

# Reading Color: Type in and on Color

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## Abstract

Historical literary works, from hand-written illuminated manuscripts to illustrated books, to desktop published pages, contain black letters on a white ground. Digital typesetting and printing technologies today offer limitless opportunities for information design with myriad dimensional configurations of letter forms in near infinite spectra of colour.

This fusion is absent in the study of typography and colour theory, where they are currently studied separately.

In typography books, examples show letters in alphabetical order in a variety of sizes, presented as words and paragraphs. Books on colour theory illustrate colour with shapes, colour wheels, and continuous bands. Each fall short of modelling the contemporary media land-

scape where the demands of readability, legibility, and screens meet and where typography and colour are intrinsically bound, inseparable, and synergistic.

My project merges them for a better, more cohesive study. It initiates a synthesized, inductive approach to bring together the scientific and historic disciplines of colour theory and visual perception with the discipline of typographic design.

The exercises developed by Josef Albers on the properties of colours in *Interaction of Color*, along with Johannes Itten's theories of *contrast of extension*, aka *contrast of proportion*, are the basis for understanding how simple and complex letter forms in colour-on-colour visually interact.

My hypothesis asserts that the matrices of letters and colour forms can, in fact, better elucidate both aspects when put into practice. It picks up where Albers and Itten's studies leave off by applying code to typography and imagery that reconfigures the visual information to mathematical proportional and quantitative analysis. Like recipes, each uses a set of rules and ingredients I've developed to create a series of generative designs that are then reassembled into visual works.

## Introduction

My project is to research, produce and publish a book that addresses new, intensive possibilities in the relations between typography and colour. This is the next step in a research trajectory that I have worked on for several years, and the resulting text promises a better, more cohesive, and far-ranging approach to this essential topic in design, whether print or digital. The working title is *Reading Color: Type in and on Color*. This approach not only introduces new methodologies in type and colour relations it contributes to the generation of new knowledge formations in design and design-thinking.

The creative and persuasive fusion of typography and colour is almost totally absent in the pedagogical fields of typography design and colour theory, where they are studied and approached separately. Typography books use examples of letter forms in alphabetical order in various sizes, presented as words and paragraphs; in books on colour theory, the properties of colours are illustrated with shapes, diagrams, charts, wheels, and continuous bands. Each of these falls short of modeling the contemporary media landscape where the demands of readability, legibility, and viewing devices meet and where typography and colour are intrinsically bound, inseparable, and synergistic.

In 2008, I outlined an early stage of this project while studying at Transart Institute, Danube University, Krems, Austria for my MFA. In that work I posited a new pedagogy for typography and color theory that built upon the “hands-on”

exercises developed by Josef Albers in his book *Interaction of Color* (1963). Since its first iteration as a two-volume edition of original plates, text, and commentary in a slipcase, to the current paperback version, the *Interaction of Color* is a perennial and highly sought-after teaching aid for studying the properties of color and is used by art and design students around the world. [1] In February 2023 *Yale News* reporter Eric Gershon noted that “Josef Albers’s classic book on color relationships ranks among Yale University Press’ all-time bestsellers.” [2] It has sold millions of copies since its first printing and is now available as an interactive app. [3]

The purpose of my research is to prepare a manuscript that initiates a synthesized, inductive approach, bringing together the scientific and historic disciplines of colour theory and visual perception with the discipline of typographic design. The exercises in color properties that Albers developed in *Interaction of Color* with Johannes Itten’s *contrast of extension* theory, [4,5] also known as *contrast of proportion*, are the foundation for understanding how the simple and complex letter forms in colour-on-colour composition visually and psychologically interact. My hypothesis asserts that the matrices of letters and color forms can, in fact, better elucidate both aspects in practice.

Methodologies that facilitate the study of typography and color *in context* and *in situ* will enhance the practice of design, communications, art, and media, as well as being of inestimable benefit to pro-

professionals in these fields. For educators, infusing color theory into the study of typography has advantages for curricula and course development, addressing today's needs for efficiencies in student degree pathways. For today's graphic and information design student, learning about color with letter forms integrates their exploration and training to develop heightened visual acumen. Drawing on material and examples from design, art, aesthetics, anthropology, psychology, scientific and cultural studies, this project addresses and fulfills an urgent contemporary need.

The handbook's rationale includes the following: What would educators, professionals, and students alike, require to facilitate the study of type and colour together? The application of Albers's experimental colour studies and those of his Bauhaus mentor, Johannes Itten—whose *contrast of extension theory* employs area, size, and proportion to colour considerations—offer a starting point to the study of the visual gestalt of typography. [6] Both Josef Albers and Johannes Itten approached colour theory through colour perception with positive and negative forms, shapes, and pattern.

The handbook will be accessible, written for students of graphic design, artists, and educators, and will focus on colour as applied to message construction by mixing practical know-how and theory with digital and photographic examples in print, screen, and dimensional forms. Every example will be examined for its typeface, style, orientation, and alignment in and on colour. The handbook will be composed of examples of alphanumeric characters in many languages for a more holistic approach to a world-

wide audience. [7] This component is an homage to my students, especially those whose first language is not English. They are my inspiration, and they are now actively participating in the development of the handbook through their assignment submissions in my classes.

My research will take place at the Getty Research Institute in Los Angeles, CA and the Johannes Itten Foundation in Bern, Switzerland, where Itten's studies, art, and student work are held, to further develop my manuscript about theoretical and practical assignments.

Currently, I am developing exercises for classwork for testing in the coming year.

## Impetus

My research topic is a hybrid in both content and context—part scientific, part design research, and part inspiration—where type and colour are bridged and evidenced in all media. It reflects my experiences as a Design Director with a global clientele in the areas of human rights, social justice, and arts and culture since 1986. The messaging and reporting of these agencies range from dense, in-depth coverage of human suffering, injustice, and other global and local social issues, such as migration, resource exploitation, economic injustice, disparities in health and wealth, sustainability, and more. [8] All this messaging requires an understanding of what colour means on a global level. The ever-expanding global platform which designers work in requires educators to train students beyond the properties of colour and appropriate font choices and increase awareness of the sensitivities of communicating through colour and text with the juxtaposition of images.

As a student, I took a course in which colour was explored using a box of colour-aid paper, an Exacto knife, white card stock, glue, and Josef Albers' book, *Interaction of Color*. The experience taught me how colour operates through positive and negative forms, shapes, and pattern. I have been a practitioner of design and an academic since the mid-1980s when graphic design became popular with students, elevated from its subclass status to the field of fine art. During this time, digital tools radically changed graphic and information design. Print became more complex, screen design emerged, and academia started cutting costs and combining majors. Colour theory, a fundamental and critical skill in art, was dropped from graphic design curricula. Graphic design majors then took 2-D courses whose exercises explored the basics of design — line, shape, pattern, and texture. Typography was another course.

In 2004, I set out to find a basic but comprehensive textbook for a class I was preparing in Media Design for communication majors. I considered the type books in my library by Robert Bringhurst, Walter Tracy, James Craig, Ellen Lupton, Rob Carter, and others. I searched through design books for chapters on colour and typography. An internet search for typography with “look inside” features revealed many new books on the subject — I could even find older editions of books as PDFs. But none were quite what would meet my or my students' needs.

In 2008, I outlined my hypothesis and wrote an outline for a handbook that explored typography and colour theory, which I then put aside. In my studio and in my teaching, I continued to see a need

for such a book in a global environment that was rapidly changing due to technological changes and innovations and the emerging varied and profuse media. In 2018, I revised the proposal, expanded it, and started submitting it to peer-reviewed conferences.

The outline for my handbook is based on my observations and experience working with and teaching typography and its history. Through that historical lens, my premise to integrate the study of type and colour is both obvious and logical. I believe there is the potential for this new field of inquiry to set a new standard in design education.

The study of graphic and information design is underpinned by the theories associated with the development of communication and language. Beginning with cave drawings, the through-line evidence shows how humans have employed the materials and technologies of their time to impact the design and evolution of written language. In 1455, Johannes Gutenberg's invention marked a milestone for written communication and its distribution with the mechanization of movable type and printing. Metal type was then upended by photo-graphic typesetting techniques around 1950. And a short time later, in 1985, desktop publishing with a personal computer enabled the placement of black type and simple textures to combine on screen and on paper. Many incremental changes to technologies in printers, computers, monitors, etc. gave way to today's digital typesetting technologies allowing for the application of colour to letters, words, layers, and backgrounds.

Of course, type in colour is not without historic precedent. Gutenberg's invention of letterpress printing with a movable-type

press produced Bibles with black and red inked letter forms. Other colours were hand-painted into the text (Fig. 1). Almost every print- and screen-based graphic found today can be composed in a similar manner. But today's digital technologies do, in fact, present challenges for the fields of typography and colour because each discipline falls short of modelling today's digital communication technologies. For instance, the examples in coursework and in books about typography typically use letter forms in varying degrees of sizes and contrast to demonstrate colours' influence on legibility (Fig. 2). In books on colour theory, the properties of colour are often demonstrated with pie-shaped diagrams, colour wheels, grids, and rainbow bands (Fig. 3). [9]

Digital technologies have fused together typography and colour to present myriad possibilities of type design, fonts, size, and layouts suspended in infinite colourways. There is even a scalable vector font



Fig. 1 (left): Gutenberg's Bible.

Fig. 2 (center): James Craig's book on *Designing with Type*; Cover of *Interaction of Color* by Josef Albers.

Fig. 3 (right): Johannes Itten's contrast of extension examples.

format called *Chromatic Type* that now embeds colour in typeface design. [10]

Appropriating Albers's book title, *Search versus Re-search*, [11] my current search and "research" sets out to find ways to

study type and colour together and create new knowledge that combines them. Testing this approach can best be measured within programs where type in and on colour are practiced.

When I ask students if they have taken a class in colour theory, very few raise their hands. Since 2021, I have introduced a section on colour theory in my classes using my original research, which I have taught each semester. The presentations I've given about my research launched my special topics syllabi development. Their clear interest and understanding of the thesis encouraged me to develop a seminar taught annually with 3 sections. The class is structured as follows:

- 5 weeks applying hands-on colour properties with *Interaction of Color* among other books;
- 5 weeks applying digital methods to colour to type experiments; and
- 5 weeks applying Processing [12], an algorithmic software app designed to employ code to create visualizations with colour and type.

I am continually tweaking my typography assignments to encourage a students' design thinking, analytical skills, and creativity — to make the indescribable describable.

In 2016, I presented "Cook the Recipe" at the 19<sup>th</sup> Generative Art Conference in Milan, Italy, where I presented my thesis and process for projects using algorithms when I introduce iterative and generative design principles and processes. [13]

These studies (Figs. 4–8) were produced since 2014 incorporating Itten's contrast of proportion theory and applying code to typography and imagery that reconfigures the visual information to mathematical proportional and quantitative



analysis. Like recipes, each uses ingredients along with a set of rules I have developed to create a series of generative designs that are then re-assembled into visual works.

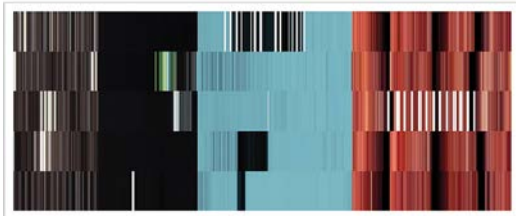


Fig. 4: *how I spent my summer vacation*, 2023, giclée triptych of covers. *After Eden*, © Suzanne Anker (photo, A. Oppenheim); *Peace & Health*, © Community Health Center; *Thinking Twice* © Phyllis Crowley.

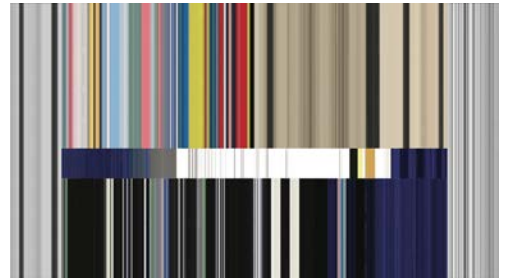


Fig. 5: *Nests*, 2020, giclée print of generative assemblage.

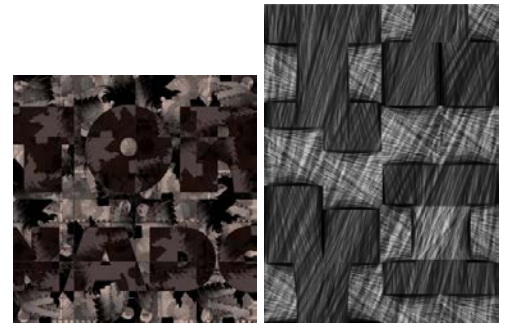


Fig. 6: *Tornado*, 2018, giclée print of generative assemblage.

Fig. 7: *Storm*, 2017, giclée print of generative assemblage.

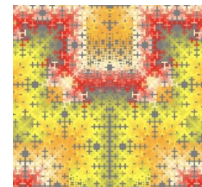


Fig. 8: *Fractor*, 2015, giclée print of generative assemblage. Detail.

## Next Steps

My project not only has a local pedagogical benefit, substantially informing my own students and courses, but is of benefit to the study of information design in general, as it informs a wide number of topics and approaches that are offered at in university curricula. In addition, there are implications for the broader field, in disciplines as varied as digital studies, art, art theory and criticism, design, and technical and historical cultural studies.

I would like the handbook to illuminate something that I find somewhat daunting to describe — the relational intricacies of type on the properties of colour. It will prepare users to visualize ways to place type and colour together, arming them with a critical competency necessary for today's design careers, in a field that increasingly demands it. The handbook will present a new way to learn visual perception with the study of colour and letter, bringing together the typically separate disciplines of colour theory and typography.

Design today shows strong evidence that technological advances are crucially impacting and evolving communication modes and norms again. The future is very colourful as well as being highly participatory. The ways in which we study graphic and information design must adapt to this paradigm shift.

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Jeanne Criscola, *how i spent my summer vacation*, 2023, Giclée triptych, 35.5x15 in. each.

From left to right: *After Eden: The Double Identity of Carbon* Book Cover, © Suzanne Anker (photograph, Amy Oppenheim); *Peace & Health: How a group of college students and small-town activists set out to change healthcare* Book Cover, © Community Health Center (photograph, CHC Archives); *Thinking Twice* Book Cover, © Phyllis Crowley (photograph, Phyllis Crowley)

## Keywords

Typography, Colour, Colour Theory, Code