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Hubert Bonin, *La Firme Schneider dans la guerre industrielle en 1914-1918*. Paris: Les Indes savantes, 2019. 260 pp. Tables, images, notes, and index. €28.00 (pb). ISBN 978-2-84654-542-2.

Review by Steve Zdatny, University of Vermont.

We all know that World War I was an industrial war. It was not won and lost on the battlefield, as a function of audacity, bravery, and inspired leadership. Indeed, it cost the Allies three times as much to kill a Central Powers soldier as the reverse--\$36,485.48 to kill a German, an Austrian, a Turk, or a Bulgarian, as against \$11,344.77 to kill a *Poilu*, a Tommy, a Doughboy, or a Russian.[1] Alvin York was an anomaly and Ernst Jünger an object lesson. The winners of the fight were much worse at fighting.

At the same time, we often do not have a full and clear idea of what the industrial effort upon which victory was built looked like. We know the Allies had more stuff--a lot more stuff. But it can sometimes feel as if that stuff just emerged almost naturally out of the figures on GDP and industrial production. The nuts and bolts of what it actually meant to organize an industrial war get lost in the general idea.

As a corrective, Hubert Bonin, Professor of Economic History at Sciences-Po in Bordeaux, and the author of a long list of works on the economic history of the Great War, offers “une histoire ... méticuleuse et complète” of the Schneider-Creusot company, 1914 to 1918 (p. 16). Schneider was perhaps the pre-eminent French industrial enterprise in the war effort, the patriotic and tireless manufacturer of the famous *canons de la victoire*. More than this, Bonin calls Schneider the *firme-pivot* of the industrial war--not simply a prolific producer of guns, shells, and the other hardware of battle, but the hub of a vast and diverse effort to organize the materiel to defend the *Patrie*.

Bonin organizes his story into five parts, beginning with the mobilization. The *partenariat triangulaire* between the government, the army, and the “industrial community” emerged quickly in the early days of the war. “Capitalism and the war economy,” writes the author, “were indissolubly linked” (p. 49). *La firme Schneider* was a natural collaborator in this emergent process for several reasons. It had a long history as an iconic French company--so much so that it was given a starring role in the standard primary school primer, *La tour de France des deux enfants*. More importantly, long before 1914, it had become a keystone of the Third Republic’s military-industrial complex, especially in the manufacture of artillery.

By early September 1914, the company had moved its head office to Bordeaux, where it was involved in daily conversations with Alexandre Millerand, the War Minister. The spirit of these meetings was a “feverish improvisation” that emerged from the realization that the war was not going to resemble what military authorities had prepared for (p. 40). At the mobilization, the army had 4,708 75mm field guns, for which the factories at Bourges and Puteaux were able to produce 13,000 shells a day. By the end of the first month of fighting the army had decided it needed 100,000. And this is to say nothing of the heavier calibers of artillery and ordonnance, which hardly even existed at the time. Clearly, this would require an unprecedented industrial campaign.

Part two pursues the deepening and widening partnership between the company and the war effort. It is worth noting that this process went forward even as Schneider factories ran into problems connected to the shortage of skilled labor and the loss of operations in facilities located in occupied Lorraine and across the borders with Luxembourg and Germany. The company’s job was complicated, moreover, by disagreements within the military over strategy and tactics, with different implications for what sorts of war machines should be produced.

What is striking about the picture that emerges is the breadth and complexity of the challenges of war production. The 155C gun alone comprised 450 different parts. These parts needed to be designed, the machine tools for them built, the factories constructed and organized, the materials for them obtained, paid for, brought to the facility. Then, from numerous similar facilities across the country, those parts needed to arrive at the factory that would assemble them into functioning artillery pieces. Those pieces then needed to be transported, along with their ammunition, to the places, on or behind the front lines, where they would be used. A second network had to be elaborated more or less from scratch to take care of the inevitable refitting and repairs of the guns and their parts, since the effects of firing made weapons wear out quickly. Bonin includes one photograph labelled, “CAMP de MAILLY: Appareils de lavage pour Canon 340/s10 T.L.P.” that shows a huge machine on railroad tracks and a dozen men ready to operate it. It gives some sense of the scale of even a routine procedure.

The scale of all this is measurable: the size of the Creusot workforce effectively doubled during the war. Once again, however, simply to say this is to obscure the thousands of gritty details. Workers don’t simply appear and start to work on factory floors. They need to be recruited and trained. The important ones need to be protected against being poached and drafted, or prevented from leaving to take a better job. Women cannot simply replace men, one for one, without requiring some adjustments to the routine. And all these workers needed to be kept happy, or at least quiescent and productive, which involved an enormous volume of labor negotiation.

Part three examines Schneider’s relations with France’s allies. Based principally on an internal Schneider document, the report of the Lataud Mission, dated May 1918. Bonin explains that the company had been particularly active in Russia before the war, with projects that employed 100,000 workers and involved 100 million rubles of investment. Schneider sent the Russians not only artillery pieces, but the machines with which to manufacture them and the skilled labor to run the machines. The war itself obviously made the logistics of this collaboration much more difficult. In fact, although the author does not dwell on these points, two aspects of this story leap out of the dense detail. The first is concrete proof of what we have always known in a vague way—that the Russian Empire was a nineteenth-century power trying to fight a twentieth-century war. In a contest decided by industrial production, it never had a chance.

The second is that Schneider continued to do business with the Russian government even after the October Revolution, believing that a “retour à la normale [était] envisageable quel que soit la nature du régime, en vue peut-être de l’ancien principe: ‘les affaires sont les affaires’” (pp. 146-147).

The expansion of the Schneider story beyond French borders further highlights the international dimensions of industrial war. For example, in the little slice of their country that remained to them, near Ypres, the Belgian government worked with Schneider to manufacture artillery—some of which ended up providing for the Portuguese army. Meanwhile, French 75s were rolling off the assembly line in a factory just outside of Rochester, New York, in cooperation with Bethlehem Steel and other American industrial giants.

There was, however, another face to the international circulation of artillery, and a much more ironic one. That is, the internationalization of war production before 1914, and even afterward, meant that thousands of soldiers were being killed by weapons that had been manufactured in their own countries and by their own firms. Italy, for instance, had been buying French artillery even when it was part of the Triple Alliance. Or, to look at it the other way around, Schneider, whom Bonin praises as a “flambeau du patriotisme français” (p. 155), had been selling guns to the other side. Of course, this irony disappeared when the Italians changed sides in 1915—and one suspects, even though the author does not mention it, that Italian forces then began conversely to use German-made weapons against Central Power forces along the Isonzo front. Arms circulated among belligerents in other ways, as well. Hundreds of French 75s, abandoned by the Serb Army in Albania, were captured by the Germans and given to the Turks to use first against the Russians and then against the British in Palestine. The Rumanian army mostly employed guns made by the giant German concern, Krupp.

Bonin tells one fascinating tale of the travels of a Schneider 65 gun, which sits today in a museum in Bagdad: “Il aura bien voyagé: Le Creusot, armée serbe, armée bulgare, armée turque en Russie, armée turque en Moyen-Orient.” And another about the *trajectoire* of a 1907 model 75: “Le Creusot, Serbie, prise par l’armée austro-hongroise, reprise par l’armée roumaine en 1917, d’où l’exposition dans un musée de Bucharest actuellement ...” (p. 160).

Parts four and five return principally to the business of war production. There are discussions of Schneider’s brief foray into naval construction and a short history of the firm’s loss of the tank business to Renault. The book’s final chapters focus on financial relations with American financiers and on production problems related to *pénuries de transport*. Bonin looks at innovations in metallurgy and management in what he calls *une guerre d’avant-garde* (p. 212). He notes that the value of Schneider stock rose 45 percent during the war and considers the implications for France’s post-war political economy of the wartime experience of semi-nationalization, economic planning, and labor-capital cooperation.

In the end, in what seems like a combination of analytical precision and national pride, he compares the more market-driven and entrepreneurial efforts of the French, in concert with the Anglo-Saxons and exemplified by Schneider, to the Teutonic system of centralized control led by Rathenau and Ludendorff and concludes that the former system worked better. The conclusion may be debatable. But it is easy to understand how his long, deep dive into the history of Schneider and the French industrial war effort leads him there.

I should note that, although the author describes his book as a “narrative,” it does not really read that way. The narrative, such as it is, is dominated by page after page of thick detail and long citations pulled directly from Bonin’s deep archival sources. The book often feels more like a primary source than a historical narrative. I also thought that the book often missed opportunities to expand on larger questions. To take only the case I found most frustrating, for all the density of information about various pieces of artillery and ordonnance, and the observation that the particulars of technology were driven by the tactical and strategic needs of the battlefield, Bonin never gives readers much information about the specific capabilities and limits of the military instruments he describes: What can a 155 do that a 75 or a 304 cannot? What are the different considerations when the army orders cannon and not mortars, or the other way around? Do you need one kind of artillery when you are trying to break through in 1915 and another when you are trying to hold the line in 1918? That said, readers interested in the how-it-was-done of history’s first industrial war will find plenty here to hold their attention.

NOTES

[1] Niall Ferguson, *The Pity of War: Explaining World War I* (London: Basic Books, 1999), p. 336.

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