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# Not easy being green

MIT historian Harriet Ritvo explains how a battle to save an English lake helped found modern environmentalism — but might worry greens today

Peter Dizikes, MIT News Office

triumphed, changing the

natural landscape.

today's news

## Fish and chips



Valdivia y Alvarado, a research affiliate in the Department of Mechanical Engineering, works in his lab on a robotic fish he created with Professor Kamal Youcef-Toumi. The robot is designed to more easily maneuver into areas where traditional underwater autonomous vehicles cannot go. Patrick Gillooly

New robots mimic fish's swimming and could explore areas where traditional underwater autonomous vehicles can't currently go.

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It was a battle	to save a	
cherished piece of nature		Cappe meeting things
from the forces of economic		
growth. Preservationists		
formed groups to present		
their case, and public figures		
across the country spoke up		
about the matter. Yet in the		
end, industry and commerce		
triumphed changing the		

The sun rises in England's Lake District.

Offshore oil drilling? Mountain-top coal mining? Actually, this was the controversy in the 1870s over Thirlmere, a picturesque body of water in Britain's Lake District. The city of Manchester, 100 miles away, wanted to dam Thirlmere and create a reservoir to meet its growing water needs. This infuriated local activists and generated national debate.

If this story sounds familiar, it should: The fight over Thirlmere created a "template for subsequent environmental struggles" we still see today, writes Harriet Ritvo, the Arthur Conner Professor of History at MIT. Ritvo's new book, The Dawn of Green: Manchester, Thirlmere, and Modern Environmentalism, published this fall by the University of Chicago Press, explores this episode and its long-term impact.

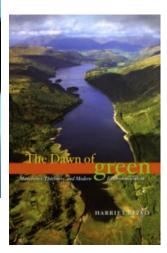
Thirlmere, Ritvo asserts, was the first political battle over nature that involved most of the elements we see in modern environmental confrontations: Most opponents of the dam were not locals directly affected by the project, but instead conservation-minded activists making the novel argument that the public could claim a kind of property right on nature. "Thirlmere was the beginning of a sense that the public could fight to preserve the resources it enjoyed," says Ritvo. "It is striking how similar the positions held then are to the positions people espouse today."

Yet Thirlmere also contains a jarring message for environmentalist readers today: Their side lost. As someone teaching environmental history, says Ritvo, "It is very sobering."

#### From England to California

With Manchester growing rapidly, the city announced plans in 1877 to buy up local property around Thirlmere and dam it, creating a large reservoir that would raise the water level and submerge much surrounding land. Opponents of the scheme formed the Thirlmere Defense Association, a local group that quickly gained support from public figures across England trying to preserve the much-heralded beauty of the Lake District: Scholars from Oxford and Cambridge, church bishops, the writers John Ruskin and Thomas Carlyle, and others. Despite vocal opposition and pitched debates in British parliament, by 1879 the government approved the dam, which was completed in 1894.

### multimedia



Harriet Ritvo's new book, 'The Dawn of Green: Manchester, Thirlmere, and Modern Environmentalism' Courtesy of the University of Chicago Press



Harriet Ritvo, the Arthur Conner Professor of History at MIT Photo courtesy of Harriet Ritvo

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**Harriet Ritvo** 

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In defeat, environmentalists realized one gain, however: Their movement got off the ground. "Even though the preservationists lost, nobody would have expected they could rally so many people to their cause," says Adam Rome, an environmental historian at Penn State University. By unearthing this episode, virtually ignored in previous scholarship, Ritvo's book will be "a revelation to environmentalists who haven't heard of this debate," Rome adds. "You can't read it and not think about what's the same and what's changed since then."

One thing that remains similar about these progress-versus-nature battles, Ritvo observes, is the superior economic clout of developers. Manchester, for example, could afford to buy up all the property it needed from small landowners to construct Thirlmere's dam and pipeline. The city's victory represented "the forcible overpowering of the opposition, not the conquest of their hearts and minds," she writes. Conservationists today must work harder than their opponents to build broad popular support, Ritvo suggests, "because they have less money on their side, less political power."

Yet Thirlmere also helped pro-development forces become politically sophisticated. When officials in San Francisco wanted to build the Hetch Hetchy dam and reservoir near Yosemite National Park, they faced resistance from the Sierra Club and its leader, John Muir. In 1910, the city sent its lead engineer, John Freeman, to England to study Thirlmere — not so much for a lesson in technology, but to review the civic debate. After consulting with Manchester officials, Freeman returned with a strategy emphasizing the beauty of the proposed reservoir. Muir had been an influential force in preserving western wildnerness areas, including Yosemite and Sequoia National Park, but ultimately Hetch Hetchy was built, and today supplies 85 percent of San Francisco's water.

For that matter, the Thirlmere story also shows how environmentalists struggle to capture public attention. Thirlmere was neither the first nor last large dam built in Britain. It became the most famous because the Lake District was already "an iconic location," says Ritvo. "But there wasn't much concern when Birmingham and Liverpool flooded large areas of rural Wales [to build their own dams]. Similarly, with Hetch Hetchy, if Yosemite hadn't been a national park, there would have been much less fuss."

On the other hand, Ritvo notes, environmentalists have acquired more factual ammunition over time, which has helped them score some major victories, such as the series of federal laws curbing dangerous forms of pollution that the United States passed in the 1970s: The Clean Air Act, the Safe Drinking Water Act, the establishment of the Environmental Protection Agency, and more. And the effective dissemination of scientific knowledge has led to some environmental achievements of international scope, like the 1987 Montreal Protocol that protected the ozone layer by limiting use of chlorofluorocarbons.

"We have massively more information about the environment than they did," Ritvo says. "We have a sense of ecology, the interconnection of things in nature, which was barely considered back then." Whereas the Thirlmere conservationists largely made their case in aesthetic terms, environmentalists can now detail the ecological or public-health effects of development, adding another layer to their arguments.

#### Warm water

Global economic changes may make the Thirlmere episode resonate even more in the near future. Manchester badly needed water because industrialization was producing a massive urban migration: The city grew from a population of 75,000 in 1801 to more than 300,000 by 1851. Today, half of the world's population lives in cities, and the level will rise to 60 percent by 2030, according to a report last year from Harvard University and The Nature Conservancy. That concentration of people could lead to an increase in water disputes between urban and rural interests.

And while climate change has earned the most attention recently among environmental issues, public access to water remains a pressing concern. "Water is simmering there as an issue," says Ritvo. Indeed the two matters seem increasingly intertwined; as The New

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York Times reported this week, shrinking glaciers have already created acute water shortages in some parts of Bolivia. Scientists also announced this week that droughts are leading to the rapid depletion of water sources in California's Central Valley.

For these reasons, tomorrow's struggles over water will involve "more than just environmental preservation," Ritvo notes. Instead, she concludes, "The situation in California is an indicator of where we're going. I think the form water politics is going to emerge in during the next few years will have to do with scarcity of supply — perhaps for everyone."

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