

Sander, Tobias: *Die doppelte Defensive. Lage, Mentalitäten und Politik der Ingenieure in Deutschland 1890-1933*. Wiesbaden: VS Verlag 2009. ISBN: 978-3-531-16273-7; 300 S.

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Even if not hugely popular as a subject of inquiry, the engineering profession has received a fair amount of scholarly attention over the past thirty years. Going back to studies from the 1970s by Gerd Hortleder, Karl-Heinz Ludwig, Karl-Heinz Manegold, and Lars Scholl, and considering more recent work by Konrad Jarausch, Peter Lundgreen, Liudger Dienenel, Wolfgang König, Jeffrey Johnson, Walter Kaiser, and others, one might be forgiven for thinking that the sociopolitical landscape of Germany's engineers is, in fact, reasonably well mapped. According to Tobias Sander, a young sociologist at the Karlsruhe Institute of Technology, however, this is not the case.

To be sure, a great deal is known about engineers and technical education, and about major engineering associations such as the VDI. There is also quite a bit of anecdotal evidence about their social situation and their political susceptibility to National Socialism. Even so, argues Sander, we still do not have a full understanding of engineers' material conditions, their social status, and how and why they acted politically the way they did in the years leading up to the Nazi seizure of power in 1933. Like other professional groups, for instance, engineers exhibited their share of radical-conservative ideology in the 1920s. But was this a function of what the author calls their „double defensive,“ a structural, decades-long condition of relative socioeconomic disadvantage (low pay and low upward mobility) and low ascribed status (bourgeois prejudice against engineers)? Or was it the result of something else?

The existing scholarship cannot answer such questions, Sander argues, for two reasons. First, scholars have overlooked crucial evidence, such as socioeconomic interest groups of engineers and data on engineers' incomes, household expenditures, and leisure activities. Second, there has been a failure of

conceptualization. It is impossible, according to Sander, to get at the truth with a one-step model (the only one used until now) that explains engineers' political behavior directly from their social condition. Needed instead is a two-step model, which goes from the engineers' social condition to their mentality and lifestyle and only then to their politics. The author promises to address the observed deficiencies by offering, for the first time, a systematic examination of the engineers' social conditions (ch. 2), their lifestyles (ch. 3), and their politics (ch. 4). This is a tall order, so it is not unreasonable to ask at the outset how well he acquits himself of this task. The answer, in brief, is something of a mixed bag.

On the positive side, in his first major chapter Sander provides a fine and broadly contextualized synthesis of the findings of existing secondary literature and published contemporary sources on engineers' social situations from the 1890s to the 1930s. He recounts the rapid growth of the profession; the cleavage and competition between engineers educated at the technical universities and those trained at Germany's unique system of „technical middle schools“ (antecedents of today's colleges of applied sciences (Fachhochschulen); the problems of engineering oversupply and underemployment; and the „broken“ or „failed“ professionalization of the university-trained engineers during the period under examination. There are good graphs and tables on incomes and numbers and types of engineering students. On balance, though, there is not a great deal that is new in this first major chapter.

Sander's discussion of mentalities and lifestyles in the second major chapter, especially the section on leisure, consumerism, family size, and household expenditures, is the most original and creative part of his study. He presents data on engineers' membership in the freemasons and charitable organizations to show they remained outside the enchanted circle of the educated bourgeoisie. He unearths and analyzes detailed government statistics from 1927 for some twenty-five families of engineers on the number of children, spending habits, and leisure activities. He demonstrates that they lived petty bourgeois, lower middle class lives, ranging

somewhere between mid-level civil servants and non-technical white-collar workers. As Sander sees it, though, engineers by and large came to terms with their lot. Ostracized by the established elites and recognizing that joining them was pretty much beyond reach anyway, engineers tended to develop their own, alternative culture. They concentrated on their professional work on the one hand, and, on the other one, found opportunities for self-realization in the developing realm of leisure and an incipient consumer society. „In the final analysis,“ writes Sander, „the everyday life of the graduate engineers with regard to family and leisure demonstrates a largely unproblematic integration into the social status matrix of the interwar period“ (p. 148). It would therefore be difficult to maintain, the argument goes, that engineers as a whole continued to harbor the deep and potent social resentments that would explain political radicalization.

The next chapter examines engineers' socioeconomic interest groups and their politics, which culminated in an increasingly radical critique of the Weimar Republic and an embrace of „utopian“ schemes that seamlessly merged with National Socialism. Given that their level of social frustration was actually quite modest, however, engineers' political radicalism was largely a function of Weimar's overall difficulties in the second half of the 1920s, according to Sander. In other words, and notwithstanding some noteworthy exceptions, engineers' radical politics were more of a short-term phenomenon, which came to them from the wider political culture, than a manifestation of their downward social mobility or their „broken“ professionalization. The author bases this judgment on a close reading of the publications of graduate engineers' socioeconomic interest groups: *Technik und Kultur* of the *Verband Deutscher Diplom-Ingenieure (VDDI)*; *Der leitende Angestellte* of the *Vereinigung der leitenden Angestellten (Vela)*, and the *Bundesblätter* of the *Bund angestellter Chemiker und Ingenieure (Budaci)*. As he does in the first chapter, Sander here presents the reader with a comprehensive overview and systematic comparison of these organizations and their published views. This is an important

and valuable contribution, even if it is perhaps not quite as original as he makes it out to be.

This brings us to the book's shortcomings, which center on a certain selectivity of its focus. Although the title suggests it is concerned with „the engineers,“ the study in truth deals with only half the profession, the graduate engineers trained at the technical universities. The other half, the graduates and alumni of vocational technical institutes, „technical middle schools,“ etc., for all practical purposes disappear from view. This matters, since German engineers are not, and have never been, just the graduate engineers but, like their counterparts in countries such as Britain and the United States, represent a wide range of educational backgrounds and blends of „shop culture“ and „school culture.“ It would be difficult to speak of „broken“ or „failed“ professionalization if that underexposed half of the profession had been included.

With regard to the notion of a „double defensive“ on the part of the graduate engineers, maybe this is a quibble over words, but why speak of defensive when the story is really one of (at most temporarily blocked) offensive? Engineers and engineering were a new phenomenon, trying to muscle their way into the existing social order. This remained just as true in the first half of the twentieth century as it was in the nineteenth. Perhaps it was not a smooth ride on the way up, but engineers were not trying to defend an established socioeconomic position, such as big business or the „German mandarins.“ As for bourgeois contempt for engineers and technology, this is difficult to square with the booming numbers of engineering students of all kinds in Weimar, not just from the lower middle classes, but also from the educated upper middle class. The author explains the discrepancy with the interesting though largely untested hypothesis of evasive action and overflow tactics on the part of bourgeois parents and students, in the face of massive overcrowding in the established professions. But he barely mentions the huge wave of technology enthusiasm, which seized large sections of the public in the 1920s and which authors such as Bernhard Rieger, Peter Fritzsche,

Michael Neufeld, and others have examined in detail.

Sander's claim that other scholars have ignored engineers' associations such as the Budaci, Vela, and VDDI, as well as the middle-school engineers' organization Bund der technischen Angestellten und Beamten (Butab), and that he is the first to systematically examine them, is possibly a bit too strong. In fact, there is relatively recent work on this subject, such as my own study of the intellectual property rights of engineers from the late nineteenth century to the 1950s. This was a crucial battleground for a long time, in which the above-mentioned associations were deeply involved, but which Sander completely ignores. It concerned a struggle that was central to the engineers' professional self-image and identity and that went to the core of their political, social, and economic resentments. The point is that such standing provocations and long-term conflicts potentially call into question the author's argument that one cannot translate socioeconomic frustrations directly into political mobilization.

Such considerations and the careless copy-editing make this ambitious and interesting study somewhat less than is promised in the introduction.

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