

of the 19th century. As a whole, the essays reinforce the idea that science and society are not one-dimensional. They additionally underscore that when we look at the convergence in terms of knowledge transfer, it is clear that getting from point A to point B is rarely a simple operation.

As fascinating as the composite is, as Simon Schaffer notes in his concluding commentary, Talbot's proper place in history nonetheless remains ambiguous. Even his name reminds us of this, for he is often referred to as Fox Talbot in the literature despite his own dislike of having Fox included in his surname. Although it is difficult to find a succinct rounding principle for him, the book does detail how Talbot, a man of the 19th century, worked on problems challenging 19th-century minds. His accomplishments retrospectively illuminate the Victorian Age—and its many political, social, intellectual, technical and industrial changes. It also reveals a man who pursued a number of tracks of interest to people of his stature at that time: optics, mathematics, botany, archaeology and classical studies. If the relationship of his photographic innovations to these other fields is one of striking threads within the volume, it is balanced with notations about his role as a part of the network of scientific and intellectual change. That the authors do not agree about the level of Talbot's contributions is both a plus and a minus. The book as a whole underscores that we cannot reduce his photography to iconography. The lingering question that in effect encircles the areas of disagreement centers is how should we best define Talbot's importance overall in the scheme of things?

Two introductory essays introduce the reader to his passions and his pursuits. Three topical sections and a concluding commentary follow the overview. The first section, "Models for Investigation," begins with Anne Secord's essay presenting Talbot's fascination with botany, particularly his study of mosses. In order to explain his research in terms of the 19th century as well as his own intellectual

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BEYOND PHOTOGRAPHY**

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William Henry Fox Talbot (1800–1877) is largely remembered today as a British pioneer in photography. Because his photographic innovations were pursued along with his numerous other tracks of inquiry, his broad portfolio has remained enigmatic in relation to his legacy. The 10 essays that compose *William Henry Fox Talbot: Beyond Photography* draw upon letters, diaries, research notebooks, botanical specimens and photographic prints to document his complexity. As they do so, the authors deepen our understanding of Talbot the man and adeptly place him within the Victorian knowledge systems

development, she turns to microscopy. Enthusiasm for it then was driven to some degree by the affordability of microscopes. Both before and after Talbot began publishing *The Pencil of Nature*—his well-known book on his photographic experiments—botanists were using actual specimens to illustrate their works and claiming that these were Nature's own pencil illustrating herself. Even if the results were uneven, these efforts did demonstrate how people were weighing practical problems and possible solutions in terms of botanical drawings.

For example, pressing 3-dimensional plants into 2-dimensional dried specimens provided descriptive material but it lacked accurate color and nuance. She explains that Talbot believed photography could aid observation and the exercise of judgment. June Barrow Green's essay in this section reinforces Talbot's efforts to train the mind through an analysis of his interest in mathematics. Together these two essays remind us that both botany and mathematics were seen as leisure pursuits and models for intellectual activity in other areas in the early 19th century, when a blurry line separated amateur and professional scientific inquiry (a point more fully developed in Vered Maimon's essay in the next section of the book). The final essay in this section, by Graham Smith, examines Talbot's longstanding engagement with Walter Scott's work.

Herta Wolf's essay, "Nature as Drawing Mistress," opens the "Invention and Discovery" section. Her fascinating piece places Talbot's ongoing innovations with photographic printing processes within the context of the press coverage surrounding the discovery in London in 1839. One of the most important conditions of his method was the existence of light-sensitive chemical substances on which pictures could be imprinted. A fascinating thread is Wolf's examination of photography as the "pencil of nature," a term that was actually used by the *Literary Gazette* to describe Daguerre's method before Talbot

adopted it. Despite how different his early photographs were from the daguerreotypes, Talbot used it as the title of his classic book nonetheless. Briefly, the magazine coined the phrase to discuss the pictorial differences in Talbot's chemically conceived "photogenic drawings" as compared to the crisper results of Daguerre's technique. She further points out that it would be mistaken to separate chemical experiments from optical ones, since both contributed to the development and improvement of photographic techniques—an important point contextually. Unfortunately, the crispness of the Talbot reproductions in this book seemed to sharpen the images, so the actual fuzziness that was a distinctive feature of Talbot's early experiments is not fully conveyed.

Larry Schaaf, by contrast, places Talbot's work with photography in terms of book production, copying and reproductive challenges. This strong essay speaks to an area that deserves more attention, particularly in light of how efforts to disseminate information change over time. Schaaf places Talbot within the ongoing discussion as to how we weigh the value of reproductions, with the disdain for ways in which copies mutate originals. His discussion of this topic was another reminder that the reproductions in this volume seemed to update rather than capture Talbot's actual photographs.

"Institutions and Networks," the final section, most pointedly raises the question of Talbot's legacy, although all of the authors seemed to engage with it to some degree. I'm not exactly certain why it is so necessary to ask whether he was an unremarkable man who followed the paths of his time or a remarkable success in terms of delving into areas that required attention. Even after reading the book, the question seemed quite beside the point, because the essays as a whole seem to capture a man whose life seemed to say these are not necessarily independent lines. In any case, when Eleanor Robson and Mirjam Brusius look at his work of

Assyriological decipherment and his efforts to integrate his research within that of the larger academic community, they seem to find a man with a pursuit larger than his talent. Chitra Ramalingam, by contrast, saw a man with a scientific mind comprehensively pursuing problems he sought to understand. Ramalingam outlines his experiments with photographic instantaneity, optical illusions and investigations of human vision.

In summary, the flavor of this compendium brings to mind that many are challenging "genius" views of creativity in favor of networked and multiple discovery views. One of the more compelling aspects of this book's broad sweep is how well it both challenges our stereotypical view of Talbot and frames his talents more broadly. Thus, while according to Katrina Dean, "It might be argued that the series of essays culminating in this volume have confirmed that Talbot's key innovation was photography and that his well-documented work in other fields is undoubtedly interesting from a historical point of view but not remarkable" (p. 34), Eleanor Robson, another author, reminds us that our definitions of human creativity are more complex and are filtered through lenses and knowledge systems that expand beyond our particular moment in time. Robson, after analyzing Talbot's Assyriological decipherment research, concludes that "to be deliberately contrarian . . . one could even argue that photography was just a phase [Talbot] went through on the way to finding his true vocation" (p. 214). In her view, the cuneiform gave him an endless supply of raw material through which to focus on the kind of intractable problems he had relished since his childhood.

Finally, because the focus is on a single man, the book has more of a core theme than many anthologies. Its value overall is helping us better place Talbot in his historical context. Although the basic ideas of using light to replicate an image goes back to antiquity, our histories today often present the story in terms of the

development of photography in the 19th century, contrasting how Talbot conceived of technologies to fix multiple replications of an image with the efforts of two Frenchmen, Nicéphore Niépce and Louis Daguerre. Clearly this is too abbreviated, as these 10 authors demonstrate. When Talbot worked, ideas about art and science had not crystallized into the current configuration. Therefore, he did not conceptualize photography in terms of “art” and/or “science.” It is also clear that his scientific and aesthetic values differed from our own. The Maimon essay, which explains that it was not even until 1833 that William Whewell proposed the term “scientist” as a replacement for “natural philosopher,” fleshes this out best. Several of the essays demonstrate that his life also developed when the line between professional scientists and amateurs was quite blurred. His era, his family connections and social standing gave him a path not available to all. Social standing gave him easy access to the scientific elite, although he did find it more difficult to gain credibility for his research efforts to decipher Assyrian artifacts. This larger perspective on William Henry Fox Talbot leads me to recommend the volume, particularly to those interested in the history of photography, invention and how creative minds work.