and can be later revealed and questioned.**3** Theory and practical action anchor each other. Dewey gave a practical (pragmatic) account of inquiry that "arises from felt needs, employs both abstract and concrete tools, tests proposals in the laboratory of experience and terminates in the resolution of difficulties which occasioned that particular sequence of inquiry."**4**

At the end of her essay, Littlejohn described disciplinary words in terms of the character of the designer and the character of disciplinary action. We have as a prefix to disciplinary: multi-, cross-, inter-, trans-, pluri-, meta-, alter-, and uni-. Perhaps you will find the labeled intersection of your own characteristic of reaching out to other disciplines, as you address your own shortcomings or identify and seek special expertise and consultation given the complexity of problems to be examined.

While Dewey is concerned with the act of experiencing, the other exemplar, Josef Albers, is best known for his extensive, beautiful, controlled body of work, *Homage to the Square*. Like Dewey, Albers put practice before theory, as opposed to the other way around. Albers operated from a phenomenological base that led to theory (that much maligned word mentioned earlier). His color experiments led to understanding perceptual shifts in reading or experiencing adjacent colors. Albers was interested in Gestalt psychology during his time at the Bauhaus; he later kept abreast of vision science as it continued to develop. He provided a more grounded, scientific approach to research that takes into consideration the generation of experimental materials, perceptual observation, analysis of collected data, and trial hypotheses, ultimately resulting in his *Interaction of Color.* He provided a model for a science-based understanding of perceptual fundamentals that characterize design. For a careful analysis of Albers contribution to research via an understanding of science and the construction of empirical experiments that reveal theory, see Mike Zender's essay "Design Research Pioneer Josef Albers: a case for design research."**5** "...there are at least four qualities from Albers research that stand out as instructive and worthy of emulation in Communication Design research today: Key Topic, Sustained, Systematic, Empirical Study, Generalizable Principles, and Practice before Theory."**6**

Dewey's pragmatism or Alber's phenomenology could be starting points for thinking about research. Philosophy can help focus one's position, i.e., where you stand in the world of ideas; it helps with clarity. That is not to say there will be no confusion or argument. Dewey, however, has a first-rate comment about this "test of the value of any philosophy which is offered us: Does it end in conclusions which, when they are referred back to ordinary life experiences and their predicaments, render them more significant, more luminous to us, and make our dealing with them more fruitful. Or does it terminate in rendering the things of ordinary experience more opaque than they were before?"**7**

For me, Dewey deserves the last word in this section: "An empirical philosophy is in any case a kind of intellectual disrobing. We cannot permanently divest ourselves of the intellectual habits we take on and wear when we assimilate the culture of our time and place. But intelligent furthering of culture demands that we take some of them off, that we inspect them critically to see what they are made of and what wearing them does to us."**8** It pleases me to contrast Dewey and Albers for their potential contribution to design thinking. The space between practice and discipline will not close automatically or swiftly. It will take curiosity, borrowing from other disciplines, clear methodologies, publication of results, and riding on the backs of practitioners and researchers who go before us.

The Act of Reading

The book contains considerable discussion about what we hope our students read, as this extends their thinking beyond lectures and studios. The questions that result are: What do they read? How are those readings interpreted, whether there is focused discussion in the classroom or among their peers? In essence, how do the readings integrate into their design activities and lives? Several bibliographies appear in textual or footnote form and they are primarily reading lists first mentioned relative to Paul Rand's list from 1974. Katherine McCoy created a bibliography in mid-1980

and another in 1988 that was developed on Communication: Structuralism, literary theory and postmodernism. This could be likened to books in search of a design discourse. Andrew Blauveldt did a Critical Theory and Cultural Studies Bibliography in 1993, followed by a Cultural Studies Bibliography in 1997. Liz Sanders created The Bibliography on Cognition and Emotion (nd), while Meredith Davis did A Critical and Cultural Studies Bibliography in 1997. Ewan Duncan created Design Planning about this time (nd). Audrey Bennett inserted her own bibliography on pages 255–258 in this book, separating books between categories: culturally situated, canon, and periphery. In fact, all these bibliographic lists are attempts to locate institutional context and networks of influence; they are often personal constructions sometimes based on program orientation. We have records of what students read, but not how the reading is integrated or influential in their work.

Visible Language had its own flirtation with bibliography in 2002 when it published *An Annotated Design Research Bibliography: By and For the Design Community*.**9** In contrast to the lists mentioned, these books were recommended and importantly annotated by readers. Five Ph.D. students in the Institute of Design's Ph.D. program served as guest editors, and organized the issue into three sections: Philosophy of Design, Principles & Methods, and Theory & Practice. All the sections contained thirty books. I would liken the Ph.D. students to professional readers; they were the ideal smart and dedicated individuals to create this special issue of the journal. Quoting myself from this issue: "It is a truism that the literature of a field defines its discourse. Design has been a field of practice with few substantial formal resources, much less agreement on what the important resources might be. With no common sense of importance, design practitioners, teachers, and researchers set out to inform themselves about design in an unmarked territory. The project that unfolds…is an attempt to remedy this situation."**10**

Philosophy of Design, Principles & Methods, and Theory & Practice gave it focus in which to engage a community of scholars. There were thirteen Ph.D. students, seven faculty, and three MDes students with seven Americans and the remaining seventeen from other countries. Contributors were asked about the relevance of a book. Books were ranked by a larger online community and the distribution of fields was determined by doing keyword analysis. There was a clear methodology regarding selection. This special issue of *Visible Language* was one of few that sold out.

Readers continuously work on their knowledge of the world and design. Habits among designers tend more to looking than reading. Reading is slower than giving a glance to something. Do students read? Can they read deeply given the distractions of contemporary life with so much information and competition for their attention? Can they separate the ephemeral from what is more lasting? Do they grasp the use value of various kinds of information, can they integrate it?

Problems are Solutions

Gui Bonsiepe began his essay, "On the Heteronomy of Design in a Post-Utopian Age," by taking us all to task with our consumption-saturated lifestyle and lack of concern with environmental issues. He identified twelve commonly agreed-upon varieties of design, to which he added at least seventeen more recent permutations of design. Among them are *emotional*, *radical*, *post-utopian*, *calm*, and *dirty*, among others both known and obscure. Are these labels marketing ploys, attention getters, or real differentiators based on changed processes? Are their processes and products uniquely different? I detect a desire on Bonsiepe's part for clarity and wholeness, which contrasts with the fragmentation of this list. He went on to question the explosion of interest in design and suggested two reasons for it: 1) the intrinsic attachment of design to the future, and 2) the unresolved contradictions of design practice and education. He can't help but look for a common unifying thread and suggested: "Structuring the interaction between users and artifacts (both material and semiotic), by contrast, constitutes the professional identity of designers."**11**

Following a discussion contrasting the goals of science with the goals of design, he used Ulm, and to a lesser extent the Bauhaus, as touchstone examples. Science is marked by its iterative nature and the importance of experimental feedback. At the Bauhaus under Meyer's brief tenure, he unsuccessfully tried to integrate science with design education. Later, Moldonado replaced form as the guiding principle for design. Bonsiepe concluded that putting scientific disciplines together with design disciplines results in conflict and dysfunction. Based on Meyer's experience or Moldanado's at Ulm, this is true. However, the contemporary growth in Ph.D. programs—particularly at some universities, such as the Institute of Design at the Illinois Institute of Technology—joins science with design selectively. Yes, there is sometimes difficult discussion centering on why the research isn't done in another department, like in a psychology or engineering department. The answer is that designers pose different questions for research than those typically engendered in those departments. Design needs students who are broadly educated and unafraid of science and its methods. Littlejohn's description of science brings with it disciplinary aspects of use to design, and the example of Josef Albers represents a concrete example of what can be achieved.

Academic tradition is based on language use, insight, and peer-reviewed publication. Only architecture has escaped this lockstep tradition and proposed, and been accepted for, project-based work. By contrast, graphic design tends toward complex or emerging problems requiring research and analysis, and yes, a design solution that hopefully breaks new territory. Papers are seldom written based on the work. Bonsiepe tied this to theory and practice orientations. Practice is well understood and

often judged by its profit calculation in business terms: "Theory reveals differences between instrumental reason and critical reason."[12] This is thinking to advance work versus critically thinking to perhaps sabotage work by thinking from another context or perspective or redefining the project at hand.

Bonsiepe stepped aside from form and beauty as the defining feature of design and instead proposed the use value of an artifact; in other words, how the interface mediates between a tool and user in the broadest sense. The main feature of the design profession is its mediation. I believe he was speaking in an ecological sense, connecting environmental concerns; the use of technology with its often-hidden dimensions; concerns of distribution, social, and economic concerns; and many more. How a project is framed is an important dimension for its outcome. He desired for us to practice design that is relevant.

In the same section as Bonsiepe, we find Hugh Dubberly, who pondered what was wrong with "problems" as a frame for the nature of design. The investigation takes us on a historical journey and identifies the usual suspects in a loose chronology, including Louis Sullivan, Deutscher Werkbund, Bauhaus, Albers, HfG Ulm, George Nelson, Emil Ruder, and others. All used statements regarding "problem" as an important word.

Continuing with design methods, we find Christopher Alexander, Horst Rittel, and Herbert Simon, among others—all with a focus on problems. This continues, according to Dubberly, with design methods morphing into design thinking. Here we find Bryan Lawson and Peter Rowe, while IDEO and the Stanford d-school substantiate the connection between problem solving and design thinking. This alone is a gift—to design research in its historical and analytical search that zeros in on "problems," a word we take for granted, because it is ubiquitous or extendable to design thinking in its current use.

After establishing the pervasive way we use the word *problem*, Dubberly dug into what's misleading with the conception: there is no one solution, situations are dynamic and changeable, and solutions are satisfied rather than optimized as the best possible result. And this is just the beginning of problem-solving shortcomings.

Dubberly continued on and discussed what he believed is wrong with problem solving. His belief was that it implies that problems are simply floating in the ether waiting to be solved, when in fact the problem is co-created by those involved in the project. Projects or problems do not proceed with logic or in linear fashion with guaranteed results. Innovation, which is highly desired, has an unknown process and is inherently unstable and unmanageable. With these factors undermining the use of problem as a focus, he suggested that we think again about the characterization of design as dealing with a problem to solve.

Turning from a direct look at design and its practice, Fred Turner and Annika Butler Wall offered insight into the

contemporary time in which we live. The economics of neoliberalism accounts for the commercialization of everyday life so abhorrent to Bonsiepe. This is characterized by a market-based economy, more governmental control, and the justification of widespread inequality. A top-down economic system requires people to desire what planners or designers provide as revealed through propaganda, advertising, persuasion, and effective person-to-person comment via social media. If this is unsuccessful, other forms of more direct coercion are used. By contrast, there is a bottom-up entrepreneurial spirit that technology supports to develop unique or short-run artifacts.

These authors played off the thinking of Friedrich Hayek, who received the Nobel Prize for Economic Science. "The engine of such a system would be the free market, a system of buying and selling that Hayek reimagined as an information system. According to Hayek, the price mechanism within the free market served as the most effective single way to identify and build order from a universe of individual preferences."[13] Hayek's market-centered democracy, according to these authors, is a society by design. Design and planning—design thinking in particular—fit smoothly into this economic system. Stanford's d-school exemplifies this approach with a focus on the total person in terms of creativity and innovation. Even physical space is calculated and valorized as an apparent freedom—one that enhances collaboration, transparency, and commodification of life itself; all to benefit business.

A digression is in order here; I want to draw attention to a non-design novel, Dave Edgar's *The Circle*.[14] *The Circle* is a dystopian tale about technology, surveillance, privacy, and coercion in a neoliberal setting. The novel is a believable rendering of the buy-in character of high tech, with its belief structure, pressures, and reward system. *The Circle* is the name of the all-encompassing tech business, which is cult-like, masking social pressures and external measures of belonging that lead one to hope that the heroine can find enough moxie to escape. The velvet gloves and perks make this difficult. Coolness is everything. Formal hierarchical structure is erased, but the advantages of class and economic structure cannot be suppressed. Equality is found in the empowerment given by a belief system and the tool kit that accompanies it. "Design thinking aims to make each of us a designer of our own lives, yet it offers us no tools with which to collaborate in more temporary and largely for-profit ways. On the contrary, it teaches that the proper place to express our individuality and negotiate our differences is not the public sphere but the factory floor."[15]

Designers need to uncover the hidden consequences of their actions and understand the future they are supporting. These forces are at work in our own time. Bonsiepe, Dubberly, and Turner and Butler-Wall all contribute to a cautionary design tale. There is a need for designers to question project and process foundations, the values the

project promotes, and who is served, and who is excluded. What values are we underwriting with design?

Designing Pedagogies

The section on pedagogical reflection contains many diverse ideas and approaches. Lorraine Wild set the stage with questions like, "Would we have developed a more rigorous, critical bodies of work that might have encouraged a wider set of engaged practices beyond commerce? Would we have gone more deeply into graphic designs as a kind of visual knowledge? Would we have spent a little more time on history, criticism, publication? Most importantly, would we have continued to develop a pedagogy less dependent on art school models obsessed with individuality, and spent more energy on the collaborative, research-based, synthetic, and outward-facing practices that ideally constituted graphic design?"**16**

Developing a new, probably more focused, approach to graphic design is risky and runs counter to the repetitive standard pedagogies currently in play. A few brave individuals in this book call for a new pedagogy. Alternative pedagogies might question the economic context of graphic design; as Lauren Williams asserted, "The state of design pedagogy is largely a function it of the way design is practiced. Serving capital like a dutiful neoliberal cog, the design profession calls for design institutions to produce students who can frictionlessly fit into that framework."**17** It is impossible to deny the connection between design and capitalism. An apolitical posture toward capitalism is a removal from reality. Hidden or obvious social exploitation and critical analysis of the values that underpin design or other ideas suggested within the book open more critical postures toward culture. One author tied capitalism to attitudes supporting racism, gender inequality, and lack of regard for marginalized populations.

Danielle Aubert offered an interesting labor-based history of graphic design. She questioned whether the university is a factory for the preparation of design labor. There is no doubt that technology and, more broadly, digital applications in the world have changed not only graphic design, but writing, translation, research, photography, medical records, security, communication in general, and much more. These skills signal professional competence for white collar labor; they are now in common use in the digital world, sometimes under software control, undercutting design expertise and leaving the question of what unique skills remain in design's repertory. Has graphic design become a kind of readymade? Will artificial intelligence make it obsolete?

What models from other fields of study might suggest an array of possibilities? Architecture, also a design profession, is not too far afield for consideration. Some authors suggest other approaches to graphic design history, such as considering a more local history. The Midwest, a so-called flyover territory, is a misnomer. Nestled in small-town Indiana is an architectural gem that continues to evolve from its inception in 1954. Cummins Engine is headquartered in Columbus, Indiana (population 50,000). Cummins CEO J. Irwin Miller started a foundation to support modern, community-based architecture. Harry Weese, Venturi & Rauch, and Richard Meier, among many others, have been beneficiaries and supporters of Miller's vision. The Foundation pays the architect's fee and a percentage of the construction cost. The architectural focus has expanded to parks, streetscapes, and planning. Recognition of the role architecture can play in establishing a community's quality of life is a key idea. It starts with a visionary idea: a living and used architecture can support quality of life and serve as a museum of architectures' changing history. What visions do we have for the future of graphic design?

Conclusion

Faculties need some common agreement regarding the context in which they are teaching; is the goal to create skilled practitioners, or is the goal to develop a discipline? The space between these two goals is significant. Practice appears to be obvious, but it is changing into specializations—and those specializations are not trivially driven by technology. How do you essentially define what designers do? What are their skills: form making and aesthetics, problem solving, mediating between people and tools in the largest sense, information design, or something else? Given the speed of technological change, the intense competition for attention, the excessive amount of information available, and the increasingly ephemeral nature of design, how is a pedagogical framework sensibly created?

A disciplinary goal is an ambitious project requiring a slice into research possibilities like Albers' perceptual studies, user-centered studies of mediation, or any number of clearly defined studies. The studies need to have a future trajectory, lead to further study, and uncover some fundamental insight. They may require finding partners from other disciplines, searching for funding, writing prospectus and research reports, acquiring Ph.D. students, and building a network of like-minded colleagues. This runs counter to short-term project work; interest must be sustained for a much longer time.

An opportunity to redefine what we are about is before us, and what is past is not necessarily prologue. Technology has thrown us into the future. We need to stake out a territory for development. What might it be? *After the Bauhaus, Before the Internet* It challenges the status quo in many ways—in other words, it is a book to think with.

Resources

Geoff Kaplan, editor
After the Bauhaus, Before the Internet: A History of Graphic Design Pedagogy
New York: no place press, 2022

Stephen Toulmin
Return to Reason
Cambridge. MA: Harvard University Press, 2001

Larry A. Hickman
Pragmatism as Post-Postmodernism, Lessons from John Dewey
New York; Fordham University Press, 2007

John Dewey
Experience and Nature
New York: Dover Publications, ???

Josef Albers
Interaction of Color
Cambridge, MA: Yale University Press, 1963

Dave Eggers
The Circle
New York: Alfred A. Knopf, 2013

Footnotes: A Book to Think with: A Review

1 Stephen Toulmin, *Return to Reason* (Cambridge, MA: Harvard University Press, 2001), 174.

2 Ibid, 133.

3 Sharon Helmer Poggenpohl, Design Theory to Go, Connecting 24 brief theories to practice, (Estes Park, CO, 2018).

4 Larry A. Hickman, Pragmatism of Post-Postmodernism, Lessons from John Dewey, (New York: Fordham University Press, 2009), 37.

5 Mike Zender, "Design Research Pioneer Josef Albers: a case for design research," *Visible Language*, 50.1 (2000), 48-77.

6 Ibid, 72.

7 John Dewey. Experience and Nature, (New York: Dover, 2000), 7.

8 Ibid, 37.

9 Praima Chayutsahakij, Chujit Jeamsinkul, Napawan Sawasdichai, Sakol Teeravarunyou, Carlos Teixeira, guest editors, "An Annotated Design Research Bibliography: by and for the design community" *Visible Language*, 36.2 (2002), 100-240.

10 Ibid, 101.

11 Gui Bonsiepe, "On the Heteronomy of Design in a Post-Utopian Age," After the Bauhaus, Before the Internet: A History of Graphic Design Pedagogy (New York, NY: no place press, 2022), 265-266.

12 Ibid, 266.

13 Fred Turner and Annika Butler Wall, "Designing for Neoliberalism," After the Bauhaus, Before the Internet: A History of Graphic Design Pedagogy (New York, NY: no place press, 2022), 303.

14 Dave Eggers, The Circle, (New York: Alfred A. Knopf, 2013).

15 Neoliberalism, Turner and Butler Wall, 315.

16 Lorraine Wild, "Notes on Practice: Expended, Compacted, Exploded," After the Bauhaus, Before the Internet: A History of Graphic Design Pedagogy (New York, NY: no place press, 2022), 328.

17 Lauren Williams, "Troubling Design Pedagogy," After the Bauhaus, Before the Internet: A History of Graphic Design Pedagogy (New York, NY: no place press, 2022), 424-425.