

ON THE COVER

“The Last Steam Railroad in America”

Shaffers Crossing, Roanoke, Virginia, 1958

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September 11 didn't change everything, but it changed a lot. Consider, for example, what it changed for those of us who take pictures of the built environment. No matter how fatuous yellow and orange alerts may seem, photographing bridges, mills, or railroads can look suspicious, and it will often attract the attention of the authorities. Now, for most historians, cameras are only a hobby. But not always. Take John Stilgoe, author of the prizewinning *Metropolitan Corridor: Railroads and the American Scene* (1983) and a scholar who, in his own words, has “made photographs all over the United States as part of my employment at Harvard University.” Having been hassled in recent times, Stilgoe reports that he has “been legally briefed by both my own attorneys and those of my employer.”

To those for whom taking photos is not connected with their employment, however, and who don't have recourse to Harvard lawyers—that is, hobbyists—Stilgoe recommends a book published, it so happens, in September 2001; the author is a Portland, Oregon, attorney named Bert P. Krages, and it is titled *Legal Handbook for Photographers: The Rights and Liabilities of Making Images*. Legalities, Krages explains, are “premised on balancing the right of photographers to document the world against the rights of others to enjoy their privacy and property.” Photographers who do not understand “what, where, and when they can photograph” tend toward “blissful ignorance, extreme caution, or reckless abandon.” Which brings me to the image on the cover of this issue.

Dr. Post is author of *Technology, Transport, and Travel in American History*, a booklet in the SHOT/AHA series. He writes: “Much information in this essay comes from articles penned for *Trains* magazine by its superlative editor David P. Morgan, and I am pleased to have been awarded a prize that honors Morgan's memory in 2000. My thanks to Rosalind Williams for giving me her late father's copy of *The Last Steam Railroad in America: Photographs by O. Winston Link*, thereby reminding me of my own photo, long consigned to the attic.”

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In the fall of 1958 I went on the road. My prophet was not so much Jack Kerouac as it was Jack's pal Dean Moriarty, in whose life there "was always a schedule." My schedule entailed tracking down various sorts of devices that Lewis Mumford had dubbed paleotechnic, especially steam railroad locomotives. There weren't many of these still operating, not in the United States anyway. Official statistics listed 1,488 extant, but a majority would never again turn a wheel under power. In the preceding thirty years the number had fallen precipitously: 1,488 in 1958 compared with 34,581 in 1948, 42,210 in 1938, and 67,563 in 1928. (During the same period of time, the number of diesel locomotives had gone from a handful to nearly 30,000.) I found steam in Durango and Cheyenne, Duluth and Detroit. By far the largest number of locomotives still in daily service, however, were operated by the Norfolk and Western Railway out of Williamson, West Virginia, and Roanoke, Virginia, over the Blue Ridge Mountains to the east and on through Ohio to the west. There were more than 250. Even here the end seemed near, though the timetable was vague. The last years of N&W steam were later made famous by O. Winston Link, whose stunning nighttime flash photos would eventually hang in the Museum of Modern Art. But management was not making any big deal of the impending transition—quite the contrary. When western and midwestern railroads first began substituting diesels for steam—whether transcontinental lines like the Santa Fe or regionals like the Monon in Indiana—they did so with a flourish. For bosses and stockholders, if not for workers in a great variety of occupations, "dieselization" represented technological progress, pure and simple; one heard it said time and again that diesels "saved railroads from bankruptcy." Certain lines had to step lightly, however, lines for which coal provided a large share of the traffic—the Illinois Central and the Pennsylvania, for example, and especially the "Pocahontas" roads, the Chesapeake and Ohio (C&O), the Norfolk and Western (N&W), and the Virginian. These had to weigh the goodwill of the mining industry against the ever more obvious advantages of diesels, and sugarcoat the transition with pledges to keep steam "wherever it was economically justified."

For a short time after World War II, articles appeared in *Railroad Magazine* and *Trains* musing about whether the diesel was really "here to stay." By the late 1940s, the only question was how long steam would stay. One diesel manufacturer alone, the Electro-Motive Division of General Motors (EMD) was nearing its ten-thousandth unit. The economics of dieselization were becoming overwhelmingly seductive, not least to the Allegheny Corporation, which controlled the C&O. It was not just the disparity between the thermal efficiency of oil and coal (the Santa Fe, the first railroad to assign diesels to main-line freight service regularly, in 1938, burned oil in many of its steam locomotives already); there were all manner of lopsided contrasts. Diesels could cover more miles without stopping for service, and, when they did stop, servicing took much less time. They were

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Shaffers Crossing was the site of the Norfolk and Western's shop complex in Roanoke, Virginia, where four major operating divisions converged. The switcher seen here, purchased from the Chesapeake and Ohio in 1950, is pulling one of the Norfolk and Western's road locomotives (out of sight to the right) into the high-tech servicing facility the company dubbed a "lubritorium." A penny for the thoughts of the workmen. (Author's photo.)

modular; when units were coupled together, there was no need for extra crewmen. Diesels also "saved" labor in innumerable other ways: the labor of track workers and shop workers and the people who tended ash pits, tip-ple, and water stops. And by reducing the demand for coal they obviously saved the labor of miners; in management's view, the railroads had too long been held hostage by John L. Lewis's United Mine Workers.

The C&O hauled more coal than any other railroad in the world—though the N&W was close—and coal had assured it unfailing profits ever since 1883. Hence, when C&O began to dieselize, it kept quiet—as *Trains* editor David P. Morgan put it—about "what any other road would regard as an advertising natural." Management had informed mine operators of its plans, and, so the story goes, the operators had said, "O.K., but don't talk about it." This was also the case with the N&W in 1958, though I did not know it at the time.

While not as extensive (2,134 miles, compared to 5,116), the N&W was similar to the C&O in many respects; both reached export facilities at Norfolk, and both made western connections after tapping rich West Virginia coalfields in the vicinity of the Big Sandy River. The N&W's coal traffic in the mid-1950s exceeded 50 million tons annually. Before the war both railroads had pushed the development of extremely powerful locomotives. The C&O's sixty articulated "Allegheny" types were rated at 7,000 horsepower; *Trains* editor Morgan noted that the Allegheny was regarded as "the most perfectly engineered articulated ever built, bar none" (one has long provided a cornerstone for the displays at the Henry Ford Museum). And yet it was not the C&O that was perceived as having a unique "way" with steam locomotives, but rather the N&W. Because diesels transmitted their power first to generators and then to the wheels via electric motors—they were properly termed diesel-electrics—the expression in the industry was that diesels amounted to "electrification without wires." Another expression was that the N&W had in effect "dieselized with steam locomotives," meaning that it had not only perfected high-performance designs for demanding tasks but had also provided servicing facilities of the same high caliber as the new facilities for diesels on other roads.

With rare exceptions, the N&W's locomotives came from its own shops, each having been imbued with "a soul of its own," in Emile Zola's expression. As most other U.S. roads were cutting up their last steam power by the mid-1950s, steam still provided the backbone not only of the N&W's freight and passenger service but also its switching—which other roads typically dieselized first of all (urban smoke abatement often being a key issue). This was the case with the C&O, which bought thirty new steam switchers from the Baldwin Locomotive Works in 1948 and then two years later did an about-face, substituting diesels and selling the steamers to the N&W for less than half their cost. The N&W followed up with forty-five identical home-built locomotives, the last of them outshopped in December 1953.

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The switch engine in the photo is one that the N&W purchased from the C&O in 1950. Right after I snapped this shot on the morning of 15 October 1958, I was collared by two company policemen, interrogated, and given a lecture about “the rights of others to enjoy their privacy and property.” Such a rousting was a completely new experience. In blissful ignorance (per Bert Krages), I had been wandering around California rail yards with my Argus C-3 for years, even climbing aboard slow-moving freight trains, and nobody had paid the slightest attention. Only later did I come to realize how politically sensitive the matter of its motive-power roster was to the N&W’s management. The last thing it wanted was a public perception that it was biting the hand that fed it, its coal shippers. In fact, the N&W had refrained from doing that for an exceptionally long time. The C&O was scrapping nearly new Alleghenies by 1954, and was almost fully dieselized before the N&W placed its first small order with EMD in 1955. Initially, the idea was that diesels would ply only branch lines. But not long afterwards the N&W abandoned its program to develop a coal-burning steam-turbine locomotive; the experimental prototype, dubbed *Jawn Henry*, could haul the same tonnage as conventional steam power while burning 30 percent less coal, but it was fraught with maintenance headaches that in the end proved overwhelming. A few months before I took my photo, N&W had budgeted fifty million dollars for the purchase of 268 diesels. With the 198 it already had by then, this would spell finis for coal-burning power on the entire system.

The plan was not exactly a secret, but neither was there any fanfare about its implementation. Both were the work of Stuart Saunders, who became the N&W’s chief executive in April 1958. Even though he is best remembered for his role in the Penn Central debacle of 1970, at the time the largest business failure in American history, Saunders made a significant impact on the N&W before that. A notably unsentimental man, he set about getting rid of steam more quickly than outsiders had been led to expect. Because of this, management was nervous about anyone snooping around and taking photos of locomotives or their infrastructure—anyone other than the supremely gifted O. Winston Link, anyway.

Eugene Ferguson once wrote in these pages about the “call of a steam locomotive’s whistle” being evidence that profit was not necessarily central to the devices of “men’s minds and muscles.” But profit surely was central to the mind of Stuart Sanders, and within eighteen months of my visit to Shaffers Crossing such whistles were silenced on the N&W, though they would be heard longer in a few other parts of the United States—including the Rocky Mountains and, oddly, on the commuter lines from Detroit to Pontiac and Durand, Michigan. By 1960 they were all but nonexistent in Canada, where six years before there had been nearly five thousand. By 1968 they would be gone from British Rail, too, except for a narrow-gauge maverick in Wales. In France, SNCF outshopped its last steam locomotive

in 1955 and operated its last in 1975. The date for the Deutschbahn was 1978. During the next decade or so, steam also disappeared from Eastern Europe (lastly from East Germany and Poland) and then from South Africa, Australia, India. And shortly it will be gone from China, where the Ji-Tong Railway in Inner Mongolia has been tagged "Big Steam's Last Stand."

China is among the world's top coal-producing nations, and this transition is politically sensitive, though not in quite the same way as it was in Appalachia a half-century ago. As with steam locomotives in the Soviet Union in the 1960s—an embarrassment to the Kremlin because there were still so many of them when they were vanishing in the West—in China the phase-out is often rationalized on the grounds that steam does not accord with "the modern socialist image." In a splendid irony, before the Ministry of Railways converted its Datong Locomotive Works to diesel production in 1988, it actually exported steam locomotives to the United States, for service on tourist lines.

Which is by way of confessing that I have used words like "vanishing" too casually. There are and will continue to be steam locomotives operating in many parts of the world for the enjoyment of excursionists and buffs, and even, as in Patagonia, hauling freight; *Surviving World Steam Locomotives*, a database compiled by James Hefner (available on CD-ROM at www.pernet.net/~james1/us_steam/) reports several thousand, all told. According to SteamCentral.com, in 2003 there are 149 in the U.S., excluding theme parks. (For perspective, in *Dropping the Fire: The Decline and Fall of the Steam Locomotive* [1999], Philip Atkins estimates an all-time total worldwide of 640,000, about 177,000 of them built in the United States.) From 1982 to 1994, two big N&W locomotives that had somehow survived Stuart Saunders were steamed up for excursions, but one of these now rests silently in the Virginia Museum of Transportation, not far from Shaffers Crossing, and the other lies in disarray in the Roanoke shops. Under Saunders, the N&W also began acquiring other railroads—first being the Virginian—and currently anchors one of the nation's handful of megasystems, the Norfolk Southern, with 21,500 miles of line and a huge fleet of locomotives, every one of them a diesel, of course.

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