

Review Essay

Oil and Water

David Hendrickson

A Sea in Flames: The Deepwater Horizon Oil Blowout

Carl Safina. New York: Crown Publishers, 2011. £15.99/\$25.00. 352 pp.

In Too Deep: BP and the Drilling Race That Took it Down

Stanley Reed and Alison Fitzgerald. Hoboken, NJ: Bloomberg Press, 2011. £16.99/\$24.95. 226 pp.

Blowout in the Gulf: The BP Oil Spill Disaster and the Future of Energy in America

William R. Freudenburg and Robert Gramling. Cambridge, MA: The MIT Press, 2011. £13.95/\$18.95. 254 pp.

The Deepwater Horizon disaster, which occurred on the evening of 20 April 2010, was a man-made disaster of prodigious proportions. The spectacular explosion of the Transocean-owned rig at the Macondo well, in an operation for which BP held overall responsibility, produced a growing sense of anxiety and even panic over its potential consequences. The explosion produced an oil leak which BP initially put at 1,000 barrels a day (Safina, p. 48), but once images of the actual gusher were televised, it was obvious that it was much larger. Estimates were raised to 5,000 barrels a day, then to a range of 12,000 to 19,000, then finally to 56–68,000 (Safina, pp. 52, 220–1). US President Barack Obama called it the worst environmental disaster in American history, and predictions of ecocide along the Gulf of Mexico coast

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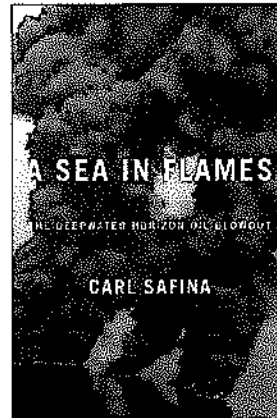
were widespread in the media and blogosphere. The ecological impact was accompanied by grim economic consequences for communities along the Gulf Coast, as various activities – fishing, oil drilling, tourism – were disrupted by the disaster. One analyst, Antonia Juhasz, put the total financial damages at more than \$100 billion;¹ the initial down payment, made by BP under pressure from Obama, was \$20bn. (A year and a half later, BP had set aside \$41bn in total estimated costs.²) BP's stock value was cut in half, threatening the already precarious retirement of pensioners, especially in Britain, and it seemed not unreasonable, even to company executives, to see the fallout as a potential existential threat to the corporation. Still the gusher continued. It was finally capped on 15 July 2010, but not before it had become the largest accidental release of oil into ocean waters in history, 20 times larger than the *Exxon Valdez* oil spill in 1989.

The three books under review place the Macondo explosion at the centre of their investigations, though they do so in very different ways. Carl Safina, in *A Sea of Flames*, chronicles this 'season of anguish and pain' by giving a day-by-day account of what we knew, and when we knew it. A marine biologist with a number of distinguished natural histories to his credit, Safina writes in an enthralling, if somewhat disjointed, manner. He travelled to the region shortly after the disaster, and his narrative boils with righteous indignation at BP's management and what seemed to Safina to be the wretched response of government at all levels. (Local southern sheriffs enforcing BP's diktats loom especially large as authoritarian bullies straight out of Hollywood demonology.) Because he recorded his impressions in the moment, at a tense and uncertain time, it was inevitable, as Safina himself acknowledges, that wrong impressions would be taken and blind alleys explored. He took, for example, a far harsher view of the Coast Guard and its commander, Thad Allen, in the initial months than he did later. In one episode, Safina can barely contain the rage he feels at the Coast Guard and its 'Thadmiral' when, after chronic hassling of journalists by sheriffs and private guards, it is made a crime in southern Louisiana to get within 70 feet of an oil-containment boom, risking a \$40,000 fine or even a felony conviction if done wilfully. After meeting with Allen in later months, however, Safina begins to feel that he has treated Allen unfairly and to consider him a

hero rather than a villain. After all, the Coast Guard had to deal with numerous safety concerns: Safina quotes Allen as pointing out what while ‘people thought our flight restrictions were to stop the press ... it was simply to prevent collisions’ (p. 277). Booms were also getting vandalised. It was deeply unfortunate that authorities were forced to rely so heavily on easily defeated booms, together with oil burning and dispersants, to clean up the spill, but the primitive technology was a consequence of steep budget cuts in the 1990s. The National Oil Spill Contingency Plan, created by Congress in 1990, was based on the assumption of a tanker spill; regulators had not reckoned with so large an eruption at so great a depth, nearly a mile below the surface of the sea. The law also required BP to take responsibility for clean-up. This created, according to Allen, ‘cognitive dissonance with the public. People didn’t understand; how could BP be part of the command structure? But that was what the law required’ (p. 278).

Another official to emerge from Safina’s account with her reputation intact is Jane Lubchenco, head of the National Oceanic and Atmospheric Administration (NOAA), who to Safina’s surprise is more pessimistic about the long-term effects on the ecosystem than he is. These officials, Safina came to believe, did the best they could under the circumstances, but they are the first to admit that both government and industry were woefully unprepared for the disaster. They acknowledge, too, that some local responses made matters much worse: federal officials were incapable of preventing the law governing the response, which dictated federal coordination, from being ‘politically, socially, and economically nullified’ (p. 279). One example was the decision of Louisiana Governor Bobby Jindal to open giant valves on the Mississippi River, which unleashed torrents of fresh water onto sensitive oyster beds, killing far more oysters than the oil spill did.

A further irony emphasised by Safina is that fishing stocks came back strongly as a consequence of a moratorium on fishing imposed after the disaster: John Valentine, senior marine scientist at the Dauphin Sea Lab, found three times as many fish six months after the blowout than before



(p. 287). This suggests not only the extraordinary resilience of nature but also the great difficulty in estimating the effects of the oil spill on the wider ecology, overcome as it may be by other factors. Tony Hayward, the head of BP at the time of the disaster, was vilified for saying that the amount of oil leaked was 'tiny' compared with the 'very big ocean', but Safina writes that Hayward was more right than those who predicted catastrophic consequences. Though the author notes that the longer-term consequences cannot yet be known, the wider thrust of his analysis is to draw attention away from the oil spill to three other dangers: overfishing in the Gulf of Mexico; the network of dams, levees and canals that are devastating the Mississippi River and the Louisiana coast; and the far worse 'spill' of carbon dioxide into the atmosphere, which is 'changing the world's climate, altering the heat balance of the whole planet, destroying the world's polar systems, killing the wildlife of icy seas, killing the tropics' coral reefs, raising the level of the sea, turning the oceans acidic, and dissolving shellfish' (p. 292).

The cost of cost-cutting

Safina has no desire to spare BP from well-justified wrath, though he does admit that BP did some honourable things in the wake of the blowout. Stanley Reed and Alison Fitzgerald of Bloomberg News, meanwhile, have taken up the story of how a corporation that once touted its environmentalist credentials should have compiled such a bad safety record. Their book, *In Too Deep*, provides a lively account of the company's history. One chapter details how John Browne, chairman of BP from 1995 to 2007, built the firm into a 'supermajor' oil producer, launching an acquisition spree in the late 1990s that enabled it to contend with Exxon and Shell. Another chapter exhumes a more distant history, the exploits of the Anglo-Persian (later the Anglo-Iranian) Oil Company, reminding us that BP has a checkered past to match its checkered present. To its credit, however, BP was the first among the big oil companies to break ranks with the rest of the industry on the danger posed by climate change, which Browne did in a 1997 speech. Though critics considered the 'Beyond Petroleum' rebranding he introduced as 'Beyond Preposterous' – BP's business was still overwhelmingly tied to oil – Browne's steps undoubtedly helped foster increased awareness

of global warming and made him a darling of many environmentalists. He brashly set the company after prospects in Russia, Angola and Azerbaijan, and his company became the boldest among the majors in pursuing ticklish geopolitical deals, a proclivity that continued under Browne's successors, who scored major agreements in both Libya and Iraq. In the Gulf of Mexico, which accounted for 11% of its worldwide production, BP seemed both the biggest and the best of the oil companies, being especially conspicuous in its skill at exploration. Its Thunder Horse platform in the Gulf was a technological marvel, comparable in its complexity to a 1960s space mission. Its average cost in adding reserves was the lowest among its competitors (Reed and Fitzgerald, p. 77).

Behind this bright façade, however, a cancer was eating at the company. After the Texas City Refinery explosion in March 2005, which killed 15 workers, official investigations concluded that BP under Browne had overlooked safety concerns in a relentless quest to boost production, cut costs and increase profits. According to John Coon, the attorney of a plaintiff in the case, BP had behaved recklessly in cutting its refining budget to the bone: 'You can't just cut 25 percent out of the costs of your refinery. All your assets will fall apart. All your shit will rust out and it will blow up' (Reed and Fitzgerald, p. 107). The company repeatedly chose cheaper options when safety was at issue. Nor was Texas City an isolated incident: the Prudhoe Bay pipeline failure in 2006 showed the same tendency. Browne resigned as CEO in 2007 under the immediate provocation of a sex scandal, but in the background lay the indictment that the company's massive environmental and safety disasters fell badly short of its public declarations.

Browne's successor, Tony Hayward, promised to do much better but, as Reed and Fitzgerald explain, he paired his emphasis on safety with a brutal cost-cutting campaign that shed 10% of the company's workforce. In February 2009, he remarked: 'The mantra of BP today is "Every dollar counts"' (p. 143). The company continues to deny that such pressures contributed to the bad decisions that made for the Macondo blowout, but it



seems painfully clear that they did. Production delays costing more than a million dollars a day undoubtedly placed strains on a crew trying to manage a project that was already behind schedule and above cost. One expert cited by the authors (Nansen Saleri, president and CEO of Quantum Reservoir Impact) sums it up nicely: 'They had multiple red flags. When you're dealing with this situation, and your own life is in danger, and you're acting as if your life is not in danger, either you're totally incompetent or you are so driven by other imperatives that basically your judgment is flawed' (p. 173).

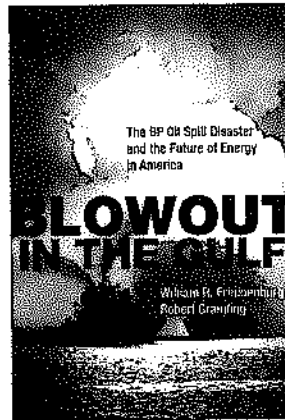
Race to the bottom

The question of culpability will be the subject of interminable litigation: the final settlement from the *Exxon Valdez* disaster came 20 years after the shipwreck. Each of the three responsible parties – BP, as the principal operator; Transocean, which owned the rig and whose crew did the actual drilling; and Halliburton, the oil-services company responsible for cementing the well – has sought to deflect blame away from itself. As to ultimate consequences, variations on the available alternatives, ranging from 'the worst ever' to 'very, very modest', will continue to be alleged 'for decades to come, providing a steady income to lawyers yet unborn'. So note William R. Freudenburg and Robert Gramling in *Blowout in the Gulf*, their own account of the disaster (p. xii). Though the authors give a lucid explanation of the missteps by BP and its partners that led to the explosion, 'each of which increased risk, and almost all of which appear to have been designed to save time and money' (p. 47), they emphasise that BP should not be the sole focus of scrutiny. That company was hammered by other major oil executives in congressional testimony for its operational lapses, but many other firms knew it could just as easily have been them. The whole system, Freudenburg and Gramling believe, is flawed.

The authors devote considerable space to the history of the US oil industry and its move offshore. They explain why Louisiana has been, and remains, gung-ho for offshore exploration, in contrast with California, Florida and other coastal states. The offshore oil industry, along with a fondness for extractive industries in general, was already well established in Louisiana by the time of the oil spill off Santa Barbara, California, in 1969. That event

not only helped fan the modern environmentalist movement and played a role in the creation of the Environmental Protection Agency, but also led to presidential moratoria on offshore drilling. Unlike most coastal states, where waterfront property is highly valued, Louisiana has a system of coastal marshes that make human habitation difficult. The topography of Louisiana's continental shelf is such that, in some areas, the slope is only one or two feet per mile, quite unlike the situation in California, where the ocean bottom drops off dramatically. Off the Louisiana coast, where the sea floor is covered in silt, oil-related structures provide a significant advantage to fishing operations by making up a quarter of the hard substrate around which certain species of commercially important fish congregate. These factors help explain why public opinion in Louisiana has long favoured offshore oil production and why that state's governor emerged as the sharpest critic of the Obama administration's six-month halt to offshore exploratory drilling following the Macondo disaster.³

Freudenburg and Gramling lambaste the system of area-wide sales that James Watt, secretary of the interior under Ronald Reagan, introduced in the 1980s. This system allowed oil companies to obtain leases for large offshore territories for relatively low prices. Despite a six-fold expansion in the number of leases sold after Watt introduced his policy, the total monetary amounts the federal government received went down, not up. Legislation enacted by the Republicans as part of the 'Gingrich revolution', the Outer Continental Shelf Deep Water Royalty Relief Act of 1995, also reduced the federal take. The result is that the United States receives a lower rate of payment from oil companies for its reserves 'than almost any other country in the world'. As Freudenburg and Gramling put it, US energy policy over the past quarter-century, rather than being 'good for the economy', has transferred 'resource-rich undersea lands from the general public to a handful of the richest corporations in the history of money' (pp. 152, 171). Excluding the malefactors and increasing regulation are two reforms the authors embrace, but they warn that neither



is likely to be terribly consequential. Instead, they recommend ‘refocusing’ on ‘the ways in which we have come to live our lives’ (p. 170). Rather than subsidising faster extraction and consumption, they call for policies that will stretch out remaining supplies. They underline the need to develop ‘new ways of providing services that we now obtain from petroleum – heat, light, transportation, chemical feed stocks, and more’ (p. 183). There is, say the authors, a gathering storm over the world’s oil-supply system, to which immediate adjustments are needed, though they provide remarkably little information about the nature of the changes required or the alternatives they think promising. Oddly, they say virtually nothing about climate change; their case is pitched entirely in terms of geologic constraints on oil supplies. Unfortunately, they do not engage with contrary arguments, such as those made by industry consultant Daniel Yergin, who believes that fossil fuels may be far more abundant than Freudenburg and Gramling suggest.⁴ While the case for the shale ‘revolution’ touted by Yergin may overstate the potential effects on oil and natural-gas supplies (or understate the threat to clean water), one might have expected Freudenburg and Gramling to at least mention it.

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The United States has undoubtedly been uniquely careless in its approach to energy policy. Its energy use per capita is far higher than other industrialised nations, and its taxes on petrol far lower. It has shown comparatively little interest in addressing climate change. Its regulatory apparatus is ineffective and marked by tawdry corruption scandals. Yet even were US energy policy to be much more responsible in terms of limiting consumption or regulating industry, the world as a whole faces what appears to be a set of impossible dilemmas in contending with its energy predicament. Given the depletion of easily accessible oil reserves, oil companies are forced onto much more hazardous environmental terrain in satisfying the inexorable demand. The Deepwater Horizon disaster provides a dramatic illustration of the risks of offshore oil production, but the Gulf of Mexico is probably a better locale for such exploration than the Arctic, where the formidable climate would

make a comparable blowout much more difficult to deal with. And yet oil companies are rushing into those frigid waters (as witnessed by Exxon's August 2011 deal with the Russian company Rosneft, displacing would-be Rosneft partner BP). It is equally doubtful that offshore exploration is more environmentally hazardous than mining tar sands in Canada's boreal forest, another key element in the oil companies' strategy to maintain reserves, or than growing corn for ethanol in the American Midwest, which depletes precious aquifers, puts pressure on food prices, and may have a negative energy return on energy invested. Devil's bargains are being made across the industry to slake the modern world's thirst for energy. Faced with economic and security threats, it is not just the oil majors but the public more generally that seems willing to accept greater risks of environmental damage as the price of easing these other dangers. That dynamic, rather than any prospect of 'running out of oil', is the key feature of the energy transition now upon us.

Even with such efforts to boost production, it is doubtful that supplies of liquid fuels will keep up with the relentless increase in demand expected from the developing world, whose per capita use remains far below US levels. Though demand in the older industrialised economies has fallen because of the Great Recession, developing countries such as China and India continue to rapidly increase their consumption of fossil fuels. (Worldwide use of coal, for example, grew by over 7.6% in 2010.⁵) Under tight conditions, prices are vulnerable to shooting skyward until such time as they flatten the economy, after which there follow vertiginous collapses that imperil investments and dry up sources of capital. That was the pattern in 2008, of which there was a certain echo in 2011.

Energy has thus emerged as a basic constraining factor on economic growth; and any failure to grow, in turn, would have grim economic consequences for our debt-laden economies and make all but certain a renewal of the financial crisis. A generation ago, it was dependence on an unstable Persian Gulf that seemed the nub of the energy predicament. While that dependence has not gone away, and seems set to increase in the years ahead, it has now yielded to a set of ecological, geologic and financial constraints yet more alarming in their potential severity.

Notes

- ¹ Antonia Juhasz, *Black Tide: The Devastating Impact of the Gulf Oil Spill* (Hoboken, NJ: John Wiley & Sons, 2011), p. 307.
- ² Mark Wembridge and Sylvia Pfeifer, 'BP Secures \$250m Towards Gulf Spill Fund', *Financial Times*, 16 December 2011, <http://www.ft.com/intl/cms/s/0/59e18bb8-27c6-11e1-9433-00144feabdco.html#axzz1gorUmZJ3>.
- ³ See Freudenburg and Gramling, pp. 131–7; and Safina, pp. 215–16.
- ⁴ See Daniel Yergin, 'There Will Be Oil', *Wall Street Journal*, 17 September 2011; and his *The Quest: Energy, Security, and the Remaking of the Modern World* (New York: Penguin Press, 2011).
- ⁵ BP's *Statistical Review of World Energy 2011*, as cited in Schumpeter, 'The World Gets Back to Burning', *Economist*, 8 June 2011, <http://www.economist.com/blogs/schumpeter/2011/06/energy-statistics>.