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## Ghost in a Shell: The Scenario Tool and the World Making of Royal Dutch Shell

This article examines the history of the Royal Dutch Shell scenarios, from the first horizon scan exercise in 1967. It proposes that forward-looking scenarios were integrated in planning at Shell as tools for managing uncertainty in global time and space relations of oil after 1967. Specifically, the article proposes that Shell strategically used the scenarios to respond to arguments, emanating both from OPEC and from the Club of Rome, of oil as a limited resource. Shell used the scenarios to create images of a future oil market dominated by innovation, creativity, and sustainable solutions.

**Keywords:** oil, futures, scenarios, OPEC, limits

This article examines the history of the scenario tool as pioneered by Royal Dutch Shell (the Shell Group, hereafter Shell) from 1967 on. Scenarios of the next fifteen to thirty years came to be embraced as a new tool in the management of multinational enterprises (MNEs) in the years between 1967, when the first scenario exercise was run, and the mid-1990s. This article, which focuses mainly on the period until 1976, asks why. It proposes that the answer lies in the perceived need by multinationals, and not least oil corporations, to think in forward-oriented ways in order to protect their interests in the shakeup of global capitalism that occurred in this period. For global oil, a new need arose in this period to manage social relations and expectations including environmental concerns. Oil companies found themselves obliged to hold together territories of concerned consumers in the West, on the one hand, with territories under new

I want to thank Ann-Kristin Bergquist for important contributions to this article.

*Business History Review* 94 (Winter 2020): 729–751. doi:10.1017/S0007680520000483  
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property-rights regimes in the former host nations of the South, on the other. To Shell in particular, projecting a virtuous image of the global oil corporation and demonstrating a new set of promising futures of oil became central to the management of both of these relationships. Scenarios also became an interesting management tool because of perceptions in the late 1960s and early 1970s of the risk for new forms of state intervention and regulation in the context of the debate on limits to natural resources. The article proposes that this fear of regulation inspired a new identity for Shell as a key coordinator of not only economic but also political, social, and moral relationships.

The history of the scenario method in Shell can be positioned in a recently developing literature in business history that has brought it closer to environmental, transnational, and in fact political history.<sup>1</sup> In recent years, the role of business as a transnational actor has become a strong theme, and so have questions related to the circulation of capital and commodities in a global field.<sup>2</sup> Business historians have more rarely engaged with the recent work of political and intellectual historians, but as the history of the scenario tool shows, there is important overlap here.<sup>3</sup> Starting from the mid-1960s, MNEs began to see themselves as global actors on a par with nation-states and international organizations. As such, they perceived themselves as sharing the responsibility for ordering world economic relations and creating a world society in which MNEs could prosper. As Shell demonstrated, corporations came out of this period with a partly new identity as active agents in not only the economic but also the political and cultural processes of managing globalization. By discussing the history of the scenarios, this article revisits existing understandings of the multinational as a producer of ideas of global space and as co-constitutive of emerging visions of capitalism after 1973.

The scenario tool was key in Shell's attempt to meet the challenges of the period from 1967 to 1976 with a strategy that partly changed views on the future of global oil. The scenarios were not simply new management techniques for a given future objective; they were large narrative

<sup>1</sup> Sven Beckert, *Empire of Cotton: A Global History* (New York, 2014); Sven Beckert and Dominic Sachsenmeier, *Global History, Globally: Research and Practice around the World* (London, 2018).

<sup>2</sup> Alfred D. Chandler Jr. and Bruce Mazlish, eds., *Leviathans: Multinational Corporations and the New Global History* (New York, 2005); Geoffrey Jones, *Entrepreneurship and Multinationals: Global Business and the Making of the Modern World* (Cheltenham, 2013). For an overview, see Marten Boon, "Business Enterprise and Globalization: Towards a Transnational Business History," *Business History Review* 91, no. 3 (2017): 511–35.

<sup>3</sup> See, for instance, Ravi Abdelal, *Capital Rules* (Cambridge, MA, 2009); Vanessa Ogle, "Archipelago Capitalism: Tax Havens, Offshore Money, and the State, 1950s–1970s," *American Historical Review* 122, no. 5 (2017): 1431–58.

exercises that can be seen as attempts to conjure entire new capitalist worlds. MNE historians have considered the period from World War I until 1979 as the era of deglobalization, during which nationalist and protectionist responses to crises obstructed the mobility of capital.<sup>4</sup> This is a historiography written largely from the viewpoint of multinationals and from a concern with business vitality and entrepreneurship. In political and intellectual history, the 1967-to-1976 moment is understood quite differently. The period from the mid-1960s on saw the breakup of essentially colonial legacies of commodity and monetary arrangements that underpinned postwar economies. To this North-South confrontation came a growing awareness of the conflict between industrial growth and environmental sustainability (although the latter term was not widely used until the 1980s). At the same time, Western industrial societies entered into a period of social turmoil and labor unrest, marking the end of stability in welfare arrangements and industrial relations of the immediate postwar period. This discrepancy between business and political historians in interpretation of the period raises the question of how business actively sought to navigate the end of one world and the dawn of another. The Shell scenarios show that the end of the Fordist era saw several competing visions of the future of global capitalism emerge, but not all were preferential to global oil companies.<sup>5</sup> The direct relationship between the Third Worldist claim to resource sovereignty, expressed in the New International Economic Order (NIEO) adopted by the UN General Assembly in 1974, and the debate that erupted after the publication of the Club of Rome's *Limits to Growth* report in 1972 is essential to this clash of future visions.<sup>6</sup> The scenarios were a way for Shell to weigh these different futures, measure the risk they posed, and shape ideas of the proper global society in which it thought it would prosper.

The scenario archives at the Said Business School in Oxford do not allow the conclusion that Shell actively tried to dismiss or counteract early warnings of climate change (as other oil corporations manifestly did). Nor do they contradict it. In fact, the scenario archives contain almost no mention at all of the environmental effects of burning fossil fuels, which supports the conclusion that the scenarios were not used to discuss atmospheric effects of CO<sub>2</sub> until the late 1980s and that

<sup>4</sup> Geoffrey Jones, *Multinationals and Global Capitalism: From the Nineteenth to the Twenty-First Century* (New York, 2005).

<sup>5</sup> Giuliano Garavini, *After Empires: European Integration, Decolonization, and the Challenge from the Global South, 1957–1986* (Oxford, 2012).

<sup>6</sup> Sara Lorenzini, *Global Development: A Cold War History* (Princeton, 2019), 119; Giuliano Garavini, *The Rise and Fall of OPEC in the Twentieth Century* (Oxford, 2019); Adom Getachew, *Worldmaking after Empire: The Rise and Fall of Self-Determination* (Princeton, 2019).

their main purpose was not to manage a sustainable transition for oil but to consider a number of deeply problematic futures for the oil industry. Environmental degradation was one factor contributing to a new uncertainty surrounding oil in the 1970s; however, it was not the environmental argument per se but rather the joint challenge of the NIEO and the *Limits* debate that posed an unprecedented challenge to the world of oil. We know from existing studies that oil companies reacted defensively to NIEO claims of the right to sovereignty over natural resources and that MNEs also responded to the NIEO by creating new lobby organizations, restructuring channels of influence to policymakers, and attempting to reassert their power over pricing systems.<sup>7</sup> Studies also show that multinational corporations mobilized during the same period against what they perceived as a new kind of statist interventionism in Western governments.<sup>8</sup> Some of this mobilization was clearly about the active production of doubt around early indications of climate change, as shown in studies of Exxon and BP.<sup>9</sup> But business reacted to perceived risk in many other ways, and the production of doubt was not the scenarios' main role.<sup>10</sup> At the same time, there is no evidence in the scenario archives that the main purpose of the scenarios was to help Shell become an environmentally sustainable or socially responsible corporation, which is how the scenarios have been showcased in company historiography and important parts of the management literature.<sup>11</sup> The corporate history of Shell, written by economic historians on Shell's payroll, arguably helped turn the scenarios into something of a global brand. While critical elements were not missing from this official history, they were downplayed in favor of a dominant narrative that the oil corporation came of age as environmentally and socially

<sup>7</sup>Vanessa Ogle, "State Rights against Private Capital: The Struggle over Aid, Trade, and Foreign Investment, 1962–1981," *Humanity* 5, no. 2 (2014): 211–34; Takafumi Kurosawa, Neil Forbes, and Ben Wubs, "Political Risks and Nationalism," in *The Routledge Companion to the Makers of Global Business*, ed. Teresa da Silva Lopes, Christina Lubinski, and Heidi J. S. Tworek (London, 2020), chap. 31.

<sup>8</sup>Kim Phillips Fein, *Invisible Hands: The Making of the Conservative Movement from the New Deal to Reagan* (New York, 2009); Matthew T. Huber, *Lifeblood: Oil Freedom and the Forces of Capital* (Minneapolis, 2013), 99–116.

<sup>9</sup>Naomi Oreskes, "Exxon's Climate Concealment," *New York Times*, 9 Oct. 2015; Naomi Oreskes and Erik Conway, *Merchants of Doubt: How a Handful of Scientists Obscured the Truth of Issues from Tobacco Smoke to Global Warming* (New York, 2011).

<sup>10</sup>See Keetie Sluyterman, "Royal Dutch Shell: Company Strategies for Dealing with Environmental Issues," *Business History Review* 84, no. 2 (2010): 203–26; Keetie Sluyterman and Ben Wubs, "Multinationals in the Dutch Business System," *Business History Review* 84, no. 4 (2010): 799–822.

<sup>11</sup>Keetie Sluyterman, *Keeping Competitive in Turbulent Markets, 1973–2007*, vol. 3 of *A History of Royal Dutch Shell* (Oxford, 2007), 222; Angela Wilkinson and Ron Kuypers, "Living in the Futures," *Harvard Business Review* 91, no. 5 (2013): 118–27; Thomas Chermack, *Foundations of Scenario Planning* (London, 2016).

sustainable during the period from the 1970s on.<sup>12</sup> It is clear from the scenarios that Shell used the scenario tool in relation to environmental challenges from the 1970s on, but the challenge identified in the scenarios was not environmental degradation; rather, it was the contestation around environmental effects in both Western localities and the sites of extraction. Thus, the history of the scenario tool within Shell is in fact much different from how it has been presented in the literature.<sup>13</sup>

The corporate environmentalism literature has indeed come to the conclusion that studying the gradual turn to a sustainable agenda in the 1980s and 1990s as part of a business acceptance of its environmental impact may not be sufficient, since this fails to account for the continued expansion of fossil fuels in the same period. A paradox is thus raised, for instance by Ann-Kristin Bergquist in a recent lead article in *Business History Review*. Bergquist proposes that the rise of corporate environmentalism coincides in time with the Great Acceleration—in other words, with the manifold increase in CO<sub>2</sub> emissions beginning in the 1970s. This raises questions as to why business did not do more.<sup>14</sup> But the literature mentioned here provides clues toward something that is quite different from inertia, namely, that business reacted against risks in the global environment by strategically acting to influence more desirable global environments. Inertia can be a form of strategic behavior, as can the active production of doubt, but the scenarios show yet another strategy: the attempt to move beyond problematic visions of the limits of natural resources by projecting visions that go far beyond such limits. The common denominator between Third Worldism and environmentalism was indeed the idea of limits, coming together in the 1967 claim by the Organization of the Petroleum Exporting Countries (OPEC) that oil was a limited resource and that its increasing value should be reflected in pricing. While the history of the scenarios does not permit us to say that Shell rejected evidence of climate change, it does permit the conclusion that scenarios became relevant to Shell in the context of the double whammy of the oil crisis and the limits debate, because their narrative structure allowed scenarists to project

<sup>12</sup> For an excellent critique, see Marten Boon, “A Climate of Change? The Oil Industry and Decarbonization in Historical Perspective,” *Business History Review* 93, no. 1 (2019): 101–25.

<sup>13</sup> Shell, Greenhouse Effect Working Group, “The Greenhouse Effect” (Report Series HSE 88-001, Shell Environmental Conservation Committee, May 1988), <http://www.climatefiles.com/shell/1988-shell-report-greenhouse/>.

<sup>14</sup> Ann-Kristin Bergquist, “Renewing Business History in the Era of the Anthropocene,” *Business History Review* 93, no. 1 (2019): 15. See also Bergquist, “Business and Sustainability: New Business History Perspectives” (Harvard Business School General Management Unit Working Paper No. 18-034, Oct. 2017 [rev. Nov. 2017]); and Andrew Smith and Kirsten Greer, “Uniting Business History and Global Environmental History,” *Business History* 59, no. 7 (2017): 987–1009.

images of a future beyond limits. Previous work on the use of scenarios by the Organisation for Economic Co-operation and Development in the same period shows that the OECD also embraced scenarios as part of a discourse of rejecting the idea of physical limits and exploring economic futures driven by innovation and potential.<sup>15</sup> Scenarios were transnational artifacts that circulated in a field between international organizations, multinational corporations, and national planning commissions. The Shell scenarios, already in the early 1970s, became understood in this field as a pioneering exercise. As will be shown, a key element in the scenarios was the representation of Shell as embodying a virtuous market interest and even a kind of global common good.

The argument that follows unfolds in three parts: in the first section, the scenarios are discussed with a term taken from Science and Technology Studies as territorialization techniques directly shaped by the need to manage complex global time-space relations in oil. The second section shows that the scenarios changed a system of oil data and forecasts that had been in place for the large part of the twentieth century and had in fact been inherited from colonial times. The third section examines the scenario processes from the late 1960s to the mid-1990s and explores how what began as an explorative horizon-scan exercise in 1967 developed into a tool for envisioning the futures of global capitalism.

### Scenarios as Territorialization Techniques

Scenarios were the topic of considerable hyperbole in a growing management literature in the 1980s, following the publication of two articles in the *Harvard Business Review* by Pierre Wack, the Shell scenarist par excellence. Wack claimed that the so-called Rapids scenarios in 1972 allowed Shell to foresee the price hike that followed the oil embargo in the winter of 1973–1974.<sup>16</sup> Wack's disciple Peter Schwartz continued the mythologization of scenarios, bringing the scenario tool from Shell to the Global Business Network (GBN) in the 1980s. At GBN, scenarios were used as training and consultancy techniques for leaders of the world's largest MNEs.<sup>17</sup> They were framed as new management tools for the "Next Wave," a term taken from management guru Peter Drucker's 1970s work. Drucker argued that a large socioeconomic

<sup>15</sup> Jenny Andersson, "The Future of the Western World: The OECD and the Interfutures Project," *Journal of Global History* 14, no. 1 (2019): 126–44.

<sup>16</sup> Pierre Wack, "Scenarios: Shooting the Rapids," *Harvard Business Review*, Nov. 1985; Wack, "Scenarios: Uncharted Waters Ahead," *Harvard Business Review*, Sept. 1985.

<sup>17</sup> Chermack, *Foundations*.

system could go from great efficiency and “reason” to severe diseconomies and chaos as a result of irrational reactions in the social system.<sup>18</sup>

The term “territorialization techniques” has been suggested by a recent literature in business history and STS studies. “Territorialization” refers to the way in which economic actors manage time and space relations through future-oriented activities such as investment, speculation, and prospection. These activities are directly linked to territorial and temporal problems. Timothy Mitchell points out that early credit systems drew on territorial logics that linked the existence of surplus capital in Europe with possible investment opportunities in the New World. Capital, Mitchell says, set the future in the present, by pushing for a constant forward search for future rent.<sup>19</sup> Along the same line, Jonathan Levy proposes that capital is not simply a material factor embodied in equipment and money; capital is also a “forward looking valuation,” a prospective speculation on a future economy. This prospective valuation of capital is a precondition for the income-generation function of capital and should be understood, Levy argues, as one of the core functions of capital.<sup>20</sup> Levy’s argument is more helpful here than are the frequent references in the financial sociology literature to the arguments of Frank Knight, who emphasized the need for business actors to calculate uncertainty and transform it into manageable risk but never linked this to more critical questions of the role of economic interest in the ordering of the world economy. As an alternative to Levy’s conception of futurity as a function of capital, we may consider that futurity is part of the agency of capital and that future expectations and the management of temporal risk reflects specific interests of economic actors. By prospecting futures of risk, rent, and interest, the entrepreneurs and business entities that perform Levy’s capital function actively shape economic futures. Thus, the techniques that economic actors use to intervene in the future territories of capital are worthy of attention, and a core suggestion of the present article is that the scenarios should be considered within a longer history of epistemic devices such as double bookkeeping, project or prospective planning, business plans, forecasts, and futures trading.<sup>21</sup> The emergence of such techniques is directly connected to

<sup>18</sup> See Peter Drucker, “The New Markets and the New Capitalism,” *Public Interest* 21 (1970): 44.

<sup>19</sup> Timothy Mitchell, “Economicality: How the Future Entered Government,” *Critical Inquiry* 40, no. 4 (2014): 479–507.

<sup>20</sup> Jonathan Levy, “Capital as Process and the History of Capitalism,” *Business History Review* 91, no. 3 (2017): 486, 488.

<sup>21</sup> Bruce Carruthers, *City of Capital: Politics and Markets in the English Financial Revolution* (Princeton, 1999); Jonathan Levy, “Contemplating Delivery: Futures Trading and the Problem of Commodity Exchange in the United States, 1875–1905,” *American Historical Review* 111, no. 2 (2006): 307–35; Vanessa Ogle, *The Global Transformation of Time*,

the origins of the modern business organization. Reflections on the reach and scope of action across time and space were direct elements of MNEs' integration from charter and holding companies to the modern corporation.<sup>22</sup>

Temporal projections, including the need to open future markets in order to ensure returns on capital, also structured the relationship between early multinationals and the imperial state. Historical territorialization strategies were backed up with force in what Sven Beckert calls "armed trade."<sup>23</sup> The oil majors—Anglo Persian Oil, later BP; Compagnie française de Pétrole, later Total; Exxon; and Royal Dutch Shell—were descendants of imperial corporate ventures and directly reliant on historically translated colonial territorial relationships.<sup>24</sup> Royal Dutch Shell was a product of Royal Dutch's monopoly on oil concessions in Sumatra and its merger in 1907 with the British trading company Shell, which bartered in colonial products and seashells. Shell was strategically bolstered by the British state at several moments in the first half of the twentieth century.<sup>25</sup> Like the British East India Company, Shell had not a board of directors but a committee of management directors holding together its British and Dutch side and including representatives of government.<sup>26</sup>

Scenarios perform a kind of prospection that is different from the geological prospection of oil ventures, which shifted the gaze toward the political and social relationships that might affect the futures of the oil industry. While this was the innovation and newness of the scenarios from 1967 on, there were nevertheless historical precedents to such attempts at temporal prospection within the longer history of capitalism. Martin Giraudeau examines the management techniques that allowed the Du Pont family to transpose itself from revolutionary France to new territory in the American colonies. This territory was

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1870–1950 (Cambridge, MA, 2015); Walter Friedman, *Fortune Tellers: The Story of America's First Economic Forecasters* (Cambridge, MA, 2016).

<sup>22</sup> Mira Wilkins, "Multinational Enterprise to 1930: Discontinuities and Continuities," in Chandler and Mazlish, *Leviathans*, 45–81; P. Bruce Buchan, "The East India Company, 1749–1800: The Evolution of a Territorial Strategy and the Changing Role of the Directors," *Business and Economic History* 23, no. 1 (1994): 52–61; H. V. Bowen, *The Business of Empire: The East India Company and Imperial Britain, 1756–1833* (Cambridge, U.K., 2005); Alfred D. Chandler Jr., *Strategy and Structure: Chapters in the History of the Industrial Enterprise* (Cambridge, MA, 1970); Ann Carlos and Stephen Nicholas, "Giants of an Earlier Capitalism: The Chartered Trading Companies as Modern Multinationals," *Business History Review* 62, no. 3 (1988): 398–419.

<sup>23</sup> Beckert, *Empire of Cotton*.

<sup>24</sup> Daniel Yergin, *The Prize: The Epic Quest for Oil, Money and Power* (New York, 1991).

<sup>25</sup> Jan Luyten van Zanden, *From Challenger to Joint Industry Leader, 1890–1939*, vol. 1 of *A History of Royal Dutch Shell* (Oxford, 2007), 91, 221.

<sup>26</sup> Anthony Sampson, *The Seven Sisters: The Great Oil Companies and the World They Shaped* (New York, 1975), 72–73.

described in a set of “previsions” or “projects” that preceded settlement and that were strategically used to assemble capital and influence.<sup>27</sup> The “projects” were narrated scripts of how the economic life of the new settlement would unfold—in a sense, temporal maps of entrepreneurial growth. A key element in these scripts was ideas of the moral good of enterprise to territory.<sup>28</sup> It can be proposed that the scenarios fulfilled exactly this function of reshaping an idea of destiny for Shell in the turbulent years from the late 1960s on, by allowing for an apparent examination of possible futures in an era in which the virtuous character of big oil was fundamentally questioned. The scenarios were intended as communicative devices that demonstrated possible futures of the global territories of oil. As such, they aimed to convince both managers within the Shell Group and a wider set of trustees in Western governments and publics of the lasting role of the multinational oil corporation. As the scenarios developed, this moral destiny aspect increased in importance.<sup>29</sup> The suggestion could therefore be that scenarios were tools of influence for an era in which the influence over specific territories could not be backed up with armed force in the same way as before and in which the symbolic influence over images of the future thus became important. After the creation of OPEC in 1960, the oil-producing nations and the international oil companies disputed the claim to be the warden of a global resource that held the key to world economic stability. As performative devices, the scenarios aimed to demonstrate the virtue of specific forms of action to a multitude of audiences in the corporation itself, in global publics, in Western policymakers, and in the oppositional forces in host governments. The new frictions in precisely this set of relationships are what created a new and problematic situation for oil.

The scenarios were a response to a fundamentally new situation for the oil majors. This situation came from the loss of a historically constructed position as guarantor of Western consumers and global market interest. From the late 1960s, this position was challenged by conflicts in the relationship not only to former hosts but also to consumers (wary of prices) and Western governments (responsible for world monetary arrangements). This situation predated the more frequently cited environmental critique of drilling and pollution, which intensified in the late 1970s and 1980s and added to an already contested oil climate.<sup>30</sup> It is telling here that the first batch of scenarios was not

<sup>27</sup> Martin Giraudeau, “The Predestination of Capital: Projecting the du Point de Nemours Company into the New World” (unpublished work in progress), 6–7; Giraudeau, “Proving Future Profit: Business Plans as Demonstration Devices,” *Osiris* 33, no. 1 (2018): 130–48.

<sup>28</sup> Giraudeau, “Predestination of Capital,” 14.

<sup>29</sup> Compare Sluyterman, *Keeping Competitive*, 356, 365.

<sup>30</sup> Sluyterman, “Royal Dutch Shell.”

merely used within the corporation but also spread to policymakers in the United Kingdom and the United States in order to alert them to the OPEC threat.<sup>31</sup>

While the impetus behind the first scenario exercise in 1967 was the rise of OPEC and the risk of a supply constraint, the scenarios from the second and third exercise contained a much wider set of reflections on political and social reactions to rising oil prices in the Western world. The third and fourth generations of scenarios were directly linked to the responsibility of the global business actor in the active reconstruction of market values in response to 1970s “malaise.” These scenarios, then, were not just forms of market speculation. They contained analysis on the social context of the future business environment, norms of efficient state-market relationships, and projections of a desirable future value system. These remain key elements in the Shell scenarios, which today are performed by a large group of global experts and published online.

### The “Conventional Truths” of Oil: Petroknowledge as a System of Expectation

By the late 1960s and early 1970s, multinationals were global structures and also thought of themselves as global actors. The idea of the corporation as a complex system of feedback effects and responses in a larger market or even world system (which is how Shell planners would see it from the 1960s on) had particular relevance to the oil business, because of the long lead times from prospection to exploration and development and because of the intrinsic uncertainty related to the longevity of fields. Shifts between oversupply and ideas of oil as a limited asset characterized the history of oil.<sup>32</sup> The role of oil as a limited asset should not be overstated. It was known in the oil industry that oil fields peaked and died. When M. King Hubbard, a geologist at Shell, presented his peak oil thesis in 1956 to the National Petroleum Institute in the United States, he predicted the end of American oil. But the abundance of Middle Eastern oil largely obliterated concerns over scarcity—until fears of a politically created supply constraint emerged in 1967.<sup>33</sup> In 1971, the head of Shell told the U.K. prime minister, Edward Heath, that Middle Eastern reserves were declining. In 1972, President

<sup>31</sup> This document is not in the scenario archive, but it is referenced by Sluyterman in *Keeping Competitive*, 17–18. Compare Jonathan Kuiken, “Caught in Transition: Britain’s Oil Policy in the Face of Impending Crisis, 1967–1973,” *Historical Social Research* 39, no. 4 (2014): 272–90.

<sup>32</sup> Timothy Mitchell, *Carbon Democracy: Political Power in the Age of Oil* (London, 2011); Yergin, *The Prize*.

<sup>33</sup> The best discussion of this, in my view, is in Elisabetta Bini, Giuliano Garavini, and Federico Romero, eds., *Oil Shock: The 1973 Crisis and Its Economic Legacy* (London, 2016).

Richard Nixon was forced to acknowledge a coming shortage of fuel and a structurally increased dependency on imports from the Middle East.<sup>34</sup> Underpinning Shell's decision to launch the scenarios was the perception that the supply problem was shifting from a geological to a political one. Oil was becoming a "political mineral," with properties that had to be managed in the realm of values and expectations.<sup>35</sup>

What Pierre Wack, the main planner at Shell, referred to as the "conventional truths" of oil were forms of foreknowledge that had been handed down through the historic structures of the oil market. Despite important price fluctuations in the barrel of crude, this market was based on an essentially stable set of expectations on growing production and demand.<sup>36</sup> Until the 1960s, world mineral markets reflected classical and mercantile conceptions of political economy. Within these, the rent on oil lay in the value creation after its extraction from the ground, but the oil itself was virtually worthless. Such notions were legally codified in concessions signed at the beginning of the twentieth century; these concessions started to expire in the 1950s and 1960s. The range of nationalizations that began in Mexico and Venezuela in the 1940s and culminated with the Libyan and Algerian revolutions overthrew the oil system.<sup>37</sup>

The properties of the oil market were reflected in the production of statistics, price information, and oil forecasts.<sup>38</sup> From the early twentieth century, world oil was monitored in a system of forecasts and price information that has been described as a petroknowledge entanglement of state capital relations. Governments and oil companies shared expertise, often in joint petroleum committees or departments.<sup>39</sup> The development of independent oil committees stemmed from the energy crises. By the 1970s, the international oil companies were considered no longer as protectors of the oil market but as market interests in a larger conflict of positions between producers, companies, and consumers. This loss of position changed the system of petroknowledge. Oil forecasts came to play a new role: that of managing expectations in the oil market, by setting out images on the long-term future of oil. As OPEC was created

<sup>34</sup> Garavini, *OPEC*, 192.

<sup>35</sup> Shell, *Strategic Planning in Shell*, 1986, 2, "The Organisation of Information in a Multinational," n.d., Oil folder 1. All archival notes in this text go to the Pierre Wack Collection in the Said Business School, Oxford. Many documents in the collection are not authored and dated. They appear here as they do in the archive.

<sup>36</sup> Wack, "Uncharted Waters"; Sampson, *Seven Sisters*; Garavini, *OPEC*.

<sup>37</sup> Bernard Mommer, "The Shocking History of Oil," in Bini, Garavini, and Romero, *Oil Shock*, 17; Francesco Parra, *Oil Politics: A Modern History of Petroleum* (London, 2004).

<sup>38</sup> Rudiger Graf, *Öl und Souveränität: Petroknowledge und energiepolitik in den USA und Westeuropa in den 1970er Jahren* (Oldenburg, 2014), 1–17.

<sup>39</sup> Rudiger Graf, "Making Use of the 'Oil Weapon': Western Industrialized Countries and Arab Petropolitics, 1973–1974," *Diplomatic History* 36, no. 1 (2012): 185–208.

in 1960, the OECD (created in the same year) responded with the creation of its own oil policy committee. So did the European Community.<sup>40</sup> In 1974, the International Energy Agency (IEA) was created.<sup>41</sup>

The first scenarios produced by Shell can therefore be understood in the context of a shifting system of oil forecasts. A new role for oil knowledge was to set out expectations on the long-term development of oil and help redefine world market interest as well as which actor held the moral virtue of defending this interest.<sup>42</sup> OPEC started creating an independent system of oil data in 1960, pooling producer information and creating its own research organization. OPEC economists linked the production of oil data to the objective of achieving a global stabilization of prices through a new pricing formula.<sup>43</sup> As OPEC economists became a major source of input to the NIEO in 1966 and 1967, this pricing formula was linked to purchase power of Western manufactured goods and to inflation—in other words, to world industrial and monetary architecture.<sup>44</sup> In 1972, the idea of oil as a “wasteable resource” formulated in the constitution agreement of OPEC was replaced by the demand for sovereignty of a “limited” natural resource, the future depletion of which should be reflected in pricing.<sup>45</sup>

### The Belle Epoque and the World of Internal Contradictions: Envisioning a New Economic World Order

Like many other multinationals, Shell restructured its organization within the Shell Group in the 1950s, strengthening management and planning functions.<sup>46</sup> In 1959, Shell created a planning department, called Group Planning.<sup>47</sup> The first scenario processes in 1967 were a result of reflections within Group Planning on the managerial challenges created by the Shell Group’s division across global space, with main

<sup>40</sup> Kuiken, “Caught in Transition”; Francesco Petrini, “Eight Squeezed Sisters: The Oil Majors and the Coming of the 1973 Oil Crisis,” in Bini, Garavini, and Romero, *Oil Shock*, 89–117.

<sup>41</sup> International Energy Agency, *History of the International Energy Agency*, vol. 1 (New York, 1979).

<sup>42</sup> “History and Strategy in Shell,” 12 Nov. 1985, Oil folder 1.

<sup>43</sup> “Agreement Concerning the Creation of the Organization of Petroleum Exporting Countries (OPEC), Done at Baghdad, on 14 September 1960,” United Nations – Treaty Series 1962 (6363), 248–52; OPEC Resolution 3 (II), 1960; Garavini, *OPEC*, 187–98.

<sup>44</sup> See OPEC Resolution XVI:120, 122. *OPEC official resolutions and press releases 1960–1990*, edited by James Audu, Vienna, 1990; “Economic Commission Report on the World Monetary System,” in *OPEC Annual Review and Record* (Kiel, 1972); Parra, *Oil Politics*, 137–45.

<sup>45</sup> OPEC Press release, November 20, 1973.

<sup>46</sup> Jones, *Multinationals and Global Capitalism. From the 19<sup>th</sup> to the 21<sup>st</sup> Century*. Oxford University Press on Demand, 4–7.

<sup>47</sup> “History and Strategy in Shell”; Notes on the Year 2000 study, “The Year 2000 Report,” probably by Wack. Oil folder 1.

offices and planning functions in London and the Netherlands and regional branches in oil-producing countries. Along with this came concerns with the upstream-downstream dimension. Group Planning modeled flows and performed five-year forecasts through a computerized model of linear programming called the Unified Planning Machinery. In 1967, the oil industry began to question the role of these forecasts, which predicted steady expansion. A study by BP foresaw constraint in supply resulting from OPEC action. The oil companies had just seen a historic defeat in negotiations with OPEC in Tehran.<sup>48</sup> In the same year, Pierre Wack and Shell planner Ted Newland participated in an experimental horizon-scan exercise with scenarios until the year 2000, in order to “test the viability of a ‘growth forever’ idea.”<sup>49</sup> The exercise took place at the American Hudson Institute and was led by former nuclear scientist Herman Kahn.

Wack had come to Group Planning from Shell France, where he had worked on scenarios for the French coal market in the context of European integration. At Shell France, Wack had come into contact with Kahn’s corporate scenarios.<sup>50</sup> The corporate scenarios project at Hudson involved the world’s largest multinationals in an exercise that entailed simulating a number of possible future business environments, or “worlds.” The scenarios listed a range of variables that included raw materials, political change, cultural values, and developments in the international system.<sup>51</sup> The results at Hudson, which were widely circulated among managers and planners all over the world, gave essentially two scenarios: a “standard” world of harmony, organized around free trade and market relations; and its opposite, the “world of internal contradictions” (WOC), a world of growing tensions, protectionism, and government dirigisme.<sup>52</sup> In Shell’s first scenario exercise, the standard world was renamed the “Belle Epoque.” The Belle Epoque depicted a world of continued growth, in which a “general shortage of raw materials” had not materialized. The Third World would “experience varying degrees of economic frustration” but remain powerless. By the end of the century, the multinational corporation would dominate world trade and industrial production. The WOC, in contrast, was marked by the new political factor in oil, triggering “dirigiste tendencies in many

<sup>48</sup> *Royal Dutch Petroleum Co Report* (1967), Special Collections, Baker Library, Harvard Business School; Kuiken, “Caught in Transition.”

<sup>49</sup> Studies and Policies Division, “A Special Survey of Energy in the World Political and Economic Environment for the Years 1985–2000,” Dec. 1967, Oil folder 1.

<sup>50</sup> “The Evolution and Role of Group Planning in Appraising the Business Environment,” 1983, Oil folder 43; “Who Needs a Planner? Planning in Shell,” 1984, Oil folder 43.

<sup>51</sup> See R. J. Williams, “World Futures,” *Critical Inquiry* 42, no. 3 (2016): 473–546.

<sup>52</sup> Hudson Institute, “Scenarios for the Year 2000,” Commission for the Year 2000 papers, Archives of the American Academy of Arts and Sciences, Cambridge, MA.

industrial countries as well as the major producing areas.” Supply constraints in the South unleashed detrimental political reactions in the West, effectively sidelining market interest. The oil industry became the subject of government regulation, and the oil majors declined and died, incapable, like the historic coal majors, of transitioning into other markets.<sup>53</sup> The WOC scenario made an impact within Shell, where it led to the realization that governmental relationships had to be cultivated much more carefully.<sup>54</sup>

In the years following the 1967 exercise, Shell planners became convinced that OPEC was strategically involved in shifting public perceptions on oil and that the oil industry had to respond by alerting its own managers, Western policymakers, and publics to the dangers in letting the former hosts define the global market interest. In 1971, Group Planning began working on the Rapids scenarios.<sup>55</sup> The Rapids were made up by the behavior of actors who disturbed the upstream-downstream flow by acting on nationalist and protectionist preferences. An unholy alliance of OPEC, Western governments, and environmentalists embraced a new idea of conservation. According to the Rapids, a “nostalgic world” was impossible. The Rapids scenarios highlighted the desirability of a reinvented Belle Epoque world—one in which the West, led by its multinationals, once again showed the way forward, through “economic mastery, growth ethic and self confidence.” The question was how the industry would be able to play this role—a question that was subsequently put in a questionnaire to all regional managers of the Shell Group.<sup>56</sup>

The Rapids scenarios paved the way for the insight within Group Planning that scenarios were a useful tool with which to move beyond immediate strategic concerns and shape new images of the future of oil. The role of the scenarios was to create a “Lichtbild—an inner image of future success for the corporation,” which could then be diffused to management.<sup>57</sup> From this conclusion that the scenarios could serve to identify new future visions came, in turn, two insights: first, between 1971 and 1974, that scenarios were a key instrument in devising a strategic response to OPEC essentially by splitting the interests of Middle Eastern and African producers; and second, after 1974, that the key to a reasserted influence of the oil majors in a future world lay in developing new points of harmonization and concertation with OPEC within a growing world oil market.

<sup>53</sup> “Special Survey of Energy.”

<sup>54</sup> Note to Ted Newland, 1977, Oil folder 1.

<sup>55</sup> Wack, “Shooting the Rapids”; Group Planning, “Scenarios for the Rapids, a Review,” 1976.

<sup>56</sup> “Questions for the Future,” survey, Oil folder 6.

<sup>57</sup> Mark Berger, “After the Third World? History, destiny and the fate of Third Worldism”, *Third World Quarterly*, 25 (2004, 1) : 9–39.

The Rapids showed that OPEC suffered from internal tensions regarding different national dependencies on Western currency and sales. The scenarios could be used to think through and exploit these internal tensions, which would eventually break OPEC.<sup>58</sup> Within OPEC, fundamental differences existed between large oil producers that held important reserves in crude and dollars and smaller ones whose development needs exceeded their capacity of payment and their fields. The scenarios brought attention to the fact that leading OPEC members such as Saudi Arabia and Iran could not absorb oil revenues in their domestic markets.<sup>59</sup> While this was in itself a reason for restraining supply, it was also a problem that, in Shell's understanding, would undermine regime rule in the longer term, creating a susceptibility to Western pressure and a subsequent integration of oil exports into an expanding world market. The second problem that the Rapids identified was the divergence of interests between high absorbers and low absorbers. Shell deduced through the scenario exercises that Africa was a more promising future market for exploration than the Middle East, for instance, through the development of the oil- and gas-rich fields in the Niger Delta. In 1974, as a result of the Rapids process, Group Planning began systematically interviewing all Shell managers to make them "come away from the regret of lost circumstances and hurt" so that they could then consider new opportunities, more precisely, those that concerned exploration in non-OPEC areas.<sup>60</sup> In the next batch of scenarios, in the early 1980s, it was clearly stated that a major rift had occurred between those Arab nations that sought to "to preserve and conserve a depleting asset" and those, mainly in Africa, that were dependent on exploitation for their developmental needs. In 1982, the "Hard Times" or "Restructured Growth" scenarios argued that African nations presented a major opportunity for the oil majors and that Shell, in particular, needed to "rethink its relationship to the developing world." This led to studies of the fifteen largest energy consumers in the developing world, to which Shell could become a major supplier of electrification and fuel.<sup>61</sup>

In the third set of scenarios, by the mid-1980s, ideas of confrontation with OPEC had given way to a new co-existence with producer

<sup>58</sup> Mark Berger, "After the Third World? History, Destiny and the Fate of Third Worldism," *Third World Quarterly* 25, no. 1 (2004): 9–39.

<sup>59</sup> Group Planning, "Long term review," June 1979; "Exploratory Scenarios for the Long Term: Summary of Data and Results for the 1<sup>st</sup> Round," Dec. 1975; "Crude Oil Pricing: OPEC Behaviour and the World Oil Market," Dec. 1980. Oil folder 7.

<sup>60</sup> Group Planning, "Background papers for long term scenarios," November 1979.

<sup>61</sup> "Energy and the developing world," fax, 1980; "Draft of position paper on developing countries based on the October 1983 quantification," "Energy in developing countries. Summary of constraints and opportunities," Oil folder 7.

countries around the idea of a shared market interest. Oil had proven to turn “revolutionaries into pragmatists.”<sup>62</sup> The acceptance of higher prices by the international companies had brought about more moderate regimes in the Middle East, with whom it was now possible to elaborate a “comfortable scenario for all.” Producers had succeeded in taking control of the oil market but failed to develop strategies for the day after depletion. Therefore, they found themselves in a time squeeze, and only a “limit to national protectionism and growth of confidence in the national capability for global optimization and competition” could help them become true competitors for the time “after this resource is depleted.” Multinationals, on the other hand, had to recognize that “huge profits become political vulnerabilities.” If they accepted this, they could use their position to prevent OPEC from distorting the market and push OPEC nations to embrace internationalism.<sup>63</sup> Thus, against a “Divided World” scenario stood once again a global scenario of a unified and prosperous world organized around a universal market interest and a dominant position of international oil companies.<sup>64</sup> Now, the scenarios identified a new prospective audience in the top-level managers of the Gulf nations and their nationalized oil companies, with the idea that these could be drawn into a process of writing development scenarios from which “appropriate choices can be made so that frustration and disruption do not become the sour fruits of the tree of energy resources. . . . Interdependence requires the recognition by the consumers and the producers of their respective needs and an acceptance and willingness of both groups to work toward their desired future.” In the 1980s, such joint scenarios were important in a new regional dialogue with OPEC and the IEA, and in the coming decade Shell itself started producing global development scenarios.<sup>65</sup>

### Managing Contradictory Societal Expectations

The core insight from the 1967 scan was that “political decisions might control production levels” and that a crisis of supply would create a set of confrontations between governments and international oil companies. Scenarios were thus identified as tools with which to

<sup>62</sup>The Petroleum Finance Company, “The Opec members of the Arabian Gulf,” Washington 1989, Oil folder 7. Group Planning draft, “Opec, the Second Twenty Years,” Oil folder 19.

<sup>63</sup>“Long term oil review 1980/2000,” June 1980, Oil folder 8; see also “Oil, rediscovering the fundamentals,” 1985, Oil folder 19.

<sup>64</sup>“Scenarios 1984/2000, The future of the downstream oil industry. Divided world and Next wave,” Oil folder 19. “Security of supply and demand,” Oil Folder 18.

<sup>65</sup>This reflection in Shell was influenced by the Venezuelan oil minister Alberto Quirios, chief executive of Maraven, formerly Compania Shell de Venezuela. Quirios, speech to the Oxford Energy policy club, Nov. 1978, Oil folder 19.

“cultivate good relations with governments.”<sup>66</sup> After 1973, it became clear that the price hike caused by the embargo had indeed set in motion a new confrontation between Western governments and oil companies. The latter took home spectacular profits from the “OPEC gift.” This exposed them to the risk of government intervention—not least in the United Kingdom, where the Labour Party was entertaining the idea of nationalizing the oil industry. In the European Community, there were proposals to bypass the oil companies and negotiate directly with OPEC.<sup>67</sup> In the Netherlands, Shell’s other home nation, the Den Uyl government had begun a direct dialogue with environmentalist groups. The idea that dirigisme and the risk of regulation would transform the oil market led Group Planning to perform a set of country-specific scenarios that targeted political risk, sociopolitical changes, and public expectations. In these scenarios, price hikes on crude sparked defensive reactions from governments that were caught up in a spiraling logic of “interest group” demands.<sup>68</sup> The “Hard Times” scenarios depicted a Western world of malaise, suffering from political interventionism, government deficits, and rigidities in the decision-making process.<sup>69</sup> In 1983, Shell United Kingdom produced a set of U.K.-specific scenarios, in which the decline of the British Empire and a “historical legacy of cultural bias against industry” weighed heavily on business and an ill-fated form of individualization has sapped a previously existing working-class culture. There was political overload, and big oil no longer appeared to be accepted in British society.<sup>70</sup> The scenarios said: “There is no longer any sense of compatibility between the self-interest of private companies and the public interest of the countries in which they operate. . . . This (relationship) will continue to deteriorate due to the way that a proportion of oil revenues appear to be unearned.”<sup>71</sup>

Shell’s official historiography also refers to the shock, at Shell, in discovering that the modern MNE was the object of a set of “contradictory societal expectations.”<sup>72</sup> The scenarios described an impossible situation in which multinational companies were charged with maintaining the quality of life of consumers and at the same time expected to carry a

<sup>66</sup> “Who Needs a Planner?”

<sup>67</sup> “The Extent and Use of the OPEC Gift,” 11 Apr. 1985, Oil folder 8.

<sup>68</sup> “The impact on the world economy of developments in the market for oil,” 14 May 1973, Oil folder 4.

<sup>69</sup> “Three Hard Time Scenarios,” 13 Nov. 1980, Oil folder 37.

<sup>70</sup> Shell UK, “UK Planning Scenarios,” Jan. 1983, Oil folder 7; “Extent and Use of the OPEC Gift.”

<sup>71</sup> Group Planning, “Oil, rediscovering the fundamentals,” Oil folder 7; “Strategic thinking about rent domains,” October 1985. “Shifts of power in the petroleum world,” 1985, Oil folder 8.

<sup>72</sup> Sluyterman, *Keeping Competitive*, 365.

new load of social and environmental responsibility.<sup>73</sup> A new element in the scenarios was thus the problem of how to manage contradictory societal expectations and social reactions that posed risks to company action. This included, specifically, protests against drilling and concern over human rights issues around exploration sites. A 1979 Group Planning document titled "Societal Aspects of Large Industrial Projects" began as follows: "modern society places many constraints on the freedom of action of business management." Preeminent among these constraints were destructive societal reactions to industrial projects. Social contestation had changed the power relations within the market. "Participation, like decolonization, is irreversible." A new task for the scenarios was thus to understand the "rationality and logic of social action," so that management could take this into account in the planning of new projects.<sup>74</sup>

The concern was, in other words, not to foresee or manage environmental consequences but rather to pacify social contestation around drilling and extraction. The scenarios stated that if relevant populations could be included in the planning of projects, their fears and protests could be calmed, a sense of participation and inclusion achieved, and the groundwork therefore laid for projects that, owing to their lead times and capital investments, would otherwise appear highly risky. The scenarios' goals were to "find out where there is potential to overcome firm resistance to a project," to "get involved early on issues and mobilize constituencies for a project," and to "ensure the efficacy of projects that are genuinely in the public interest" even when corporate actions might be perceived as "manipulative." Shell, the scenarios said, had to perform "open planning," to "water the roots" by involving people in dialogue and decision making and helping them recognize that they were participating in "creating their own future."<sup>75</sup> In this role, scenarios had been pioneered in Shell's Dutch office. Regional scenarios for the Netherlands emphasized a new situation for multinational corporations in which environmentalism and leftist social movements had reshaped the business environment. The conclusion from these scenarios is noteworthy: it was in Shell's interest to bring about a transition to a society of new values in which the current rejection of growth was replaced by a "constructive and reasonable attitude" and a general "feeling of progress." This feeling would emanate not from government but from private enterprise.<sup>76</sup>

<sup>73</sup> Sluyterman, "Royal Dutch Shell."

<sup>74</sup> Group Planning, "Societal Aspects of Large Industrial Projects," July 1979, Oil folder 1.

<sup>75</sup> "Societal Aspects." See also Shell South Africa, "Social Report," 1983, "Listening and responding, a progress report," and "Living the values," 1983. Oil folder 3.

<sup>76</sup> Shell Nederland Central Planning and Economics, "Long Term Scenarios for the Netherlands," Sept. 1971, Oil folder 1.

## Shaping Capitalism Futures: The New Wave Scenarios and the Global Business Network

The scenarios caused a rift between Shell management and Group Planning. By the 1980s, Shell scenarists no longer thought that the oil industry had successfully navigated the oil crises. On the contrary, they thought the scenarios demonstrated an end to the dependence on cheap fossil fuels and that the oil industry was now on the other side of the “oil mountain.” The other side of the oil mountain was either a great downhill run or a new “third shift” or “next wave” in the structure of the world economy.<sup>77</sup> Scenarios reflected the idea that capitalism moved through structural waves, not market conjectures, an idea that became central in an emerging management and innovation literature from the 1970s. In the Rapids, the set of challenges of the 1970s were depicted as symptoms of a previously stable system now in violent transformation and as representing a major strategic moment for the business actor to define the future economic shift.<sup>78</sup>

From the mid-1980s, the scenarios were increasingly defined inside Shell as a tool for changing corporate culture in such a way as to teach managers to identify this new wave.<sup>79</sup> In 1981, Wack gave a talk to Harvard Business School during which he presented the scenarios as a neo-Schumpeterian instrument for foreseeing the beginning and destruction of business environments.<sup>80</sup> The declining market was the perfect moment for a business actor to shape the future forces of expansion, he suggested.<sup>81</sup> In 1988, Wack, Napyer Collins, and Peter Schwartz created the Global Business Network.<sup>82</sup> GBN was an outcrop of meetings at the Santa Fe Institute, a 1980s hub for discussions on leadership, management, and innovation in the new economy. At Santa Fe, the corporation was understood as a biological organism and as a driver of changes in an evolutionary system; in Collins’s words, “It wants to survive and develop.”<sup>83</sup> Scenarios were viewed as tools of learning in a changing environment, not least by Stewart Brand, author of the Whole Earth catalog

<sup>77</sup> Group Planning, “Oil, Rediscovering the Fundamentals.”

<sup>78</sup> Group Planning, “Exploratory Scenarios for the Long Term.”

<sup>79</sup> “Scenario planning. Shell’s approach to the handling of uncertainty in the future business environment of the energy industry,” Oil folder 1.

<sup>80</sup> Pierre Wack, manuscript, Harvard Business School talk, 13 May 1981; Wack, “Changing Gear in Planning,” 1982, Oil folder 6.

<sup>81</sup> Peter Schwartz, note to the members of the management team, 18 Apr. 1984, Oil folder 2; Arie de Geus, “The Learning Company,” 21 Aug. 1987, Oil box 1; Shell, *Strategic Planning in Shell*, 2: “The organisation of information in a multinational,” Oil box 3; “Changing the Role of Top Management,” 22 Apr. 1995, Oil folder 7.

<sup>82</sup> “Guide to Planning within Shell,” Oil box 4.

<sup>83</sup> Napyer Collins, “The Beginning of Scenario Planning at Royal Dutch Shell,” 1972, Oil folder 2.

and a leading environmentalist thinker.<sup>84</sup> At Santa Fe, the dependence on natural resources was seen a thing of the past, a marker of the dying wave. Oil companies were relics unless they devoted themselves to new energy futures. Seminars and activities at Santa Fe rejected the idea of limits, as did many other sites of both business and counterculture in the United States.<sup>85</sup>

The acceptance of the fact that fossil fuels both were a depletable resource and had detrimental environmental effects was not the same thing as accepting the difficult idea that the capitalist system itself was bound by a determined relationship between growth, development, and natural resources. Kahn led the countercharge by arguing that all changes in a complex system triggered counterreactions, feedback mechanisms, and corrections, leading to a new systems equilibrium.<sup>86</sup> These thoughts had a major influence on Shell's scenario department. Wack and other Shell planners contributed to the energy futures research project in the Harvard Business School in 1979, which in the aftermath of the second OPEC embargo came to the conclusion that nuclear power would not fill energy needs and recommended new production on U.S. soil. The energy futures project was an important step in moving the oil industry from ideas of glut to ideas of technological change, sustainable extraction, and new fields. The energy futures project also seems to have been vital in developing ideas from Kahn and others that scenarios could be used as an alternative to the computer models used by the Club of Rome and hence move beyond the static message of limits that seemed to have contributed to the confrontation with the developing world.<sup>87</sup> The emphasis on the dynamic message of leadership in a coming market transition based on new values (including sustainability) became Shell's way of meeting the environmentalist charge. At this point, somewhat paradoxically, scenarios could become both tools for introducing sustainability and techniques for imagining a new future for the oil industry. In 1988, Group Planning wrote a confidential report on greenhouse gas effects that suggested using scenarios in order to predict a coming set of profound disturbances in earth

<sup>84</sup> Stewart Brand, ed., *The Deeper News: Exploring Future Business Environments*, 2, 1 (Spring 1990); Brand, "Adaptivity in Institutions—A Biological Look at Business," 1988, Global Business Network box 3.

<sup>85</sup> See, for example, Fred Turner, *From Counterculture to Cyberculture: Stewart Brand, the Whole Earth Network, and the Rise of Digital Utopianism* (published Chicago, 2006); Jenny Andersson, *The Future of the World: Futurology, Futurists, and the Struggle for the Post Cold War Imagination* (Oxford, 2018), 250–51.

<sup>86</sup> See Group Planning note on Kahn in "Oil, rediscovering the fundamentals."

<sup>87</sup> Harvard Business School Energy Project, see "Limits to Models" in Robert Stobaugh and Daniel Yergin, *Energy Future, Report of the Energy Project*, (New York, 1979).

climatic and atmospheric conditions resulting from the burning of fossil fuels. The report did not deny responsibility; instead, it argued that the industry would have to “work out the part it should play in the development of policies and programmes to tackle the whole problem. It will not be appropriate to take the whole burden, for the issues are ones that only governments can tackle. But it has very strong interests at stake and much expertise to contribute. . . . It also has its own reputation to consider, there being much potential for public anxiety and pressure group activity.”<sup>88</sup> The 1988 report is not in the scenario archives, and it seems that the issue of climate change was kept to a restricted use in Group Planning.

Meanwhile, the message of the GBN scenarios was that of a bright new future for the oil industry on the other side of the oil mountain. The “Next Wave” scenarios were about innovation, creativity, and value change and emphasized MNEs as leaders of transition. Physical limits to natural resources would not put constraints on capitalist growth: “potential is only limited by the capabilities of the people.”<sup>89</sup> In 1985, GBN scenarios identified a new generation of achievement-oriented young people, a promising turn to a new kind of conservatism in politics, and a new and creative management culture in the multinationals.<sup>90</sup> “Strategic opportunists . . . who do not ask what their government can do for them but realize that they have to create their own future” were the drivers of the New Wave, both in the Western world and in a new and modern Third World where people “realize that the NIEO is over and that they have to create their own future.”<sup>91</sup> In 1989, GBN scenarios suggested that a new global “Market World” could be created if the multinational corporation “invoked the organizational power of storytelling” and explored alternative futures.<sup>92</sup> Sustainability now entered into this cosmopolitan account as part of a set of market-based global values.<sup>93</sup> In the mid-1990s, the GBN began to

<sup>88</sup> “Shell, Greenhouse Effect Working Group, “Greenhouse Effect”, 1988.

<sup>89</sup> Schwartz, note; Peter Schwartz, “The Long Boom: A History of the Future, 1980–2020,” *Wired*, 3 July 1997; Note on the Societal scenarios, Sept. 1981, notes from European trends and perspectives seminar, 23–28 Mar. 1980, and notes for a talk by Pocock to London Business School, 1980, all in Oil folder 46.

<sup>90</sup> Shell companies in Japan, “Japan Scenarios 1984–2005,” Apr. 1984; Group Planning, “Scenarios 1984–2005, Next Wave and Divided World: The Background and Quantification,” Oct. 1984, both in Oil folder 3.

<sup>91</sup> Joop de Vries, “Images of the 90s” and “Shrinking Earth,” Oil box 5; “Thinking Together about the Future,” GBN flyer, GBN box 3.

<sup>92</sup> Group Planning, “Challenge and Response,” 1989, Oil folder 48. The first scenario book of the GBN, titled “Decades of Restructuring,” appeared in 1989, written by Peter Schwartz, Jay Gilvly, Stewart Brand, Bill Keepin, and Steve Barnett.

<sup>93</sup> Schwartz et al., “Decades of Restructuring.”

argue that this globalized world was in fact organized on the basis of the multinational corporation. The nation-state was doomed to wilt, but the corporation could be expected to promote cultural leadership and shape political change for the common good.<sup>94</sup> In a 1997 talk to the GBN WorldView meeting, the management consultant Peter Schwarz argued that the future capitalist world would no longer be inhabited by citizens but by consumers. This turned the relationship between multinationals and people into the crucial social axis, requiring a new form of business social responsibility and eliminating the need for politics.<sup>95</sup>

### Conclusion: Defining the Destiny of Global Capital

The purpose of this article was to ask a question: Why were scenarios used? It was also to suggest an answer, which insists that while scenarios may well have been used within Shell to discuss environmental concerns or issues of corporate social responsibility, this was not in fact their primary role and it was not for this purpose that scenarios were introduced within Shell. The main role of scenarios was to invent and project new visions of the future territories of oil in a world beyond limits. The impetus behind the Shell scenarios was the realization that the business environment of the 1970s was shaken up by a set of new political factors and that the corporation itself needed to actively shape a future world optimal for its purposes. To the oil majors, the twin challenges of the publication of the *Limits to Growth* report in 1972 and the embargo of the Arab oil-producing nations in the winter of 1973 introduced a new risk in what they saw as a new wave of political interventionism and threat of global regulation. They reacted with the creation of new think tank and consultancy structures, in which the idea of market coordination and innovation played a key role. Scenarios were an important part of this move. The scenario processes, from 1967 on, had one thing in common: namely, the stereotypical juxtaposition of a world of perfect harmony, organized around a set of virtuous market relations, to a deeply undesirable world of chaos and decline, dominated by state action. In the First World, the multinational corporation represents a common world market interest and an ideal global society. Therefore,

<sup>94</sup> GBN, "Twenty First Century Organizations: Four Plausible Prospects" (presentation, Sloan School of Management, MIT, 1994); GBN Worldview meeting, Amsterdam, 28–30 Sept. 1994, "Political Uncertainties and Political Change: Shaping the New Political Geography"; GBN WorldView meeting, 20–22 Apr. 1994, San Francisco, "The Restructuring of the Global Economy," GBN box 3.

<sup>95</sup> Peter Schwarz to Worldview Meeting, 17 Nov. 1997, The Hague. GBN box 3.

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the scenarios foster a conception of the international oil company as the custodian of global stability and producer of global values.

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