



**Jonathan Finn.** *Beyond the Finish Line: Images, Evidence, and the History of the Photo-Finish.* Montreal: McGill-Queen's University Press, 2020. Tables, illustrations. 248 pp. \$34.95, cloth, ISBN 978-0-228-00343-4.

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Jonathan Finn's 2021 monograph, *Beyond the Finish Line: Images, Evidence, and the History of the Photo-Finish*, analyzes the history of photographic technology at sports' finish lines. Finn, trained as an art historian and now a professor of communication studies at Wilfrid Laurier University, complicates the seemingly mundane task of capturing the finish line. Informed by scholarship in science and technology studies and sport history, Finn argues that the photo-finish is not, and has never been, an objective reflection of sporting reality. Instead, Finn contends, the photo-finish is a cultural artifact—the product of a complex, ever-changing, network of human and technological actors. Through their pursuit of an objective reflection of the finish line, photo-finish proponents have translated the finish into something else. The photo-finish, Finn argues, is a mediated representation of the event, disconnected from the event itself.

The first three chapters of Finn's work focus on the early technology used to capture the finish line across a range of sports. As modern cameras developed in the late nineteenth century, photographers turned their lenses to horse races, hop-

ing to create objective evidence of results in close races. Finn calls this early approach the photograph of the finish. In the photographs of finishes, photographers captured a time in a space by allowing light to expose their camera's film through a press of a shutter. This technique was limited by human reaction time and technological deficiencies. Finn's rich archival resources demonstrate the inability of the photograph of the finish to consistently provide evidence in close races. Because of these flaws, stakeholders contested the use of cameras at the finish line and relied on human judgment to determine close races.

By the mid-1930s, though, a technological and social transformation had occurred. Race officials widely adopted photographs as a part of determining race results in elite sport. The invention and use of the slit camera, and later the movie camera, reconfigured how photographs "represented" the finish line (p. 9). No longer did a photographer's finger or technological trigger need to press a shutter to capture a time in a space. New technological developments allowed the film to move inside the camera as it was exposed by a small hole. "In the early 1900s," Finn argues, "the camera captured a distinct time across space, by the late

1930s it was used to capture a distinct space across time” (p. 68). Even with this invention, though, human officials had the final word on race results. The use of human race officials continues to the present and complicates broader narratives of uncontested technological adoption.

The final three chapters of *Beyond the Finish Line* modernize the photo-finish and its network. Chapter 4, “The Business of the Photo-Finish: Omega and the Olympic Games,” highlights the photo-finish as a product to be sold, most notably by the Swiss timekeeping company Omega. In chapter 5, “Accuracy vs Precision: Interpretation, Nonintervention, and the Limits of Technology,” Finn demonstrates that technological advances have not alleviated the photo-finish’s contested cultural artifact status. Even with cameras capturing the 2012 United States Track and Field Olympic Qualifier Women’s 100-meter race at thousands of frames per second, Allyson Felix and Jeneba Tarmoh appeared to tie for third place. The runners’ bodies and their turned torsos prohibited the event’s human officials and their advanced technology from determining who earned the country’s final Olympic spot. Human subjectivity still defined the race, despite timekeeping companies’ best efforts to prove otherwise. Building from the Felix/Tarmoh case and other notable examples of modern timekeeping’s failure at objectivity, Finn’s final chapter argues that there is no “pure measurement” in sport. Instead, he declares, the photo-finish is the ever-changing product of an extensive network of human and non-human actors, including “camera lenses, photosensitive paper, photographers, sports federations, fans, materials engineers, athletes, journalists, and sport/media corporations” (p. 167).

Finn’s account of the photo-finish is a valuable contribution to sport history and science and technology studies. Informed by his archival research and interviews with contemporary photo-finish experts, Finn is at his strongest when discussing the historical contingency of the photo-finish. *Bey-*

*ond the Finish Line* also incorporates extensive photographs, including the photos of finishes and the photo-finishes as well as patent designs. In a book about mediated representations, these figures help the reader visualize the differences, failures, and gains of the networks that Finn describes. At points, however, Finn’s wealth of primary research slows the progress of his larger narrative. While they are important contributions in art and business history, lengthy descriptions of photographer John C. Hemment and the business workings of Omega overextend Finn’s focus on the photo-finish itself.

Overall, Finn succeeds in establishing the photo-finish as a historically contingent artifact. *Beyond the Finish Line* should join any study of the history of sport and its intersection with technology and science. Finn adds a “myth of pure measurement” to previous scholarship (like Rayvon Fouché’s *Game Changer: The Technoscientific Revolution in Sports* [2017] and Tara Magdalinski’s *Sport, Technology and the Body: The Nature of Performance* [2009]), showing that there is a “myth of pure performance” at the intersection of sport, technology, and science (p. 171). In modern sports’ pursuit of ever-marginal gains, Finn declares, improvements in measurement technologies have become just as important as athletic accomplishments. This framing might help other scholars studying non-race-based sports. In soccer, for example, the addition of Video Assistant Referees (VAR) to help officiate matches has experienced contention like that of the photo-finish. After several years of use, VAR, especially in off-sides decisions, has done more to complicate the sport’s rule book than provide clarity. Finn’s work suggests that measurement technology, like VAR, might never provide the solutions that stakeholders desire.

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