

number of people needed for what had been labor intensive manual tasks and required advanced skills to understand and operate. Going forward, railroad unions were often hesitant to back new technologies unless improvements to worker safety were clearly demonstrated.

For all the technological advances they represented, the transcontinentals also wrought unanticipated ecological and social change to the western landscape. Many of these problems, such as the overgrazing of grasslands in the arid western plains or the decimation of bison herds, are better understood with the benefit of hindsight, although some late 19th century commentators recognized the problems as they were unfolding. In the former, the railroads allowed thousands of cattle to be shuttled around from one region to another during their lifecycle. Prime grasslands were burdened with more animals than they could naturally accommodate, which quickly led to the degradation of the land.

In the latter, the railroads made possible the rapid westward movement of settlers and sportsmen who hunted the bison not so much for sustenance but as a way to obtain hides and rid the area of an obstacle to cattle grazing. The loss of bison would in turn have ripple

effects through the American Indian tribes that depended on the animals for protein, hides, and other products. As White notes, “The railroads seemed unable to achieve a balance between too much and too little. They enabled farmers and miners to produce far more cattle, wheat, and silver than the world needed.” Unregulated growth was “dumb growth” that would only cause problems by distorting economic markets.

In attempting to focus on the ways in which the transcontinental railroads and associated technologies impacted Americans in the late 19th century, I have glossed over the content of large sections of *Railroaded*. Richard White provides insight and detail into a variety of topics, including how the growth of the railroads influenced and affected nascent corporate structures, the anti-monopolist movement, financial markets, and the development of labor organizations. He takes great pains to untangle the complicated relationship, one of benefits and losses, between the government and railroads. Closing each chapter, White also treats the reader to vignettes of railroad folks — station masters, laborers, family members — whose personal stories help to humanize a period of our history often described in superlatives.

BOOK REVIEW

DAVID MATHER

The Color Revolution

by Regina Blaszczyk. Cambridge, MA: M.I.T. Press, 2012, 368 pp.

If you’ve ever delighted in seeing ridiculous new color names for clothing, furniture, or other products, you’re already familiar with an enduring mystery of color theory that touches far-reaching philosophical questions: how color names relate to our visual perceptions. This conundrum surfaces in contemporary American society as a complicated mix of science, industry, and poetry that accompanies

such concoctions as Neon Sorbet or Metallic Cream-sicle. Even when marveling at the absurdity of these labels, we accept the obvious truth that language is governed by a high degree of arbitrariness. Increasingly whimsical naming of hues is one facet in the sweeping history of business and industrial interests around coloration in last 150 years, as chronicled in Regina Blaszczyk’s *The Color Revolution*.

The main theme threaded through this scholarly cultural treatment is the emergence, from the mid-19th century to the mid-20th century, of a newly

Digital Object Identifier 10.1109/MTS.2014.2352993
Date of publication: 17 September 2014

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professionalized role in industrial design and manufacturing circles — the colorist — who coordinated color palettes for product designers across sectors through hard-won knowledge of technical innovations, trends in the creative industries, and the desires of the mass marketplace. Alternately dubbed *color managers*, *color intermediaries*, and *social engineers*, this profession moved from laboratories and classrooms in the 19th-century to the competitive commercial crossroads of the 20th century, becoming a central player for new business strategies, including the creation of influential trade organizations and the pioneering of marketing and merchandising techniques that helped U.S. corporations expand greatly. What might today be identified as a palette of colors specific to historical periods — say, the 1920s or the 1950s — began as individual hues arduously synthesized, tested, and integrated into product cycles stretching from chemical dye companies and materials suppliers, to designers, manufacturers, and retailers, all in accord with the latest consumer tastes.

In the opening chapters, Blaszczyk rightly emphasizes the linkage between technically precise standards for color reproduction and the increased utility of color forecasts within the textile and apparel industries. Improved standards for color measurement and printing contributed to a greater assurance among people from different parts of the world that they were referring to the same or quite similar hues. The author makes the case throughout the book that entrepreneurial approaches by colorists, as with the Munsell Color System in ch. 2, guided industries and consumers into the 20th century. The book compiles a lengthy list of personalities who played roles in introducing the American public to vibrant, long-lasting hues.

Although the kaleidoscopic material periodically takes the form of a rapid-fire sequence of facts connecting assorted color researchers, businesses, and world events, these narratives eventually become more sorted behind the activities of certain leading figures in the modern color industries, such as H. Ledyard Towle, Margaret Hayden Rorke, and Howard Ketcham. If these names sound like characters from a King Vidor film, their vivid portrayals in Blaszczyk's accomplished research bring an auratic glow to copious details concerning these visionaries, who were courted by industry groups and major companies to apply new ideas and methods to staid business models. In the engrossing chs. 4 and 5, colorist H. Ledyard Towle draws from his experience as a camouflage painter in World War I to advise DuPont and General Motors during the interwar

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period on how to employ visually deceptive effects in products and advertising.

Elsewhere, an illuminating example of American avant-garde artists' collaboration with industry arrives in ch. 6 when the painter Georgia O'Keeffe was commissioned in 1926 to make paintings to market Cheney silks, with her photographer, husband, Alfred Stieglitz, shrewdly brokering the deal. Stretching across chs. 3, 7, and 11, the author documents the career of Margaret Hayden Rorke, the esteemed head of an influential textile color trade group, who standardized and forecasted colors for the apparel industry and whose success derived from her nuanced understanding of the relationship between Parisian couture and the American mass market.

Interwoven into Blaszczyk's loosely chronological account of color professionals is a set of softer, but no less important claims about the value added by bright, durable pigments to products such as fabrics, clothing, paints, home appliances, and automobiles. Unquestionably, countless products improved stylistically and technically in the first half of the 20th century, and, while it would be difficult to attribute these improvements to color alone, the evidence presented suggests that it was a historically significant factor in the success of various mass-marketed goods. For the industries involved with automobile production, for instance, the coordination of color schemes from one year to the next among numerous suppliers likely contributed to shorter, more efficient production cycles — from drafting table to showroom. For consumers, the existence of newly styled products prompted greater demand. To collect better consumer information and to make it part of design and production processes meant significantly altering industrial and commercial practices.

The negative potential of color management, or what Blaszczyk calls “the dark side,” is given a partial airing in the form of two criticisms of industry practices: the latent fear that a cabal of industry chiefs conspire to introduce colors, and the worry that differently colored products lack technical or stylistic innovations, thereby becoming obsolete more quickly. The author assuages these concerns. First, she argues that, due to numerous competing interests in industrial sectors and due to unpredictable consumer behaviors, any true color conspiracy would have been very unlikely. It was also true, however, that companies and industry groups forecast seasonal palettes and that these colors are formulated by industry professionals well in advance of public release. Second, one needn't worry about color taking the place of true innovation, she

assures readers, because technical advances such as durability and resilience were often part of new dyes and pigments. However, she mentions a period in the mid-1950s when car sales were driven by the proliferation of color combinations rather than by major design or technical changes. In both instances, the criticisms hint at underlying questions about what makes the colorists' work ethical or unethical.

Another tension within the text concerns the relationship between large-scale business interests and the American political system. The author refers to an era of "cooperative idealism" and "progressive idealism," during the first half of the 20th century, in which the federal government worked with industry to set color standards. Her simplified historical narrative makes for moments of discomfort. Progressive era reforms, for instance, are portrayed as having promoted broad-based commercial and regulatory cooperation said to benefit business owners, factory workers, and consumers alike, but the contentious history of labor relations in the U.S. remains

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unacknowledged. Conspicuously, Frederick Taylor's system of factory management finds a strategic place in industrial progressivism without any hint of its underlying aims to disrupt the social bonds among workers and to "rationalize" their behaviors. There is little sense of the direct effects of color engineering on workers amid increased production of these varieties of colorful goods, and such truly progressive reforms as the regulation of weekly hours and wages and the guarantee of collective bargaining for workers, for instance, seem out of place in this breathlessly pro-business narrative.

However, given this book's ample research on color processes, industrial production, individual colorists, and marketing and sales, it will be valuable to scholars of modern visual culture, technology, and mass-market consumerism — whether they are inclined to view the effects of capitalism optimistically or nostalgically or whether they wish to employ this same material to construct elaborate counter-narratives.

LEADING EDGE *(continued from page 26)*

their rights over materials such as music and eBooks as there are still many misunderstandings about them that originate in the normalized copyright relationships of the pre-digital economy. Companies also need to create new products to make the task of planning and managing digital heritage easier and there are positive steps emerging in that direction.

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Acknowledgment

This work was supported by a grant from the Australian Communications Consumer Action Network (ACCAN).