As soon as we become accustomed to the presence of a product in our lives, we begin to take it for granted, never pausing to think about how it became integral to our daily existence. The utilization of oil in its diverse forms, beginning with kerosene, is one of these little-noticed phenomena. The production and consumption of kerosene transformed the nineteenth century and beyond by founding modern business in an industrialized world. The implementation of vertical integration by the Standard Oil Company, necessitated by the scale and complexity of the organization Rockefeller wanted to create, enabled the evolution of a truly global economy. However, this economy was dependent upon controversial business practices, with large corporations using their economic cleft to force small organizations and their individual owners either into the conglomerate or out of the market. The era in which independent entrepreneurs controlled a majority of the market had ended, ushering in a new era of vast corporations dominating the industry. It was—and is—the age of oil.

It began innocuously enough, with kerosene. Increasingly, individuals wanted reliable illumination in their homes to take full advantage of every hour, not just those with sunlight.\textsuperscript{1} Concurrently, the factories that sprang from the Industrial Revolution needed a powerful illuminant to light their large spaces.\textsuperscript{2} Neither demand could be met by existing products. For

\textsuperscript{1} Yergin, \textit{The Prize} [Dec. 2009 ed.], p. 6
\textsuperscript{2} Schivelbusch, \textit{Disenchanted Night}, p. 8-9
homes, whale oil had been the highest-quality light source for centuries\(^3\), but prices soared as supply was rapidly diminished. The most popular alternative, camphene, was both highly flammable and prone to exploding.\(^4\) “Town gas” was increasingly popular among urban families, but was too expensive for lower-class households to use regularly.\(^5\) In factories, meanwhile, the shift to industrial methods of production required light sources capable of illuminating large spaces for lengthy periods at low cost,\(^6\) a set of conditions not satisfied by any existing source. When at last a source—kerosene—was developed to meet all of these needs, households and factories shifted their demand, previously divided between a number of lesser illuminants, to the kerosene market. The result was that kerosene became “the light of the age.”\(^7\)

When this demand became apparent, extraordinary numbers of prospectors were eager to fulfill it. This led to intense competition for a limited number of sources. The search for productive wells resembled a gold rush in its suddenness, its scale, and its focus on a small region.\(^8\) As hundreds of prospectors rushed to secure land in the only region then known to have oil, the price of land soared across the area, as did the population of the previously unnoticed towns.\(^9\) The oil rush began in Pennsylvania in 1859\(^10\); by 1885, the state geologist warned that depletion of the fields was imminent.\(^11\) No other sources were then known or seriously suspected. (A top executive of Standard went so far as to proclaim the idea that there might be signs of oil in Oklahoma “crazy” and swear to “drink every gallon produced west of the

\(^3\) Yergin, *The Prize* [Dec. 2009 ed.], p. 6
\(^4\) *The Prize*, p. 7
\(^6\) Schivelbusch, *Disenchanted Night*, p. 8-9
\(^7\) *Id.*, p. 12
\(^8\) *The Prize*, p. 13
\(^9\) *Id.*, p. 15
\(^10\) *Id.*, p. 11
\(^11\) *Id.*, p. 36
Mississippi."  

Until a new source was discovered in northwestern Ohio in the mid-1880s, the hundreds of prospectors desperate to capitalize on the new market were therefore concentrated in Pennsylvania, all fighting over the same land. The result was “chaos and disorder…fluctuations and…frenzy.” “Too many companies were competing for the same customers.”

This instability was compounded by the difficult road between finding an oil well and selling kerosene. Numerous middlemen cut into profits and made production inefficient (with regard to both cost and time) and risky. Producers had to invest a large sum in order to obtain expensive and much sought-after land and drilling equipment, then drill to unpredictable depths to reach oil—if there was any. If they were able to obtain petroleum, they then needed to store it in barrels that, due to shortages, at times were worth nearly double the value of the oil they held. The barrels were then transported to refineries, first by teamsters, whose monopoly on transportation from wells to railroads allowed them to charge exorbitant prices, then by railroads, whose prices were similarly steep. Businesses were forced to rely on refineries, many of which were “desperately” undercapitalized, then transport the finished kerosene by rail once more to reach their customers. The complications and intermediaries inherent in kerosene production made the market inefficient and fraught with risks and unnecessary expenses.

The culmination of these limitations on businesses producing kerosene was a fundamental restructuring of the process in the form of John D. Rockefeller’s vertical integration of Standard Oil, with dramatic consequences. Vertical integration eliminated or mitigated the aforementioned issues by bringing supply and distribution functions under the direct control of

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12 Ibid.
13 Ibid.
14 Id., p. 18
15 Id., p. 21
16 The Prize, p. 12
17 Id., p. 17
18 Id., p. 21
the company. Standard Oil purchased tracts of land on which it grew its own timber to make its own barrels; bought tank cars, warehouses, and boats; and ran its own refineries. By the end of the 1860s, the only aspect of production Standard didn’t own was a railroad—but for all practical purposes, they did, exercising iron control over railroad companies. Their size and efficiency enabled them to win rebates from the railroads, resulting in a considerable pricing advantage over competitors, and even extract drawbacks, another enormous financial edge. Having trimmed every extra cost along the entire process from procurement to marketing, Standard’s extreme efficiency translated into extreme profitability. This in turn gave it the security it needed to expand and out-price its competitors to force them out of the market or under Standard’s control. Standard came to rule the American market: “eventually, at least 90 percent of the exported kerosene [produced in the United States] passed through Standard’s hands.” More than that, it became one of the first international corporations, seizing a large portion of the global market as its competitors lagged behind. Rockefeller’s adoption of vertical integration allowed his company to maximize stability, efficiency, profit, and competitive edge, dominating the American market and taking hold in the global order.

Standard Oil’s vertical integration proved to be the best—indeed, the only—method for success in the global oil industry. Its remaining competitors, domestic and international, were forced to imitate it or rapidly fall behind. In the U.S., the Pure Oil Company insulated itself from Standard’s practices through complete integration, becoming the first independent American producer to maintain its place in the domestic market, though it was tiny compared to Standard.

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19 Id., p. 21-22
20 Id., p. 22
21 Id., p. 21
22 Ibid.
23 The Prize, p. 23
24 Id., p. 26
25 The Prize, p. 41
26 Id., p. 65
Abroad, Shell sought to gain the upper hand in shipping by developing new oil tankers for maximum savings on transportation costs,\textsuperscript{27} then by gaining access to the Suez Canal (which Standard Oil was denied), resulting in greatly decreased shipping costs and times\textsuperscript{28}. Royal Dutch focused on finding and developing diverse sources, discovering new oil fields in the Dutch East Indies\textsuperscript{29} and purchasing the Russian holdings of the Rothschilds\textsuperscript{30}. Shell, too, was desperate to secure new sources in order to ensure its survival\textsuperscript{31}. In short, Standard’s main competitors frantically attempted to gain the upper hand in at least one aspect of the industry while keeping pace with one another in all other aspects through initiating their own vertical integration in the business world’s version of an arms race.

The implementation of vertical integration throughout the oil industry had effects far beyond the internal workings of the industry; it benefitted consumers in many ways, yet also enabled highly controversial business practices, tarnishing the reputation of Standard Oil and the entire oil industry. Standard began as simply the most successful of an extraordinary number of young companies seeking a foothold in the new American kerosene market. Its extreme efficiency and broad reach stabilized the previously chaotic market,\textsuperscript{32} made a highly beneficial product available to consumers around the world in a short period of time,\textsuperscript{33} and made kerosene extremely affordable. Between 1870 and 1885, the refining costs per gallon of kerosene in the U.S. dropped from approximately 3 cents to 0.45 cents, and the price per gallon went from 26 cents to 8 cents.\textsuperscript{34} Over the same time period, Standard’s market share went from 4% to 90%.\textsuperscript{35}

\textsuperscript{27} Id., p. 49-50  
\textsuperscript{28} Id., p. 50-51  
\textsuperscript{29} Id., p. 102  
\textsuperscript{30} Id., p. 117  
\textsuperscript{31} Id., p. 99  
\textsuperscript{32} The Prize, p. 38-39  
\textsuperscript{33} Ibid  
\textsuperscript{34} Reed, Lawrence W. “Rockefeller’s Standard Oil Proved That We Needed Anti-Trust Laws” Excuse Me, Professor Challenging the Myths of Progressivism. Washington, DC: Regnery, a Division of Salem Media Group, 2015. Print.
This indicates that Standard’s success, as well as that of the competitors it galvanized, played an important role in making kerosene inexpensive and widely available. Yet the business practices it employed to reach that position were highly controversial. Popular opinion in the U.S. held that Standard’s practices unfairly drove honest competitors out of business by abusing the market, pursuing drawbacks from railroads, and undercutting its competitors while raising prices where it had no competition. Public outrage over these activities led to the era of “trust-busting” and a suspicion of big businesses that still shows in today’s politics. The damage had been done. Small, independently owned businesses were now a tiny portion of the market, giving way to multinational corporations in a trend that rippled throughout other industries.

Standard Oil’s success, due in large part to its practice of vertical integration, hastened the arrival of the “new light” in markets across the globe, helping people “take back the night” and playing an important role in the development of modern globalism. Yet the path it took to get there was highly controversial—perhaps even illegal. Its legacy is a booming industry that is an integral part of our lives even today (and, indeed, for the foreseeable future), but also a lasting distrust of and distaste for the oil industry, founded in the remembrance of Standard’s perceived abuses of its market dominance.

36 The Prize, p. 27-28; 39; 112