Review - Crude Reality

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Crude Reality: Petroleum in World History
By: Brian C. Black
Lanham, MD: Rowman & Littlefield, 2012

Ever since the 1980s there has been great disappointment among renewable energy supporters that transition from fossil fuel dependence has been painfully slow. Moreover, with apologies to Mark Twain, reports of the collapse of the global oil industry and the peaking of global production have been greatly exaggerated. Peak global oil production has been anticipated for many years, following the 1970 peak production of the once dominant U.S. oil industry and predictions of geophysicist Marion King Hubbert. What has actually occurred is that unconventional oil production (i.e. oil sands from Canada, heavy oils etc.) has expanded while conventional production has declined, closing any deficit while exerting upward pressure on prices in the face of growing global demand. Most of the world's technically recoverable unconventional oil lies in the Western Hemisphere, namely Canada, the U.S. and Venezuela. Since oil use has been historically a highly advantageous, efficient and cost-effective way to support most societies, in 2013 we can still say that any transition to alternative sources of energy is unlikely to be rapid.

A search for deeper understanding of the historical development of reliance on petroleum, society's present day oil

addiction, and the pressing needs for alternative energy sources in the face of growing scarcity and climate change underlie Brian C. Black's volume *Crude Reality*. While closely associated with the United States during its formative years, the oil industry has a rich global history. Some of this actually predates the first modern U.S. oil well (discovered in Titusville, Pennsylvania in 1859), in places ranging from Imperial Russia to Poland to Canada. The book is comprised of four parts, eight chapters, several boxes, about three dozen photos and figures, an epilogue, chronologies of petroleum in world history and oil spills, an index, and appears to be written primarily for environmental and energy historians.

The Introduction and Part I of Black's book traces the discovery and commoditization of this "black goo" into "black gold", through the development of markets for lubricants, lighting, and eventually transportation in the mid to late 1800s. Contrary to widespread belief, oil development has always been messy and highly risky, and this required significant organization of the industry, boom and bust cycles, and (arguably) corporate integration. These challenges led not only to the rise (and fall) of John D. Rockefeller's Standard Oil Company, but inevitably to a global hunt to control the largest and most accessible reserves (chapters 2-3). The U.S. and British "rule of capture", which states that the first person to "capture" the resource owns it, not only encouraged rapid development but resulted in historical periods of oversupply, price collapse, and the need for government intervention to manage supply, be it by the Texas Railroad Commission or the Organization of the Petroleum Exporting Countries (OPEC). One of the great ironies of the oil industry is that through its history it has rarely operated as a free market, and extremely large corporations (often nationalized) have had an inherent advantage to deal with the vagaries of the resource and global markets.

Part II of the book explores the race to capitalize on a rapidly increasing supply of petroleum by finding a large enough market to use it. In the early 20th Century, it was not a foregone conclusion that autos and trucks would be oil-powered. While the continued use of horses in cities left a lot to be desired, especially due to the massive waste disposal and odor problem, biofuels and electricity were preferred by many as energy sources for transportation, including Henry Ford. But due to shortcomings of these options, low cost, increasingly abundant petroleum eventually won out. This fueled Ford's mass produced Model Ts and most other vehicles, as the automobile sector spread its dominance across the globe. The role of petroleum in warfare, especially the World Wars, further solidified the fuel's supremacy among any alternatives. It also transformed the nature of armed conflict and foreshadowed wars to be fought later in the century to secure oil supplies for national security. By the 1940s, the United States was keenly aware that its oil supply would not last forever and President Franklin D. Roosevelt negotiated with Saudi Arabia's King Ibn Saud access to what was to become recognized as the world's largest conventional oil reserves.

Part III of the book turns to the increasing globalization of petroleum since the 1960s. The last 50 years have been a time of mass consumption. This has been aided and abetted not just by cheap petroleum but also through countless advances in the petrochemical and agricultural sectors leading to many applications beyond transportation, e.g. plastics and industrial fertilizers (made from natural gas). Thus, "Big Science" helped "Big Oil" and an oil consuming culture was firmly established. But while this has resulted in once unimaginable social and economic benefits, it has also led to widespread pollution, cancer, and of course oil spills. Short case study examples of these from around the world are provided, including adverse socioeconomic effects in developing countries such as Nigeria and Ecuador. Chapter 7 addresses the geopolitical and military implications of the mass consumption. The key events are well known – formation of OPEC in 1960; numerous wars in the Middle East (either directly or indirectly about oil); OPEC's embargo of 1973-74 and thus its use of oil as a political weapon; and public and private responses, including creation of a Strategic Petroleum Reserve and futures trading on NYMEX in the U.S., and control of oil by oligarchs in Russia. Part IV (the last chapter 8) discusses the forces of climate change and peak oil driving a transition away from oil dependence, and considers alternatives such as electric and hybrid cars, biofuels and efficiency.

As an environmental history, *Crude Reality* largely succeeds in meeting the author's objectives as it provides a fascinating account of how the oil industry got to where it is today. The middle chapters are the major strength of the book, especially Part II covering the crucial seven decades from 1890-1960. As such, the volume in many ways compliments Daniel Yergin's seminal and much deeper history of the oil industry, which is not surprisingly heavily cited.[1] However, in contrast to the detailed discussion of the early years of the oil industry, the discussion of later

periods becomes more superficial and sweeping. Black here focuses on obvious targets such as mass consumption, growth of the automobile industry, planned obsolescence, and the current oil addiction, which many others have used as devices to treat this industry and these decades in greater detail. I found several errors as well: p. 5, "the first well was tapped in 1859" – it occurred much earlier; figure 4.5 claims to show a Graf zeppelin over 13th Street in Manhattan, but it is not visible; p. 163, by 1960, "tractors carried out 100 percent of American agriculture"; p. 167, "Today the United States remains the world's largest producer of DDT" – production actually stopped in 1985; p. 186, the European Union is referred to as a single nation; p. 215, a math error in how many years before Hubbert forecast peak U.S. oil production; and finally, the Chronology of Spills inexplicably omits the offshore Santa Barbara Channel (California) oil spill of early 1969.

Those interested in the history of the world oil industry will welcome this volume, which adds to the literature of Yergin plus books by journalist Amanda Little [2] and historian Hugh Gorman [3], among many other volumes and articles. Given the rich and important history of petroleum, no one volume can do it justice. The final chapter on peak oil and energy transitions, however, is shallow and leaves something to be desired, so readers wanting more on these subjects should look elsewhere. Even so, this shortcoming and the errors to not take away from the value of one of the most important subjects and challenges of the 21st Century.

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[1] Daniel Yergin, The Prize: The Epic Quest for Oil, Money & Power (New York: Free Press, 2008).

[2] Amanda Little, Power Trip: The Story of America's Love Affair with Energy (New York: Harper Perennial, 2010).

[3] Hugh S. Gorman, Redefining Efficiency: Pollution Concerns, Regulatory Mechanisms, and Technological Change in the U.S. Petroleum Industry (Akron, OH: University of Akron Press, 2001).