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ROGER J. STERN

Over the past century peak oil forecasts have had a profound influence on US foreign policy. Unquestioned acceptance of these forecasts, all of which proved wrong, repeatedly led policymakers to assume that rival powers sought to seize dwindling supplies or that disaffected exporter states would decline to sell. Perennial expectation of impending scarcity elevated the perceived importance of foreign oil, especially from the Middle East (ME). In response, increasingly aggressive US policies were adopted to secure ME oil. I call belief in an oil scarcity imperative for aggressive policy oil scarcity ideology. Policymakers' concerns over oil's availability were repeatedly challenged by market information, which was always ignored. Recurring pessimism over future supply during times of high price was always followed by oversupply and low price, yet aggressive polices to secure supply were never reassessed after scarcity failed to materialize. Scarcity ideology's exemption from scrutiny drove a policy ratchet: US–ME policy could become more aggressive, but not less.

Over the past century, peak oil forecasts have had a profound influence on US foreign policy. Peak oil is the moment when oil production reaches a maximum, after which it declines inexorably. Unquestioned acceptance of peak oil forecasts, all of which proved wrong, repeatedly led policymakers to assume that rival powers sought to usurp dwindling supplies or that disaffected exporter states would decline to sell. Perennial expectation of peak oil gradually elevated the perceived importance of foreign supply. In response, increasingly aggressive US policies were adopted to secure foreign oil, especially Middle East (ME) oil, thought to be the last large source on

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earth. Belief in peak oil and related scarcity imperatives for aggressive policy is here called oil scarcity ideology. Oil scarcity ideology and its consequences are the subjects of this essay.

A striking feature in the evolution of oil scarcity ideology is that market information indicating oil's abundance was always available but always ignored. Market information indicating that producer states were keen for revenue, hence unlikely to withhold supply, was also ignored. I therefore emphasize market information to show what decision makers could have learned but did not. Repetition is another conspicuous feature of the history I will describe. Economist Leonardo Maugeri observed that recurring pessimism over future supply during times of high price was always followed by oversupply and low price.[1] Yet aggressive polices to secure supply were never reevaluated after scarcity failed to materialize. By contrast, falsification of weapons of mass destruction rationales for the second Gulf War in 2003 stimulated "a torrent of literature" and "intense scrutiny" of false rationales.[2] From the dearth of inquiry around scarcity ideology, a ratchet emerged: ME policy could become more aggressive, but not less. I will discuss the quest for Ottoman oil after WWI, the Iran Coup of 1953, Iraq's Baathist Coup of 1963, the Carter Doctrine of 1980, the alliance with Saddam Hussein's regime during the Iran–Iraq War of 1982–88, the first Gulf War, and the New World Order, all of which were, or were times of, aggressive US policies.

My essay does not propose scarcity ideology as an alternative explanation for US foreign policy, nor test theories of international relations. Rather, I show how scarcity ideology coevolved with and ultimately superseded ideologies that preceded it. Scarcity ideology first operated alongside Open Door policy before and after WWI, then with Cold War ideology after WWII. In the Cold War's last decade, scarcity ideology emerged as a decisive element in a new neoconservative grand strategy termed the New World Order.

I draw five conclusions from my research, the second and third being most important.

1. Scientists repeatedly assumed that the oil resource stock was fixed despite evidence it was dynamic, and then they derived peak oil dates based on their wrong assumptions. Then, in mistaken certainty that scarcity loomed, scientists asserted that rival powers would try to usurp what oil remained unless prevented from doing so by aggressive US policy.
2. Decision makers repeatedly and uncritically accepted the illogical, exaggerated threats above. That is, they accepted scarcity ideology. Likewise exaggerated were related threats from the oil weapon and the problem of access to oil.

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[1] Leonardo Maugeri, *The Age of Oil: The Mythology, History, and Future of the World's Most Controversial Resource* (Westport, CT: Praeger Publishers, 2006).

[2] Brian C. Schmidt and Michael C. Williams, "The Bush Doctrine and the Iraq War: Neoconservatives Versus Realists," *Security Studies* 17, no. 2 (April–June 2008): 191–220.

3. In response, decision makers repeatedly chose more aggressive foreign policy options over less aggressive ones. Scarcity ideology ultimately became formal policy in the Carter Doctrine of 1980. A substantial naval force has remained in Southwest Asia ever since, and two major wars took place there. Scarcity ideology is thus an important but unrecognized dynamic of American foreign policy.
4. There was little learning from scarcity's serial failures to materialize, or from rivals' failures to play the aggressor's role ascribed to them by scarcity ideology.
5. Events and ideas outlined above recurred in three successive cycles from 1908–97, and in roughly the same order in each cycle. I call this phenomenon the oil scarcity syndrome.

THE LOGIC OF OIL SCARCITY IDEOLOGY

Scarcity ideology was and is an adaptable array of syllogisms inferred from a foundation in bad science. Not all arguments were always invoked, but their general outline was:

1. Peak oil was near.
2. Unable to wage war from domestic supply alone, America and its economy were vulnerable to catastrophic interruption of foreign supply.
3. A rival could usurp or deny foreign supply.
4. America must therefore exert force in the producing regions to preempt rivals, yet it was still vulnerable to the oil weapon, that is, the refusal of foreign producers to sell.
5. After 1980 the syllogisms above were applied retrospectively; since America had exerted force and ME oil had flowed, the former explained the latter.

Essay Plan

The first section discusses gaps in knowledge systems with respect to oil and security. The second introduces the oil scarcity syndrome. The third describes the three cycles of the syndrome, 1908–97, and the last offers conclusions.

KNOWLEDGE SYSTEMS, KNOWLEDGE GAPS

Geology and Geography

Though the peak oil models that engendered oil scarcity ideology came mainly from geologists, their forecasts were not really works of physical science. Rather, peak oil forecasts were implicit economic forecasts whose assumptions were that (1) supply was a simple function of geology; and

(2) no price increase, technology innovation, demand reduction, or product substitution could alter the downward trend of production. Over and over these forecasts proved wrong, always for the same reason—they discounted the elasticity of supply to near zero. Nonetheless, other knowledge systems relied upon peak oil's ostensible certainty as the basis for scarcity ideology.

History

Historians seldom mention the failure of scarcity forecasts when discussing aggressive ME policies. The first sentence of Stephen J. Randall's fine oil policy history, for example, relates that after WWI, "informed opinion in government circles and the private sector became increasingly anxious about the security of American oil supplies . . . "[3] Informed opinion was wrong, but why? Might aggressive policy have been unnecessary? Randall is silent. The incuriosity is curious; time performed three grand experiments on three sets of peak oil forecasts in the 20th century, showing each mistaken and underspecified. Yet new peak oil models with the same assumptions repeatedly generated new iterations of scarcity ideology. Historians scarcely noticed. This needs explaining, though space constrains much discussion here.

Economics

Economists did not so much dissent from scarcity ideology as ignore it. Hendrik S. Houthakker, for example, explained why no mineral had approached exhaustion and none were likely to.[4] A handful of other economists "valiantly toiled to show why the predictions of doom are wrong."[5] Few explored the security consequences of belief in scarcity ideology, however. Their security concern was with price. That is, the Organization of Petroleum Exporting Countries (OPEC)'s market power effected wealth transfer from importer states, and price shocks imposed macroeconomic costs.[6] Among economists

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[3] Stephen J. Randall, *United States Foreign Oil Policy since World War I: For Profits and Security*, 2nd ed. (Montréal: McGill-Queen's University Press, 2005), 13.

[4] Hendrik S. Houthakker, "Are Minerals Exhaustible?" *Quarterly Review of Economics and Finance* 42, no. 2 (Summer 2002): 417–21.

[5] Harold J. Barnett and Chandler Morse, *Scarcity and Growth: The Economics of Natural Resource Availability* (Baltimore, MD: Johns Hopkins Press, 1963); Morris Albert Adelman, *The Genie Out of the Bottle: World Oil since 1970* (Cambridge, MA: MIT Press, 1995); Richard L. Gordon, *An Economic Analysis of World Energy Problems* (Cambridge, MA: MIT Press, 1981); Bjorn Lomborg, *Cool It: The Skeptical Environmentalist's Guide to Global Warming*, 1st ed. (New York: Alfred A. Knopf, 2007); Julian Lincoln Simon, *The Ultimate Resource 2* (Princeton, NJ: Princeton University Press, 1996).

[6] For example, see James Hamilton, "Historical Oil Shocks," in *Routledge Handbook of Major Events in Economic History*, ed. Randall E. Parker and Robert Whaples (New York: Routledge Taylor and Francis Group, 2013); Michael A. Toman, "International Oil Security: Problems and Policies," *Brookings Review* 20, no. 2 (Spring 2002): 20–23.

who did explore security were Morris Albert Adelman, who quantified arguments against peak oil and rejected the oil weapon, and Richard L. Gordon, who decried the isolation of international relations thought from the literature on oil market failures.[7] I subsequently extended Adelman's Hotelling theory arguments. That is, costs for ME production capacity should increase over time if peak oil were approaching, but I showed costs were flat; ME oil was abundant, not scarce, as the market subsequently demonstrated. Yet OPEC market power helped make the ME unstable because wealth transfers effected via market power became both object and underwriter of intraregional wars.[8] Most of these post-1970 insights were prefigured by a refinery association executive, H. G. James, as will be discussed.

International Relations

IR research on ideology provides context for scarcity ideology's importance. For example, Mark L. Haas described ideology's corrosive effects on great power politics, and Stephen D. Krasner argued that Cold War ideology and threat exaggeration were the basis for the Vietnam War.[9] Christopher Layne emphasized ideological continuity, from Open Door ideals to Wilsonian interventionism to Cold War ideology.[10]

The IR literature on misperception that followed Robert Jervis's foundational work is closely pertinent to scarcity ideology.[11] Charles A. Duelfer and Stephen Benedict Dyson, for example, described misperceptions that abetted America's Iraq wars of 1991 and 2003, though they did not discuss misperceptions of scarcity ideology.[12]

The first IR dissenter to scarcity ideology was Bernard Brodie, whose neglected critique I cite extensively.[13] Robert H. Johnson made similar insights in 1989.[14] Dissenters were isolated from the mainstream, however,

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[7] Adelman, *Genie Out of the Bottle*; Richard L. Gordon, "Energy Intervention after Desert Storm: Some Unfinished Tasks," *Energy Journal* 13, no. 4 (1992): 1–15.

[8] Roger J. Stern, "Oil Market Power and United States National Security," *Proceedings of the National Academy of Sciences of the United States of America* 103, no. 5 (January 2006): 1650–55.

[9] On ideology's effect on great power politics, see Mark L. Haas, *The Ideological Origins of Great Power Politics, 1789–1989* (Ithaca, NY: Cornell University Press, 2005). On Cold War ideology's effect on the Vietnam War, see Stephen D. Krasner, *Defending the National Interest: Raw Materials Investments and U.S. Foreign Policy* (Princeton, N.J.: Princeton University Press, 1978).

[10] Christopher Layne, *The Peace of Illusions : American Grand Strategy from 1940 to the Present* (Ithaca, NY: Cornell University Press, 2006).

[11] Robert Jervis, *Perception and Misperception in International Politics* (Princeton, NJ: Princeton University Press, 1976).

[12] Charles A. Duelfer and Stephen Benedict Dyson, "Chronic Misperception and International Conflict: The U.S.-Iraq Experience," *International Security* 36, no. 1 (Summer 2011): 73–100.

[13] Bernard Brodie, "Foreign Oil and American Security, Memorandum 23" (New Haven, CT: Yale Institute of International Studies, 1947).

[14] Robert H. Johnson, "The Persian Gulf in U.S. Strategy: A Skeptical View," *International Security* 14, no. 1 (Summer 1989): 122–60.

and from each other in time. Dissent recently became slightly less rare, however. Steven A. Yetiv asserted that America has no grand strategy for the Persian Gulf, but rather stumbles reactively from one unanticipated event to the next.[15] Eugene Gholz and Daryl G. Press viewed ME supply as less threatened than widely believed; the US does "not need to be militarily active or confrontational to allow the oil market to function . . . " and "the policy consensus for an active and forward-deployed US military presence in the Persian Gulf is built on excessive fears about the consequences of regional instability."[16] Michael Levi disagreed. Supply was vulnerable, OPEC spare capacity was low and would probably remain so, and non-OPEC supply could not expand.[17] The market soon proved Gholz and Press correct.

Even some who had doubts about the huge scale of US–ME force projection nonetheless accepted the ostensible vulnerability of the Strait of Hormuz. Caitlin Talmadge and Joshua Rovner, for example, argued that force had secured Hormuz oil navigation, though a lighter force might serve as well as a heavier one.[18] This logic implicitly accepted the syllogism that because force was exerted and oil flowed, the former explained the latter. The problem with their model is that buyers and sellers do not appear in it; only force levels were allowed to determine supply.

Angst over Hormuz exemplifies the irrelevance of market information in most IR research with regard to oil. As economist Dagobert L. Brito and colleagues showed, Hormuz's significance could be eliminated for about $2 billion. Saudi Arabia could increase its existing Red Sea pipeline capacity to equal its export capacity, creating an alternate export route that avoided Hormuz.[19] Since oil exports provide ninety percent of Saudi government revenue, and $2 billion is less than one day's revenue, one might expect that if the Kingdom believed that its oil exports were threatened it would pay

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[15] Steven A. Yetiv, *America and the Persian Gulf: The Third Party Dimension in World Politics* (Westport, CT: Praeger, 1995); Yetiv, *The Absence of Grand Strategy: The United States in the Persian Gulf, 1972–2005* (Baltimore, MD: Johns Hopkins University Press, 2008).

[16] The two quotes, respectively: Eugene Gholz and Daryl G. Press, "Energy Alarmism: The Myths That Make Americans Worry about Oil," *Policy Analysis*, no. 589 (Washington, DC: Cato Institute, 2007) and Eugene Gholz and Daryl G. Press, "Protecting 'The Prize': Oil and the U.S. National Interest," *Security Studies* 19, no. 3 (July–September 2010): 453–85. See also "Enduring Resilience: How Oil Markets Handle Disruptions," *Security Studies* 22, no. 1 (January–March 2013): 139–47.

[17] Michael Levi, "The Enduring Vulnerabilities of Oil Markets," *Security Studies* 22, no. 1 (January–March 2013): 132–38.

[18] Joshua Rovner and Caitlin Talmadge, "Hegemony, Force Posture, and the Provision of Public Goods: The Once and Future Role of Outside Powers in Securing Persian Gulf Oil," *Security Studies* 23, no. 3 (July–September 2014).

[19] Dagobert L. Brito and Eytan Sheshiski, "Alternatives to the Strait of Hormuz," *Energy Journal* 19, no. 2 (1998): 135; M. Webster Ewell Jr, Dagobert Brito, and John Noer, "An Alternative Pipeline Strategy in the Persian Gulf," (James A. Baker III Institute for Public Policy, Rice University, Houston, TX, 2000), https://bakerinstitute.org/media/files/Research/cefdf5c0/TrendsinMiddleEast_AlternativePipelineStrategy.pdf.; Dagobert L. Brito and Amy Myers Jaffe, "Reducing Vulnerability of the Strait of Hormuz," in *Getting Ready for a Nuclear-Ready Iran*, ed. Henry Sokolski and Patrick Clawson (Strategic Studies Institute, U.S. Army War College, 2005), chap. 9.

the trivial $2 billion insurance premium.[20] Why the Saudis have not done so is the subject of another essay. Pertinent here is the obscurity of Brito's analyses.

Most recently, Barry R. Posen rejected liberal hegemonist rationales that posit Persian Gulf oil as a vital US interest, an argument prefigured by the small cohort of dissenters above. Yet he is ultimately befuddled as to why belief persists that Persian Gulf oil must be defended, or that the United States must play such a large role there.[21]

Knowledge Gaps

Science was and is usually rational, so it was natural that decision makers, historians and political scientists accepted peak oil as "informed opinion."[22] Why scarcity ideology escaped retrospective interrogation is more problematic, yet there was no failure of IR realists versus liberal internationalists, or of mainstream versus revisionist historians. Knowledge systems failed en masse. Though economists and market participants were better prepared to recognize scarcity ideology's flaws, and some did, their business was mainly with each other. Foreign policy was someone else's concern. Further, ideas about oil and security necessarily varied among knowledge systems, none of which provided a comprehensive framework to evaluate strategic problems. Thus, as Posen put it: "Policy discussions of the role of U.S. military power in the gulf often seem like one hand clapping. Most threats and benefits that are usually invoked are not compelling or cannot be dealt with efficiently by military power. The massive U.S. effort seems better explained by some seldom invoked 'factor x.'"[23] Factor x, I will show, is oil scarcity ideology, which thrived in the gaps between knowledge systems. My essay tries to fill these gaps.

THE OIL SCARCITY SYNDROME

There were three cycles of the oil scarcity syndrome from 1908–97. I distinguish these cycles somewhat arbitrarily by the moments when aggressive policies were adopted (see Figure 1).

These moments coincided with periods of steep positive commodity price change and of highest oil price in twenty-eight- to thirty-two-year periods. Markets were subsequently glutted with new oil called into production

[20] An estimate of oil's importance to the Kingdom is in David G. Victor, David R. Hults, and Mark C. Thurber, *Oil and Governance: State-owned Enterprises and the World Energy Supply* (Cambridge: Cambridge University Press, 2012), chap. 5.

[21] Barry R. Posen, *Restraint: A New Foundation for US Grand Strategy* (Ithaca, NY: Cornell University Press, 2014), 106–12.

[22] Randall, *United States Foreign Oil Policy since World War I*, 13.

[23] Posen, *Restriant*, 106–112.

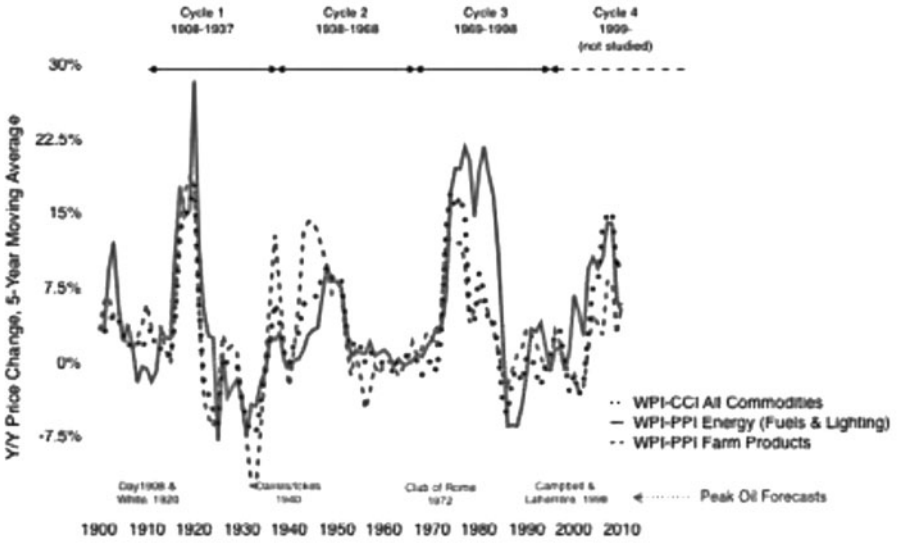

FIGURE 1 Cycles of the Oil Scarcity Syndrome[24]

by rising prices earlier in the cycle. However, aggressive policies were never rejected after gluts slowed or reversed positive price change, thereby falsifying the peak-oil premise of scarcity ideology. The result was a policy ratchet in which ME policy could become more aggressive, but not less.

[24] Cycles 1–3 of the oil scarcity syndrome began several years after steep declines in commodity prices. Peak oil forecasts that appeared during these glut conditions had the greatest policy impact. Aggressive policies seemed urgent as energy prices rose, and were adopted near moments of steepest price increase, which coincided with cyclical price maxima (not shown) in 1921, 1947, and 1980. Thus in late 1920 the United States began to pressure its WWI allies for a share of Ottoman oil. In 1948–48, officials first assumed that a contest with the Soviet Union for control of ME oil had begun. In 1980, the Carter Doctrine was adopted to deter the ostensibly oil-starved Soviets from seizing ME oil. The oil scarcity syndrome is a descriptive model, not a predictive one. Oil price cycles, from trough to peak and back again, happened to last 29–31 years. Price peaks since 1900 were separated by 26 years (1921–47), 33 years (1947–80) and 34 years (1980–2014, not shown). Interpretation of commodity price history is problematic; long cycles of similar periodicity have been proposed but not demonstrated. Limitations in the data represented above are that the pre-1957 commodity price series and the post-1956 indices measure different things. Further, commodities were occasionally added to or dropped from the weighted Wholesale Price Index (WPI) series, and weights of commodity classes were repeatedly modified as goods and services evolved. By contrast, the indices after 1957 are unweighted. Key and Sources: WPI from 1900–20 is based on a series constructed by George F. Warren and Frank A. Pearson, continued thereafter by the US Bureau of Labor Statistics up to 1951, and thereafter until 1956 by the US Department of Commerce, Bureau of the Census. These data are collated in US Department of Commerce, Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970* (Washington, DC: 1975) and *Historical Statistics of the United States*, Millennial Ed. Online (New York: Cambridge University Press, 2006), http://hsus.cambridge.org/HSUSWeb/HSUSEntryServlet. Continuous Commodity Index (CCI) and Producer Price Index (PPI) data were compiled by the Commodities Research Bureau (Thomson Reuters), and downloaded from a Bloomberg Terminal at the University of Tulsa.

In the discussion below, each cycle is divided into first and second halves by its price maximum.

EVOLUTION OF FOREIGN POLICY IN THE OIL SCRACITY SYNDROME

Cycle 1, 1908–37

Overview

In 1908, federal scientists proposed that domestic oil might be exhausted by 1935, and that Britain sought control of dwindling global supply. Though oil price began to rise after the outbreak of WWI, its increase was suppressed by federal interventions such as price controls, which intensified shortages. Scarcity ideologists claimed shortages were evidence of geological scarcity, an argument that rationalized US commitment to obtain a share of Ottoman oil as spoils of WWI. Price began declining in 1921 as new domestic fields were discovered. Though a glut was in full force by 1925, the policy to obtain Ottoman oil was sustained in a tandem effort by Standard Oil of New Jersey (SONJ or "Jersey") and the Department of State. The result was the 1928 Red Line Agreement, which created a ME monopoly of US, British, and French firms.

Cycle 1, First Half

The Martial Tread of a Triumphant Foe. Oil price was at an all-time low in 1908 when United States Geological Survey (USGS) geologist David T. Day published the first detailed estimate of future US oil supply.[25] Day counted only ten to twenty-four billion barrels of recoverable oil left in known fields. All large fields had been discovered, he declared, and without new fields future production could not meet anticipated demand. While conceding that his estimate was "a matter largely of conjecture," Day derived an exhaustion date by simple subtraction of anticipated demand from the ostensibly fixed oil resource stock. Day's report, that US oil would run out as early as 1935, appeared as a chapter in a new national resource inventory in which several USGS scientists warned against assumption of a fixed resource stock.[26]

Nonetheless, in 1914 Secretary of State William Jennings Bryan invoked peak oil as an obvious problem of national security. In a letter to President

[25] Unless specified otherwise, this and other references to oil price refer to the real price (2011 dollars) found in "Oil Prices, BP Statistical Review of World Energy 2012," http://www.bp.com/en_no/norway/media/press-releases-and-news/2012/bp-statistical-review-of-world-energy-2012.html. David T. Day, "The Petroleum Resources of the United States," in *Report of the National Conservation Commission*, vol. 3, ed. Henry Gannett (Washington, DC: Government Printing Office, 1909), 446–64.

[26] Among several similar chapters is C. W. Hayes, "Iron Ores of the United States," in ibid., 520.

Woodrow Wilson, Bryan asserted that peak oil made Mexican oil strategic. It was " . . . the inevitable source from which, in the near future, the supply of oil for the United States Navy will largely be drawn." Bryan wanted the president to authorize military occupation of Vera Cruz, Mexico, where unrest threatened oil investments of US firms.[27] Wilson complied, authorizing a policy meant to restore order in the oilfields and the elected Mexican president to office. This backfired; opposition to occupation united all Mexican factions against the United States, including the one Wilson sought to help. After seven months and about 150 Mexican and 20 US combat deaths, US forces withdrew.[28] Nonetheless, two years later a federal scientist thought Mexican supply so important that the United States must try again. Mark Requa, a consulting geologist to the Department of the Interior, framed Mexican oil as a refuge from apocalypse:

> Mexico contains the great oil field of the world. We must either plan for the future or we must pass into a condition of commercial vassalage, in time of peace relying on some foreign country for the petroleum wherewith to lubricate the highways of commerce, in time of war at the mercy of the enemy who may control . . . the source of supply or the means of transportation; in either event our railways and factories will cease operation, our battleships swing helplessly at anchor, and our country will resound to the martial tread of a triumphant foe.

Americans who failed to see this truth lived "in a fool's paradise" where they "feast and revel while the handwriting blazes on the wall in letters of fire."[29] However, though revolutionary Mexico was an unstable, often lawless place, its exports to the United States rose dramatically during WWI and after, despite a tanker shortage.[30] The reason was simple: price was rising and contesting Mexican factions needed revenue.[31]

However, neither the reliability of Mexican supply nor the steady growth of US production moved Interior to amend its peak oil forecasts, which instead became more extreme. In spring 1919, USGS Chief Geologist David

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[27] Letter from William J. Bryan to Woodrow Wilson, 9 April 1914, Record Group 59: General Records of the Department of State, 1763–2002, National Archives.

[28] Laurie Douglas, "Veracruz Occupation," in *Mexico and the United States*, ed. American Assembly (Englewood Cliffs, NJ: Prentice-Hall, 1981), 848.

[29] Requa's speech was introduced into the Senate Record. See Committee on Printing, *An Article on the Exhaustion of the Petroleum Resources of the United States*, 64th Cong., 1st sess., 363, 9 March 1916.

[30] "Mexico Makes Rapid Growth As Oil Producer," *Wall Street Journal*, 11 May 1918; George Blardone, "News of Mexican Oilfields," *Oil & Gas Journal* 17, no. 35 (1919): 30; Maria del Mar Rubio Varas, "Petróleo y Economía en México, 1900–1930," *Caeteris Paribus* 8, no. 1 (2005): 13–18; "Oil Exports from Mexico," *Oil & Gas Journal* 17, no. 32 (1919): 3; see also "More Liquid Fuel Is Needed to Supply Additional Power for War," *New York Tribune*, 6 January 1918, 14.

[31] Civil war in Mexico made oil commerce insecure but did not suppress production. Jonathan C. Brown, *Oil and Revolution in Mexico* (Berkeley: University of California Press, 1993), 200; "Mexican Oil," *Oil & Gas Journal* 17, no. 39 (1919): 2.

White asserted that peak oil afflicted Mexico, too. The United States must therefore look elsewhere to replace peaking domestic supply. White warned of a powerful rival: "With far-seeing eyes, England has acquired most of the promising oil territory of the world."[32] This was false, but the ostensible British threat became a fixed idea of the US Navy, which was converting from coal to oil propulsion at the time. The new federal merchant fleet under construction must also be fueled. US Shipping Board Director Edward Hurley forecast that new federal merchantmen would consume fifty percent of US production within ten years, making peak oil a first-order strategic problem.[33] Fortunately, three federal scientists had a solution. In a letter to Fuel Administration Director H. A. Garfield, the scientists rehearsed familiar peak oil arguments, adding it was "absolutely necessary" that " . . . American interests be encouraged by sympathetic Governmental cooperation in acquiring additional sources of foreign supply and by protection of properties already acquired."

Ownership was not enough, however. Oil operations abroad should become " . . . co-extensive with the new expansion of American shipping. This means a world-wide exploration, development and producing company financed with American capital, guided by American engineering, and supervised in its international relations by the United States Government." In other words, America should adopt gunboat diplomacy to secure foreign oil for a new quasi-national oil firm. Garfield enthusiastically communicated the scientists' report to President Wilson, but added a warning that " . . . we will not ultimately help the situation to the greatest extent possible if we permit England to control the supplies necessary to the maintenance of our industries. As the Secretary of the Navy has stated, it is, for example, vital that we control oil supplies necessary for our Navy and Merchant Marine."[34]

Hurley subsequently implored Wilson to seek Interior's guidance on where foreign oil could be found. Wilson complied immediately.[35] Interior responded with "The Petroleum Resources of the World," in which Chief Geologist White framed peak oil as scientifically determined: " . . . it appears highly probable that the United States will have passed its production peak within five years or very soon thereafter, and possibly within three. Nothing is more certain than that this country must at an early date lose its supremacy in the oil world and become more and more dependent on the oil resources

[32] White's comment about England embellished his article, David White, "The Unmined Supply of Petroleum in the United States," *Journal of the Society of Automotive Engineers* 4, no. 5 (1919): 363, and was made to an unamed trade journal reporter; "Mr. White Sees Danger of Exhaustion," *Oil & Gas Journal* 17, no. 48 (1919): 54.

[33] "Oil Burning in the Ships," *Oil & Gas Journal* 17, no. 29 (1919): 2.

[34] Memorandum for the President of the United States from H. A. Garfield Concerning the Fuel Oil Situation, Josephus Daniels Papers, 518, reel 36, Library of Congress.

[35] Edward Hurley letter to Woodrow Wilson and Wilson letter to Secretary of the Interior Franklin Lane in *The Papers of Woodrow Wilson*, ed. Arthur Stanley Link, vol. 42 (Princeton, NJ: Princeton University Press, 1990), 114–16.

of other lands . . . "[36] White also offered what he claimed as economic evidence for peak oil: "Besides responding to increased costs of production, the remarkable advances in crude oil prices are to be regarded as reflecting also both the deficiency in our domestic output and an apprehended difficulty in securing foreign oil in amounts sufficient to satisfy our growing requirements."[37]

This was a bold claim. All commodity prices rose between 1914 and 1919, the wholesale index by 110 percent.[38] How White could infer peak oil from rising price during a generalized commodity bubble was neither obvious nor explained. Progressive economist Alvin Hansen challenged White directly on this point. What drove up prices was not scarcity but expansion of money supply by the new Federal Reserve and imports of European gold, exchanged for US war goods. Rampant inflation was inevitable.[39]

Policy restrained supply in myriad ways.[40] Direct intimidation of large firms was also practiced, especially by the US Navy, which abused its authority under the Lever Act by refusing to pay for fuel oil.[41] Adding to producers' uncertainty were periodic nationalization threats from congressmen, and a campaign by the secretary of the Navy to repatriate federal mineral patents in California.[42] Policy-driven risks were so great that by 1919 some oilmen preferred the relative calm of revolutionary Mexico. As E. W. Marland, a Democrat later elected governor of Oklahoma, complained,

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[36] David White, "The Petroleum Resources of the World," *Annals of the American Academy of Political and Social Science* 89, no. 178 (May 1920): 115.

[37] Ibid., 114.

[38] Alvin H. Hansen, "The Sequence in War Prosperity and Inflation," in ibid., 242. See also fig. 1.

[39] Ibid.

[40] For example, refiners were forbidden from bidding up crude oil price, which in turn prevented small-market refiners from competing against large buyers. Local shortages were the result. "All Big Oil Dealers Must Have Licenses," *New York Tribune*, 5 February 1918, 11. Transport was scarce throughout the war, in large part from policy excesses. For example, federal management of railroads created a continent-wide traffic jam in 1918, which slowed oil and coal transport for several months. William G. McAdoo, *Crowded Years: The Reminiscences of William G. McAdoo* (New York: Houghton Mifflin, 1931), chap. 24. Simlalrly, tankers became scarce, in large part due to French and British wartime efforts to manipulate private US tanker fleets and advantage national champion firms over Jersey. For a review, see Gregory P. Nowell, *Mercantile States and the World Oil Cartel, 1900–1939* (Ithaca, NY: Cornell University Press, 1994), 94–115.

[41] "Destroyers Take 500,00 Galloons Oil at Frisco Six Destroyers Ordered to Commandeer Big Plant if Necessary," *Columbus Enquirer Sun*, 27 July 1920.

[42] For example, US Representative C. H. Randall introduced a resolution directing the secretary of the interior to investigate policies for increasing federal control over private oil operations, including whether government should acquire by "purchase, condemnation proceedings, or in any manner whatever. . . . the entire oil-producing area of this country, to the end that the United States may protect fuel supplies for its own use in the future." Committee on Mines and Mining, *Petroleum and Gasoline Hearings*, 64th Cong., 1st Sess., 1916; see also "Government Control of Petroleum," *Oil & Gas Journal* 16, no. 32 (1918): 2. For a discussion of Navy policy on California oil lands, see William E. Colby, "The Law of Oil and Gas: With Special Reference to the Public Domain and Conservation," *California Law Review* 30, no. 3 (March 1942): 245–71.

> I would very much like to help in the solution of that problem upon which the continuance of our national welfare depends, by devoting a large part of my energies and capital in that direction, but I cannot do justice to my friends, partners and stockholders in my business, and employ their capital in this enterprise until I know fully whether our government intends to confiscate the oil produced by American companies or buy it at a price warranted by the laws of supply and demand. I am not afraid of what the Mexican government may do. But I am afraid of conditions in Washington and of what my own government might do.[43]

The Truth in its Reality of Danger. Pleas like Marland's, isolated to trade journals, had no impact. Rather, alarmist analyses flourished with price near a 20-year high. Chief Geologist White warned that unless US nationals controlled more foreign oil, fealty to Britain lay ahead. Falsely claiming that the only foreign fields not controlled by Britain or Holland were in the former Ottoman Empire, White contrived an existential threat: "This situation cannot be neglected. Longer to ignore it is to court disaster. The smug complacency that habitually blinds the American public must be torn aside and the truth in its reality of danger faced squarely, courageously, justly, and wisely. An unprecedented crisis in our country may call for action without precedent."[44]

President Wilson endorsed Interior's strategy to seek foreign oil, approving a letter in which Secretary of State Bainbridge Colby rejected Britain's claim to sovereignty over Ottoman resources. Colby mingled scarcity ideology with the more generous discourse of the Open Door, writing, "[t]he Government of the United States assumes that there is a general recognition of the fact that the requirements for petroleum are in excess of production and it believes that opportunity to explore and develop the petroleum resources of the world wherever found should without discrimination be freely extended . . . "[45] Scarcity ideology thus defeated market information and competing conclusions that might have been drawn from it. That is, Mexican exports to the United States were assumed unreliable, despite their robust growth.[46] Domestic shortage proved peak oil was near, despite price controls, factor shortages and nationalization threats that suppressed production. Rising prices confirmed peak oil's arrival, despite war-driven money supply and demand growth that drove up all commodity prices.

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[43] "Mr. Marland's Warning," *Oil & Gas Journal* 18, no. 44 (1920): 5.

[44] White, "Petroleum Resources of the World," 132–34.

[45] Colby's letter was ultimately delivered to Britain's Lord Curzon. Arthur Stanley Link, ed., *The Papers of Woodrow Wilson*, vol. 66 (Princeton, NJ: Princeton University Press, 1992).

[46] Mexican supply surged during and after the war. Blardone, "News of Mexican Oilfields." Although Mexican supply did decline after 1921, this was not due to oil shortage but rather to migration of US investment to less contentious Venezuela. Daniel Yergin, *The Prize:The Epic Quest for Oil, Money, and Power* (New York: Free Press, 2003), 216.

Cycle 1, Second Half

Working Themselves into a Frenzy. During the 1920s a well-studied contest with Britain ensued over control of ME oil, driven in the United States by scarcity fear.[47] However, indicators of a coming glut appeared as early as 1919.[48] A refinery association executive named H. G. James seems to have been first to notice them and to compare scarcity ideology to market information. To Interior's argument that storage declines foretold peak oil, James retorted that low storage stocks were inevitable; refiners had neither fiscal capacity nor any incentive to carry a large inventory. James noted the recurring failures of Interior's past peak oil forecasts and subtly mocked Chief Geologist White's most recent one: " . . . some of our American officeholders are working themselves into a frenzy over the question of England cornering *the petroleum resources of the world*." James could scarcely believe White was taken seriously. "There is no ground for the scare of exhausted supply. In Wyoming and Texas there is more oil than the refineries can handle. Oil is seeking buyers. The facts are, we are in greater danger of a decline in the price of crude than we are of an advance." There was therefore nothing to fear from foreigners: "Personally, I am not afraid of what England may do. We have scared her with our dismal forecasts of oil."[49]

As the glut he foresaw began driving down price, James gained attention outside the oil patch: "The thing the oil industry is worrying over is a market, not a supply. The oil fraternity is afraid of imports from countries where the potential supply of oil is almost unlimited."[50] That so few accepted James's insights was not surprising. What was surprising, and what would recur, was that the ostensible imperative to secure ME oil escaped reevaluation after its peak oil rationale proved wrong. The 1920s oil glut did nothing to deter Wilson's Republican successors from seeking ME oil, albeit in an unusual way. America had no national oil company but Britain and France did. As spoils of war, they asserted their state firms as successors to Ottoman oil rights. The United States, in the absence of its own national oil company, designated Jersey as America's proxy in negotiations for Ottoman oil.[51]

While scarcity ideology was the primary driver of the US quest for Ottoman oil, older Open Door ideals were also important. Historian William Stivers goes further, asserting that the Open Door surpassed scarcity ideology's importance. Stivers reasons that while peak oil dominated up to about 1921, it was obvious thereafter that exhaustion was not at hand. Persistence

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[47] John A. DeNovo, "The Movement for an Aggressive American Oil Policy Abroad, 1918–1920," *American Historical Review* 61, no. 4 (July 1956): 854–76; Gerald D. Nash, *United States Oil Policy, 1890–1964; Business and Government in Twentieth Century America* (Pittsburgh, PA: University of Pittsburgh Press, 1968), 16–20.

[48] "Texas May Swamp the Market with Oil," *Oil & Gas Journal* 17, no. 43 (1919): 44.

[49] H. G. James, "Present Stocks of Gasoline Large," *Oil & Gas Journal* 19, no. 7 (1920): 80–84.

[50] "No Limit to Crude Oil Supply," *New York Times*, 7 November 1921.

[51] Nash, *United States Oil Policy*, 33.

in aggressive oil policy must therefore reflect Open Door ideals.[52] Stivers's argument, however, assumes a perfectly rational national oil policy, and that scarcity ideology and Open Door principles conflicted. Actors of the time saw no conflict. In 1923, a Federal Trade Commission report asserted that peak oil made the Open Door necessary, and in 1924, Stanley K. Hornbeck, a former State Department official, asserted that impending exhaustion made Open Door principles essential.[53]

For Jersey, the Open Door–scarcity ideology synergy helped resolve a longstanding problem; the firm was crude short after 1911 when it was broken up in a federal antitrust action. The Wilsonian Progressives who came later were even more hostile to the oil industry. As discussed above, during WWI industry endured nationalization threats, forced procurements at below-market prices, product seizures, de facto crude oil price controls, and requisition of tanker and railcar fleets.[54] Scarcity ideology provided Jersey with a patriotic refuge from much of this, plus a rationale to seek foreign crude supply. Suddenly, after decades of Jersey indifference to peak oil, SONJ President Walter Teagle complained in 1919 that since domestic oil was running out, Jersey needed foreign oil. The Open Door imperative was clear: the United States/Jersey must be allowed to invest in foreign oil fields, just as foreigners could invest in the United States. As business historians Roger and Diana Davids Oliens discerned, Teagle obfuscated that his company was crude short.[55]

Throughout the 1920s, the government sustained its quest for ME oil despite the glut. Though the government's quest was ideological whereas Jersey's was strictly commercial, the unusual federal/SONJ partnership made negotiations for Ottoman oil successful. That is, without Jersey's backing from the US government, Britain and France would have had no reason to cede anything to a consortium led by Jersey, a firm they despised.[56] Closely supported by US officials, however, Jersey finally prevailed in the Red Line Agreement of 1928, which allocated Ottoman oil to the state firms of France and Britain, Royal-Dutch Shell, and Jersey's US consortium. Political scientist Gregory P. Nowell aptly summarized the relationships of Allied governments

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[52] William Stivers, "International Politics and Iraqi Oil, 1918-1928: A Study in Anglo–American Diplomacy," *Business History Review* 55, no. 4 (Winter 1981): 517–40.

[53] Open Door discussion in United States Federal Trade Commission, *Report of the Federal Trade Commission on Foreign Ownership in the Petroleum Industry* (Washington, DC: GPO, 1923), 33–34. For Hornbeck's ideas, see S. K. Hornbeck, "The Struggle for Petroleum," *Annals of the American Academy of Political and Social Science* 112 (March 1924): 162–73.

[54] See footnote 42. For Congress' concerns about rail transport, see Committee on Interstate Commerce, US Senate, "Government Control and Operation of Railroads: Hearing before the Committee on Interstate Commerce, United States Senate, Sixty-fifth Congress, Second Session, pursuant to s. res. 171," 29 December 1917–26 January 1918 (Washington, DC: US GPO, 1918), exhibits 1–3.

[55] Roger M. Olien and Diana Davids Olien, *Oil and Ideology: The Cultural Creation of the American Petroleum Industry* (Chapel Hill: University of North Carolina Press, 2000), 136–40.

[56] Nowell, *Mercantile States and the World Oil Cartel*, 36, 41, 82, 222.

and large oil firms as "orthogonal."[57] Governments sought to exploit both each other and the companies, and the companies did the same.

Unfortunately, via the Red Line, the United States made itself a party to the suborning of Arab sovereignty, promised by Britain and France to their Arab allies in WWI but then revoked in the Sykes–Picot Agreement of 1915. Even before the Red Line, however, Britain had imposed the egregious Iraq Petroleum Company (IPC) concession on the Hashemite regime it installed in postwar Iraq. America's IPC share, won in the Red Line, made the United States a party to Britain's policy. Red Line firms soon became the first global oil cartel, the Seven Sisters. Just months after the Red Line, however, the cartel reached its secret "As-Is" Agreement, whose purpose was to offset the glut by suppressing global competition. As-Is sought, among other things, to keep ME oil out of America.[58] Historians missed the irony.

Those Governments Would Have the United States by the Throat. H. G. James foresaw the glut, but no one foresaw its magnitude. As the glut deepened, Americans debated whether or not to protect domestic producers by keeping out foreign oil. The anti-tariff *New York Times* clung to scarcity ideology: "Somewhere there is a limit to the quantity of petroleum in the United States. The oil imported from abroad helps to conserve the American supply and postpone the time when Americans will be dependent upon foreigners for their automobile gasoline. The foreign governments . . . would be delighted to see the United States put a tariff duty on upon foreign oil and thus hasten the exhaustion of American fields. Then those governments would have the United States *by the throat*."[59]

The As-Is Agreement foundered as the glut persisted into the 1930s. The Seven Sister's problem, as bedevils all cartels when abundant supply suppresses price, was how to allocate market share. Companies needed to cooperate to suppress competition, yet could not refrain from competing. Making matters worse for the cartel, independent producers from east Texas to the Kremlin poured oil onto the already-glutted market. Ironically, what finally brought some order to As-Is was Interior's determination to master the entire US oil industry, and industry's willingness to be mastered. By 1934, the glut was so severe that firms formerly hostile to government intervention now begged for federal price stabilization.[60]

The glut notwithstanding, elaborate intrigues to find and produce ME oil continued throughout the 1930s. These involved the Seven Sisters companies, the US and British governments, and a few independents. Little production resulted, however, as there were neither markets for, nor infrastructure to transport, ME oil. Political instability was also a nagging problem. King

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[57] Nowell, *Mercantile States and the World Oil Cartel, 1900–1939*.
[58] Yergin, *The Prize*, chap. 14.
[59] "Why Oil Wants a Tariff," *Washington Post*, 4 February 1931, 6.
[60] Yergin, *The Prize*, chap. 14.

Ibn Saud's Ikhwan warriors revolted between 1928–30, alienated by Saudi tolerance for moderate Islam and accommodation of Western oil development. Though the Ikhwan were eventually suppressed, US firms were little interested in Saudi Arabia.[61] SoCal, a firm also left crude short by the 1911 breakup, was America's only active explorer in 1930s Arabia.

Cycle 2, 1938–68

Overview

Before, during, and after WWII, the Department of the Interior forecast domestic peak oil, a condition that ostensibly made ME oil essential to national survival. WWII made oil's strategic importance obvious, but US supply was not vulnerable like Germany and Japan's. After WWII, the Soviets were ascribed with the desire to control ME oil so as to deny it to the West. Implicit was that the USSR could deprive the ME of oil revenue and still retain political control of the region. As a new glut deepened after 1950, scarcity ideology and Cold War ideology rationalized the Iran Coup in 1953. Ten years later in the same glut, scarcity ideology rationalized US support for a Baathist Coup in Iraq. Afterward, US officials asked IPC companies to support the Baath by increasing Iraqi production. The big IPC firms were dismayed; more oil was the last thing they wanted.

Cycle 2, First Half

Something We Have to Have. As a glut lasting almost two decades approached its end in fall 1941, Secretary of the Interior Harold Ickes warned President Franklin Roosevelt that at the current rate of demand, US reserves would last only fifteen years. The United States must therefore secure "extra-territorial reserves to guard against the day when our steadily increasing domestic demand can no longer be met by our domestic supply."[62] As with Interior's apocalyptic forecasts in Cycle 1, there was less to Ickes' case than met the eye. By neglecting to explain that reserves measure inventory, Ickes implied a crisis. Reserves are not a measure of recoverable oil, however. Rather, they "refer solely to proved or blocked-out crude oil known to be recoverable under existing economic and operating conditions." Ickes argument was therefore meaningless. Further, by invoking reserve decline as peak oil evidence, Ickes implicitly excluded all oil that might be found in

[61] Aileen Keating, *Mirage: Power, Politics, and the Hidden History of Arabian Oil* (Amherst, NY: Prometheus Books, 2005), chap. 13–15.

[62] Ickes to Franklin Roosevelt, 1 December 1941, cited in Gerald D. Nash, "Energy Crises in Historical Perspective," *Natural Resources Journal* 21, no. 2 (April 1981): 349.

areas yet untested, or that might become recoverable through technology innovations deployed to areas already explored.[63]

Ickes also repeated an argument first advanced by his aide, Ralph Davies: "[S]ince 1938 we have maintained our paper position with respect to reserves only by increasing the estimates for fields discovered in prior years."[64] Here Davies obfuscated that upward revisions to known fields were the result of drilling, just like new discoveries. Davies also omitted that firms explore to prove reserves only when they need to rebuild inventory, and then only if price provides an incentive. Incentive in 1941 was very low; glut prices had prevailed for nearly two decades.[65] Federal price controls imposed in the fall of 1941 made this bad situation worse. Controls made the 1940 price, which was very low, into the new ceiling.[66] Cyclical and policy-induced investment constraints thus fully explained the supply situation Ickes and Davies claimed as peak oil evidence.

Though Interior did its best to misinterpret market information, production was responding positively to harsh incentives for efficiency imposed by extended low price. Companies got better at exploring within known fields, an activity less costly than looking for new ones. In 1941, reserve growth within fields discovered since 1935 was a staggering 160 to 300%, despite flush production in the interim.[67] Reserve growth from existing fields explained why, despite stagnant investment and exploration, production reached an all time high in 1941.[68] Producers also began to adopt innovative reservoir management techniques like secondary recovery; by injecting water or methane into declining reservoirs, some production could be increased up to 200%.[69]

Few outside the industry understood any of this, however. By 1943, tangible, war-related shortages appeared, which Ickes conflated with peak oil to imply a relation. As in Cycle 1, however, shortages were the result of war-driven inflation, price controls, factor scarcity, and submarine attacks on

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[63] The American Petroleum Institute's clarification of the meaning of reserves came in response to a later misrepresentation of the same kind by Harold Ickes in "Report of the Committee on Petroleum Reserves, American Petroleum Institute," *Chemical & Engineering News* 22, no. 8 (1944).

[64] "Davies Warns That Reserves Lag Behind Production," *Oil & Gas Journal* 40, no. 27 (1941): 14.

[65] A. G. White et al., "Crude Petroleum and Petroleum Products," in *Minerals Yearbook 1945*, ed. E. W. Pehrson and H. D. Keiser (Washington, DC: United States Government Printing Office, 1947), 1053, fig. 2. See also fig. 1.

[66] The decline of drilling effort relative to the nominal crude price, which was little changed from 1936–45 and hence declined in real terms, is obvious from fig. 2. White et al., "Crude Petroleum and Petroleum Products," 1053.

[67] W. V. Howard, "Analysis of PAW Reserve Estimates Confirms Previous Conclusions," *Oil & Gas Journal* 41, no. 40 (1943): 27.

[68] White et al., "Crude Petroleum and Petroleum Products," in *Minerals Yearbook 1943*, ed. E. W. N. Pehrson and C. E. Needham (Washington, DC: US Government Printing Office, 1945), 1067, fig. 1.

[69] "Compact to Aid Expansion of Secondary Recovery Work," *Oil & Gas Journal* 41, no. 7 (1942): 55–56.

northeast-bound tankers from Texas, Mexico and Venezuela. During the Battle of the Atlantic in 1942, tanker losses were frighteningly severe.[70] All the while, price controls actively destroyed production. Starved of profit, small stripper well producers quit business by the hundreds, their production lost forever. Though production from individual strippers was tiny, under ten barrels per day, their aggregate was a formidable twenty to twenty-five percent of US production.[71] Producers large or lucky enough to survive price controls were dogged by factor shortages. Steel was so scarce, for example, that ancient trades like cooperage reemerged to supply wooden barrels for oil storage.[72] Testifying before the House Committee on Small Business, producers described a daunting array of disincentives and shortages: " . . . the increase in the cost of labor and the lack of skilled workmen [lost to conscription]; the scarcity of materials necessary to maintain machinery; the low price of oil; the profit being so small banks and other financial institutions will not make loans on production." Another Oklahoman, H. B. Fell, cited Treasury data demonstrating that in 1940 sixty percent of oil firms lost money. He explained that new reserves could not be proved unless firms drilled, but their willingness to do so had plummeted under price controls. Well completions declined fifty percent from 1940–43, while abandonments exceeded Depression levels. Fell made it as simple as he could: "I think that it is demonstrable that the price is what gets results. I think that would probably apply to spinach or beets or any other thing as well as to oil."[73]

Ickes ignored this evidence. Lobbying for the US Petroleum Reserves Corporation (PRC), the proposed national oil firm that he, as secretary of the interior, would lead, Ickes made a strict rehearsal of scarcity ideology. A decline from a twenty- to a fourteen-year supply of reserves demonstrated "a natural shortage of crude. Our own reserves have been falling off. Our new discoveries have been disappointing. Where are we going to get the additional oil that we have to have?"[74] Since reserves measure only inventory, Ickes' argument was meaningless. Yet, as he boasted to senators, his logic had just persuaded President Roosevelt to authorize a national oil firm. This, finally, would overcome Americans' aversion to the use of force to defend oil

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[70] Peter Padfield, *War beneath the Sea: Submarine Conflict during World War II* (New York: John Wiley, 1996); Samuel Eliot Morison, *History of United States Naval Operations in World War II*, 1st ed., 15 vols. (Boston: Little, Brown, 1947).

[71] Committee on Interstate and Foreign Commerce, *Petroleum Investigation: Hearings before a Subcommittee of the Committee on Interstate and Foreign Commerce*, 77th Cong., 23–25 and 30 November 1942 and 1 and 4 December 1942, 14.

[72] J. P. O'Donnell, "Oil Products Containers Remain a Problem," *Oil & Gas Journal* 41, no. 39 (1943): 25–26.

[73] Committee on Small Business, *Petroleum Supply Situation in the United States, Second Interim Report*, 78th Cong., 1st Sess., 427, 10 May 1943, 43–44, 22–24.

[74] Overseas Subcommittee, Special Committee Investigating the National Defense Program, *Investigation of the National Defense Program; Executive Session, Conference with The Petroleum Administrator for War* (Master Reporting Company, 15 November 1943), 1–27.

supply. Ickes recalled a conversation he had with US oil executives seeking US protection for their Arabian operations: "I said 'Gentlemen, the American people wouldn't stand for using the Navy in protecting your interests, but if there were some national interests there, I imagine our government would feel as the British government feels."' In other words, Britain's gunboat diplomacy was the model America should follow. "Here is something we have to have. We can't fight another war on our oil resources in this country . . . We have to have them where they are, and the best place is over in the Middle East."[75]

Ickes' argument became the basis of Cold War oil policy, so it is worth understanding. He offered a triply leveraged syllogism that:

1. Peak oil would exhaust domestic production within fourteen to fifteen years, leaving the United States unable to wage war from domestic supply.
2. ME oil could be denied to the United States.
3. No other supplier could help; therefore
4. The United States must control ME oil.

A counterargument by Bernard Brodie did not appear until 1947,[76] but evidence contradicting scarcity ideology was obvious in 1943:

1. Proved reserves in themselves indicated neither scarcity nor abundance, whereas inventory decline under conditions of war, inflation, factor shortage, and price control was inevitable.
2. ME sovereigns were keen to increase oil revenue and thus unlikely to withhold supply.
3. Mexico and Venezuela had exported critical increments in both world wars. The United States had never fought a mechanized war solely on domestic supply; therefore
4. It was not obvious that ME oil was "something we have to have."[77]

National security officials embraced Ickes' syllogism enthusiastically nonetheless. Secretary of the Navy Frank Knox repeated Ickes' argument almost verbatim, warning Congress of "the possible exhaustion of our known supplies of crude in America" in as little as fourteen years.[78] Ickes' schemes for a national oil company came to nothing, but his syllogism lived on.

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[75] This might have been secret testimony, as it was not part of the Congressional Record at the time. Ibid.

[76] Brodie, "Foreign Oil and American Security, Memorandum 23."

[77] See footnote 88.

[78] "Knox Warns of Crude Oil Shortage, with Exhaustion in 14 to 20 Years," *New York Times*, 26 June 1943, 1.

An Enormous Handicap Two new ideas were absorbed into Ickes' syllogism early in the Cold War. First, security experts came to believe that access to ME oil depended on how well its inhabitants liked America. Second, the Soviet Union was ascribed with the desire to deny ME oil to Western countries. The Joint Chiefs of Staff (JCS) then conjoined these fears; prospective US support for Jewish statehood might incline ME countries towards the USSR, whereafter they would withhold their oil from the West.[79] It sounded frightening, but the Chiefs' ideas flew in the face of what had just happened in Iran. In 1946, Soviet forces refused to vacate northern Iran in violation of a wartime partition treaty. However, induced by an oil concession for northern Iran and strident US objections to their treaty violation, the Soviets eventually departed.[80] In doing so, the Soviets turned their backs on an undefended Iranian littoral overlying the largest, most prolific oil formation on earth.[81] The JCS nonetheless insisted the Soviets were America's inevitable rival for ME oil, soon to be the last left on earth: "This is probably the one large undeveloped reserve in a world, which may come to the limits of its oil reserves within this generation without having developed any substitute. A great part of our military strength, as well as our standard of living, is based on oil."[82]

Bernard Brodie offered a rare dissent to this new Cold War scarcity ideology. He foresaw that US production would not peak anytime soon nor be problematic when it did. Gradual domestic production decline would be offset by imports from nearby countries, as had been happening for the past three decades. Brodie grasped that the market was fungible; the days of exclusive imperial trading blocs were over. Since peacetime supply was available to any buyer anywhere, the real problem was wartime. Then, military power and location would determine oil's availability, whereas resource ownership such as Ickes sought would be "dangerous and unnecessary." He continued:

> [If] we were to become dependent mostly or even largely upon such an area as the Middle East for our supplies of oil in wartime, we should be accepting an enormous handicap, a fact sufficiently demonstrated by the difficulties we experienced in the coast-wise and Caribbean transportation of crude oil by tanker during the recent war before the submarine menace was mastered and interior pipelines built. For regardless

[79] Such ideas were common in the Department of State at the time. See Robert D. Kaplan, *The Arabists: The Romance of an American Elite* (New York: Free Press, 1993).

[80] Robert Rossow Jr., "The Battle of Azerbaijan, 1946," *Middle East Journal* 10, no. 1 (Winter 1956): 17–32.

[81] Ziad R. Beydoun, "Arabian Plate Oil And Gas: Why So Rich and So Prolific?," *Episodes* 21, no. 2 (June 1998).

[82] Memorandum for the State–War–Navy Coordinating Committee, 21 June 1946, in *The United States' Recognition of Israel*, ed. Dennis Merrill, Documentary History of the Truman Presidency, vol. 24 (Bethesda, MD: University Publications of America, 1998).

> of where on the globe military operations were called for, our primary concern would have to be with protecting what might easily prove to be a tenuous line of sea-borne communications from the Middle East to our own shores.[83]

Brodie insisted on reason. Blurring the line between peace and war, as the JCS did, was wrong. What mattered was supply during conflict, a problem geography had solved for the US:

> The strategic approach to the oil problem must thus be based on the premise that, so long as it can be made to fulfill our basic wartime needs, the only oil reserves worth defending is that which can be held with a minimum of defensive military commitments. That portion of it which falls within the area we must in any case defend is pure windfall strategically. And since the United States, the Caribbean, and the northern part of South America clearly fall within our "minimum strategic defense area," a sound strategic oil policy must stem first of all from accurate appraisal of reserves within that area . . . [84]

Experts nonetheless continued to claim ME oil was crucial for the defense of Europe from Communism, in peace as well as war.[85] By this logic, the Departments of State and Defense strongly opposed Jewish statehood in 1948. President Harry Truman supported statehood anyway, whereafter Arab supply to the West grew rapidly.[86] Could this mean that revenue mattered more to Arab producers than Palestine? Might sellers' sentiments towards buyers mean nothing in a fungible market? No one asked.

The Decisive Weapons in the Present Cold War. Early 20th century concession terms granted to Western oil companies were generous. This was not necessarily unfair, as companies' risks were great. As geology became better known and risks declined, however, producer states naturally sought larger shares of resource revenues. US firms were conciliatory. Anxious to avoid another nationalization like Mexico's in 1938, firms readily accepted a fifty–fifty profit-sharing proposal with Venezuela in 1943.[87] In 1947, Iran sought to amend its old concessions along these lines, beginning with the deal that lured away the Red Army in 1946. Iran also demanded better terms from its largest concessionaire, Britain's Anglo–Iranian Oil Company (AIOC, formerly Anglo–Persian).[88] Although Iran and the AIOC eventually came to

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[83] Brodie, "Foreign Oil and American Security, Memorandum 23."

[84] Ibid.

[85] David S. Painter, *Oil and the American Century: The Political Economy of U.S. Foreign Oil Policy, 1941–1954* (Baltimore, MD: Johns Hopkins University Press, 1986); Painter, "The Marshall Plan and Oil," *Cold War History* 9, no. 2 (May 2009).

[86] Kaplan, *The Arabists*.

[87] Yergin, *The Prize*, chap. 22.

[88] Painter, *Oil and the American Century*, 114–15.

terms in 1949, anger over longstanding British truculence overtook the negotiations, leading to a Majlis vote to nationalize AIOC. [89] Iran's quest to regain its sovereignty was hardly a tilt towards communism, but the JCS saw it that way. "The decisive weapons in the present cold war in Europe are the petroleum resources of the ME and Venezuela. Should these weapons fall into communist hands it would only be the prelude to the lowering of the iron curtain of Soviet communism around Western Europe."[90] The CIA had first developed this theme in 1949, asserting that the Soviets sought " . . . acquisition and denial of oil . . . " in order to subdue Western Europe.[91] I call this belief the decisive weapon theory.

From first principles, there were only four ways the Soviets could use the decisive weapon: (1) by purchasing ME oil to preclude Western states from doing so; (2) by investing in exploration and development like Western concessionaires did; (3) by creating client states, or; (4) by invasion and seizure of oil production. US officials did not indicate which of these scenarios they anticipated. However, no one suggested that the war-ravaged Soviets could afford to buy enough ME oil so that Western states could not have any, or had enough cash, credit, and risk tolerance to become concessionaires. Apparently, then, the decisive weapon meant installation of client states or invasion. Yet Soviet leaders could hardly fail to grasp that resource nationalism was the order of the day. Stripping exporter states of revenue, as must result if oil were denied to the West, would make the Soviets far harsher energy imperialists than any Western state had ever been. Could the USSR really control a region it abused in such a way? No one asked.

Policymakers always believed that the USSR could and would usurp ME oil unless prevented from doing so by the United States. Iran's supply was believed most threatened. As is well studied, Britain exploited US anxiety over Iranian oil by pressuring Presidents Truman and Eisenhower to assist efforts to recover AIOC assets. Yet as American anxiety over Cold War oil supply grew, the scarcity premise of Ickes' syllogism fell away. Not only did the world fail to reach "the limits of its oil reserves within this generation," ME export growth glutted the market.[92] Observers as far away as Europe noticed the "clamour by the small [US] producers for a cut in oil imports."[93] As in Cycle 1, however, abundant supply was no obstacle to adoption of an aggressive policy to secure ME oil. With the change in presidency from Truman to Eisenhower in 1953, coup planning against Iran accelerated.

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[89] Yergin, *The Prize*, chap. 23.

[90] Memorandum for the President (Re: 127th Meeting of the National Security Council), 17 December 1952, President's Secretary's File, box 187, Harry S. Truman Presidential Library & Museum (HSTPLM).

[91] Relative U.S. Security Interest In the European-Mediterranean Area and the Far East, ORE 69-49, NARA # NN3-263-92-005, Central Intelligence Agency Freedom of Information Act Electronic Reading Room.

[92] Memorandum for the State–War–Navy Coordinating Committee, 21 June 1946, 24, 29.

[93] "Comment," *Petroleum* 6, no. 6 (1953): 147.

Cycle 2, Second Half

The Iran Coup. President Eisenhower's secretary of state, John Dulles, was an adherent of the decisive weapon theory. Dulles also believed that the Soviets were running short of oil, which fed a worry that if Iran's Prime Minister Mohammad Mossadegh was removed by Soviet intrigue, "the Communists might easily take over." Then, "[n]ot only would the free world be deprived of the enormous assets represented by Iranian oil production and reserves, but the Russians would secure these assets and thus henceforth be free of any anxiety about their petroleum situation. Worse still, Mr. Dulles pointed out, if Iran succumbed to the Communists there was little doubt the other areas of the Middle East, with some 60% of the world's oil reserves, would fall into Communist control."[94]

Dulles' fear was that Arab producers and Iran would fall in behind a Soviet bandwagon and stop selling oil to the West.[95] This was unlikely, and not simply because the decisive weapon theory was politically implausible. Soviet restoration of oil infrastructure damaged in WWII was so successful that production tripled between 1945 and 1955, and five-year plan goals were repeatedly revised upwards.[96] So, whatever the Soviet's supply anxiety might have been in 1953, it was far less than in 1946 when the Red Army could have seized Iranian production but did not. Yet even if the Soviets had needed foreign oil and could have reduced the ME to a resource colony to get it, there was a further obstacle. The Soviets had almost no capacity to transport oil to Russia. Existing railroads, pipelines and tankers could move only eight percent of regional refinery output northwards.[97] In war the utility of ME oil would be lower still. Any Russia-bound Iranian oil would have to be trucked on primitive roads from the Persian Gulf across several mountain ranges to the Caspian Sea, loaded on ships, hauled across the Caspian, and then transferred to the Soviet rail system, one still impaired by war damage. There, as the CIA saw it, real problems would begin. Any northbound oil trains that might be assembled could be "easily knocked out of commission by air bombardment because of tunnels in the rail net." ME supply was so vulnerable that the only Iranian asset thought to be of value was AIOC's jet fuel refinery, which could be moved to Russia where it might

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[94] Memorandum of Discussion at the 135th Meeting of the National Security Council on 3 March 1953, in Nancy Beck Young, *CIA Intervention in Iran and Nationalization of the Iranian Oil Industry*, Documentary History of the Dwight D. Eisenhower Presidency, vol. 10 (Bethesda, MD: LexisNexis, 2005), 30–31.

[95] Campbell Craig and Fredrik Logevall, *America's Cold War: The Politics of Insecurity* (Cambridge, MA: Harvard University Press, 2009).

[96] Soviet production in 1945 was seventy-eight percent of its 1940 level. V. Alekperov, *Oil of Russia: Past, Present, & Future* (Minneapolis, MN: East View Press, 2011), chap. 2. On the five-year plans, see ibid., 286.

[97] The USSR Petroleum Industry: ORE 24-49, 5 January 1950, Soviet Estimate, SE00080, Digitial National Security Archive.

be kept safe.[98] US Army Chief of Staff Lieutenant General Joseph Collins was even more emphatic. Asked how Iran's oilfields might be defended against Soviet invasion, Collins saw no need. As an observer wrote, " . . . it was plain to [Collins] that in the event of a hot war neither side—the Russians or ourselves—would ever get any oil from the Middle East. The fields were too vulnerable to attack by air or otherwise, and could be counted out of production during hostilities."[99]

Coup planning proceeded nonetheless. It did not matter that Ickes' peak oil forecast had proved wrong, that Arab exports grew despite their hostility to America's Israel policy, and that the decisive weapon theory was far-fetched. Why, then, did the Iran coup proceed? As in the contest with Britain in Cycle 1, more than oil was at stake. The USSR was a real rival in a grave Cold War contest. As historian Melvyn P. Leffler put it, " . . . there was no room for neutrality; diplomacy was a zero-sum game."[100] Dissenters were far too few to contest this consensus.

After the coup, the State Department set about organizing an oil consortium of AIOC and US firms. US firms had no history in Iran, however, and with the deepening glut they had little interest in Iran's oil. The Seven Sisters were already having trouble marketing enough oil to placate ME sovereigns without destroying the lucrative "Gulf-plus" price structure.[101] Only after a guarantee of exemption from antitrust action would the big companies even discuss an Iran concession.[102] Government, as always, led the way on aggressive policy.

As in Cycle 1, Interior's peak oil forecast failed to materialize. After 1947, price was pushed downwards by new offtake agreements between the Seven Sisters and ME producer states, not all of which could be fit into the rigged Gulf-plus market. Yet producer states were keen for more production and higher revenues. Their discontent grew as real price fell. The US Congress made things much worse by imposing mandatory import controls in 1959. Aggrieved, producer states organized OPEC a year later.

A Golden Opportunity. Resentment at declining revenue boiled over in Iraq in 1961 when the Abd al-Karim Qasim regime repudiated the IPC concession. As historian Brandon Wolfe-Hunnicutt describes, though Qasim left existing IPC production alone, the administration of President John F. Kennedy nonetheless feared that Qasim was somehow leading Iraq to defect to the Soviet sphere. To preempt the ostensible threat, US officials supported the 1963 Baathist coup, and then allied with their regime. US officials thought the Baath had given IPC a "golden opportunity," which IPC firms should

[98] Ibid.

[99] Young, ed., *CIA Intervention in Iran and Nationalization of the Iranian Oil Industry*, 60.

[100] Melvyn P. Leffler, *A Preponderance of Power: National Security, the Truman Administration, and the Cold War* (Stanford, CA: Stanford University Press, 1992), 357.

[101] Francisco Parra, *Oil Politics: A Modern History of Petroleum* (London: I. B. Tauris, 2004), chap. 3–4.

[102] Ibid., 28–30.

reciprocate by extending credit to the new regime. Officials were surprised when IPC's big three demurred. Exxon, BP and Shell had trouble enough marketing existing ME production; the last thing they wanted was more.[103]

Through the 1960s the USSR showered new supply on Europe, offering such steep discounts that officials suspected a scheme to "weaken the unity of NATO, and subvert the Western oil position in the Middle East."[104] The simpler, more obvious explanation for the Soviets' zest to export went unsuspected: the Soviets needed money. To get it, the USSR became a far more reliable supplier than the ME sovereigns who sought America's protection from the Soviets.

Cycle 3, 1969–97

Overview

Scarcity ideology's consequences proliferated in Cycle 3. Fears of an oil weapon arose, while Arab defection to the Soviet sphere remained a persistent fear. Belief in peak oil and an impending Soviet oil collapse made decision makers certain that an oil-starved USSR would invade Iran. The Carter Doctrine of 1980 threatened nuclear war to deter this imaginary threat. The locus of perceived threat migrated to Iran during the Iran–Iraq War, prompting America to ally with Saddam Hussein's Baathist Iraq. US intervention ultimately rescued his genocidal regime, which subsequently invaded Kuwait in 1990. The United States then attacked its former Iraqi ally. Use of overwhelming force against imaginary supply threats became the model for a new neoconservative grand strategy, The New World Order.

Cycle 3, First Half

This Time the Wolf is Here. Shortly before and after a price floor was reached in 1970, a new kind of resource forecast appeared in which all commodities were expected to become scarce.[105] American powerlessness, always implicit in scarcity ideology, became explicit.[106] State Department expert on the region James Akins asserted that ME producers possessed an oil weapon, that is, selective embargo, with which they could punish America for its pro-Israel policies. America's only options were (1) endure economic calamity; (2) wage war against producers, or; (3) agree to Arab demands in regards to Israel, as Akins advised.[107]

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[103] Brandon Wolfe-Hunnicutt, "The End of the Concessionary Regime: Oil And American Power In Iraq, 1958-1972" (PhD thesis, Stanford University, 2011), 76–114.

[104] Yergin, *The Prize*, 501.

[105] Donella H. Meadows and Club of Rome, *The Limits to Growth: a Report for the Club of Rome's Project on the Predicament of Mankind* (New York: Universe Books, 1972).

[106] Parra, *Oil Politics*, 114–18.

[107] James E. Akins, "This Time the Wolf Is Here," *Foreign Affairs* 51, no. 3 (April 1973): 462–90.

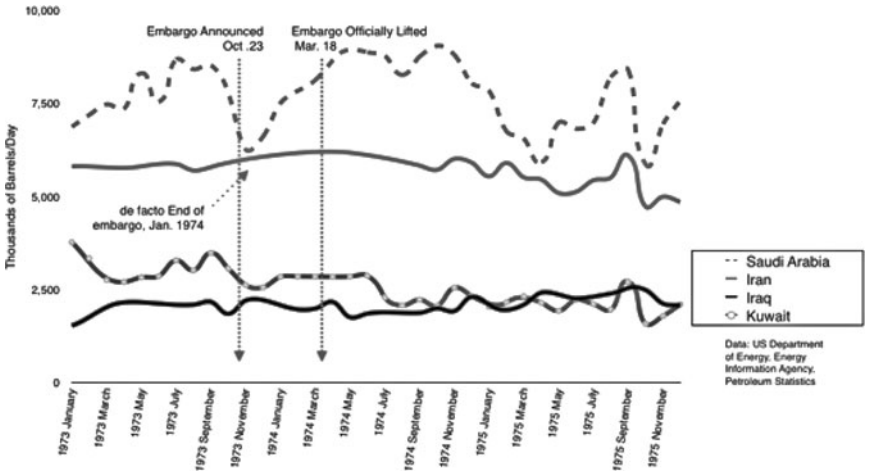

FIGURE 2 The Oil Embargo of 1973–74 as Cognitive Illusion[108]

Among the few to challenge Akins was petroleum economist Morris Albert Adelman, who recognized that unless all Arab producers foreswore all sales to all customers, no state could be isolated by selective embargo. Nonetheless, full of confidence and apparently coached by Akins, Arab OPEC producers imposed their embargo in late October 1973.[109] Direct sales to the United States and Holland were stopped, and a five percent supply cut promised for every month Israel remained outside its 1967 borders. Price rose rapidly in response.

President Richard Nixon ignored the ostensible dangers. He not only declined to pressure Israel, but also supplied them arms during the October War.[110] The embargo soon foundered. Its de facto end was January 1974; Saudi production rose sharply that month, exceeding January 1973 by thirteen percent. The Kingdom must have recognized that Iraq and Iran were free riding, and that to continue the embargo would help them and harm itself (Figure 2).[111]

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[108] Convinced of US vulnerability to an Arab oil weapon in the autumn of 1973, American citizens, traders, and decision makers saw what they expected to see: the crippling shortages forecast in oil scarcity ideology and its oil weapon corollary. There was less to the embargo than met the eye, however. First, Iran and Iraq did not participate, choosing instead to free ride, that is, to increase their production in order to exploit the price increase induced by the embargo. Second, in autumn markets then and now, all producers reduce output in response to seasonal changes in importer-state market conditions: a decline in gasoline demand and the onset of refinery maintenance season. Notice that Saudi reductions during the 1974–75 cold season were deeper and longer than during the ostensible embargo of 1973–74. Besides the claim by Arab OPEC that an embargo was in place in 1973–74, there is little to distinguish the production cuts in the two cold seasons shown.

[109] Adelman, *Genie Out of the Bottle: World Oil Since 1970*, 100–10.

[110] Ibid.

[111] US Energy Information Administration, "World Crude Oil Production: OPEC Members," http://www.eia.gov/totalenergy/data/monthly/pdf/sec11_4.pdf.

Supply impacts were ephemeral, but the price shock from precautionary demand (hoarding) was real.[112] US officials had no idea the oil weapon had been routed, however. Adelman captured the irony: "The Arab oil producers' so-called embargo against the United States and the Netherlands had no effect. The world oil market, then as now, was one great pool. I was not alone in pointing out, months beforehand, that if the Arab countries embargoed the United States, non-Arab output and diverted Arab output would supply us.[113]

It later emerged that President Nixon had begged King Faisal to lift the embargo, clearly unaware it had been abandoned long before.[114] Unnecessary groveling gave way to unnecessary aggression. In 2005, then-Secretary of State Henry Kissinger boasted that in March 1974 he threatened the United States would seize Saudi production unless the embargo were lifted.[115] Confusion reigned at the Department of Defense as well. Saudi Arabia stopped direct sales to US government agencies, leading panicked officials to believe that Vietnam War logistics would be crippled. Decision makers seemed not to know that government could buy oil on the spot market or through customer swaps, like refiners did. Thus, in ignorance of where else to shop, the United States threatened a reasonably loyal ally with invasion. Nixon's blunder proved a Saudi boon. The king quickly announced he would end the embargo, which disguised his having done so months before.[116]

We Are Terribly Vulnerable. During Jimmy Carter's presidency, scarcity ideology was assimilated into an ominous new conception of US powerlessness. The idea originated with the Committee on the Present Danger, who argued that the Soviets could expand their area of influence by exploiting a nuclear "window of vulnerability." National Security Advisor Zbigniew Brzezinski asserted that the USSR would try to do this in the ME. The window of vulnerability was the focus of the 1976 "Team B" report, prepared by non-government experts later called neoconservatives.[117] The report's lone hypothetical reveals how deeply scarcity ideology was integrated into early neoconservative thought. The Soviets were expected to exploit their

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[112] Parra, *Oil Politics*, 184–85.

[113] M. A. Adelman, "My Education in Mineral (Especially Oil) Economics," *Annual Review of Energy and the Environment* 22, no. 1 (1997): 30.

[114] Raymond Close, "Nixon and Faisal: If Arabs Mistrust America, There's Good Reason," *International Herald Tribune*, 19 December 2002, http://www.nytimes.com/2002/12/19/opinion/19iht-edray_ed3__0.html.

[115] A BBC television documentary, "House of Saud," cites a declassified British government document confirming the seizure threat. Kissinger makes the comment in "House of Saud," *Frontline*, 8 February 2005.

[116] Mike Ameen and Frank Jungers to Interviewer, "House of Saud."

[117] Team B's conclusions were later refuted. See Pavel Podvig, "The Window of Vulnerability That Wasn't: Soviet Military Buildup in the 1970s—A Research Note," *International Security* 33, no. 1 (Summer 2008): 118–38.

nuclear advantage by "interdiction of the Western flow of oil supplies or the disruption of the democratic processes by Communist parties."[118]

Perhaps to prepare for this anticipated aggression, Brzezinski asked political scientist Samuel Huntington to lead an assessment of Soviet threats for the National Security Agency. Huntington consciously sought to make his study, known as the PRM-10 Net Assessment, "the lineal descendant of [National Security Council Report] 68."[119] Preparation of PRM-10 was in progress when an explosive CIA report was declassified, asserting that Soviet production would soon collapse: "During the next decade, the USSR may well find itself not only unable to supply Eastern Europe and the West on the present scale, but also having to compete for OPEC oil for its own use.[120] This formulation required that peak oil must render all countries but OPEC incapable of increasing production. Secretary of Defense Harold Brown saw peak oil in precisely this way, as " . . . a potential energy disaster" against which "we are terribly vulnerable . . . " Brown framed scarcity as the predicate to defection, as Dulles had done in Cycle 2: "The present deficiency of assured energy resources is the single surest threat that the future poses to our security and to that of our allies."[121]

Apparently based on such logic, PRM-10 inferred that ME oil was now at risk. As a summary memo describing PRM-10 declared, "U.S. interests continue to grow as Western access to oil becomes more important; the possibility of conflict, potentially involving the USSR, remains higher there [in the ME] than in other parts of the world."[122] "[A]ccess," of course, implied the possibility that it might be lost, as per the decisive weapon theory. Yet, as always, how the Soviet could deprive the region of oil revenue and still retain political control of it went unexplained.

Declassification of the CIA report was meant to build domestic support for energy conservation initiatives. However, the declassification was so unusual as to cause a minor sensation. Dissenters suddenly found a wide audience. For the first and last time in the 20th century, scarcity ideology was challenged for a month or two, sometimes in public. Economist Marshall I. Goldman noted that CIA had been predicting Soviet oil collapse, wrongly, since 1970; why believe them now?[123] Similarly, but in secret, a

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[118] Team B, "Intelligence Community Experiment in Competitive Analysis: Soviet Strategic Objective, An Alternative View" (CIA Freedom of Information Act Web Archive: CIA, 1976).

[119] William E. Odom, "The Cold War Origins of the U.S. Central Command," *Journal of Cold War Studies* 8, no. 2 (Spring 2006): 57.

[120] Intelligence Memorandum: The Impending Soviet Oil Crisis (Secret, ER 77-10147), March 1977, Central Intelligence Agency Freedom of Information Act Electronic Reading Room, http://www.foia.cia.gov/sites/default/files/document_conversions/89801/DOC_0000498607.pdf.

[121] Bernard Weinraub, "Brown Says Lagging Fuel Supply Is Largest Threat to U.S. Security," *New York Times*, 27 October 1977, 88.

[122] Memorandum (top secret XGDS) for Brzezinski, 8 July 1977, Brzezinski Material, box 24, Jimmy Carter Presidential Library (JCPL).

[123] Marshall I. Goldman, "The C.I.A. and Oil," *New York Times*, 28 April 1977, 29.

State–Treasury group contested CIA's claim that the Soviets "cannot prevent the downturn." State–Treasury also discussed a scathing review of the Soviet oil collapse theory by the Defense Intelligence Agency (DIA), which "challenged the CIA's analysis on the grounds that it understates Soviet oil reserves, greatly exaggerates the fluid lift capacity the USSR will need, and underestimates both the volume and quantity of Soviet exploratory drilling capacity." The Soviets were drilling for gas on a massive scale, DIA noted, and could redeploy those rigs to drill for oil if necessary. State–Treasury concluded: "The differences between the CIA and its critics, particularly the DIA, are sharp, technical and, for the most part, important."[124]

This was an understatement. Some of the most fateful decisions of the Cold War would soon be taken on the assumed certainties of peak oil and impending Soviet oil collapse. Yet by 1978, market information contradicting the CIA was available in great detail. Most conspicuous was an article by high-echelon Soviet engineers V. I. Muravlenko and S. A. Orudjev that forecast robust supply growth. Of 220 newly discovered oil and gas fields in Siberia, "six were gigantic and thirty-one large." Modestly claiming these were "a reliable mineral foundation for further increase in oil and gas production," the engineers described new Soviet petroleum developments continental in scale.[125]

The Arc of Crisis. Though a Soviet alliance with Egypt had collapsed by 1978, ongoing Soviet interventions in Ethiopia and Yemen convinced Brzezinski that the window of vulnerability had opened in the ME. The military force Huntington proposed must therefore be created.[126] As Brzezinski explained to President Carter, the United States must respond to an "Arc of Crisis" around the Indian Ocean:

> Fragile social and political structures in a region of vital importance to us are threatened with fragmentation. The resulting political vacuum might well be filled by elements more sympathetic to the Soviet Union. This is especially likely since there is a pervasive feeling in the area that the U.S. is no longer in a position to offer effective political and military protection. . . . [T]he West as a whole may be faced with a challenge of historic proportions. A shift in Iranian/Saudi orientation would have a direct impact on trilateral cohesion, and it would induce in time more

[124] Memorandum for Dr. Brzezinski, The White House, Re: Joint State-Treasury Assesment of CIA Study on Slowdown in Soviet Economic Growth, from Peter Tarnoff, 27 December 1977, Staff Material, NLC 29-10-7-7-5, JCPL.

[125] S. A. Orudjev and V. I. Muravlenko, "Integrated Planning for Exploration Development, Production and Transportation for Rapid Expansion of Oil Field Operations," *Petrolieri International* 24, no. 12 (1977): 29–40.

[126] Final Report, Military Strategy and Force Posture Review, 8 June 1977, PRM-10, Presidential Review Memoranda Collection, JCPL, http://www.jimmycarterlibrary.gov/documents/prmemorandums/prm10.pdf.

> neutralist attitudes on the part of some of our key allies. In a sentence, it would mean a fundamental shift in the global structure of power.[127]

The language of trilateralism was obtuse, but the scarcity ideology was unmistakable. Brzezinski meant that if ME producers stopped supplying oil to Western democracies, the democracies would defect to the Soviets. Brzezinski did not explain how the USSR would manage to control the ME while depriving it of oil revenue when "elements more sympathetic to the Soviet Union" cut supply, but he did not have to. The Cold War syllogism had not been questioned since Brodie did so in 1947. Carter soon authorized the Rapid Deployment Force, predecessor of US Central Command.[128]

There Will Be a Glut. Following Reza Shah Pahlavi's flight from revolutionary Iran in spring 1979, Iranian oil production collapsed from 5.8 million barrels per day to around half that by years end. In November 1979 the US embassy staff in Tehran was taken hostage, an event that pushed oil price to new heights. As had happened during price increases in Cycles 1 and 2, scarcity was invoked as the rationale for aggressive policy. Brzezinski's aide, US Army Colonel William Odom, explained, "[a] shortage of gasoline in the United States in the wake of the Iranian revolution caused long lines at service stations and public discontent aimed at President Carter. This disconcerting experience made his domestic advisers acutely aware of the strategic significance of the major oil-producing states in the Middle East. . . . [T]he president had to focus much of his attention not only on Iran but also on the larger issues of the region, including the potential for Soviet intervention."[129]

In other words, experts had forecast peak oil and now, with the gasoline shortage, it had arrived. However, just as officials had done in Cycles 1 and 2, Odom invoked a policy-induced shortage as evidence that aggressive policy was needed to secure foreign oil. As economist Philip Verleger explained at the time, however, the gasoline shortage was a consequence of Department of Energy (DoE) actions. In expectation of peak oil in the long run and fuel oil shortage in the winter ahead, DoE told refiners to "restrict somewhat the amount of oil that is made available to purchasers currently." Lines at filling stations grew as refiners obeyed. Crude in storage also grew as refiners ramped up purchases in anticipation of shortage.[130] Market observers were quick to contest government's view that Iranian instability caused US shortages. *Pipeline & Gas Journal* editor Ernestine Adams

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[127] NSC Weekly Report, Brzezinski to Carter, 2 December 1978, Zbigniew Brzezinski Collection, Weekly Reports, box 41, Jimmy Carter Presidential Library.

[128] US National Strategy, PD/NSC-18, JCPL, http://www.jimmycarterlibrary.gov/documents/pddirectives/pd18.pdf.

[129] Odom, "Cold War Origins of the U.S. Central Command," 61.

[130] Philip K. Verleger Jr., "The U.S. Petroleum Crisis of 1979," *Brookings Papers on Economic Activity* 1979, no. 2 (1979): 463–64.

observed that " . . . Energy Czar Schlesinger threatens to allocate supplies of oil products because of shortages *caused chiefly by over-regulation and price controls*. DoE blames Iran's political problems for the current shortages, of course."[131]

Indicators of the coming glut became so ubiquitous that Brzezinski unwittingly reported some to President Carter.[132] Observing that 1979 first quarter supply exceeded 1978's despite Iran's export decline, Brzezinski declared "the outlook for the next three or four years will depend on the growth of oil consumption and the willingness of OPEC to increase capacity."[133] This was obviously wrong. OPEC production had fallen substantially, yet global supply grew. This could only have happened via non-OPEC production growth, as was everyday news in the energy trade press.

The gravity of succeeding events makes it important to underscore the ideas at work here. The ostensible significance of the ME to the USSR was the same as to the United States. Peak oil was supposedly eliminating other sources, leaving the superpowers to fight over the ME. Yet there was another source, non-OPEC oil, whose remarkable production growth was plain to see. Finally, even DoE's Energy Information Administration dissented, forecasting non-OPEC growth through at least 1995.[134] Sheikh Zaki Yemani, Saudi Arabia's eloquent minister of petroleum, said simply, "[t]here will be a glut . . . it is coming."[135]

Evidence against the Soviet oil collapse theory also grew. A 2,050-mile gas pipeline from Siberia to Western Europe was being expanded.[136] The massive construction project implied an obvious question. If Siberian oil production were soon to collapse, existing pipeline capacity would fall idle. Idled oil pipelines could be readily converted to gas, so why were the Soviets building more? The simplest and perhaps only answer to this question was that Siberian oil production would increase, just as described in the trade journals.[137]

The NSC's belief that an oil-starved USSR threatened Iran thus required that (1) a long string of questionable peak oil assumptions must all be right; (2) copious market information indicating oil's abundance must all be wrong, and; (3) Soviet oil policy must be schizophrenic. That is, the Soviets were making large investments on Western credit to build pipelines in order to

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[131] Ernestine Adams, "Energy Managment Report," *Pipeline & Gas Journal* 206, no. 3 (1979): EM 1. Emphasis in the original.

[132] "Crude Surplus Seen for Next 3–5 Years," *Oil & Gas Journal* 76, no. 21 (1978): 42.

[133] Daily Report for The President from Zbigniew Brzezinski, 13 March 1979, Brzezinski Material: President's Daily Report File, NLC-1-10-1-5-3, JCPL.

[134] "EIA Optimistic on Crude Supply Outlook, Study Says Non-Communist Oil Output Will Increase by at Least 48% by 1995, Optimism Clashes with Gloomy Outlook of Recent CIA Report," *Oil & Gas Journal* 77, no. 37 (1979): 103–03.

[135] Yergin, *The Prize*, 686.

[136] "Soviets Press Line Work to Boost Gas Production," *Oil & Gas Journal* 77, no. 14 (1979): 39–43.

[137] For example, Orudjev and Muravlenko, "Integrated Planning for Exploration Development."

sell gas to Western Europe. Yet, supposedly, they were also poised to invade Iran, seize its oil, and deny that oil to the West. Anything was possible, but how likely was it these many, elaborate, and self-contradictory arguments were all correct?

Nuclear Dunkirk. The NSC meanwhile began to prepare the nation for an oil war. A public relations campaign cultivated fear that an oil-starved USSR threatened Iran. The pièce de résistance was a *Time* cover image of the Soviet bear looming over a map of the Indian Ocean, nose and claws poised above Iran.[138] Brzezinski soon sought to lure the Soviets into Afghanistan. The United States, he told the president, should support mujahedeen insurgents fighting Kabul's pro-Soviet regime. This might provoke the Soviets into intervening to support their new ally, weakening them as Vietnam weakened America.[139] Carter was persuaded, authorizing arms for the Afghan resistance in summer 1979.[140] The Soviets took the bait six months later. Their invasion was defensive, however, and the CIA characterized it as such.[141] Though CIA Director Admiral Stansfield Turner still believed in impending Soviet oil collapse, he did not believe this would compel the Soviets to fight their way to a new supply in Iran: "It is unlikely that the Soviet occupation of Afghanistan constitutes the preplanned first step in the implementation of a highly articulated grand design for rapid establishment of hegemonic control over all of Southwest Asia."[142]

The NSC quickly sought to convince President Carter to ignore Turner. Fritz Ermarth, an NSC analyst and former Team B participant, discounted Turner's dissent. It is unclear whether Ermarth's attack on Turner reached Carter, but the NSC's resolve for aggression stands out. The trouble, Ermarth wrote to Brzezinski, was insufficient Soviet fear of US retaliation. The window of vulnerability, he seemed to say, was wide open. Soviet fear must therefore be stoked by presidential declarations that the United States would retaliate if the USSR invaded Iran. If the Soviets invaded anyway, the United States must make good its threats by invading Khuzestan from the south, before

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[138] "Iran: The Crescent of Crisis," *Time*, 15 January 1979.

[139] "Les Révélations d'un Ancien Conseilleur de Carter: 'Oui, la CIA est Entrée en Afghanistan avant les Russes . . . ,' translated from an interview in *Le Nouvel Observateur* by William Blum and David N. Gibbs, in "Afghanistan: The Soviet Invasion in Retrospect," *International Politics* 37, no. 2 (1998): 241–42; Odom, "The Cold War Origins of the U.S. Central Command," 82.

[140] Finding Pursuant to Section 662 of the Foreign Assistance Act of 1961, as Amended, Concerning Operations in Foreign Countries Other Than Those Intended Solely for the Purpose of Intelligence Collection, JCPL.

[141] Richard Halloran, "Carter Sending 6 More Navy Ships, Including Carrier, to Arabian Sea," *New York Times*, 21 November 1979, A1; Georgy M. Kornienko, "When and Why the Decision to Send Troops [to Afghanistan] Was Made," *The September 11th Sourcebooks, Volume II: Afghanistan: Lessons from the Last War, The Soviet Experience in Afghanistan: Russian Documents and Memoirs*, ed. Svetlana Savranskaya, National Security Archive Electronic Briefing Book (Washington, DC: George Washington University, 2001), doc. 10, http://nsarchive.gwu.edu/NSAEBB/NSAEBB57/soviet.html.

[142] Memorandum for Brzezinski: CIA Assessment of Future Soviet Policy in Southwest Asia (U), 18 January 1980, NLC-6-82-7-14-3, JCPL.

the Red Army got there. Ermarth then put the old, familiar decisive weapon theory in a frightening new battlefield context:

> If we face a massive onslaught aimed at taking all of Iran, we would have to try to move in and fight them as best we can, even at the cost of a Dunkirk, while also striking them elsewhere in the region. To adopt a posture of strategic retreat or strategic "holding back" because of our local weakness in the hopes of striking a deal—the Soviets get Iran in return for our getting Persian Gulf oil by Soviet grace—would be a disaster. Our power in the region would be at an end. Europe and Japan would rapidly come under Soviet domination. . . . I fully appreciate that all of the above carries with it, not merely the risk of a war with the Soviet Union in SW Asia, but the risk of a general war, a nuclear war. If the issue is a major Soviet invasion of Iran, that is what we have come to.[143]

Scarcity ideology now had its own nuclear war plan. Since defection of oil-hungry US allies was an existential threat, Khuzestan must be defended at any cost. Five days later the president did as Ermarth wished. Carter's 1980 State of the Union address declared Persian Gulf oil a vital interest the United States would defend "by any means necessary . . . " The tortured, implausible syllogisms of scarcity ideology were now formal policy, known thereafter as the Carter Doctrine.

Iranians Are Irrational. As attention shifted to Iran and Iraq in the 1980s and 1990s, scarcity ideology increasingly colored US leaders' interpretations of ME events. The Iran–Iraq War, which began just a few months after Carter's declaration, was a Cold War novelty; neither combatant was a superpower client. Americans knew which side they wished defeated, however. Their new habit of conceiving Iran in moral terms made any Iranian adversary "good," at least relatively. Saddam Hussein was the beneficiary of this thinking. Following Iraq's invasion of Iran, Iran mounted a successful counter-invasion. Iran's battlefield success panicked Saudi Arabia, Iraq's main financier. The Kingdom urgently renewed requests for US weapons sales, which Israel just as urgently opposed.[144] Brzezinski's solution was direct US involvement: US Airborne Warning and Control System (AWACS) aircraft should operate from Saudi Arabia. "We have to face up to two basic facts," Brzezinski told Carter. First, the best way to prevent escalation was "to reassure our friends with a military presence." Second, "[s]ince the Iranians are irrational in any case, it is wrong to conclude that our military presence in Saudi Arabia will provoke them . . . we should not make a fetish out of 'neutrality' when our most vital interests are at risk. Moreover, the whole

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[143] Emarth's communications regarding nuclear war were ominously marked "Outside the System"; see Memorandum for Zbigniew Brzezinski, 18 January 1980, NLC-31-205-6-5-9, JCPL.

[144] William B. Quandt, *Saudi Arabia in the 1980s: Foreign Policy, Security, and Oil* (Washington, DC: Brookings Institution, 1981), 117–22.

world knows that we have a vital stake in Saudi oil . . . [if] our passivity in the face of a Saudi request would become known . . . [it] would be extraordinarily destructive both in terms of our international standing abroad and our political position at home."[145]

The threshold for conflict was thus dramatically lowered. Since Iranians were irrational, the United States must preempt what they might do, which could be anything. Just as with the Soviets, it was believed, only massive force could deter Iran. For Brzezinski, force exertion in the ME had no downside. This was novel. West-leaning Arab sovereigns had always worried that too close a relationship with America would be politically untenable. In response, US policymakers tried to make military relationships with ME allies as opaque as possible. Brzezinski, by contrast, assumed away the risk of backlash, paving the way for the disastrous decades ahead. Once America's outsized naval force arrived in the Arabian Sea and its AWACS planes began to operate from Saudi Arabia, the necessity to maintain credibility of the force instantly imposed its own logic.

US policy was little changed by the incoming administration of President Ronald Reagan. The 1981 oil market was sky-high, yet went no higher on Iran–Iraq War news. Iran, so greatly feared by the Saudis, did not attack Saudi oil navigation or infrastructure as feared, but this made no impression on US decision makers. To the contrary, with Iran on the offensive by 1982, there was " . . . outright panic on occasion, at the specter that Iran would win the war. This doomsday scenario had these components: the Iranians would capture the oil rich area around . . . Basra, then move on to Baghdad and perhaps capture and occupy all of Iraq, then follow up this unprecedented victory by igniting the majority Shiite population of Iraq to take up arms against U.S. interests all over the Middle East, and move to close the Strait of Hormuz . . . "[146]

Cycle 3, Second Half

Unable or Uninterested. Following the perverse logic of scarcity ideology, US officials began to equate Iraq's fortunes in war with "the security of the Gulf and our access to oil and markets."[147] Iran's growing success on the battlefield meant, "[w]e may soon be faced with a situation in which a significant portion of the oil supplies to the West are heavily influenced by Iran

[145] Memorandum for the President from Zbigniew Brzezinski, 27 September 1979, Brzezinski Material, JCPL.

[146] James G. Blight et al., *Becoming Enemies: U.S.–Iran Relations and the Iran-Iraq War, 1979–1988* (Lanham, MD: Rowman & Littlefield Publishers, 2012), 96.

[147] "Document 3-1: Author Unknown, Discussion Paper for Senior Interdepartmental Group (SIG) on Policy Options for Dealing with the Iran-Iraq War, mid-1982," in Blight et al., *Becoming Enemies*, 309–10.

or political forces hostile to the West, or by forces unable or uninterested in maintaining the flow of oil."[148]

This was a strange claim. Oil revenue was the essence of survival for regional producer states, which had only recently nationalized Western oil investments. Iran, moreover, was a poor state with few creditors, fighting a war of survival on export revenue alone. Its enemy, by contrast, had many creditors, among them rich Arab states. An Iran that was "unable or uninterested" in selling oil was possible, but was it likely? To decision makers, the answer was yes: " . . . Iran seemed to constitute a clear and present danger to both of America's principal interests in the Middle East, the free supply of oil to the West, and the security of Israel. Hence the panic in the corridors of power in Washington; . . . how, short of large-scale U.S. military intervention (which no one favored) can the United States prop up Saddam Hussein's war effort so that, at a minimum, the Iranians are held to a stalemate in a war of attrition, the oil keeps flowing, and Israel, for all its difficulties, survives . . . [?]"[149]

Raw truths contradicting this new narrative were many. First, non-OPEC supply had been growing rapidly since 1978. Second, it was not clear that Iran had the military infrastructure for an invasion and occupation of Arabia. Third, it was not obvious how Iran could survive economically if it closed Hormuz. That is, even if Iran somehow managed to keep the Strait open for itself after closing it to Arab navigation, US warships in the Arabian Sea could easily seize all in- and outbound Iran traffic, starving the regime of oil revenue and war goods. To close the Strait was thus to choose besiegement, which no state was likely to do.

Nonetheless, in late 1983 Secretary of State George P. Shultz worried that if Iran attacked Arab navigation, insurers would abandon the Gulf market.[150] America's tilt towards Iraq should therefore be formalized because of what insurers might do. President Reagan duly signed National Security Decision Directive 114 (NSDD 114), committing the United States to " . . . undertake whatever measures may be necessary to keep the Strait of Hormuz open to international shipping. Accordingly, U.S. military forces will attempt to deter and, if that fails, to defeat any hostile efforts to close the Strait to international shipping. Because of the real and psychological impact of a curtailment in the flow of oil from the Persian Gulf on the international economic system, we must assure our readiness to deal promptly with actions aimed at disrupting that traffic."[151]

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[148] "Document 3-3: Henry S. Rowen, Memorandum for Geoffrey Kemp, July 20, 1982," in ibid., 311.

[149] Ibid., 97.

[150] George P. Shultz to the President, memorandum, 13 October 1983, Ronald Reagan Presidential Library, http://www.thereaganfiles.com/shultz101383memo.pdf.

[151] "U.S. Policy Toward the Iran-Iraq War," National Security Decision Directive 114, 26 November 1983, http://www.fas.org/irp/offdocs/nsdd/nsdd-114.pdf.

The threshold for aggressive action thus fell again, rationalized by a scarcity threat more implausible than ever. Consequences for the region were catastrophic. America's alliance with Saddam Hussein rescued Iraq from defeat by Iran, and helped sustain the Iran–Iraq War for another six years. A million combatants may have died. Moreover, NSDD 114 subverted Iran's war aim, which was to remove Saddam Hussein from power.[152] The United States, of course, would later adopt this war aim, which Iran had almost achieved when the Reagan administration intervened in 1982.

The most important US contribution to its gruesome partnership with Hussein's Iraq was targeting intelligence. Taught how to use this intelligence by US officials, Iraq increased the scale and accuracy of its chemical weapons attacks.[153] NSDD 114 was thus decisive in building Iraq's weapons of mass destruction capacity, which in turn shaped the regional distribution of power in Iraq's favor. Iraq emerged from the war in economic ruin, however, which Saddam Hussein sought to remedy by invading Kuwait. Some US officials believed their country's unswerving, permissive alliance with Iraq was instrumental in the Kuwait invasion. One said: "Ask yourself what Saddam concludes from our not resisting his use of chemical weapons on Iranians and Kurds. I think he concludes he can get away with anything.[154]

Though former US officials felt scarcity imperatives left no alternative to supporting Iraq, regret colored their reminiscences. One said, "if [Saddam Hussein] hadn't invaded Kuwait . . . the history of the Middle East over the past twenty years might have been far different."[155] My research suggests a preceding counterfactual: if the United States had rejected scarcity ideology, the preceding century might have been far different.

Vision of a Better World. After Iraq's invasion of Kuwait, a UN embargo removed Iraqi and Kuwaiti production supply from market. Yet the glut was so intense that even with the world's 3rd and 4th largest producers off the market, OPEC soon exceeded quota. With supply so abundant, President George H. W. Bush may have been reluctant to offer scarcity as a rationale for war to retake Kuwait. Whatever the case, moral imperatives suddenly entered official discourse. Saddam Hussein's Iraq threatened the "vision of a better world" the United States and USSR now shared. The formal authorization

[152] For example, "until the complete attainment of the legitimate conditions of the Islamic Republic of Iran and the downfall of the regime governing Baghdad we shall continue with the slogan, 'war, war until victory.'" See Radio Tehran, 4 April 1983. Cited in Lawrence Freedman and Efraim Karsh, *The Gulf Conflict, 1990–1991: Diplomacy and War in the New World Order* (Princeton, NJ: Princeton University Press, 1993), 9.

[153] Patrick E. Tyler, "Officers Say U.S. Aided Iraq in War Despite Use of Gas," *New York Times*, 18 August 2002, 1.

[154] Blight et al., *Becoming Enemies*, 187.

[155] Ibid., 219.

for force against Iraq, however, was a strict rehearsal of scarcity ideology, devoid of moral content.[156]

The Powerful Consensus. Though they made no impact, a few dissenters carried on after those of 1977–80 were brushed aside. In 1989 IR researcher and former diplomat Robert H. Johnson asked "whether the Gulf deserves its current status and priority in U.S. grand strategy." Warning against groupthink, he observed: "The near-consensus on the threat and the stakes in the Gulf has led to much discussion of the 'how' of U.S. policy, much less attention to the 'why."' Johnson foresaw that "[u]se of military force to deal with this economic problem could worsen it and would be very unlikely to provide a solution."[157] Anyone could see this, one might think, but only Johnson did.

Morris Adelman, likewise, decried groupthink. His focus was peak oil, which he had tried so hard to discredit: "The increase in non-OPEC production was a shocking surprise. The powerful consensus was and continues to be one of 'limited resources,' with oil supply running down everywhere except the Persian Gulf." This was to no avail. No one seemed to care that forecasts of peak oil and the Soviet oil collapse had failed. Incredulous, Adelman emphasized that not only had Soviet production not collapsed, it grew from 1976–85, as did Soviet exports to the West.[158] Scarcity ideology was obviously, emphatically, and disastrously wrong. Economist Richard Gordon noted that supply interruptions from weather, labor unrest and factor shortages were not different in their effect on the market from interruptions due to international incidents, and that private economic actors needed little help to mitigate such interruptions. Gordon was also the first to identify the isolation of IR thought from market information as a problem.[159]

Johnson, Adelman and Gordon were scarcity ideology's only active critics until my own, and then Gholz and Press's, critiques more than two decades later.[160]

The New World Order. In assenting to the US-led war against Iraq in 1991, the USSR ceased to be an adversary, yet scarcity ideology became more important than ever. After US victory in the first Gulf War, scarcity ideology became the exemplar for a new neoconservative grand strategy. As Secretary of Defense Dick Cheney put it, "[o]ur national strategy has shifted from a focus on a global threat to one on regional challenges and opportunities." Policy must therefore be preemptive, to "... preclude any hostile power from dominating a region critical to our interests ... "

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[156] "Responding to Iraqi Aggression in the Gulf," National Security Directive 54, 15 January 1991, http://www.fas.org/irp/offdocs/nsd/nsd54.pdf.

[157] Johnson, "Persian Gulf in U.S. Strategy: A Skeptical View."

[158] Adelman, *Genie Out of the Bottle*, 195.

[159] Gordon, "Energy Intervention after Desert Storm."

[160] Stern, "Oil Market Power and United States National Security" and Gholz and Press, "Protecting 'The Prize."'

No state could be allowed to dominate the Gulf because "[c]onsolidated, nondemocratic control of the resources of such a critical region could generate a significant threat to our security.[161] Defending supply, in other words, was no longer enough. America must also adjudicate disputes among regional producers to prevent "consolidated nondemocratic control" of Gulf oil. Implicit was that "nondemocratic control" that was unconsolidated was bearable. Cheney proceeded from this hairsplitting logic to celebrate the violence unleashed by scarcity ideology: "The first major conflict of the post-Cold War era preserved our strategic position in one of the regions of the world critical to our interests. Our success in organizing an international coalition in the Persian Gulf against Saddam Hussein kept a critical region from the control of a ruthless dictator bent on developing nuclear, biological and chemical weapons and banning Western interests." Of course, these were the same chemical and biological weapons that the United States had helped Iraq use so effectively in the Iran–Iraq War. The purpose of Cheney's new strategy was thus, ironically, to contend with scarcity ideology's most dangerous artifact, survival of the Saddam Hussein regime. Scarcity ideology had become a self-perpetuating geopolitical argument, exacerbating security problems for which it proposed itself as the solution.

A Renewal of Vows. President Bill Clinton's policy of Dual Containment closely followed Cheney's prescription. Nonetheless, Brzezinski, Brent Scowcroft and Richard Murphy upbraided Clinton for his reluctance to use force. Clinton must realize that "[t]he foundation of America's policy in the Persian Gulf should continue to be a commitment to ensuring the security of its allies and protecting the flow of oil. Few doubt that the United States has the power to sustain this commitment, but some question whether it has the will." Recall that Brzezinski had goaded Carter to action in 1979–80 with the same argument: that force must be exercised to remain credible. Similarly, " . . . a recommitment by President Clinton to the principles of the Carter Doctrine—a renewal of US vows to the Gulf—might be both welcome and appropriate. It is imperative that all parties understand an important strategic reality: the United States is in the Persian Gulf to stay."[162]

Conveniently forgotten were the Carter Doctrine rationales constructed by Brzezinski's NSC. Though these rationales were obliterated by fifteen years of glut and the USSR's demise, to Brzezinski, Scowcroft, and Murphy, force was still essential to secure supply. This was a bold claim, for which the only evidence offered was that "[w]hen the British withdrew from the Persian Gulf in 1971, the United States became the principal foreign power in the

[161] Dick Cheney, "Defense Strategy for the 1990s: The Regional Defense Strategy," January, 1993, George Washington University National Security Archive, http://www2.gwu.edu/~nsarchiv/nukevault/ebb245/doc15.pdf.

[162] Zbigniew Brzezinski, Brent Scowcroft, and Richard Murphy, "Differentiated Containment," *Foreign Affairs* 76, no. 3 (May/June 1997): 20–30.

region." This was true, but meaningless. Implicit was that after Britain left the region, US naval forces began securing Gulf supply. Yet The United States' Persian Gulf force in that era was a strategic irrelevance. Between 1967, when Britain left, and 1979, when two US aircraft carrier groups were deployed, the US force was a "small handful of ships that had sailed from Bahrain since the end of the 1940s," sometimes led by an ancient submarine tender.[163] So, though there was far less Western force in the region after 1967, oil somehow flowed from the Gulf in record volumes. Some explanation other than force must therefore exist for Gulf supply growth between 1967–79. Might exporter states prefer earning oil revenue to not doing so, for example? No one asked.

Brzezinski's plea for "a renewal of vows to the Gulf" thus betrayed an unseemly reality; belief in the Carter Doctrine must be based on faith, because there was no basis for it in reason. Cycle 3 thus drew towards a close in bathos. The market was glutted, rationales for aggressive policy were obliterated, yet the policy itself was intact.

FINDING FACTOR X

Oil scarcity ideology created a new, ostensibly scientific way for US decision makers to think about national security in the petroleum age. Yet the peak oil models that rationalized scarcity ideology were wrong, so the way of thinking was too. Despite repeated and emphatic contradiction by market information, peak oil became the accepted truth in an existential narrative in which the United States must prepare to fight or die. As a result, decision makers chose more rather than less aggressive policies. From the dearth of subsequent inquiry over scarcity's failure to materialize, a ratchet emerged. ME policy could become more aggressive, but not less. In the process oil supply was militarized, along with America's relations with the ME. Regional destabilization followed.

That so many actors behaved so similarly across the three cycles of the oil scarcity syndrome shows that scarcity ideology was an important dynamic of US foreign policy from 1908–97. Peak oil and scarcity ideology seemed to be confirmed when rising price and oil product shortages coincided during inflationary periods. It went unnoticed that all commodity prices, not just oil's, rose in inflationary periods. Similarly, policymakers never grasped that they could make scarcity worse by imposing price controls or transport rationing, for example. To remedy the ostensible strategic problem, aggressive policies were adopted around the time of steepest price increase in each

[163] Jeffrey R Macris, "Why Didn't America Replace the British in the Persian Gulf?" in *Imperial Crossroads: The Great Powers and the Persian Gulf*, ed. Jeffrey R Macris and Saul Kelly (Annapolis, MD: Naval Institute Press, 2012), 61–74, esp. 68–69.

cycle. Gluts followed, but aggressive policies were never reconsidered when scarcity failed to materialize. To the contrary, aggression often intensified during gluts, even after scarcity rationales were forgotten.

Scarcity ideology's economic corollary, the oil weapon, was likewise exaggerated. Implicit in this ostensible threat was an assumption that Middle Eastern peoples were zealots, noneconomic actors who would forfeit oil export revenues in order to harm the United States. This view was much at variance with ME exporter-state behavior between 1949–76, when exporter states exerted constant pressure for higher royalty revenues. When Western concessionaires failed to deliver, their assets were nationalized. Relatively poor exporter states thus seem unlikely to have forgone revenue from these new assets merely to make political points to rich importer states. In any case, once Arab exporters learned from the 1973–74 embargo that the oil weapon did not work, they never tried it again.

Scarcity ideology's influence on foreign policy was cumulative; ever-less plausible threats rationalized ever-greater commitments. Influence began in 1914, before the United States was a great power, and persisted through 1997 when it had no great power peer. Decisive effects began in 1979 when the United States committed a substantial naval force to protect Persian Gulf oil supply. In 1982, ostensible Iranian threats led the United States to rescue the Saddam Hussein regime from defeat during the Iran–Iraq War. The United States then waged war against Hussein's Iraq to repulse it from Kuwait in 1991. These actions were meant to protect supply, but were irrelevant to that purpose. They did, however, normatize the syllogism that because force was exerted and oil flowed, the former explained the latter. This syllogism became the basis for New World Order thinking, in which the United States made itself arbiter of what Gulf countries could and could not do.

Scarcity ideology's malleability was a distinctive feature. There is thus no tidy way to separate scarcity ideology from other ideals of foreign policy with which it coexisted. Scarcity ideology shared with Manifest Destiny the assumption of a US right to expansion, and with the Open Door an assumption that national security was enhanced when foreign states adopt US ideals.[164]

Misperception

Misperception was essential to scarcity ideology's enduring believability. As Robert Jervis observed, "[p]erceptions of the world and of other actors diverge from reality in patterns that we can detect and for reasons that we can understand."[165] In the scarcity syndrome, misperceptions followed the same

[164] Layne, *The Peace of Illusions*.
[165] Jervis, *Perception and Misperception in International Politics*, 3.

pattern three times in nine decades. Why misperceptions were so durable deserves more research.

Why No Learning?

My research did not set out to answer the most important questions it provokes: why was there so little learning and why did scarcity ideology persist? Misperception helps, but does not fully explain these outcomes. Further explanations might be:

1. Gaps between knowledge systems: Ever-increasing volumes of oil lifted to the surface seemed to portend scarcity, but actually conveyed little information about the quantity of recoverable oil left underground. Peak oil forecasts were rarely recognized for what they were: implicit economic forecasts in which elasticity of supply was near zero.
2. Heuristics, narrative fallacy, and confirmation bias: As psychologist Daniel Kahneman explained, heuristics are mostly beneficial but sometimes yields wrong judgments.[166] Scarcity ideology provided a particularly satisfying heuristic. Since oil underground is finite, extracting it seemed like withdrawing money from a bank account; overdrafts must perforce lead to ruin.[167] This heuristic transformed peak oil into certain knowledge, from which decision makers could infer imaginary threats. Misplaced certainty, as Jennifer Mitzen and Randall L. Schweller described, can drive conflict in "cases where decisionmakers are confident that they know each other's capabilities, intentions, or both . . . " They also found that misplaced certainty "persists even in the face of disconfirming evidence," as happened over and over again in the scarcity syndrome.[168] Confirmation bias may further inhibit retrospective recognition of disconfirming evidence. Richard K. Herrman and Jong Kun Choi found, for example, that IR scholars were unable to learn from errors in past forecasts.[169]
3. Failure in the market for ideas: Jane Kellett Cramer found that failure in this market facilitated the Iraq War.[170] My results suggest that the scope of failure was larger and began long before the Iraq War. The learning problem seems a special case of ideas market failure, however, in that science failed both to fill knowledge gaps and, for the most part, even to recognize them. Physcial and social scientists practiced a mix of self-deceit,

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[166] Daniel Kahneman, *Thinking, Fast and Slow* (New York: Farrar, Straus and Giroux, 2011).

[167] For a history of domestic scarcity ideology, see Olien and Olien, *Oil and Ideology*, chap. 5.

[168] Jennifer Mitzen and Randall L. Schweller, "Knowing the Unknown Unknowns: Misplaced Certainty and the Onset of War," *Security Studies* 20, no. 1 (January–March 2011): 2–35.

[169] Richard K. Herrmann and Jong Kun Choi, "From Prediction to Learning: Opening Experts' Minds to Unfolding History," *International Security* 31, no. 4 (Spring 2007): 132–61.

[170] Jane Kellett Cramer, "Militarized Patriotism: Why the U.S. Marketplace of Ideas Failed Before the Iraq War," *Security Studies* 16, no. 3 (July–September 2007): 489–524.

conscious deception, and ultra-reductionist science to produce scarcity ideology. The learning problem enabled them to promote a kind of secular apocalysm, an alarming worldview that both created and met demand for apocalyptic ideas. Scarcity ideology producers thrived in this trade. Within government, scarcity ideology could be bartered for influence and budgets; within academia, it could be bartered for recognition, grants and advancement. Dissent threatened this. Perhaps guild behavior by scarcity ideology producers explains why dissents were so rare. Dissent did reach the media in 1978–79, but dissenters numbered only two or three dozen, as a guess. Besides Goldman, Adelman, and Gordon, dissenters from that era were not heard from again on scarcity and security. Thus the researcher who questioned some aspect of scarcity ideology was typically alone, unaware that predecessors grappled with the same problem. Brodie, for example, was ignorant of H. G. James. Adelman related to me he did not know Brodie's work. Johnson was unaware of James or Brodie, and I was unaware of Johnson until this journal's managing editor enlightened me. Posen confessed that until two students, Gholz and Press, led him to do so, he had never questioned scarcity constructs, and cited no dissenters but them. Finding no plausible rationale for US force projection in the Persian Gulf, Posen invoked a mysterious "factor x" to explain it. Factor x, I believe, is oil scarcity ideology, but Posen's epigram perfectly captures the ideology's ineffable, nonsensical core.

4. The negative results problem: To assert that supply was abundant or unthreatened was a negative result. Negative results are considered uninteresting, and hence are hard to publish. Only recently have physical and natural sciences journals even debated the bias against negative results, which probably exists in IR, too.[171]

Cycle 4

Though I did not study Cycle 4, a few observations can be made. Careless application of Western force rationalized by scarcity ideology humiliated many in the ME. This helped religious radicals link US force to the idea that Americans were stealing the region's oil. As Bernard Haykel described, for example, Osama bin Laden condemned a "Jewish-Crusader invasion" abetted by subservient Saudis. Bin Laden exhorted Muslims to reclaim their oil wealth by overthrowing subservient Arab states, after which they could set a higher price for oil.[172]

[171] Bob O'Hara, "Negative Results are Published," *Nature* 471, no. 7339 (March 2011): 448–49.

[172] Bernard Haykel, "Oil in Saudi Arabian Culture and Politics: From Tribal Poets to Al-Qaeda's Ideologues," in *Saudi Arabia in Transition: Insights on Social, Political, Economic and Religious Change*, ed. Bernard Haykel, Thomas Hegghammer, and Stéphane Lacroix (New York: Cambridge University Press, 2015), 146–47.

The policy of preemptive war that arose after 9/11 was not an aberration, imposed by neoconservatives on an otherwise rational policy process. It was the cumulative result of a scarcity ideology policy ratchet, which began to tighten almost a century before.

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