Scientific Controversies as a Source of Environmental Information:

The Case of Sulfate Odor from a Swedish Paper Mill in the Early 20th Century

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Abstract

During the last decades scientific controversies have become increasingly common in the public debate, and they cover fields such as criminal care, medicine, and, not the least, environmental issues. Such controversies are normally characterized by at least two opposing sides, which all rely on scientific arguments to promote their view. Sociologists and science theorists have shown an increased interest in the explicit study of scientific controversies, not the least since such studies highlight the uncertainties underlying any scientific "fact" as well as the notion that scientists seldom are entirely objective but are instead affected by the surrounding social and political context. In this paper we argue that the study of scientific controversies over environmental issues is not only important for understanding the scientific process itself: it also represents an important source of environmental information for the public and for policy makers and thus shapes environmental values and ultimately policy. Most importantly perhaps, by highlighting the uncertainties of environmental science, people are encouraged to focus their attention on environmental risks and tradeoffs and not only on finding the "final" answer to the problem faced. In this paper we exemplify this notion by considering an early conflict, which lasted over the period 1904-1911, and that involved a Swedish paper mill on the one hand and a local public opinion on the other. The complaints focused on water pollution and, in particular, on the "unhealthy" sulfate odor. At the end of this conflict (in 1910) a scientific controversy arose between a professor of chemistry at the Royal Institute of Technology, Stockholm, and a chemical expert of a local Health Board in Sweden. The controversy was mainly about the causes and effects of the sulfate odor, and it highlights how little contemporary scientists knew about what caused this air pollution and how this could be mitigated. The controversy came to halt in 1911 with the verdict of the Swedish supreme administration court, which enjoined the mill to build a large smokestack to remove the nasty-smelling gases away from the nearby city. The paper analyses how the scientific controversy affected the public's view of the sulfate problem and to what extent the controversy impacted on the final verdict.

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