

Werner Plumpe, Carl Duisberg. 1861–1935. Anatomie eines Industriellen, München (C. H. Beck) 2016, 992 S., 39 Abb. (Historische Bibliothek der Gerda Henkel Stiftung), ISBN 978-3-406-69637-4, EUR 39,95.

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Wilhelmine Germany enjoyed something of an economic miracle that enabled men from modest backgrounds to become wealthy and influential. Among these was Carl Duisberg, who rose as the son of a modest ribbon weaver in Barmen to head the Bayer chemical works and later the massive German chemical trust I. G. Farben. Like others of his generation, Duisberg was the beneficiary of an excellent scientific education and the opportunities opened up by a rapidly expanding economy. In this massive and definitive biography of the man, Werner Plumpe explores Duisberg's life as an industrial entrepreneur to uncover the role of the individual manager in the creative-destructive dynamics of capitalism, drawing on his own extensive knowledge of German entrepreneurship and industrial relations in the Wilhelmine and Weimar eras.

Plumpe has delved deeply into the company and personal papers of Duisberg in the Bayer Archives in Leverkusen and Max Planck Society Archives in Berlin, offering a richly-detailed and compelling portrait of the man and the challenges he faced as head of one of the most successful and dynamic firms in Germany before 1914. As Plumpe argues, Duisberg was a typical »Wilhelminer« but also one of the earliest practitioners of the »Rhenish capitalism« that became a pillar of the social market economy in the Federal Republic. Plumpe's biography goes well beyond and corrects the existing hagiographic account of Duisberg's life commissioned by Bayer AG and the ideologically distorted narratives of him as a monopoly capitalist and warmonger produced in the GDR.

Plumpe shows that Duisberg was endowed with fierce ambition, a pragmatic and technocratic bent, and unusual organizational abilities. The first in his family to attend university, he returned to the Wupper valley after taking his degree in chemistry at Jena and training in the laboratory of the legendary chemist Adolf von Baeyer in Munich, plying his expertise to the dyestuff manufacturers tied closely to the region's textile industry. He was hired by Bayer in Elberfeld in 1883, at the time an unremarkable dyestuff manufacturer compared to its many competitors that included Agfa in Berlin, BASF in Ludwigshafen or Hoechst in Frankfurt.

Indeed, what Duisberg found at Bayer was far from a model of organizational efficiency. The lack of a uniform patent law had led to much fragmentation in German dye making and fierce competition for market share in the new synthetic aniline dyes derived from coal tar. At the time, academically trained chemists were viewed with considerable skepticism by both the management and employees, who were accustomed to trial and error experimentation and ad hoc production methods. With the passage of uniform patent legislation in 1877, it became critical to the success of firms like Bayer to protect their dyes by patenting their production processes and systematically



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developing new dyes and drugs, a task for which organic chemists like Duisberg were needed.

Duisberg threw himself into this task with gusto, and within a few short years he had reorganized the laboratory at Bayer and made a number of important discoveries that resulted in a number of patented dyes that made a fortune for the company. As Plumpe shows, this system of »industrialization of innovation« in research laboratories was a very distinctive feature of Duisberg's contribution to Bayer (p. 78). His successes quickly gained the attention and confidence of the owners of the company, particularly Carl Rumpff, whose niece Duisberg married in 1888, assuring close connections to and the confidence of the extended Bayer family and his ascent into the senior management of the firm. With Rumpff's death in 1889, Duisberg became the de facto head of daily operations at Bayer, and little more than ten years later he was made a member of the board of directors.

As Bayer's general manager, Duisberg took a very tough line with striking workers and was very skeptical of government intervention, but he was conciliatory with his loyal employees and quite progressive in developing firm-level consultation bodies, health insurance, retirement benefits, recreational facilities, hospitals, housing, and generous pay and leave policies. As Plumpe shows, such measures were hardly philanthropic and always part of a broader pragmatic effort to retain skilled workers and scientists and thus to assure the efficiency and long-term profitability of Bayer.

In addition to building systematic laboratory research and developing new dyes and pharmaceuticals, the keys to Bayer's success under Duisberg were also increasing scale to reduce costs and the control of raw materials and intermediary products to assure a high quality product at the lowest possible price. The crowning achievement in that direction was Duisberg's decision to construct a state-of-the art facility for Bayer on a greenfield site on the lower Rhine at Leverkusen near Cologne. This was planned to be the most technically rational and efficient plant imaginable, but given the considerable distance between Leverkusen and Elberfeld, management had to be decentralized to allow a degree of autonomy in order to maximize initiative and flexibility in Bayer's increasingly complex operations. Key to the success of his leadership was Duisberg's ability to delegate to competent managers and chemists while keeping close tabs on costs. By 1912 the move to Leverkusen was complete, giving Bayer facilities that were the envy of the chemical industry worldwide.

Starting with only 383 employees in the early 1880s, by 1914 Bayer counted no fewer than 6520 people on its payroll, of which some 300 were academically trained chemists. As remarkable was the fact that no less than 80% of Bayer's turnover was generated overseas in 100 different countries, where demand for its dyes and drugs was very buoyant. Bayer's stock value increased from 12 to 36 million marks between 1900 and 1913. By any measure, this was an extraordinary record of success.

While Duisberg became a wealthy member of the Wilhelmine establishment with the title of privy counsellor and influence in Berlin, he was himself very open to new ideas and modern ways of life from his extensive travel overseas, notably to the United States, which he admired. It was in the United States that he also became aware of the increasing concentration of industry, which inspired his ideas to consolidate the Germany dyestuffs industry into the I. G. Farben trust. This was motivated



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by a desire to exploit scale economies in a fragmented industry, to prevent costly legal disputes and ruinous competition, to pool resources for research and development, share patents and licenses, and to assure steady supplies of raw materials. This was first formalized in a 1904 profit pool agreement between Agfa, BASF and Bayer, which was later joined by Cassella, Hoechst, and Kalle during the First World War. Duisberg was the driving force of this organization, but in contrast to the popular image of a vast monopolistic cuttlefish, Plumpe shows that I. G. Farben did not actually dominate the market or control prices, since outsiders to the trust like Griesheim-Elektron and Weiler-ter Meer exploited opportunities created by the curbed production within the trust (p. 253).

Duisberg could be a ruthless and opportunistic businessman and ran Bayer very paternalistically, but Plumpe shows that his identity was very much one of a scientist, and he retained strong ties to German academic chemistry and did much to further science in Germany through his leadership and philanthropy. This included the Kaiser Wilhelm Institute for Chemistry in Berlin-Dahlem and the German Museum in Munich, both of which he helped found. He was also very active in efforts to encourage scientific research, fund university students, and improve the professional status of chemists.

This scientific outlook and the room for maneuver he enjoyed as an industrialist also shaped his political views, which were highly critical of obscurantism and ideological rigidity. Duisberg was a liberal who was hostile to the SPD and Center Party just as he was of an overreaching and over-regulating state bureaucracy. Yet despite his adoration of Bismarck and his strong patriotism, he took no interest in Wilhelmine *Weltpolitik* or the German colonies, and he had no interest at all in radical nationalism before 1914.

The great caesura in Duisberg's career and life was the First World War, which caught him and Bayer completely by surprise. Nevertheless, Duisberg's deep patriotism assured full support of the war effort for a German Siegfrieden. Plumpe deftly analyzes the adaptation of Bayer to wartime conditions and the emergence of Duisberg's increasingly radical views on German war aims. For Bayer and I. G. Farben the war meant a loss of booming overseas markets for dyes and pharmaceuticals and entry into the production of explosives and poison gas.

Duisberg's pragmatic and opportunistic adaptability to new conditions stands out in these sections of the book. Duisberg developed close connections with Max Bauer and Erich Ludendorff in the general staff to assure secure contracts for Bayer from the military, becoming the single largest supplier of explosives in Germany during the war. He also embraced gas warfare enthusiastically, devoting resources to research and development and adapting Bayer's plants to large scale production of chlorine, mustard, and phosgene gas.

Duisberg's enthusiasm for an all-out war effort rivaled that of the notoriously gung-ho coal industrialist Hugo Stinnes. This brought Duisberg into tension with Chancellor Theobald von Bethmann-Hollweg, Kaiser Wilhelm, and much of the German establishment. Duisberg pressed for the adoption of poison gas by the military, and his firm and I. G. Farben profited immensely from their military contracts. He likewise fully supported the Hindenburg program, expansive annexationist war aims, unrestricted submarine warfare, and forced employment of Belgian civilians. He also later joined the Fatherland Party in opposition to the Reichstag's July 1917 Peace Resolution.



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Plumpe qualifies this activity by suggesting that Duisberg's hunger for recognition, Max Bauer's influence, and the intoxicating proximity to the "great men" Ludendorff and Hindenburg clouded his judgement. As Gerald Feldman has pointed out in his biography of Stinnes and as is corroborated by Plumpe, men like Stinnes and Duisberg, who had been liberals and had vast international commercial interests before the war, became supporters of an all-out war effort because of their awareness of Germany's prewar strategic isolation and vulnerability to blockade, which they hoped a successful war would banish forever.

As remarkable as Duisberg's migration toward the far right was his volte face once the German war effort collapsed in 1918. While he was prone to blame pacifists on the home front for the failed war and embraced the stab-in-the back myth, he quickly came to accept the realities of the new republic and to support the policy of fulfilling the terms of the Versailles Treaty. Likewise, he denounced the Kapp Putsch and was deeply shocked and angered by the assassination of Walther Rathenau. He later also fully supported Gustav Stresemann's coalition government after the debacle of the Ruhr occupation in 1923.

Plumpe devotes much of the latter part of the book to explore how Duisberg adapted himself, Bayer, and I. G. Farben to these new peacetime realities. Recognizing that there was no going back to the industrial relations of the *Kaiserreich*, Duisberg avoided conflict with his workers and cooperated closely with the trade unions he had fought so bitterly before the war. Although the chemical industry was not a viable candidate for nationalization, Duisberg embraced the Zentrale Arbeitsgemeinschaft (ZAG) for the chemical industry and embarked with the Verein zur Wahrung der Interessen der Chemischen Industrie on a course of conciliation with organized labor that included formalized arrangements for collective bargaining, regulation of wages, improvement of working conditions, and the acceptance of arbitration in labor disputes.

Together with the institutions of codetermination already introduced during the war and then by the Weimar constitution (and the credibility Duisberg gained with the majority SPD and free trade unions as an opponent of the Kap Putsch), this assured friction-free industrial relations in the chemical sector during the years of the Weimar Republic. Duisberg was also fully supportive of the corporatist Reichswirtschaftsrat created in 1920 as a counterweight to the Reichstag. Plumpe sees in these developments precursors to the modern forms of social partnership in Rhenish capitalism (p. 594, 827).

Although Duisberg and the Bayer corporation weathered the war and the transition to peace successfully, by the mid 1920s Duisberg was nearing the end of his career and no longer the leading figure in the German chemical industry, whose mantle had fallen on Carl Bosch of BASF. The war had also fundamentally altered the chemical business, which had lost most of its overseas market share as well as assets, patents, and trademarks in the United States, Britain, and France. Moreover, German chemical firms were now facing new foreign competitors protected by tariff walls. Massive cost cutting, rationalization, and modernization of plant and equipment were thus necessary if the industry hoped to prevail against such headwinds.

A larger I.G. Farben that included Hoechst, Cassella, Kalle, and Griesheim-Elektron had already been organized during the war in anticipation of this much more competitive environment. In 1925 Weilerter Meer joined the trust and all of its firms were then fully fused and



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absorbed by BASF and renamed I. G. Farben AG, a move spearheaded by Carl Bosch and unsuccessfully opposed by Duisberg. Thereafter the new I. G. Farben corporation shifted production to newer niches such as synthetic fibers, fertilizer, and synthetic fuel. The latter of these required state subsidies and became the basis for I. G. Farben's later notorious collaboration with the Nazi regime.

The last ten years of Duisberg's life (1925–1935) were devoted to serving on the supervisory board of I. G. Farben AG and as president of the Reichsverband der Deutschen Industrie (RDI), in the latter capacity working to improve the public image of German industry in the aftermath of the war, when public accusations of wartime profiteering were often heard. Although he had largely withdrawn from the public spotlight, he supported the Young Plan against critics from the radical right in the DNVP and Nazi Party, but he also welcomed the appointment of Heinrich Brüning and later grossly misjudged the dangers of a Hitler government, once again adapting opportunistically to new political realities to protect industry. Although he had never been an anti-Semite and had many Jewish friends and colleagues, he refused to speak out in public against the mistreatment of Jews, went along with the Aryanization of I. G. Farben, and even came to sympathize with and disseminate Nazi racial theories.

Here Duisberg's pragmatism and adaptability shaded starkly into unprincipled opportunism. Plumpe points out that in this respect Duisberg was actually not much different from most German businessmen who tended to adapt to new conditions so long as these did not disturb their operations, and it is only in light of the extremity of the Nazi regime that such opportunism comes to stand out as morally problematic – it might be added here that industrialists and businessmen in general were an underrepresented demographic in anti-Nazi resistance. As Plumpe points out, the qualities that made Duisberg a highly successful entrepreneur and manager in peacetime – energy, ambition, and the need to be recognized – became pathological in war and under political extremes.

What one is left with after reading this compelling biography is a complex picture of Duisberg, a man able to successfully exploit extraordinary opportunities by his scientific qualifications and organizational acumen, yet also one shaped profoundly by the Great War and its aftermath and tainted by that experience.

There is much more in this long book that cannot possibly be conveyed in a short review, but a few minor points of criticism should be noted. At nearly 1000 pages of dense text, this is a hefty tome not for the feint of heart, and some of its length is due to repetitions and the inclusion of tangential material only indirectly related to Duisberg, Bayer or I. G. Farben. For example, chapter 26 (pp. 562–596) on Rhenish capitalism gives a detailed description of the formation of the Reichswirtschaftsamt and gets deep into the weeds of the war corporations and the demobilization process but adds little to the arguments of the book. It also revisits Duisberg's relationship with Max Bauer and Ludendorff already discussed at length in earlier chapters. Here the author might have adopted greater critical distance to the corporatist structures created in the Weimar Republic that sidelined the Reichstag, elevated the political status of the Verbände, and created a more malleable and docile working class that lent itself more easily to *Gleichschaltung* under the Nazis.



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Something else that should be noted here is that the book is bloated by many lengthy quotations from Duisberg's voluminous and often long-winded and self-promoting letters, which do not always shed that much light on what is being narrated by the author. Finally, while Plumpe goes into extraordinary detail on nearly all aspects of Duisberg's personal life and career, the story of the prewar success of Bayer pharmaceuticals (e.g., Aspirin) is mentioned hardly at all in the book. Indeed, Bayer's entire pharmaceutical sector is given very short shrift in this volume.

These criticisms aside, there is no question that this is the definitive biography of Carl Duisberg that will become the standard work on the topic for many years to come. It is truly an extraordinary tour de force of historical reconstruction that represents the fruit of years of research. It is compellingly argued, authoritative, and persuasive, and the historical context is conveyed brilliantly with the aid of the latest historical literature. Notable, too, is the author's honest exploration of the less salubrious sides of Duisberg's life, yet also his fairness and good judgement in dealing with such controversial topics as poison gas, war aims, and the rise of National Socialism. Indeed, the book is much more than a biography of an industrialist; it is a compelling portrait of two eras ruptured by war highlighting the profound dilemmas faced by an extraordinarily industrious and competent German industrialist in an age of extremes.



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