

communication and media), as well as practitioners (e.g., concrete musicians, sound engineers and record producers).

In their afterword, Frith and Zagorski-Thomas express the hope that readers will better understand issues discussed for the first time in this book, but I am sceptical. Perhaps it will be so, but discussions between academics and practitioners about record production have taken place since the 1940s (and perhaps as early as the earliest development of electrical recording techniques in the 1920s). Indeed these early discussions led to the establishment of the Tonmeisterstudium [Sound Engineering] school in Germany in 1947 by Erich Thienhaus (1909–1968). The question is: does this work add to Thienhaus's earlier work? And the answer must be in the affirmative, because the recording business is in a constant state of steady change.

The Art of Record Production is a good supplement to the already established field of Sound Studies, and, more specifically, to the quite recently released *Oxford Handbook of Sound Studies*. But, compared to this rather technical source, the essays of the book reviewed here are shorter and easier to read. I was very pleased by the following articles: *The US vs the UK Sound: Meaning in Music Production in the 1970s* by Simon Zagorski-Thomas; *I'm Not Hearing What You're Hearing': The Conflict and Connection of Headphone Mixes an Multiple Audioscapes* by Alan Williams; and *Tubby's Dub Style: The Live Art of Record Production* by Sean Williams. What I also very much like are the *Comments and Commentaries by Industry Professionals and Producers*, arranged as interludes.

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Sonja Petersen. *'Vom Schwachstarkasten' und seinen Fabrikanten: Wissensräume im Klavierbau, 1830 bis 1930*. Münster: Waxmann Verlag, 2011. Pp. 269. €29.90.

The making of musical instruments – in this case, the piano – is often romanticised. It stirs images of the gifted master craftsman who, through his lifelong experience and personal knowledge, carefully makes every single instrument in his small workshop; however, in the nineteenth century, piano making gradually turned into an industry characterised by an increasing division of labour, machine use, standardisation of the manufacturing process and the formalisation of knowledge production. The transition from craft to industry is the framework of Sonja Petersen's award-winning study of piano making between 1830 and 1930. She draws on intriguing sources from the archives of two famous piano manufacturers: L. Bösendorfer Klavierfabrik in Vienna, and Grotrian-Steinweg Pianofortefabrikanten in Braunschweig. To

analyse the tacit dimension of piano making, Petersen uses Douglas Harper's concept of working knowledge and his distinction between knowledge of material, kinaesthetic sense and learning by doing. Furthermore, she draws on recent reflections about the spatial dimension of technical and scientific knowledge. With reference to the concepts of Mitchell G. Ash and Martina Heßler, Petersen distinguishes three spatial categories of knowledge: the knowledge reservoir (Speicher), the knowledge site (Stätte) and the knowledge forum (Forum).

In two early chapters of her work, Petersen describes the technical development of the piano and the changes in piano manufacturing during the nineteenth and early-twentieth centuries. In the following chapter, she investigates the notebooks of Carl Wirth and Willi Grotrian as reservoirs of personal working knowledge. From the comparison of Wirth's notebooks, dating from 1828 to 1848, and Grotrian's notebooks, dating from 1889 to 1895, she highlights changes in piano making from craft to industry-based production. In addition, Petersen investigates two manuscripts of Willi Grotrian and Carl Georg Berger as knowledge reservoirs, which contain not only personal knowledge, but also formalised company knowledge.

The following chapter presents the research laboratory of Grotrian-Steinweg, unique in its time, as a knowledge site. In this laboratory, different forms of knowledge – scientific and working knowledge – circulated between the research staff and the piano makers. Finally, in her last chapter, Petersen analyses the letter-box section of the journal *Zeitschrift für Instrumentenbau* as a knowledge forum, where knowledge from theory and practice was presented and discussed.

In sum, Petersen vividly describes how different forms of knowledge were involved in the mass manufacturing of pianos. Although she describes a tendency to formalise and standardise working knowledge, Petersen concludes that personal knowledge played an important role in piano making throughout the period of investigation; however, Petersen's use of Harper's concept is somewhat static. Equating qualitative descriptions with personal working knowledge and quantitative instructions with formalised collective knowledge does not answer questions about difficulties in the codification of knowledge, as well as difficulties in using more formalised knowledge on the shop floor. Also, Petersen's interpretation of Grotrian's manuscript as a means of circulating knowledge within the company is not quite convincing. Why would he leave out certain quantifiable information to safeguard company secrets? Grotrian's formal acknowledgment of Siegfried Hansing, author of a seminal piano-making textbook, suggests instead that it is an unfinished book manuscript, and that the blank spots were to be filled at a later stage.

Despite these critical remarks, Petersen's book is a valuable addition to

work on musical instruments, the experts who make them and the different forms of knowledge on which they rely.

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Molly W. Berger. *Hotel Dreams: Luxury, Technology, and Urban Ambition in America, 1829–1929*. Baltimore: The Johns Hopkins University Press, 2011. Pp. 318. \$60.00.

In *Hotel Dreams*, Molly W. Berger links the rise and development of American luxury hotels in the nineteenth century to a national trope that celebrated the growth of industrial capitalism in U.S. cities. Beginning with the concept of ‘technological luxury’, an idea rooted in the relationship between technology and progress, Berger argues that ‘the historical significance of hotels rests not simply in their material culture, but in the way in which that materiality – the massiveness, the mechanics, the artifacts that filled the buildings – was so thoroughly integrated with and inseparable from the social and cultural word that gave it life’ (pp. 6–7). This book, which won the Society for the History of Technology’s Sally Hacker prize for exceptional scholarship that reaches a broad audience, shows how innovative and spectacular technologies used in the design and management of these buildings made nineteenth-century American luxury hotels sites through which modern America evolved.

Berger advances her argument by intricately weaving profiles of specific hotels, such as the Tremont in Boston, the Continental in Philadelphia and the Palace in San Francisco, into broader narratives of urban economic change, showing that these ‘cities within a city’ became technological models for their surrounding environments. While tracking the trajectory of hotel development between 1829 and 1929, Berger connects the changing design and management of these buildings to the development of modernity.

The emergence of the luxury hotel occurred in the late 1820s as modern industrial environments began to form. American hotels built early in the century hearkened to grand European buildings such as cathedrals, castles, and palaces, thus boastfully displaying a nationalistic sense of triumph rooted in the hubris of industrial capitalism.

After 1875, developers constructed hotels that focused attention on the acquisition of wealth and display of material gain, rather than focusing, as they had previously, on communal industrial endeavours (p. 170). Eschewing any moderation, developers capitalised on the modern ethos that promoted the latest and most amusing, employing technology to celebrate economic success. At the turn of the century, as skyscrapers usurped the hotel’s