

Frank Uekötter. *Von der Rauchplage zur Ökologischen Revolution: Eine Geschichte der Luftverschmutzung in Deutschland und den USA 1880-1970.* Essen: Klartext, 2003. 637 pp. EUR 74.90, cloth, ISBN 978-3-89861-195-4.



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There are only a few studies which research the history of an environmental problem over a long period of time, as does this thesis by the environmental historian Frank Uekötter from Bielefeld. He analyzes the history of air pollution over a period of ninety years and additionally offers an international comparison. This is an immense task, which the author carries out well. The study proves the necessity and value of such long-term studies. Uekötter reveals the long traditions of environmental policy that are still influential, in Germany more so than in the United States. Being aware of these traditions helps us to understand today's environmental policy.

Uekötter's central question is how a society develops strategies to cope with emissions that are perceived to be excessive (p. 17). Hence, he analyzes the conduct of the involved participants, based on Louis Galombos's concept of "Organizational Synthesis" and Mancur Olson's "Logic of Collective Action" (p. 22). The period of time under investigation is divided into three periods, from 1880 to 1914/1917; 1914/1917 to 1950, and 1950 to 1970. Of the variety of air pollution problems the

author concentrates primarily on nuisance smoke, with somewhat less consideration given to sulfur dioxide emissions and automobile exhaust.

One central result of this study is that before World War I, participants in both countries did not differ in how they perceived the problem, but rather in how they expressed it politically (p. 57). This trend was especially true for urbanites: whereas U.S. city-dwellers founded associations and thereby gained influence in determining smoke abatement techniques and control systems, urban residents in Germany did not. To explain this difference, Uekötter refers to Olson's paradox in dealing with common goods: only by defining the common problem of air pollution as their specific problem could the upper strata motivate people to take part in the anti-smoke movement. This explanation is not wrong, but is not really convincing on its own. First of all, the urban upper strata played a central role in smoke abatement in Germany as well, but did not found associations. Secondly, Uekötter explicitly has to abandon Olson's paradox to explain why, in contrast to the United States, in Germany women did not take

part in smoke abatement activities. By explaining that the pure existence of a male-dominated technical bureaucracy hindered female activities (p. 55), he offers another explanation why German urban residents did not found associations—an explanation he himself suggests in the following chapter about bureaucracy: German citizens did not have to create associations because around 1880, an administration to which the citizens could turn was already in place, and legal requirements were in effect to which the officials could refer. In contrast, around 1880 in the United States, no legal requirements were put into effect; local officials were too powerless to allow citizens to expect their support (p. 61-62).

Businessmen in both countries shared some common attitudes: they wanted more information about smoke abatement techniques, and they cooperated with the anti-smoke-movement instead of fundamentally opposing it. Here Uekötter criticizes the predominating opinion in German environmental history. He also notes a central difference, however—the active involvement of American businessmen and their associations in the anti-smoke movement, so that they took part in regulatory agencies and decisions about combating nuisance smoke. In contrast, it was difficult for the movement to intersect with the interests of businessmen in Germany, since they remained passive and did not articulate their goals (pp. 63-68). However, here one should note that German businessmen did exchange their ideas rather well with the civil servants, who had to decide case by case.

There were also important differences regarding the attitudes of engineers in both countries. American engineers considered the political implications of their statements. They emphasized the immediate relation between smoke abatement and energy cost reduction ("smoke means waste"), were involved in the anti-smoke movement, and thereby created for themselves a new profession as smoke inspectors. Due to the dominance of

lawyers in the German administration, a career as civil servant was unattractive for German engineers. Instead, they concentrated on pure research on technical problems, stubbornly following the imperative of scientific precision, as Uekötter claims. Only if explicitly asked by the officials did they recommend techniques for smoke abatement, aimed less at helping the administration increase effectivity than at preventing it from putting unreasonable requirements into effect (p. 74). German engineers considered improvements in coal exploitation to be a logical consequence of technical development—an engineering task in which civil servants should not interfere. In contrast to their American colleagues, they emphasized that the complexity of the relationship between smoke abatement and economical energy consumption and calculated the energy cost reductions achieved by smoke abatement as insignificant (pp. 68-77). That this was a result only achieved by engineers following scientific imperatives, as Uekötter claims, might be questioned. If in Germany energy costs were lower than in the United States, which is indicated, the result of lesser cost reductions would have nothing to do with following scientific imperatives. Additionally, it might well be that German engineers simply accommodated their interests to those of the industrialists, who were less interested in energy utilization, as Uekötter states correctly earlier (p. 65). Furthermore, Uekötter's opinion on the attitude of American engineers is based on articles written in the years during World War I; articles from the same period on the attitudes of German engineers clearly emphasized the economic advantages of smoke-preventing furnaces.[1] In chapter 9, Uekötter points out the importance of World War I as a profound break in the history of air quality conservation. Nevertheless, by analyzing the attitude of engineers, Uekötter stumbles upon a void of research. It clearly would have been beyond the scope of this work to research the wider variety of attitudes among engineers, for example, by

asking how opinions gained broad acceptance and what the counter-opinions were.

Finally, Uekötter refers to political science concepts of network building to explain the differences in attitudes in both countries. In Germany, the anti-smoke debate can be characterized as an "issue network" (Hugh Heclo); in contrast, the American anti-smoke movement should be seen as an "advocacy coalition" (following Paul Sabatier) (pp. 85-90). Using these concepts, the author researches the development of smoke abatement before 1914/1917. The conclusion is already indicated by the chapter titles: whereas in America, the anti-smoke movement reached a pareto-optimum (chapter 4), in Germany its modernization failed (chapter 5). In the United States, a style of regulation developed which was characterized by a mutual communication between businessmen, citizen associations and civil servants, aiming at cooperation and advice instead of punishment. At its heart were the so-called smoke inspectors, introduced first in cities in the early twentieth century. In explicit contrast to the predominant consensus, Uekötter claims smoke inspectors did not function as factotums for businessmen (p. 103). In Uekötter's view, this style of regulation had only advantages for all of the participants without being disadvantageous to other groups (p. 109). However, in Germany, smoke control failed, despite its early strength, which lay in the existence of a differentiated and efficient bureaucracy. In the long run, however, smoke control failed precisely because of its bureaucratic character and the tradition of government intervention.

Uekötter considered primarily the following factors as responsible for the failure: constant confusion as to the competence of particular officials; regulation of ever higher chimneys as the most popular smoke abatement measure; a failure to coordinate effective solutions among administrators; the division of the debate between public and administrative sectors; the consensus-oriented approach of civil servants; the slowness

of procedures; the difficult relationship between jurists and engineers; and finally, the poor reputation of German civil servants compared to that of American smoke inspectors. The two most important hindering factors and, simultaneously biggest differences to the situation in the United States were linking smoke abatement with economical energy consumption and the absence of citizen associations. That only the German smoke control failed due to the difference between collective and individual rationality, as the author claims, has to be questioned (p. 147).

Referring to the theory of the pareto-optimum to come to such conclusions is absolutely inspiring. However, this result is not well founded. For example, Uekötter's explanations do not exclude the possibility that in the United States as well as Germany, businessmen or others might have considered themselves victims. Nor is there proof that Germans could not even think about a pareto-optimal strategy. Since Uekötter states that Germany's mode of control tried to achieve consensus among all participants in smoke abatement (p. 124), and since he rejects the leading opinion in Germany's environmental history, which claims that businessmen and industry-friendly officials rejected it (p. 146), does this information not indicate that participants in smoke abatement tried to act pareto-optimally in Germany as well? It is not comprehensible why there should have been only losers in Germany (p. 146).

These doubts about his central conclusion are in part due to the fact that the author provides two criteria for his conclusion rather late in the book, in chapter 6. These criteria are effectiveness (actual improvements gained in smoke abatement) and efficiency (the relationship between political efforts and improvements gained). These criteria are not convincing, explaining why the author's explanations are somewhat contradictory. At one point, Uekötter states that, comparing the most successful cities, improvements in smoke abatement were at the same level in both coun-

tries. In another place he praises Germany because there was at least a minimum of smoke control throughout the country whereas, in the United States, even bigger cities did not have any controls (p. 150). At the same time, he evaluates Germany's effectiveness as rather modest, but contrasts it with a reduction in smoke nuisance of about 70 percent in the United States, which was estimated by contemporary anti-smoke-associations themselves (p. 151). Finally, Uekötter himself has to admit that, comparisons of the effectiveness of both systems fail due to problems regarding sources. In contrast, he is undoubtedly sure that the American style was more efficient, because smoke control agencies were established and participants negotiated as an advocacy coalition. However, this claim is asserted rather than proven. For example, Uekötter's explanations do not prove that the United States was successful because the smoke abatement techniques imposed actually fought the causes of the problem rather than merely abating symptoms. Nor does he prove that stronger threshold values were imposed (in following chapters Uekötter states that Germany's pollution threshold values were stronger). To make the evaluation of the effectiveness and efficiency of both regulatory styles more convincing, it would have been helpful to develop differentiated criteria and to concentrate on finding more appropriate sources. The sources and literature used here indicate that the result is based on estimates by anti-smoke associations. But even here a deeper differentiation would have been necessary for a more comprehensible argumentation. So, the impression left is that Uekötter's conclusion is primarily based on his personal preferences for the powerful American citizen associations.

In the following chapters, Uekötter describes the history of smoke control through 1950. In the United States (chapters 7 and 8), one goal of the smoke abatement movement was to maintain the status quo. Another goal was to reduce domestic smoke emissions. In 1940, St. Louis put the first

such law into effect. In Germany (chapter 9), the VDI (the German Association of Engineers, the German equivalent of the ASME) got involved in smoke control policymaking--the only noteworthy change. Everything else remained the same. Civil servants interpreted the regulations very differently. For this reason, Uekötter rejects the prevailing opinion among German environmental historians, who claim that civil servants decided constantly in favor of businessmen (p. 211). In sum, it was a period of consensus and therefore of stagnation.

In the United States during the 1950s and 1960s, the public demanded improvements in pollution control (pp. 287-291), partly due to the growing suburbs. Slowly, pollution threshold values were put into effect, but often lagged behind the level that Germany had already reached in the 1920s (p. 323). Since the 1950s, an alliance very atypical for the United States developed between businessmen and officials, the former being dominant. Simultaneously, the relationship between local officials and the public became more distant (p. 330). While businessmen and officials searched for technically and economically feasible solutions, the public discussion focused on the consequences of air pollution and was dominated by fears about the ecological crisis (p. 349). Uekötter answers the question of the causes of this change in mentality vaguely; he says several factors must be taken into consideration, but to date this question cannot be regarded as completely solved (pp. 372-373). But he vehemently rejects the explanation of the rise of the modern environmental movement with the rise of post-material values put forth by Ronald Inglehart. Researchers ignore, according to Uekötter, that the modern environmental movement did not discover air pollution as a problem. Instead, he states that a consciousness regarding air pollution has existed since the Progressive Era, and in the 1950s became more urgent (p. 289). Also, the social basis of the protest against air pollution has broadened since the 1940s, without founding associations (p. 291).

Since the 1950s, local air pollution control has been in a crisis, which ended in 1969/70, with an ecological big bang, as Uekötter terms it. However, it was not the environmental movement that forced reforms of air pollution control, but two independent developments. First, regarding the amendment of the Air Quality Act: the National Air Pollution Control Administration used this procedure to organize the expression of the public's opinion (p. 391). That businessmen were not prepared for this development, Uekötter considers, is the biggest mistake in the history of American air pollution control (p. 389). Secondly, in 1970, in the context of the upcoming presidential election campaign, President Nixon put the Clean Air Act into effect. Nevertheless, Uekötter states, 1970 can not be declared as the beginning of modern American environmental politics, as is the predominating opinion. 1970 was instead the end of traditional local pollution control and the alliance of businessmen and officials (pp. 285-286). The reasons why this alliance ended so abruptly have much to do with this alliance having hindered reforms for a long time (p. 401). In contrast, in Germany, a radical break with tradition did not occur. Instead, administrative pollution control, which had developed since the late nineteenth century, was developed further and became more efficient (pp. 404, 451). Even the environmental policies of the SPD/FDP government starting in 1969, including the air pollution law of 1974, fit into the pattern of only small steps of reforms without changing the tradition fundamentally, a pattern which Uekötter calls "defensive modernization" (pp. 451, 486). In this, Uekötter also challenges the consensus among researchers, but in this case he is right.

Since the 1950s, the German public had also demanded improved air pollution control (p. 412). Businessmen criticized exaggerated public protests but did not fundamentally oppose controls, although they did not consider such controls part of their public relations, as their American colleagues did (p. 428). Businessmen had to deal

with self-confident, independent civil servants. Although in the United States, smoke abatement still dominated regulation policy, in Germany, the administration began to consider air pollution problems as a whole. Some engaged officials forced the amendment of industrial regulations as well as the enactment of technical requirements for air pollution control, the "TA LUFT," in 1964. In contrast to the United States, a distance between officials and the public did not develop in Germany (p. 487). In sum, Uekötter considers the German style of air pollution control during this period to have been more flexible and efficient than that of the United States (p. 451).

In his final chapter, Uekötter sums up by saying that there have indeed been national methods in pollution regulation. But, on the other hand, he emphasizes that a national style of air pollution regulation always means having a variety of regulatory possibilities and does not mean reducing the scope of regulation (p. 495). A general statement about which style of regulation was more effective, Uekötter says, cannot be made.

There is almost no dominant opinion in the research of both countries that Uekötter did not question. Sometimes his statements are too general to be absolutely convincing. However, his criticisms undoubtedly point in the right direction, and therefore are revealing. His epilogue about the benefits and significance of environmental history makes one think. This book is based on an immense amount of source and literature research and is well written. In sum, Uekötter's book fills a big void in environmental history.

Note

[1]. Monika Bergmeier, "The History of Waste Energy Recovery in Germany since 1920," *Energy* 28 (2003): pp. 1359-1374.

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