Schmidt's discussion of the 1848–49 revolutionary events is naturally attentive to the social composition of the revolutionary movement: skilled workers and artisans were prominent among those who took to the barricades, if not among the members of the provisional parliamentary assemblies. Schmidt also pays close attention to the workers' congress movement in 1848–49, in which he discerns 'an initial process of class formation on the political plane' (p.258), and the role of Stephan Born's *Arbeiterverbrüderung*, which provided many workers across the German states with the experience of political organization, even if only a small proportion of working people were directly involved.

In the third part of the book, Schmidt makes a reference to Gustav Mayer's often cited classic essay on the 'separation of proletarian from bourgeois democracy' (pp.545–554). Schmidt relativizes Mayer's formulation in two ways: he stresses that the heterogeneous working class, with its profile still dominated by skilled artisans, was not yet a stereotypical industrial proletariat, and he also notes that there were very few committed bourgeois democrats to separate from: the split was rather a political one between socialists and liberals. The story of the creation of the two early Social Democratic parties, and their emancipation from the often patronizing tutelage of bourgeois liberals, will be familiar to some readers, but Schmidt provides a thorough engagement with recent scholarship (especially the German-language scholarship), such as Thomas Welskopp's work, and sets some different accents of his own.

The series is to be completed with Schmidt writing the history of the labour movement from 1871 to 1914 and Benjamin Ziemann taking the story through the years of the First World War. It will be interesting to see how fruitful the attempt will be to strike a balance between the labour movement as a vehicle for class conflict on the one hand and its role as 'civil society actor precisely as the guardian of bourgeois-democratic guiding ideas (*birgerlich-demokratischer Leitbilder*)' (p. 545) on the other. To what extent did the Bismarckian and Wilhelmine empires throw up challenges to the idea of civil society as German society was increasingly segmented into separate social and ideological milieus, and to what extent did a labour movement more strongly adhering to a class identity embrace the language of 'civil society'—a term which in German tends to sound confusingly similar to the 'bourgeois society', the very thing socialists like Bebel pledged to overthrow?

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Beyond the Barricades: Government and State-Building in Post-Revolutionary Prussia, 1848–1858. By Anna Ross. Oxford: Oxford University Press. 2019. Xi + 229 pp. £60.00 (hardback).

The period between the revolutions of 1848 and the wars of German unification was long the neglected orphan of modern German history, receiving much less scholarly attention than its precursor and successor eras of the Vormärz and the Kaiserreich, and in general dismissed as less interesting or significant. These years were often deemed simply a moment of retreat by liberals and of repression and reaction by the restored conservative elites after the failed revolution. Over the past few decades, historians have gradually added to knowledge of the era and questioned such broad characterizations. Anna Ross's new book marks a notable step forward in this development. Ross's work does more than just fill a gap between two periods of change but rather makes a compelling case for the 1850s in the German Confederation and particularly in Prussia as a pivotal moment in modern German history. Not only were the middle classes more politically active than previously thought, but the conservative governments were not as purely repressive. Above all, having learned lessons from the revolution, the latter instead promoted wide-ranging reforms, at times in response to liberal pressure but for the most part pushing their own agenda of state-building in order to strengthen both government's control of society and its communication and connection with society. The book thus provides further support for Christopher Clark's view that the 1850s witnessed a wave of reformist state-building by conservative governments across Europe.

Ross's study takes as its focus the successive ministries of Friedrich Wilhelm Count von Brandenburg and Baron Otto von Manteuffel, who helped lead the counter-revolution in Prussia beginning in November 1848. While it is still standard to speak of the failed revolutions of 1848, historians have for some time added the rider that not all gains of the revolutionary years were lost, not even in Prussia, where King Friedrich Wilhelm IV, who had long resisted constitutionalism, ultimately decreed a constitution to preempt the one being debated by the Prussian National Assembly. The new constitution upheld strong royal authority but also preserved some of the revolution's advances in citizen rights and political participation. As Ross demonstrates, the government's reformism was not limited to the constitution and parliament, as a grudging political concession, but instead reached into many aspects of government and society.

In keeping the focus on Friedrich Wilhelm, Brandenburg, Manteuffel and some of their main officials, Ross devotes most attention to the central administration and high politics, but she also gives considerable coverage to lesser officials and figures from outside the ranks of government, including liberal politicians and publishers and the emerging ranks of academic policy experts. Ross is also careful to compare Prussian developments with those in other German states, including Austria, while simultaneously highlighting the actual connections and causal links between them, particularly at the level of the production and sharing of knowledge, as with the running theme of the creation, use and sharing of social statistics among government officials and academic experts. In this she reflects current transnational approaches to history and interest in internationalization and knowledge production and exchange.

The first chapter gives a compendious overview of political developments in the months and years following the appointment of Brandenburg and Manteuffel and the Prussian military's reassertion of control in the capital Berlin, while the second provides background to Prussian provincial and administrative geography and traces the growth of government statistics as part of the reform process. Subsequent thematic chapters explore the nature and extent of reform in successive policy areas: reform of criminal law, trial procedure and prisons; increasing state involvement in agriculture and industry; regulation of the urban environment, emphasizing the role of the Berlin police in that endeavour; and government efforts to manage the growing political press as it edged towards becoming a mass medium, including some censorship but primarily through spin in government publications and influence on other press organs. Throughout, Ross adroitly covers material from the maze of bureaucratic institutions across the various provinces and central administrative units of the Kingdom of Prussia, which was still not, as she makes clear, by any means a homogenous administrative entity.

Ross is alive to questions of continuities in German and Prussian history and consistently examines possible precursors of reform initiatives in the first half of the nineteenth century as well as considering the implications of the reforms of the 1850s for the subsequent Bismarckian era. While pointing to prior efforts, in the Napoleonic reform era as might be expected yet also in the 1840s under Friedrich Wilhelm IV, the author on balance stresses a built-up reform deficit that helped spark the revolutions and left much room for further reform in their wake. Conservatives recognized that they could not turn back the clock—even the more ideologically driven ultraconservatives around the Gerlach brothers and the *Kreuzzeitung* were, as is well known, ready to adapt conservative political practice to the new realities of political culture shaped by press and election cycles—but as Ross underscores, Manteuffel and Brandenburg went much further, showing themselves to be more 'realist' or 'pragmatic' in their approach to politics and more willing to modernize the state apparatus in pursuit of conservative aims. Whether in terms of ideology or of practical politics, the author could have done more to engage with the work of Barbara Vogel and Lothar Dittmer on the notion of 'bureaucratic conservatism' during the Vormärz; doing so might have helped to weigh up questions of continuities between earlier periods of reform and variants of conservatism, as well as narrow the spotlight on the overlapping categories of mid-level officials and academic experts who helped drive reform in both eras.

The author may at times understate the repressive aspects of Prussian government in the 1850s, whether, say, in educational policy or in urban renewal. It would have been worth noting, for example, how far the advantages of wide streets and removing city walls derived in part from the resulting ability to deploy enhanced fields of fire against potential revolutionary insurgents and to make it more difficult to build barricades in the first place, as in the renewal programmes in Paris and Vienna. These moves represented another aspect of moving 'beyond the barricades'. Even with a few missed openings, however, Ross's book marks a notable contribution to the literature on Prussian, German and European history in a transitional moment of the mid-nineteenth century.

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Helmholtz: A Life in Science. By David Cahan. Chicago: University of Chicago Press. 2018. Viii + 937 pp. \$55.00 (hardback).

The name Helmholtz has in recent years been attached to many important and prestigious new German institutions. Like fellow scientists Alexander von Humboldt and Max Planck, two scientists with whom he was connected, and whose lives overlapped his own like bookends, Helmholtz clearly fits the bill of a historical figure both large enough and sufficiently unscathed to represent twenty-first century institutions.

Yet Helmholtz differs from some of the scientific giants with whom he is often compared. Unlike Darwin or Einstein, Helmholtz did not author a grand, timeless theory, but instead made transformative contributions to a staggering array of fields in the natural sciences, arts, and humanities. Modern histories of energy, electricity, media, meteorology, musicology, metabolism, ophthalmology, the unified science movement of logical empiricist philosophy and even the scientific study of the Krakatoa eruption and Zeppelin navigation, all lead back to Helmholtz. In this way, Helmholtz seems more like a latter-day Aristotle, Descartes or Leibniz than a modern scientific disciplinary specialist. He was also a key builder of modern scientific disciplines and institutions, who both professed and embodied