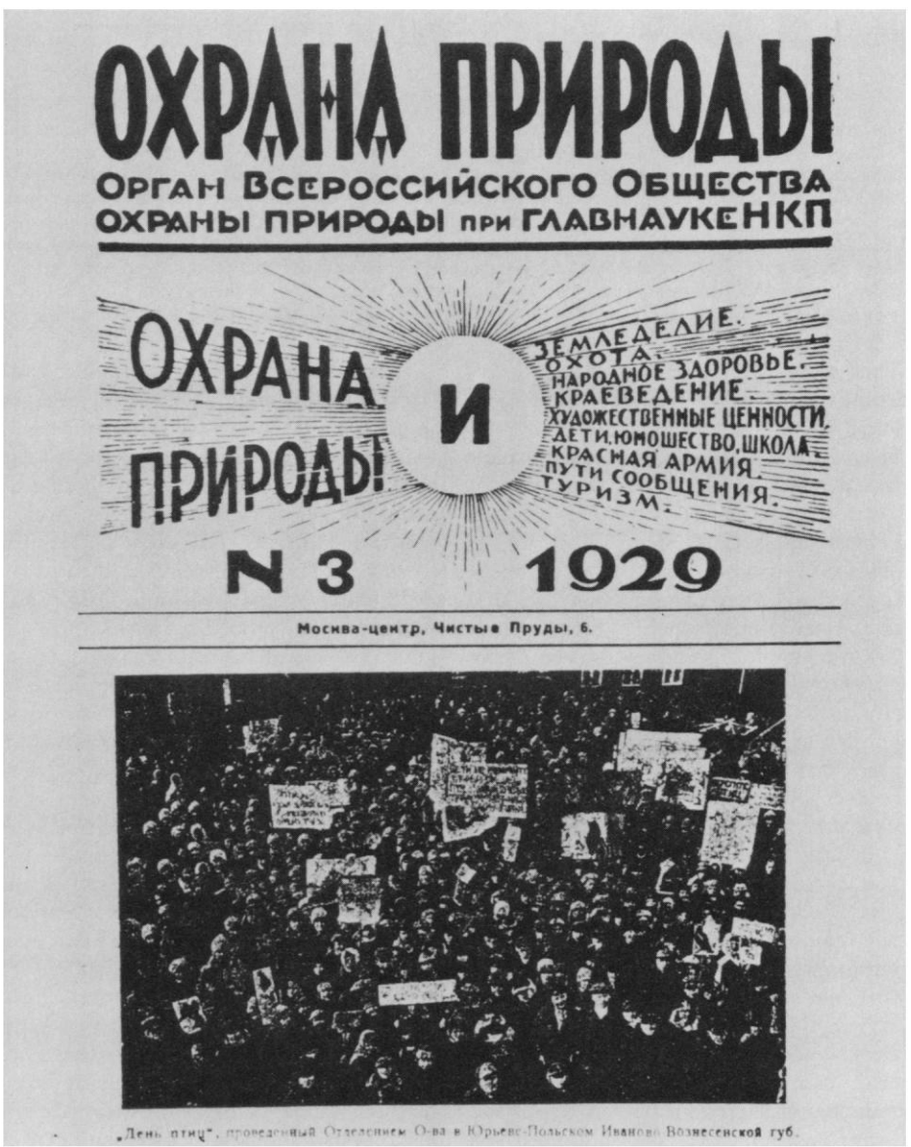
Conservation and Regime

Models of Nature. Ecology, Conservation, and Cultural Revolution in Soviet Russia. DOUGLAS R. WEINER. Indiana University Press, Bloomington, 1988. xvi, 312 pp. + plates. $35. Indiana-Michigan Series in Russian and East European Studies.

A capitalist system, it has often been said, makes the problems of conservation intractable, for beggar-my-neighbor is a built-in principle of individual enterprise in such a system. A storekeeper can as soon be expected to charge himself for the maintenance of his competitors' inventories as for their share of water, air, or elbow room. Sometimes that accusation of capitalism is perceived as a law of nature (see G. Hardin, "The tragedy of the commons," *Science* **162**, 1243 [1968]), but socialists claim to have a remedy in any case. Collective ownership would turn everyone to cooperation and conservation; "the people" would not squander or ruin what it held in common. That conviction was brought to bear in the construction of the Soviet system; during their first 15 years of power the Bolsheviks greatly increased the spaces set aside for nature preserves (*zapovedniki*) and fostered a significant expansion of ecological studies. Indeed, Douglas Weiner has found in that period of Soviet history what he believes to be the world's first demand that environmental impact studies should precede any major project. A conference of Soviet conservationists made such a demand in 1929—at the start of the first Five Year Plan for forced industrialization, which doomed any conservation movement. Not only avant-garde proposals to make lumber companies and dambuilders pause for impact studies but even old-fashioned commitments to inviolate nature preserves and to objective ecological science were brutally swept aside. Weiner's detailed history stops in 1933, but at the end he briefly points ahead to the complete disaster that the conservation movement suffered in the early 1950s, when the Stalin Plan for the Great Transformation of Nature was enacted. Evidently something went terribly wrong with "the people's" inherent interest in conservation.

Maybe the modern hunger for "development" is more compelling than the varied social systems through which it works. Reckless waste of resources and environmental ruin are notorious facts of modern life whether the religion of "development" captivates a country's leaders in its capitalist or its socialist versions. But it is important to ask which type of social system, at what stages in its historical evolution, shows the greater or the lesser tendency to promote conservation as against waste and ruin. Weiner does not confront that large question, but he provides essential information for those who would like to consider it. In a very detailed analysis of the early Soviet experience he shows which institutions and clusters of individuals took increasingly polarized positions on major problems of conservation. The basic pattern that he discloses is a fairly small constituency of scientists and intellectuals mobilized for conservation under the aegis of the Commissariat of Education. Pitted against them was an irresistible constituency of economic and political bosses, mobilized through such agencies as the Commissariats of Agriculture and of Foreign Trade and the Supreme Council of the National Economy, swept up in a rising fury for industrialization. Weiner analyzes the rival ideologies at work on both sides, with special attention to the entanglement of science and ideologies, since everyone claimed scientific authority, whether for conservation in its varied forms or for a Soviet version of the Kleenex culture.

That compulsive invocation of science



Okhrana Prirody, organ of the All-Russian Society for Conservation. The society, founded in 1924, "had a mandate to 'promote in every way possible the practical realization of conservation through the transmission of information and by awakening interest in it on the part of society in general.' " Among its activities was the organization of Bird Day, shown here being "celebrated by thousands in Iur'ev-Pol'ski, Ivanovo-Voznesensk province." [From *Models of Nature*]

"Sika deer from Manchuria pause along the water's edge," a prerevolutionary postcard from the Askania-Nova nature reserve in the Ukraine. Established as a nature reserve in 1898, Askania-Nova, "which was in the direct line of the periodic advances of all contending forces in the Civil War," was in a state of devastation by 1921. In its subsequent history "all of the salient problems and most crucial developments of Soviet conservation and ecology were interwoven." After debates at the First All-Union Conservation Congress in 1933, the alternatives for the conservation cause in the Soviet Union "were clearly symbolized by two images: Askania as the ecological research center it had been, briefly, under Stanchinskii, and Askania as the hybridization and acclimatization farm it had now become." [From *Models of Nature*]

seems to me the most distinctively Soviet feature of the history Weiner recounts. The defeat of those who would prudently conserve by those who would ruthlessly exploit natural resources is a common pattern in "developing" countries, regardless of their political and social systems. Back in the 1840s a Manchester industrialist answered Engels's objection to the smoky air and filthy water of that pioneer industrial center with this simple argument: "And yet, there is a great deal of money made here. Good day, Sir!" The analogous bosses of Soviet industrialization pointed to national power rather than profits for their unanswerable argument, but they were unusual nationalists in their passion for universal justification by appeals to science. The Soviet rush to typically modern spoliation and pollution was draped with unique claims of a scientifically guided march toward the planned transformation of nature by its crowning glory, the rational mind of social man. Forests would be leveled here and created there; rivers would be dammed and deserts watered; harmful flora and fauna would be eradicated or altered for human benefit and useful ones improved and multiplied—all according to the new Soviet science of creative Darwinism (also known as Michurinism or Lysenkoism), fostered by the teaching of Marx, Engels, Lenin, and Stalin.

Weiner has shed new light on this bizarre twist of the scientific intellect as it emerged through interaction with an especially brutal crusade for maximum industrial growth. He shows how the twist appeared in ecological studies before it came to genetics, how it was invented by I. I. Prezent before that worthy became Lysenko's chief theorist. In my opinion Lysenko's claim to priority still stands; *Pravda* certified his claim on 7 August 1927—in defiance of expert opinion, with the aid of a revolutionary approach to plant physiology, he raised winter peas in Azerbaidjan—and experts in plant physiology were soon struggling to protect their discipline against pseudorevolutionary nonscience armed with official endorsements in a one-party state. This issue of priority is a very minor point, unless one seeks in the clustering of nearly simultaneous inventions the social and intellectual conditions that foster them (see R. K. Merton, *The Sociology of Science*, University of Chicago Press, 1973, section 4). Weiner points to such conditions: the fury for industrialization, the Stalinist insistence that chiefs of "practice" set standards for truth in science, the institutionalization of zealotry and terror, the weakness of the educated middle class that might have generated countervailing pressures. But he portrays the crusaders against ecological science as self-seeking villains rather than zealous agents of the Stalinist mentality, as cynical opportunists rather than militant ignoramuses.

That may prove to be an accurate analysis, if and when it becomes possible to examine the papers of such men as Prezent and other archival materials. But even without such evidence, Weiner could have been more thoughtful in his analysis. I admired his witty comment that one of the crusaders against ecological science was "an authentic charlatan," while another "was merely playing at it." I wish he had stopped to consider what an authentic charlatan might be. Does the creature know exactly where he is departing from authentic knowledge, precisely how he is obscuring rational inquiry? He may be—in the taxonomy that I worked out—a militant ignoramus, or he may be an ignorant opportunist, both of whom are to be distinguished from the learned opportunist and also from the pliable man of principle. With that last type we have probably left charlatanry behind us, as we certainly have with the intransigent specialist and with the boldest type of all, the Varangian, as a Soviet journalist called the specialist who ventures out of his field to defend genuine science elsewhere (D. Joravsky, *The Lysenko Affair*, University of Chicago Press, 1987, pp. 223-27). Weiner's taxonomy may be better as well as simpler than mine. I wish he had argued its merits with specific reference to such specimens as Prezent, and, at the other extreme, to such scientists as V. V. Stanchinskii, the martyred hero of Soviet ecology, and V. N. Makarov, who put on the "protective coloration" of Stalinist ideology in defense of conservation, a policy that Weiner judges to have been a failure.

At issue in such classifications and judgments is not only an understanding of the variable personalities and minds of scientists, whether genuine or pseudo, but also an understanding of the Stalinist bosses with whom they interacted. The bosses' passion for scientific justification of their intuitions fostered charlatanry, but at the same time it left some room for genuine science. At the grand climax of ecological charlatanry in the early 1950s, with Stalin still in power, V. N. Sukachev, an eminent ecologist who practiced "protective coloration," was commissioned to do a check-up on the Lysenkoite recipe for creating shelter belts to tame the harsh Soviet climate. His study revealed the wasteful futility of the recipe and started the bosses on their crapulent withdrawal from addiction to pseudoscience. Evidently there was some capacity for critical thought within the Stalinist mentality. As I finished Weiner's admirable book, I was left wondering whether Prezent, and the others who brought that mentality into ecology, shared

any of the critical capacity with the bosses whom they beguiled for so long. Perhaps not. I look forward to Weiner's sequel, and hope that he will have access to archival evidence in an age of continuing glasnost.

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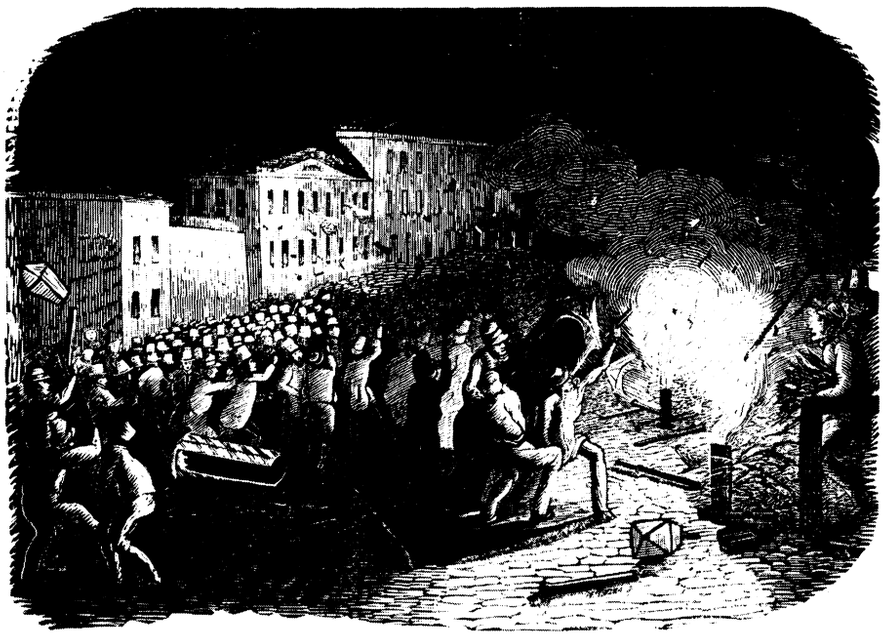
Lighting and Its Uses

Disenchanted Night. The Industrialization of Light in the Nineteenth Century. WOLFGANG SCHIVELBUSCH. University of California Press, Berkeley, 1988. x, 227 pp., illus. $22.50. Translated from the German edition (Munich, 1983) by Angela Davies.



Lantern smashing in Vienna, 1848. Street lanterns, seen as symbols of the ancient régime, had been used as gallows in the French Revolution of 1789. In the Paris revolution of 1830, "this activity was replaced by lantern smashing." Not merely a symbolic gesture, lantern smashing was a practical strategy in that it "erected a wall of darkness . . . protecting an area from incursion by government forces." By 1848, however, oil lanterns had been replaced by gaslights, and "a new way of putting out the light, appropriate to the new technology, had to aim at shutting down the gas-works." Little lantern smashing occurred in Paris in 1848; that which occurred elsewhere, with disastrous results for the rebels owing to the fact that breaking gas lanterns freed the flame to create more illumination, can be attributed to "relative lack of revolutionary experience." [From *Disenchanted Night*]

Few achievements have emblemized modern progress more powerfully than the spread of artificial light. The capacity to control and then conquer darkness has, for 150 years now, been central to the world's urbanization and industrialization. But pervasive and influential as the quest for more light has been, few historians have examined its implications as a larger movement.

In this fascinating brief book Wolfgang Schivelbusch reviews the attitudes and perceptions first epitomized and then transformed by industrialized light. The opening portion of the well-illustrated text considers, in fewer than 75 pages, landmark events in the modern history of the lamp: the development of candles, the innovations of Argand, the coming of gaslight, and, as a technological and cultural climax, the appearance of the electric light. The remaining sections, most of the book in fact, are taken up with areas of life—the street, the drawing room, and the stage—where increased and changing forms of illumination made for enormous differences. Throughout Schivelbusch is concerned with human reactions and social uses, the often unpredictable impact of novel lighting and its expressive and symbolic as well as utilitarian and instrumental applications.

This is not a continuous narrative or a rigorously analytical reconstruction of technological experiments. Instead the book is studded with *aperçus*, anecdotes, quotations, and descriptions, most of them designed to challenge popular assumptions about the character of innovation. Thus Schivelbusch spends a good deal of time explaining how gas and electrical lighting mimicked one another. Instead of seeing artificial illumination as a "simple straight line" of improvement, Schivelbusch demonstrates how old technologies infiltrated new ones, how Edison's incandescent lamp was "nothing but a methodical imitation of gaslight in a new medium," how the light switch's origins in the gas-tap were clearly visible in its turning mechanism used for many years before the quick-break switch appeared. Schivelbusch also develops analogies between the growth of corporate monopoly capitalism and the centralization of energy, proposing that widespread resistance to both faded along with individualistic enterprise.

Perhaps the most arresting elements of the book have to do with its catalogue of ambivalencies. As Schivelbusch reviews the multiple uses of illumination he conjures up a lighting of liberation and a lighting of surveillance, a lighting of revolution and a lighting of repression, a lighting of diversity and a lighting of standardization, often indeed in the very same technologies. The metaphor of the light is traced through a series of heroic, monumental, and utopian schemes, ranging from the great arc light towers constructed in American cities to the Tower of the Sun proposed for Paris, a competitor to the Eiffel Tower that was meant to illuminate the entire city and to contain, in its great trunk, a museum of electricity. The history of street lighting, store lighting, advertising, and theater are also tapped for instructive and evocative details.

This is not to say that all insights are equally persuasive. Like his subject, the author sometimes dazzles rather than brightens. Although electricity depended on central power stations, its applications, in the areas of traction for example, were not marketed as monuments to the concentration that Schivelbusch finds its most significant characteristic but as avenues to decentralization, the cleaner, cheaper, more efficient transport promising to bring to towns and villages the advantages of urban life. And electricity was not greeted entirely with the wondering unanimity that Schivelbusch posits. Its many advantages over evil-smelling gas notwithstanding, fears of shock and electrocution, of explosion and collective disaster, permeate whole areas of popular culture in the late 19th century.

But the point of this book is not to develop any single argument. Rather it is a readable, highly personal, often original, and deliberately provocative attempt to integrate the story of artificial light with the history of modern life. Its audacious if occasionally wrongheaded hypotheses about these relationships should provoke amusement, disagreement, surprise, and ultimately gratitude to the author for wrapping his charms in so modest, unassuming, and concise a literary package.

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