From a stereo view of Pennsylvania’s oil region.

The deserts of the Middle East seem far removed from the hills of Western Pennsylvania, as do the plains of Texas and the tropical forests of Venezuela. Yet all share a common bond: oil. Western Pennsylvania, in fact, was where the modern petroleum oil industry began in 1859 with the first successful drilling of an oil well. The origins of its use, however, extend farther back in the region’s history. For more than 500 years, petroleum oil has been collected and utilized by the various peoples who lived in or passed through Western Pennsylvania, adapting the fluid to suit their needs.

Europeans soon adapted the same use. In 1783, General Benjamin Lincoln marched his troops past Oil Creek and observed that his men “collected the oil, and bathed their joints with it. This gave them great relief....”¹ The purported medicinal benefits from petroleum oil persisted into the 19th century. Samuel Kier, a Pittsburgh canal line operator, noticed similarities between the medicine prescribed for his wife and the black fluid that contaminated his father’s salt wells near Saltsburg, Pa. This gave Kier the idea to sell petroleum as a natural curative, and he began marketing it as Kier’s Petroleum or Rock Oil in 1849. According to advertisements, his bottled oil cured bronchitis, asthma, nervous diseases, pains in the back, blindness, and ringworms, among other ailments.² The therapeutic perception of petroleum oil endured for most of its early history, but great changes were on the horizon for oil and Western Pennsylvania.

Even though Samuel Kier bottled relatively small quantities of oil to sell as medicine, the supply quickly surpassed the demand. Meanwhile, he’d observed coal miners near his father’s salt wells burning petroleum oil in lamps. But the unrefined, heavy oil they burned produced low light levels, abundant smoke, and repugnant odors. Kier experimented with refining petroleum and eventually produced a cleaner burning oil similar to kerosene. By 1850 he was selling it for $1.50 a gallon from a warehouse in Pittsburgh.³

Burning refined oil for light gained popularity for many reasons. Whale oil, used since the mid-18th century, had become scarce and expensive as whales were over-hunted. Gas lighting, mostly in larger cities, was bright and cheap but not always convenient or reliable. And “burning fluid” — a concoction of redistilled turpentine

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¹ From a stereo view of Pennsylvania’s oil region.

² From a stereo view of Pennsylvania’s oil region.

³ From a stereo view of Pennsylvania’s oil region.
and alcohol — had a tendency to explode. Kier's carbon oil was timely but his source of petroleum was limited to what seeped from the ground.

Then in 1859, near the banks of Oil Creek, Edwin L. Drake struck oil. His was the first successful well to pump oil from below the earth's surface, providing a steady source of petroleum. Almost overnight, the Oil Creek valley transformed from an agricultural community to an industrial landscape crowded with wooden derricks and noisy steam engines. While Drake's discovery affected the physical environment along Oil Creek, its impact was felt around the world. Most significantly, a steady supply of petroleum meant a steady supply of kerosene, an inexpensive and safe burning fuel distilled from petroleum, which quickly became the lamp fuel of choice.

Because much oil drilled in northwestern Pennsylvania was shipped down the Allegheny River on flatboats, Pittsburgh became an important center for oil refining and distribution. By 1865, Pittsburgh ranked third in the United States for its involvement in the petroleum industry, supporting 63 oil-related businesses. The use of kerosene as the popular new illuminant was also a boon for Pittsburgh's extensive glass industry. Since kerosene lamps required glass chimneys to give adequate draft to the flame, many Pittsburgh glass companies began producing them. In 1861, Edward Dithridge of the Fort Pitt Glass Company filed for a patent for his elliptical chimney. Others followed. Pittsburgh's glass houses also manufactured and marketed a barrage of kerosene lamp bodies. McKee & Brothers, Atterbury & Co., and others sold kerosene lamps through handsomely printed catalogs.

While the initial impact of petroleum drilling resulted in a lighting revolution, oil's other uses developed more gradually. As Pittsburgh was growing into an industrial powerhouse, petroleum oil helped grease the wheels of industry, literally. New machinery and manufacturing processes depended on reliable lubricants to keep them working.

Chemist Grant McCargo noticed while working for steel manufacturer Howe, Brown, and Company that many of the lubricants used in Pittsburgh's steel works were inadequate. In 1885, McCargo and his partner, Walter Dimmock, began making their own "hot neck" grease for Pittsburgh's rolling mills at the corner of 33rd and Smallman streets in the Strip District. McCargo eventually expanded his business, the Pennsylvania Lubricating Company, to include petroleum-based lubricants for mining equipment, railroad bearings, and even a stainless grease for use in textile mills. Exxon, the successor to the company, continued production of lubricants until it closed the facility in 1999.

By the 20th century, the automobile produced a lucrative market for gasoline, a petroleum distillate. Within a few years, the birth of aviation contributed to the expanding need for petroleum-based fuels, and Pittsburgh once again took a hand at shaping the industry. James M. Guffey and John H. Galey, both from Pittsburgh, were oil prospectors. By the time the two were searching for new oil reserves in 1901, Western Pennsylvania was no longer the center of activity, but the American west held great promise, and Texas especially so. In order to finance their drilling attempt at Spindletop, Texas, Guffey, Galey, and another partner borrowed $300,000 from T. Mellon & Sons Bank. On January 10, 1901, after drilling

A stereo view of Mulligan Well, Pa.
to a depth of 1,020 feet, Spindletop "blew in" and shot a fountain of oil more than 200 feet in the air. It was estimated that the well produced 100,000 barrels of oil per day. Texas became the new center of petroleum drilling.

Guffey, Andrew W. Mellon, and Richard B. Mellon organized the J.M. Guffey Petroleum Company, later renamed Gulf Oil Corporation. The company directed its attention toward transportation fuels and lubricants, and in 1913, Gulf opened the first architect-designed drive-in gas station on Pittsburgh's Baum Boulevard. The company headquarters moved to Pittsburgh in 1936, just a few years after building Gulf Tower, one of the city's landmark skyscrapers. 7

What at first Native Americans valued as a medicine, Western Pennsylvania entrepreneurs and industrialists transformed into an illuminant, a lubricant, and a fuel. The greasy, black fluid, which still oozes from the ground in the Oil Creek valley, is as much a part of Western Pennsylvania as steel, and like that metal, helped usher the world into the modern era. 8

2 "Petroleum, or Rock Oil," Daily Pittsburgh Gazette, Jan. 9, 1851.
4 Ibid., 174.
7 For histories of Gulf Oil, see Sidney A. Swensrud, "Gulf Oil": The First Fifty Years, 1901 – 1951 (New York: The Newcomen Soc. of North America, 1951), and The Orange Disk: The Magazine of the Gulf Companies, vol. 22, no.5.