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*The Secret History of RDX: The Super-Explosive that Helped
Win World War II* by Colin F. Baxter (review)

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Journal of Arizona History, Volume 59, Number 4, Winter 2018, pp. 388-390
(Review)

Published by Arizona Historical Society



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takes an uncritical view of him, especially given the explosive riots that punctuated the finale of his tenure in office. Strode is perhaps the most compelling figure in the second half of the book, especially to those already familiar with Robinson's story; his struggle to overcome racial barriers in the NFL, professional wrestling, and as a film actor make for absorbing reading.

The most significant drawbacks of the book lie in the structure and sourcing. In what is both a strength and a weakness of the book, Johnson weaves parallel biographies that intersect primarily on the UCLA football team. Even then, Washington, Robinson, Strode, and Bartlett only played together in 1939, and focusing on five men playing four intercollegiate sports over a five-year period can be a challenge, even to meticulous readers. Secondly, while the author has mined some primary sources, notably the *Los Angeles Times*, and he uses web-based information effectively, most of the information on these five men is drawn from previously published work. Johnson relies heavily on the memoirs of Robinson, Bradley, and Strode, albeit to good effect, and he also cites a variety of scholarly and popular texts, especially those about Robinson. While in-depth original research on all five men in a single volume would have metastasized into an enormous project, a comprehensive perusal of the *Daily Bruin* and a few days combing athletic department records and presidential papers at UCLA would not have posed an onerous research burden.

A reader interested in the compelling stories of five men who spent their lives breaking down racial exclusion in college football, major league baseball, the NFL, in film, and in politics will find much to enjoy here. This is primarily a work of sport history, but the lives of these men also expose much about the social and political history of race in the twentieth-century United States.

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The Secret History of RDX: The Super-Explosive that Helped Win World War II. By Colin F. Baxter. (Lexington: University Press of Kentucky, 2018. Pp. 214. \$45.00 hardcover)

In his seminal work, *Why the Allies Won* (1995), Richard Overy argues that one of the key factors that allowed the Grand Alliance to prevail over

the Axis powers was its ability to win the battle for production. Overy contends that the Allies, especially Great Britain and the United States, managed to forge a close alliance that even included the formation of a Combined Chiefs of Staff for setting strategic goals. In *The Secret History of RDX*, Colin F. Baxter examines the story of how Britain, Canada, and the United States successfully developed and mass-produced the super explosive cyclonite (codenamed Research Department Explosive).

British forces recognized the need for more powerful bombs and torpedoes early on in the war against Germany. Traditional TNT-filled bombs were ineffective, especially in sinking German U-Boats. A friendly-fire incident in December 1939 by the Royal Air Force (RAF) Coastal Command highlighted this problem. When a hundred-pound bomb exploded on the conning tower of the submarine HMS *Snapper*, the impact only shattered four electric light bulbs aboard the vessel. Many naval and air force leaders saw bigger bombs and torpedoes containing RDX as the solution, yet there existed significant barriers for increased production.

The Noble Dynamite Company in Italy first produced cyclonite in the 1920s, but the cost of production and concerns over its stability led the U.S. Army ordnance officials to reject its development. In the 1930s, British researchers at Woolwich Arsenal determined that mixing the compound cyclonite with TNT and beeswax stabilized the compound. RDX would be one of the victories of production, but success did not come easily. Although the British created a pilot plant to produce RDX at Waltham Abbey before the war started, a plant at Bridgewater would not be completed until July 1941.

Even when Bridgewater became operational, Britain's production for 1941 stood at a meager nine hundred pounds. British leaders realized building a new plant would require years and decided the solution rested in convincing Canada and the United States to produce this vital explosive. Canadian officials not only created a new plant in Quebec, but also mobilized the nation's academics to research more effective production methods. Britain faced greater obstacles with regard to the United States. Although senior officials, most notably Secretary of War Henry Stimson, supported ramping up production of RDX, there remained significant bureaucratic resistance by the U.S. Army's Ordnance Department. Their reluctance stemmed from the severe shortage of TNT in late 1941 and 1942. There also remained significant skepticism that civilian scientists could contribute much to its development.

Academics at McGill and the University of Michigan in collaboration with engineers at Tennessee Eastman ultimately simplified the production process of the RDX and made it less expensive and dangerous

to produce. Canadian and American factories provided the bulk of the RDX needed for the war effort, although air and naval commanders never received the amount they desired. Baxter focuses his attention on the development and operation of the Holston Ordnance Works. This massive production facility would be built under General Leslie Groves who later headed the Manhattan Project.

Secret History would have benefitted from engaging with the issues raised by Mark Wilson in *Destructive Creation: American Business and the Winning of World War II* (2017). For instance, how did the federal government structure the financial arrangements with Tennessee Eastman? Did ownership rest with the company or were the facilities leased to Eastman? Although Baxter does examine the role of workers in the Holston Plan, he only tangentially mentions the existence of labor unions at the plant. What role did industrial unions play in the plant's success? Although a daunting task, this reviewer wishes the author had considered how the workforce was structured in the production facilities in Great Britain, Canada, and the United States. How did these different plants make use of women in the production process in the same way? Did the British plants have a larger percentage of women working in them?

The development of RDX and the atomic bomb had much in common. The Holston Ordnance Works not only offered a prototype for the Manhattan Project, but Leslie Groves also tapped Tennessee Eastman to operate the Y-12 plant for the enrichment of uranium at Oak Ridge, Tennessee. Both projects were shrouded in mystery and both became targets of Soviet espionage. Why did the United States not share RDX with the Soviet Union? Elaborating on this important point would have strengthened this book, especially given the willingness of British and Canadian governments to share this secret with the Soviets during the war.

Despite these caveats, this book deserves much praise. Colin Baxter, an emeritus professor at East Tennessee State University, has drawn on archival sources in Great Britain, Canada, and the United States to tell the story of RDX. Too often the battle of production is told as a uniquely American story, discounting the vital contributions of the Allies. This concise work underscores the importance of cooperation in one of the production "miracles" of the war.

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