

*Looking Back*

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## Lighter-than-Air Follies

This season marks the eighty-fifth anniversary of the crash of the first dirigible to use helium—a gas now in the headlines once again. Built in fourteen months starting in the summer of 1922, USS *Shenandoah* was the U.S. Navy's first dirigible, or rigid airship. The Navy used her to test equipment and procedures intended for a predicted future of lighter-than-air military reconnaissance, and sent her on a flight across North America (the first ever completed by a dirigible). Then, in 1925, the Navy sent the *Shenandoah* on another trip, a P.R. tour of Midwestern cities and state fairs. Her commanding officer asked that the tour be postponed until after the storm season, but the Navy recklessly denied the request—and on the early morning of September 3, the *Shenandoah* got caught in the updraft of a violent storm over Ohio and was torn apart. Twenty-nine survivors rode the three sections to earth, but fourteen men, including the C.O., were killed.

The *Shenandoah* was designed to use helium because the gas is noncombustible, and therefore much safer than hydrogen. (Indeed, the airfield where the *Shenandoah* was built would later be the site of the deadly 1937 explosion of the hydrogen-filled *Hindenburg*.) After helium was first discovered in more than trace amounts around the turn of the last century, its unique properties as a light, inert gas made it valuable in a wide range of technological applications. Today, it is used in rocketry, electronics, medicine—and, of course, the balloons that add fun and color to children's parties.

But it is also in short supply. Helium is the second most abundant element in the universe, but since it doesn't bond with other elements, it floats off into space unless it is contained, making it very rare on Earth. Recognizing its potential strategic importance, the U.S. government established the Federal Helium Reserve in 1925, the year of the *Shenandoah* crash.

In the 1990s, Congress ordered the sale of the Helium Reserve into private hands. But bizarrely, the reserve is to be liquidated at a fixed rate and fixed price and in its entirety by 2015. This shortsighted policy has artificially deflated (so to speak) prices, and put the global supply at risk of exhaustion in the coming decades. In a new report for the National Research Council, a committee of scientists, economists, and representatives from industry has suggested conservationist solutions: alternative gases can be used in many applications, while in others recycling should be attempted. And, most importantly, the reserve will need to be sold at prices based on market value—which one of the report's authors, physicist Robert C. Richardson, estimated to be 20 to 50 times higher than the reserve's fixed price. "That which God has taken 4.7 billion years to create will be dissipated in a little more than a hundred years," Richardson recently warned. "One generation doesn't have the right to determine availability forever."

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