

## The Acid Rain Debate

On December 23, 1969, the Phillips Petroleum Company announced that they had found oil in the North Sea. After many empty wells, the Ekofisk oilfield was the first major find in the Norwegian oil sector. “A sense of sheik well-being spread around” in the new “oil nation,” a journalist noted, as the oilfield was estimated to be among the twenty largest in the world.<sup>1</sup> It was a “fairy-tale” that came true setting the nation in a Klondike black gold rush.<sup>2</sup> Indeed, Ekofisk and subsequent discoveries of oil and gas would forever change the nation’s industries and finances. Norway would, over the next half a century, be propelled into being one of the richest countries in the world.

Only months before Phillips’ announcement about the oilfield, the press wrote for the first time about climate change. It came in an article published in one of the country’s largest newspapers. It claimed that industrial smoke would cause a “hothouse effect” and result in a colder overall climate for the world due to suspended dust in the atmosphere keeping the sunshine out.<sup>3</sup> By 1971 the same paper reported that the hothouse effect would instead cause global warming due to carbon dioxide emissions from petroleum. It was said this “may cause the polar ice to melt, the ocean to rise above its shores, cities and large territories of land to be submerged under water, [and] humans to be displaced to the mountains.”<sup>4</sup>

<sup>1</sup> Kjell Stahl Johannessen, “Oljesommer,” in Odd Harbek (eds.), *Nordsjøoljen: Ny norsk naturressurs* (Oslo: Minerva Forlag, 1970), pp. 7–17, quote p. 7. Phillipsgruppen, *Ekofisk: olje fra Nordsjøen* (Oslo: Phillipsgruppen, ca. 1973).

<sup>2</sup> Odd Karsten Tveit, *Nordsjøoljen* (Oslo: Grøndahl, 1973), p. 1.

<sup>3</sup> Asbjørn Barlup, “Mere støv i luften – kaldere klima,” *VG*, Nov. 14, 1969, PA.

<sup>4</sup> Anonymous, “Og havet vil stige,” *VG*, March 27, 1971, PA.

Global warming was at the time, as Spencer R. Weart has shown, a topic of intramural scientific discussion which had barely reached the larger public.<sup>5</sup> It is therefore not surprising that the journalists first reported cooling instead of warming. What is notable is that these reports emerged in the context of questioning industrial growth, dependence on petroleum, and the problem of airborne pollution. Yet climate change as a topic would stay on the margin of Norwegian environmental and scientific debate until the late 1980s. If addressed at all, it was in context of debating other types of air pollution, such as emissions of sulfur dioxide, which causes acid rain.

The booming petroleum industry was the result of *kraftsosialisme* (power-socialism) of the Labor Party along with capitalist friendly policies of the conservatives. Since the end of the war both groups had argued that extracting as much natural resources as possible would propel the nation into prosperity. Such thinking would be questioned by a growing group of young moderate Labor Party environmentalists along with more radical ecophilosophers in the 1970s. What was the environmental and social impact of petroleum, they asked. By examining the work and thinking of the geologists, this chapter will review the environmental policy dimensions of the petroleum industry as seen from the vantage point of the power-socialists. A 1970 application by the Norwegian electric company Hafslund to build an oil-burning power plant at Slagentangen will serve as a focal point of this chapter.<sup>6</sup> At Slagentangen the Esso Company (now Exxon) already operated the first gasoline refinery in Norway. The plant was opened in 1960 with much fanfare by representatives of the Labor Party eager to showcase how power-socialism would modernize the country. The importance of the refinery grew with the Ekofisk discovery, and the building of a power plant meant for its supporters that the oil from Ekofisk would be used in Norway and not exported. It was also located at the heart of the beautiful Oslo fjord

<sup>5</sup> Spencer R. Weart, *The Discovery of Global Warming* (Cambridge, MA: Harvard University Press, 2003). James Rodger Fleming, *The Callendar Effect* (Boston: American Meteorological Society, 2007).

<sup>6</sup> Øyvind Nøttestad, *SFT: Fra forkynner til forvalter* (Oslo: SFT, 1994), pp. 14–53. Bjarne Sivertsen, *Beregning av midlere belastning gjennom lengere tid som resultat av utslippene fra varmekraftverk på Slagentangen* (Kjeller: Norsk Institutt for Luftforskning, May 1971). The petroleum plant had in 1976 a permit to pollute 550 kg/hour pure sulphur into the air. Rune Frank Andersen and Tom-Olaf Norheim Kjær, *Esso-Raffineriene ved Slagentangen og Valloy og deres betydning for Tønsberg-distriktet* (Bergen: Norges Handelshøyskole, 1976), p. 19.

and surrounded by vacation cottages whose owners had previously raised serious resistance to Esso's refinery. The potential plant angered the ecologists who pointed out that it would generate airborne acid rain damaging to the environment. The question of how to deal with acid rain turned into a formative environmental debate as the underlying question addressed the future of power-socialism and the industrialization of Norway. Whether or not to grant Hafslund the permit became an issue, based on the political and social views of the observers, concerning which rationality and whose knowledge one should trust in when visioning the best future for the nation and the world.

#### POWER-SOCIALISM AND THE SOCIAL FUNCTION OF SCIENCE

In 1966 the professor of geology at the University of Oslo Ivan Th. Rosenqvist (1916–94) blamed environmentalists for undermining the industrialization of Norway. Their warnings against degradation of the natural environment, hazards of industrial pollution, and exhaustion of natural resources were to him a secular adaptation of the “doomsday” predictions in the Revelations of St. John. In making his case he pointed out “the effect of carbon dioxide which creates a hothouse window . . . causes the temperature to rise.” There was no reason to fear this effect, he argued. Instead, one should welcome global warming as an increase in temperatures “in the Nordic countries will hardly be unpleasant.”<sup>7</sup> This may be the first time anyone addressed the issue of climate change in Norwegian, and so it's notable that Rosenqvist did so in a defense of industrial growth and the use of natural resources for the common good.

His argument belongs in a long tradition of Norwegian geologists defending the extraction of natural resources. Reaching back to the silver mines of Kongsberg, which at their peak in 1770s had over 4,000 employees and supplied over ten percent of the Danish-Norwegian union's gross national product, the geologists have been on the side of industrialism. Norwegian geologists have, since Kongsberg, seen their research as the very key for the wealth of the nation. Indeed, finding and analyzing natural resources have been to them the equivalent of doing something meaningful and good for Norway and, ultimately, the world. In the 1950s and 60s the Department of Geology at the University of Oslo was a particularly exciting place for such thinking, boosted by new

<sup>7</sup> Ivan Th. Rosenqvist, “Jordens undergang,” *Kirke og kultur*, 71 (1966), 468–79, quotes pp. 469, 475, 476.

instruments, research money, and a new building finished in 1958. The faculty took great pride in the field's history, in which the polar explorer and humanist Fridtjof Nansen (1861–1930) and the nation builder Waldemar Chr. Brøgger (1851–1940) loomed large.<sup>8</sup> They belong within a tradition of exploration aimed at annexation of land and use of natural resources for the benefit of the nation. An example may be the geologist and polar explorer Adolf Hoel (1879–1964), who was appointed President of the University by occupying Nazi authorities, a legacy of the Department rarely mentioned by its faculty.<sup>9</sup> Indeed, few geologists would question the political heritage of their discipline, but instead adopt and continue its imperial tradition of supporting annexation and exploitation of natural resources for the benefit of the nation.

In the 1960s this tradition among the geologists would take a decidedly leftist turn, expressed in the doctrine of power-socialism. Those on the far left, including Rosenqvist, believed that scientific planning of energy production was the way forward. It was an argument echoing Vladimir Lenin's famous reduction of socialism to "Soviet power plus electrification of the whole country."<sup>10</sup> According to this view, the future welfare of the working class depended on the production of electricity distributed by a Communist Party and guided by the scientific elite. One who offered intellectual guidance was the British crystallographer John D. Bernal (1901–71) who became a member of the Norwegian Academy of Science and Letters in 1966 and was invited to Oslo to give the prestigious Hassel Lecture in 1967 (though he was unable to come for health reasons).<sup>11</sup> Bernal believed science should benefit the whole society, as he famously argued in *The Social Function of Science* (1939). "It is in geology and mineralogy that we meet with the most clear connections with economic realities in the location and working of mineral resources. A really adequate teaching of geology implies not only some of this technical knowledge but the economic and political knowledge necessary to

<sup>8</sup> Geir Hestmark, *Vitenskap og nasjon – Waldemar Christopher Brøgger 1851–1905* (Oslo, Aschehoug, 1999). See also Einar-Arne Drivenes and Harald Dag Jølle (eds.), *Norsk polarhistorie*, vol. 2. (Oslo: Gyldendal, 2004).

<sup>9</sup> Aadne Ore and Ove Arbo Høeg, "Universitetets geologiske institusjoner," in *Universitetet i Oslo: 1911–1961*, vol. 1 (Oslo: Universitetsforlaget, 1961), pp. 561–91. Svein B. Manum, "Institutt for Geologi og geologibygningen 1958–1993," *Institutt for Geologi: Rapport*, 65 (1993), 1–6.

<sup>10</sup> Vladimir Lenin, *Collected Works*, vol. 31 (1920) (Moscow: Progress Publishers, 1966), p. 516.

<sup>11</sup> Otto Bastiansen, "Forord." In John D. Bernal, *Vitenskapens historie* (Oslo: Pax, 1978), pp. 11–12.

complete it.”<sup>12</sup> Thus, it was the responsibility of a scientist to make sure research not only was made available but was also used for the benefit of all. After the war he emerged a prominent follower of Joseph Stalin. Inspired by the Soviet leader, Bernal argued that scientists could only improve life in society if they were liberated from destructive capitalism. The social function of science was to better society and the living conditions for the workers of the world, and the means to achieve this was centralized socialist planning in a communist state.

Rosenqvist was the leading figure in the University of Oslo’s Department of Geology and a key follower of both Stalin and Bernal. At the lunch table he would sit at its head, with the rest of the geologists organized around the table according to rank and goodwill. Though not everyone complied, this is a telling image of how he fashioned himself, namely as a leader of a cadre of science comrades on a power-socialist mission. This political agenda framed Rosenqvist’s scientific work from his early days as a student. His chief topic, radiological research of clay,<sup>13</sup> was of key importance in the communist material understanding of the origin of life in the primeval soup. Two leading figures were the Soviet biochemist Alexander Oparin and the British geneticist John B. S. Haldane, who both pointed to the role of clay in understanding life’s origin. This was brought to the forefront of the debate in a 1947 lecture by Bernal, in which he argued that clay minerals may have had a catalytic role in the process leading to the origin of life.<sup>14</sup> Oparin, Haldane, and Bernal were all prime movers of a debate on the importance of social planning of scientific research in the interest of the world’s needy, and Rosenqvist followed suit.<sup>15</sup>

<sup>12</sup> John D. Bernal, *The Social Function of Science* (1939) (London: Routledge, 1946), p. 255.

<sup>13</sup> Ivan Th. Rosenqvist, “Om leires kvikkaghtighet,” *Særtrykk av meddelelser fra vegdirektøren*, 799 (1946), 5–12; “Om leires plastisitet,” *Særtrykk av meddelelser fra vegdirektøren*, 799 (1946), 12–16; “Om de Norske kvikkleirers egenskaper og mineralogiske sammensetning,” *Teknisk ukeblad*, 93 (Okt. 1946), 571–6.

<sup>14</sup> John B. S. Haldane, “The origin of life,” *The Rationalist Annual*, 1929, 3–10. Alexander I. Oparin, *The Origin of Life* (New York: Macmillan, 1938). John D. Bernal, “The physical basis of life,” *The Proceedings of the Physical Society*, 62, no. 10 (1949), 597–618. Cyril Ponnampereuma, Akira Shimoyama, and Elaine Friebele, “Clay and the origin of life,” *Origins of Life and Evolution of Biospheres*, 12 (1982), 9–40. J. Maynard Smith and E. Szathmáry, *The Origins of Life: From the Birth of Life to the Origin of Language* (Oxford: Oxford University Press, 1999).

<sup>15</sup> Gary Werskey, *The Visible College: A Collective Biography of British Scientists and Socialists of the 1930s* (London: Free Association Books, 1988). Vidar Enebak, “The three Merton theses,” *Journal of Classical Sociology*, 7 (2007), 221–38.

Whether or not clay research could prove anything about the origin of life, it was surely helpful in understanding sedimentology, a field intrinsically linked with finding and producing petroleum. In 1963 Norway proclaimed sovereignty of its continental shelf.<sup>16</sup> This annexation was widely supported among geologists who thought of this “new ‘wet’ Norway” as an integral part of the nation, as it consisted of Norwegian glacial sediments. They believed this “new territory” should reach as far north as to include the continental shelf of Spitsbergen, a daring argument since the status of the archipelago and its surroundings was disputed.<sup>17</sup> Exactly where the shelf ended and the deep ocean began was contested, in part due to the Norwegian Trench. It is a very deep water trench just off the coast of the southern part of the country, after which there is a shallow ocean plateau between Norway and neighboring Denmark, Netherland, and Britain. And it was under this shallow plateau where the petroleum was located. It was thus crucial for Norwegian interests to argue that the nation’s continental shelf extended beyond the Trench, and that’s where the discipline of sedimentology proved helpful. When the sovereignty was initially claimed, the Norwegian geologists knew well that there could be rich petroleum fields beyond the Trench, and they therefore argued that the Trench was irrelevant to determine the continental shelf’s extent as the Norwegian landmass continued under it.<sup>18</sup> The geologist Thomas Barth, for example, was one stern supporter of this seabed annexation, even if he was unsure about its scientific value. He pointed to the importance of researching the geological formation of the deep seas, as they were in “legal vacuum” with respect to their potential natural resources and thus up for grab.<sup>19</sup>

Even though the geologists were firm supporters of Norwegian seabed annexations, they were initially kept at a distance when it came to research and exploration of the annexed continental shelf. Instead, this was done by non-Norwegian, private companies who were given exclusive exploration rights by Norwegian authorities sanctioned by the Labor Party. The thinking behind this policy was that it would be too large of an

<sup>16</sup> Leif T. Løddesøl, “Norske regler om oljeutvinning,” *Lov og rett*, (1965), 154–60.

<sup>17</sup> Lidvin M. Osland, “Olje- og oljegeologi,” in Odd Harbek (ed.), *Nordsjøoljen: Ny norsk naturressurs* (Oslo: Minerva Forlag, 1970), pp. 18–31, quote p. 31.

<sup>18</sup> Christoffer Oftedahl, “Gode muligheter for olje- eller gassfunn på kontinentalsokkelen,” *Forskningssnytt*, 4 (1965), 56–7.

<sup>19</sup> Thomas Fredrik Weiby Barth, “Innledning” and “Geologiske randbemerkninger,” in Jens Evensen, *Muligheter og rettigheter på havbunnen: Dyphavet – et nytt ekspansjonsfelt?* (Oslo: Elingaard Forlag, 1970), pp. 9–11, 47–52.

enterprise in terms of exploration costs and financial risk for a small nation to undertake, so it would be better if it was done by larger foreign companies with the proper experience.<sup>20</sup> Thus, even gravimetric and magnetic surveys of the seas came under strict government control, and no scientist or company was allowed to research anything but designated areas.<sup>21</sup> It is telling that in 1972 one had to turn to the Ministry of Commerce to learn about subsea sedimentology of the North Sea.<sup>22</sup> Thus, the scientific knowledge and expertise were behind closed doors in out-of-state companies. As a consequence Norwegian geologists did not play a role in early company histories,<sup>23</sup> or in the political and social analyses of oil of the early 1970s.<sup>24</sup>

This centralized political planning of science was in line with Rosenqvist's views, but he did not agree with the outsourcing of research and exploration to foreign special interest groups and companies. He was dismayed by the exclusion of Norwegian geologists and what he saw as a capitalist assault on natural resources in the North Sea. "Wherever the corpse is, there the vultures will gather," he would say to his students, quoting the Bible.<sup>25</sup> It was nevertheless important to educate Norwegian students in sedimentology so that they, at a later stage, could help their land in securing the country's petroleum. Rosenqvist would tell blue-collar members of the labor union Iron and Metal in Oslo about the importance of keeping international capitalism away from "our resources" in the North Sea. The oil and gas should, in addition to furthering hydropower developments, secure the welfare state as well as

<sup>20</sup> Statens Oljeråd, *Innstilling nr. 6 fra Statens Oljeråd om endringer i Kgl. Res. av 9 april 1965 om utforskning og utnyttelse av undersjøiske petroleumforekomster* (Oslo: Statens Oljeråd, May 5, 1972).

<sup>21</sup> Jens Evensen, *Oversikt over Oljepolitiske Spørsmål: bl.a. på bakgrunn av utenlandsk oljelovgivning og utenlandsk konsesjonspolitikk* (Oslo: Industridepartementet, 1971), pp. 13–14.

<sup>22</sup> Fredrik Hagemann, "Muligheter for å finne olje på den norske kontinentalsokkel," in Mimi Lønnum (ed.), *Norsk oljepolitikk* (Oslo: Elingaard forlag, 1972), pp. 11–33.

<sup>23</sup> Bjørn Vidar Lerøen, *From Groningen to Troll: Norske Shell – 25 years on the Norwegian Continental Shelf* (Oslo: Norske Shell, 1990). Bjørn Vidar Lerøen, *Troll over Troubled Water* (Oslo: Statoil, 2003). Anonymous, *Oljen og vi* (Oslo: Norske Esso, 1973), pp. 15–20.

<sup>24</sup> Peter R. Odell, *Olje og makt* (Oslo: Gyldendal, 1972). Øystein Noreng, "Norwegian oil industry on the continental shelf – social impact, possibilities, problems and policies," in Maurice Scarlett (ed.), *Consequences of Offshore Oil and Gas* (St. John's: Memorial University of Newfoundland, 1977), pp. 59–84; *The Oil Industry and the Government Strategy in the North Sea* (Boulder, CO: Croom Helm, 1980).

<sup>25</sup> Ivan Th. Rosenqvist, "Universitetet og kontinentalsokkelen," *Nytt fra Universitetet i Oslo*, no. 17 (1974), 1–4, 4, UO. The Bible, Matthew 24, 28.

industrial jobs on Norwegian soil. In the chief communist newspaper he would typically raise the question: “Who should actually have rights of disposal over the oil deposits – society or the oil companies!”<sup>26</sup>

Rosenqvist took pride in having predicted the booming petroleum industry in his 1967 vision of “The World in Year 2000.”<sup>27</sup> This guessing was well informed, as he and his fellow geologists had marveled at private exploration of various companies of the annexed continental shelf. The fact that the geologists were left in the dark was a source of frustration, but it also allowed space for imagination on how this research should be organized as soon as they got access. Following the argument in Bernal’s *The Social Function of Science*, Rosenqvist argued that scientific research should be the object of social planning. The best way to secure scientific relevance for the nation was to reorganize the university system analogous to the way in which Norway organized health, fire, and road services. These were public hierarchical institutions led by state departments and controlled by the Parliament. In 1966 Rosenqvist proposed a new “University of Norway,” organized along the same principles, to secure a “unity” of knowledge and power. “I do not think that the self-government of universities is appropriate for our modern society,” he claimed.<sup>28</sup> He imagined instead a politically centralized university in which scientists would be given overreaching social tasks without having to worry about funding or satisfying short-term political goals. It was a radical program meant to liberate scientists and the university from special interest groups, political factions, and capitalist forces. At the same time it was supposed to allow long-term planning and steering of scientific activities so that research would benefit the welfare and prosperity of the nation and ultimately the workers of the world. To him, giving Hafslund a permit to build their plant at Slagentangen was a matter of course, as the plant would generate electricity and thus prosperity for the nation.

While Rosenqvist was pondering these ideas, the University of Oslo grew into a large campus both in the number of students and in financial and material resources. In this process geology failed to grow at the same speed as other departments, and by the early 1970s it became a relatively

<sup>26</sup> Ivan Th. Rosenqvist, “Skal internasjonal kapital bestemme over våre ressurser?” *Friheten*, 6 (1973), 7.

<sup>27</sup> Ivan Th. Rosenqvist, “Verden i år 2000,” Lecture at NRK Radio, fall 1967, *Forskningsnytt*, 13, no. 1 (1968), 13–15.

<sup>28</sup> Anonymous (interview) with Ivan Th. Rosenqvist, “Radikal professor,” *Arbeiderbladet* Oct. 29, 1966, 11–12, RA.



marginal field in comparison to, in particular, biology and ecology. This had consequences in the intramural politics of the University. Rosenqvist felt that geologists were losing ground. He wrote several editorials in the official Labor Party newspaper about the problem, arguing that the university was about to become “a rubber-stamping tea-party,” writing charged quasi-scientific reports for political interest groups. He argued that the leadership nurtured a culture in which “the strong are oppressing the weak” research fields.<sup>29</sup> And since it is “the one who is paying the orchestra who decides the music,” Rosenqvist feared that special interest groups within the government could steer research results and financially favor fields with the most students.<sup>30</sup>

#### THE POWER-SOCIALISM OF THE LABOR PARTY

Rosenqvist’s criticisms were directed at the ruling Labor Party, and centered around the importance of defending the nation’s intellectual and natural resources against special interest groups, military industry, and capitalism. It was an attempt to turn leftward the rebuilding effort led by the Labor Party that – with the exception of a month’s interlude in 1963 – was in power from 1945 to 1965. In this period there was a broad consensus about the need to exploit natural resources such as minerals, plants, and fish for future prosperity, though there was disagreement about which resources the nation could and should focus on. The doctrine of power-socialism would also dominate within the Labor Party in holding that electric power was the key in securing equal material welfare and social opportunities for all.

Yet, unlike the communists, the Labor Party believed that a mixed economy of planning and marked liberalism would secure electric power and the material welfare for all. Mixed economy entailed membership in the European Community (EC), which was met by head-on resistance from the far left, who viewed the EC as capitalist forces incapable of uniting the workers of the world. These two factions of Norwegian power-socialism – the socialist planners and the mixed economists – should be understood in view of a struggle to construct a modern nation within the context of the European Community, NATO, and Cold War tensions. Yet, for all their differences, both power-socialist planners and mixed economists supported Hafslund’s application.

<sup>29</sup> Ivan Th. Rosenqvist, “Skinndemorati?” *Arbeiderbladet*, Jan. 16, 1970, RA.

<sup>30</sup> Ivan Th. Rosenqvist, “Universitetets dilemma,” *Arbeiderbladet*, Mar. 13, 1970, RA.

One key issue among the power-socialists was nuclear energy. With the introduction of atomic weaponry in 1945, nuclear energy was widely seen as important to Norway's future, and the Labor Party thus voted in favor of building a nuclear test reactor. In this process, Norway's nuclear physicists became, to Rosenqvist, a prime example of how intellectual soberness could be corrupted by a selfish drive for research money made available by special interests groups, military industry, and industrial capitalism. Chief among them was Jørgen Randers' father Gunnar who worked in close collaboration with the Norwegian Defense Research Establishment on building a nuclear test reactor. Rosenqvist fought against this decision, arguing, in Norway's leading engineering journal, that the nation's lack of natural uranium and plentitude of alternative energy resources did not justify spending money on the project.<sup>31</sup> Radioactive pollution was not the issue, he claimed, and promised, if necessary, to sit on top of the test reactor dressed only in his underwear in order to protest the project.<sup>32</sup> What worried him was that the "nuclear prophets" would move Norway towards NATO and the capitalism of the European Community.<sup>33</sup> A Euratom membership would draw Norway further away from the communist path. He was not alone, as the fight against Norwegian membership in the EC was one of the few topics on which the country's communists could all agree.<sup>34</sup> Randers and the nuclear physicists at Kjeller, on the other hand, were eager supporters of Euratom, and they did not take Rosenqvist's critique lightly. Their reaction came in the form of "some of the most forbidding attacks" Rosenqvist would ever experience.<sup>35</sup>

The alternative to nuclear energy, according to Rosenqvist, was to utilize other energy resources as in the case of the proposal for a Slagentangen plant. He went public with a series of popular articles on this issue, arguing that the earth had more than enough natural resources for everyone.<sup>36</sup> It was misleading to count only known natural resources, as the nuclear lobbyist did, when predicting the future. One also had to

<sup>31</sup> Ivan Th. Rosenqvist, "Norges stilling til Euratom," *Teknisk ukeblad*, 109, no. 29 (1962), 1–3. Randers, "Norges stilling til Euratom." Njølstad, *Strålende forskning*, p. 155.

<sup>32</sup> Odd Letnes, "Virkeligheten som simuleringsspill," *Apollon*, 1 (1999), 9–11.

<sup>33</sup> Anonymous (interview) with Ivan Th. Rosenqvist, "Radikal professor," *Arbeiderbladet* Oct. 29, 1966, 11–12, RA.

<sup>34</sup> Gunhild Lurås, *Kamerater? Striden i Norges Kommunistiske Parti 1963–1967*, MA thesis (Oslo: University of Oslo, 2002), pp. 58–61.

<sup>35</sup> Ivan Th. Rosenqvist, "Norges stilling til Euratom," *Teknisk ukeblad*, 118, no. 8 (1971), 18.

<sup>36</sup> Ivan Th. Rosenqvist, "Jordens energireserver i geokjemisk lys," *Teknisk ukeblad*, 109 (1962), 1077–80.

take into account all the unknown resources geologists would discover in the future. This optimism was tempered by the policies of the Labor Party. Thanks to their support of the EC and NATO, Rosenqvist thought “that our time, with all its progress, was a reactionary epoch, in which independent intellectual activity has a difficult time, while full and half fascist organizations and publications have a distribution that one would deny possible only a few years ago.”<sup>37</sup> He was most worried about the renewed German domination in Europe and the Cold War hostility to socialism that appeared fascist to him. “You have a hard time ahead of you,” he told festive students in his graduation speech at their last day at the University of Oslo in 1962.<sup>38</sup>

As it turned out, the students did rather well, thanks to economic growth propelled by massive hydropower developments built on Norway’s high mountains and numerous waterfalls. With the discovery of petroleum, things would look even better. By the mid-1970s it was clear to all that the petroleum was to radically change Norway financially, technically, and environmentally. A sense of worldly power came to politicians and diplomats who began pondering how Norway, as a self-sufficient oil nation, could be a peacemaker on the international scene, especially after the Arab oil boycott of 1973.<sup>39</sup> With that also came worries about the lack of Norwegian petrochemical and geological expertise,<sup>40</sup> and a general need to educate Norwegians about the oil.<sup>41</sup> The result was a new parliamentary bill of 1974, which put greater emphasis on the importance of building up national oil industries, companies, know-how, and science.<sup>42</sup> It was thus not until the late 1970s that Norwegian geologists would take part in exploring the North Sea.<sup>43</sup>

<sup>37</sup> Ivan Th. Rosenqvist, “Kandidatfesten 1962,” 4 pages, RA; “Realister ut i arbeidslivet,” *Husbjørnen*, 13, no. 2 (1963), 4–5, RA.

<sup>38</sup> Ivan Th. Rosenqvist, “Kandidatfesten 1962,” 4 pages, RA.

<sup>39</sup> John C. Ausland, *Norway, Oil, and Foreign Policy* (Colorado: Westview Press, 1979). Odd Karsten Tveit, *Vår olje og vår kraft* (Oslo: Grøndahl, 1973). Tor Dagfinn Veen, *Oljen i Nordsjøen* (Stavanger: Rogalandsbanken, 1973).

<sup>40</sup> Nils Bøckman, *Olje: hovedbegrepene i petroleumsteknologien: kortfattet oversikt over norsk oljepolitikk* (Oslo: Hartmark, 1972).

<sup>41</sup> Axel Schou, *Olje: Oljegeografi i motoralderen* (Oslo: Aschehoug, 1965). Terje Jacobsen (ed.), *Olje: fra kilde til forbruker* (Oslo: Schibsteds Forlag, 1973).

<sup>42</sup> Anonymous, *Petroleumsvirksomhetens plass i det norske samfunn*, St. meld. no. 25. (1973–74), adopted Feb. 14, 1974.

<sup>43</sup> Ole-Jacob Kvinnsland, “The Norwegian experience,” in Maurice Scarlett (ed.), *Consequences of Offshore Oil and Gas* (St. John’s: Memorial University of Newfoundland, 1977), pp. 85–105. Stig S. Kvendseth, *Giant Discovery: A History of Ekofisk through the first 20 years* (Stavanger: Phillips, 1988), pp. 19–32.

Indeed, the discovery of petroleum would change the life and work of many Norwegian geologists. A telling image of this shift can be found in the textbook *Oljen og det norske samfunn* (The Oil and the Norwegian Society, 1976), which portrayed the polar explorer and geologist Fridtjof Nansen as a oil-sheik on a money bill.<sup>44</sup> With an oil platform substituted for the Royal Norwegian Lion, the bill was to indicate that the nation by 1983 would turn into a sheikdom led by the geologists and engineers.

#### THE CASE AGAINST ENVIRONMENTALISM

The power-socialists – communists as well as mixed economists – were the key target of the eco-populists, ecologists, and deep ecologists such as the ecologist Ivar Mysterud, and the ecophilosophers Sigmund Kvaløy and Arne Næss (discussed in previous chapters). They were all opposed to the petroleum industry and the Slagentangen plant proposal, as it would enforce uncontrollable economic growth and exploitation of natural resources. Instead they thought one should plan for a “steady-state” economy, which mirrored the steady-state balance of the economy of nature that they knew from the science of ecology.<sup>45</sup> To them the oil and gas discoveries were not good news. The coming of large international companies like Esso and Phillips raised questions. Could Norway “survive as a socialist colored lamb in a world of capitalist wolves?”<sup>46</sup> The discoveries in the North Sea meant choosing between two different natural resources, oil or fish, as oil spills and chemical fallout eventually would ruin the ocean’s fish stock.<sup>47</sup> They were also dismayed when the oil industry used the famous Earth-rise image from the moon to illustrate that oil too was an integral part of the Earth’s environmental “life cycle.”<sup>48</sup> What the petroleum-driven industrial modernization would mean to the fisherman-peasant culture of coastal Norway was also worrisome.<sup>49</sup> Many feminists agreed and questioned

<sup>44</sup> Knut Bryn (et al.), *Oljen og det norske samfunn* (Oslo: Tanum, 1976), p. 110.

<sup>45</sup> Mysterud and Norderhaug, “Koblingen mellom økologi og politikk.” Kvaløy, “Økologi – vannkraft – samfunn.”

<sup>46</sup> Atle Seierstad, *Norge og oljen* (Oslo: Pax, 1970), p. 7.

<sup>47</sup> Thorvaldur Arnason, *Olje eller fisk? En vurdering av forurensningsfaren som mulig konflikt mellom oljeaktiviteten og fiskerierne på vår kontinentalsokkel* (Trondheim: Kommit, 1973).

<sup>48</sup> Elf Norge, *Om olje* (Stavanger: Elf Aquitaine A/S, 1976), p. 9.

<sup>49</sup> Finn Mørch Andersen (et al.), *Om olje, vett og vern* (Trondheim: NTH, 1974). Kari Bruun Wyller and Thomas Chr. Wyller (eds.), *Norsk oljepolitikk* (Oslo: Gyldendal, 1975).

whether or not women should “wriggle with” the oil industry, and they were critical to “the economic growth philosophy” and the lack of “life quality” and “balance with nature” of the whole petroleum business.<sup>50</sup>

Such ecologically informed populism and philosophizing was, to the power-socialists, a failed type of radicalism that would not lead to a classless society. They came into fashion, Rosenqvist claimed, in the fall of 1968 when “the ripples from the student protests out in the world reached the Norwegian coast.”<sup>51</sup> Studying at the University of Oslo was free of charge. And students occupying the Department of Philosophy, where the ecophilosopher Arne Næss worked, were upset about a reform suggestion, which, in effect, would mean that students had to end their years in higher education within a reasonable time frame. To the young, the reforms meant abandoning the Humboldtian idea of academic liberty with an efficiency model they associated with a capitalist mood of reasoning. Rosenqvist favored the reformers, as he “had difficulties understanding that one advanced the transition to socialism or in other ways reduced the gap between industrialized and developing countries by being opposed to improving the efficiency.”<sup>52</sup> For his support, Rosenqvist became an outcast among a new generation of radicals demanding the liberty to determine the speed and content of their own education at no individual cost – instead, relying on governmental support. Among those opposed to the reforms were the ecophilosophers, who believed that academic efficiency upheld a culture of economic growth that would lead to the eco-crisis. As an alternative they promoted academic self-sufficiency. Rosenqvist would have none of it. This “zero-growth society,” he responded, will “hardly be accepted by either the underdeveloped or the wealthy nations” and more research should thus focus on finding and developing more resources as there were more than plenty of them.<sup>53</sup> To the ecologists’ concern about exhausting natural resources, Rosenqvist argued that more of them would become available for exploration as their value increased. It was a question of digging deeper for minerals, drilling further down for oil and gas, using more fertilizers to generate food, or, in other ways, trusting the intellectual abilities and ingenuity of future

<sup>50</sup> Brita Brandtzæg (et al.), *Vil vi sprelle med? En bok om kvinner og olje* (Oslo: Pax, 1975), pp. 32, 108. Similarly in Vesla Vetlesen, *Kvinner i olje-Norge* (Oslo: Folkets brevskole, 1975).

<sup>51</sup> Ivan Th. Rosenqvist, “Reaksjonær radikalisme?” ms. 2 pages, RA. Christiansen and Vold, *Kampen om universitetet*.

<sup>52</sup> Ivan Th. Rosenqvist, “Reaksjonær radikalisme?” ms. 2 pages, RA.

<sup>53</sup> Rosenqvist, “Har vi nok ressurser?” p. 358.

engineers and scientists.<sup>54</sup> Resources were not limited like bread “from which our generation cuts a thick slice,” but, instead, were available in variable plentitude within different layers of the Earth’s crust.<sup>55</sup> “We have to continue on the path of the working class and produce our way out of poverty, as the working class has done, for one, in the Soviet Union,” Rosenqvist argued. He had no sympathy for academic “well-fed zero-growth philosophers,” pessimists, and other “romantics.”<sup>56</sup> Moreover, keeping untouched ecosystems off limits to developers to promote outdoor leisure activities was a bourgeois upper-class activity. “The leggings-gang,” Rosenqvist noted, in a condescending reference to outdoor footwear, did not actually walk in untouched nature, and they had no respect for the poor. “The entire human existence is based on an unending and winning struggle against nature,” he argued, and “[i]t is unfair that we shall take the side of an ‘untouched’ nature while people are starving.”<sup>57</sup> The ecologists and environmentalists undermined the policy of exploitation of natural resources to the benefit of the needy. “The environmental problems are cosmetic in a global perspective in comparison to war, starvation and analphabetism,” he would tell the Deep Ecologists.<sup>58</sup> They understood nature not as a resource for work but in terms of outdoor recreation and vacationing. “Humans exist only because it has emerged victorious from the fight against nature,” he would hold against them. “It is only rich and egotistical people that can avoid producing goods the poor need in order to have a more pleasant vacation.”<sup>59</sup>

The environmentalists did not take Rosenqvist’s criticisms lightly. “Place Rosenqvist in the pillory!” said Bredo Berntsen, who thought he was “reactionary and backward-looking” by not supporting “eco-political social steering” of the nation.<sup>60</sup> They accused Rosenqvist of lacking

<sup>54</sup> Ivan R. Rosenqvist, “Tanker over verdens råstoffreserver og Norge,” *Forskningsnytt*, 12 (1967), 8–12; “Verdens råstoffer og Norge,” *Aftenposten*, Aug. 4, 1967, RA.

<sup>55</sup> Ivan Th. Rosenqvist, “Energi og andre ressurser,” *Årbok 1976* (Trondheim: Norges Teknisk Vitenskapsakademi, 1976), 1–12, quote p. 2.

<sup>56</sup> Ivan Th. Rosenqvist in interview with Kåre Andre Nilsen, “Jorden har ressurser til fortsatt vekst,” *Friheten*, Oct. 1974, 7–12; “Verdens mineralressurser er enorme,” *Teknisk ukeblad*, 122, no. 43 (Oct. 1975), 18–19; “World energy resources,” in M. W. Thring and R. J. Crookes (eds.), *Energy and Humanity* (Stevenage: Peter Peregrinus, 1974), pp. 8–18.

<sup>57</sup> Ivan Th. Rosenqvist, “Seierrik kamp mot naturen om vi skal kunne overleve,” *Arbeiderbladet*, Sept. 30, 1974, RA.

<sup>58</sup> Ivan Th. Rosenqvist, “Den store miljøbløffen,” *Vegviseren*, 16 (1989), 8–9.

<sup>59</sup> Ivan Th. Rosenqvist, “Energi og solidaritet,” *Arbeiderbladet*, Jan. 2, 1979, 5, RA.

<sup>60</sup> Bredo Berntsen, “Sett Rosenqvist i gapestokken!” *Orientering* 11 (1974), 10.

ecological knowledge and ignoring the damages of economic growth.<sup>61</sup> “We who call ourselves socialists must not support the diehard view that the world’s natural resources are endless,” one critic claimed.<sup>62</sup> Yet another thought Rosenqvist’s “number magic” in support of industrial growth was at the very heart of the environmental problem.<sup>63</sup> His arguments made him into an anti-environmentalist in the eyes of his opponents. Yet he claimed he cared for nature and that his scientific work was in the world’s best interest. To him the ecological debate was an issue of which rationality and whose knowledge one should trust in efforts to protect nature.

Despite his disagreements with the ecologists and ecophilosophers, it is important to note that the entire radical left, including Rosenqvist, were united in their efforts to stop Norwegian membership of the European Community. When a national referendum was held to decide the matter in September 1972, they all joined hands in united opposition. And they won. Whether or not Norway should join Euratom became an issue, with Rosenqvist arguing against it.<sup>64</sup> Rosenqvist believed natural gas, for a nation with ample amount of this resource, was a viable alternative to nuclear power,<sup>65</sup> an industry intrinsically linked to weaponry and NATO.<sup>66</sup>

#### LABOR PARTY ENVIRONMENTALISM

The power-socialist doctrine dominated the Labor Party until they lost power to a constellation of conservative parties in 1965. In 1971 they returned to power, eager to show that the Party could and would renew

<sup>61</sup> Odd Rune Austgulen (et al.), *Ressurser, befolkning: en kommentar til NOU 1974*, no. 55 (Bergen: Norges handelshøyskole, 1975). Knut Breirem, *Norges ressursituasjon i global sammenheng: utdrag og kommentarer til NOU 1974:55* (Ås: Norsk Institutt for Næringsmiddelforskning, 1974). Harald Myrås (et al.), *Kritiske og supplerende kommentarer til NOU 1974:55* (Trondheim: Komiteen for miljøvern, 1975).

<sup>62</sup> Nils Ottesen, “Håpløshetens evangelium,” *Orientering*, 11 (1974), 10.

<sup>63</sup> Jan Borring, “En tallmagiker refser romantikerne,” *Orientering*, 11 (1974), 10.

<sup>64</sup> Rosenqvist, “Norges stilling til Euratom,” 1971, 18.

<sup>65</sup> Ivan Th. Rosenqvist, “Kraftverk basert på naturgass,” *Teknisk ukeblad*, 119, no. 24 (1972), 19; “Hvorfor bokføre gasskraft, vasskraft og uran etter ulike prinsipper,” *Teknisk ukeblad*, 119, no. 48 (1972), 31; “Vasskraft, naturvern og varmekraft,” *Syn og segn*, 79 (1973), 110–12; “Norge og ‘energikrisen,’” *Morgenbladet*, Sept. 19, 1973, RA.

<sup>66</sup> Rosenqvist was a co-author of *Folkebevegelsen mot Norsk medlemskap i Fellesmarkedet, Folkebevegelsens melding om Norges forhold til De Europeiske Felleskap (EF)* (Oslo: Folkebevegelsen mot Norsk medlemskap i Fellesmarkedet, 1972), pp. 66–78. Ivan Th. Rosenqvist, “Atomenergi, atomkapprustning og keiserens nye klær,” *Samtiden*, 81, no. 3 (1972), 129–34.

itself ideologically. An emerging group of environmentalists within the Labor Party questioned the power-socialism doctrine and shared the ecological concerns of the ecophilosophers and the eco-populists. Yet they did not believe in a revolutionary break with capitalism or in being outside of the European Community. They questioned economic growth, which they believed came at too high a social and environmental cost, but they did not question the political order of society. Instead they looked for solutions to ecological problems within established social structures and through international cooperation. One key mover was Eilif Dahl, the professor of botany who was the first to introduce ecology as a research topic in 1963 (see chapter 2). Throughout the 1960s he addressed environmental problems head-on, from within, as an active member in the Labor Party. Dahl's wartime resistance as a XU spy, work at the Army Headquarters in London, and active service as a longtime member of the Party gave him political clout among the old-guard.

When Hafslund applied for a permit to build an oil burning power plant at Slagentangen, Dahl saw it as an opportunity to question the Labor Party's power-socialism doctrine. He wrote a consulting report together with the ecologist Oddvar Skre on behalf of the Council of Smoke Injury, a forerunner of what later became the Norwegian Pollution Council Authority. The high symbolic value of the plant raised the stake in what was an exceedingly critical report from an environmental point of view. The report was based on a previous report also written by Dahl and Skre on behalf of the Nordic Research Council, Nordforsk, which was founded in 1971 to coordinate research for the Nordic Council of Ministers. They were busy at the time preparing for the United Nations Conference on the Human Environment that was to take place in Stockholm in June 1972.<sup>67</sup> Since the late 1960s there had been a growing concern in Sweden about the effect of airborne industrial pollution from Europe on their forest industry, a topic they sought to bring to international attention at the conference.<sup>68</sup> At the heart of the Swedish agenda was not only raising international awareness about airborne pollution but also

<sup>67</sup> Rowland, *The Plot to Save the World*. Karl F. Kaltenborn, "Miljøvern – globale løsninger for globale problemer," *Teknisk ukeblad*, 119, no. 28 (1972), 4. United Nations, *Report of the United Nations*.

<sup>68</sup> Svante Oden, *Aspects of the Atmospheric Corrosion Climate* (Stockholm: IVA's Korrosionsnämnd, 1965); "Regionala aspekter på miljöstörningar," *Vann*, 4, no. 3 (1969), 93–112. Ministry of Foreign Affairs and Ministry of Agriculture, *Air Pollution across National Boundaries: The Impact on the Environment of Sulfur in Air and Precipitation: Sweden's Case Study for the United Nations Conference on the Human Environment*



presenting analytical tools that could solve the environmental crisis. One such tool was socio-economics, an academic field with strong intellectual ties to the mixed-economy approach within both the Swedish and the Norwegian Labor Parties. In an attempt to mobilize allies, the Swedes would thus commission a report from Norwegian scholars who shared their point of view.

In the Slagentangen report Dahl and Skre argued that one had to scrutinize the potential power plant from the point of view of a socio-economic cost–benefit analysis before giving any building permits.<sup>69</sup> The main cost, they argued, was a growth reduction in surrounding forests caused by emissions of sulfuric acid damaging the soil nutrients. In addition, acid pollution would cause other socio-economic expenses such as corrosion of paint and damage to fish populations. Elsewhere Skre put the political aim of the report in clear terms: “We have to slacken the pace of growth of material welfare so that the balance of nature shall be established again.”<sup>70</sup> The report was quite speculative in providing an exact calculation of expenses. The ecologists thus became an easy target when an abbreviated version of the report appeared in *Teknisk ukeblad* (Technical Weekly), which was a widely read journal among engineers and scientists alike. The critics labeled Dahl as an “alarmist” and “køpenickiade” (ludicrous swindler) playing with facts to advance his cause.<sup>71</sup>

*Teknisk ukeblad* had, through 1971, run a series of favorable articles about the environmental cause, addressing the role of science and the need to take action.<sup>72</sup> Technocratic solutions to pollution dominated the

(Stockholm: Bocktrykeriet, 1971). Eilif Dahl, “Omkring nedbørens forsurening og plantenes næringstilgang,” *Vann*, 4, no. 3 (1969), 120–3.

<sup>69</sup> Eilif Dahl and Oddvar Skre, *En undersøkelse av virkningen av sur nedbør på produktiviteten i landbruket* (Stockholm: Nordforsk, Miljøvårdssekretariatet, 1971); *En vurdering av mulige eller sannsynlige skader for landbruket ved utslipp av røyk fra et planlagt varmekraftverk på Slagentangen* (Oslo: Røykskaderådet, 1971). Inspired by Erik Dahmén, *Set pris på miljøet* (Oslo: Det Norske Samlaget, 1970). Eilif Dahl, “Kostnader ved utslipp av svoveldioksyder i atmosfæren,” *Teknisk ukeblad*, 118, no. 50 (1971), M1–2.

<sup>70</sup> Oddvar Skre, *Sur nedbør: Årsaker og verknader* (Oslo: Norges Naturvernforbund, 1972), 48.

<sup>71</sup> Aksel Lydersen, “Kostnader ved utslipp av svoveloksyder i atmosfæren,” *Teknisk ukeblad*, 119, no. 9 (1972), 19. Nils Andreas Sørensen, “Kostnader ved utslipp av svoveloksyder i atmosfæren,” *Teknisk ukeblad*, 119, no. 16 (1972), 46.

<sup>72</sup> Helmer Dahl, “Forurensning, forskere og politikere,” *Teknisk ukeblad*, 118, no. 9 (1971), 22–5. J. A. Andersen, “Våre jordressurser: Dagens vekstkurve tilsier termisk ubalanse om 50 år,” *Teknisk ukeblad*, 118, no. 36 (1971), 15–18, 23. Anonymous, “Alle prater naturvern ... Disse gjør noe,” *Teknisk ukeblad*, 118, no. 40 (1971), 17–18. Anders Omholt, “Naturressursene i samfunnspolitisk perspektiv,” *Teknisk ukeblad*, 119, no. 20 (1972), 15–16, 32.

articles, in which one recurrent theme was the value of gas above oil, nuclear, and hydropower plants. After all, burning gas would only emit risk-free carbon dioxide.<sup>73</sup> One key mover was Gudmund Harlem (1917–88) who had served as Minister of Public Health and Defense during two Labor Party governments and, at the time, was the Chairman of the Board of the Norwegian Technical and Scientific Research Council (NTNF). In the process he had turned into a Labor Party environmentalist, arguing that one should research problems related to emissions of sulfuric acid and search for new environmental technologies.<sup>74</sup> With political support from Harlem, Dahl published a defense with some confidence that research funds were on their way.<sup>75</sup> Indeed, two weeks after Dahl was labeled a “ludicrous swindler,” Nordforsk announced a major science program, which aimed at understanding long-range transport of air pollutions, including acid rain.<sup>76</sup>

Supporters of an oil plant at Slagentangen would hit back, as a gas plant was not an option at this location.<sup>77</sup> The question of acid rain was an onslaught on power-socialism in their eyes. Rosenqvist was among them. He arrested Dahl on a key scientific technicality, namely the acid buffer capacity of calcium in soil and clay.<sup>78</sup> This was not the first time Dahl and Rosenqvist had disagreed. In the early 1960s they had engaged in an exchange about how to proceed in locating areas that were ice-free in Scandinavia during the glacial period. Such areas were vital in understanding the origin and history of regional plants and animals. In a sharp criticism of Rosenqvist, Dahl argued that such areas did once exist along the northern coast, by pointing to levels of geological disintegration in

<sup>73</sup> Nils Kvåle, “Flytende naturgass – vårt fremtidige drivstoff?” *Teknisk ukeblad*, 118, no. 7 (1971), 19–22. Arthur Landberg, “Naturgasskraftverk – alternativ til olje/atomkraftverk?” *Teknisk ukeblad*, 118, no. 25 (1971), 28, 32; “Naturgasskraftverk i elektrisitetsforsyningen,” *Teknisk ukeblad*, 119, no. 1 (1972), 11, 15; “Naturgasskraft i et optimalt sammensatt kraftsystem.” *Teknisk ukeblad*, 119, no. 13 (1972), 4–5.

<sup>74</sup> Anonymous, “Forurensningene kan bringes under rimelig kontroll,” *Teknisk ukeblad*, 119, no. 18 (1972), 3–4.

<sup>75</sup> Eilif Dahl, “Kostnader ved utslipp av svoveloksyder i atmosfæren” *Teknisk ukeblad*, 119, no. 22 (1972), 3–5. Egil Aune, “Sur nedbørs følger for skogbruket,” *Teknisk ukeblad*, 119, no. 24 (1972), 29–30.

<sup>76</sup> Brynjulf Ottar, “OECD/Nordforsk-projektet tar sikte på å klarlegge spredningsmønster for sur nedbør i Europa,” *Teknisk ukeblad*, 119, no. 24 (1972), 15–16.

<sup>77</sup> Arthur Landberg, “Kraftverk basert på naturgass,” *Teknisk ukeblad*, 119, no. 25 (1972), 27–8. Aksel and Dagfin Lydersen, “Kostnader ved utslipp av svovel i atmosfæren,” *Teknisk ukeblad*, 119, no. 25 (1972), 27.

<sup>78</sup> Ingebrigt Jensen and Ivan Th. Rosenqvist, “Kalsiumutvasking og syrenedfall,” *Teknisk ukeblad*, 119, no. 25 (1972), 27.

sediments and clay.<sup>79</sup> Rosenqvist replied that he found it hard to believe that ecologists had much to offer clay studies, and that Dahl had failed to understand an important indicator of disintegration, namely alkaline absorption in different sections of clay.<sup>80</sup> It was the same issue of the soil and clay chemistry that reappeared when Dahl wrote about the damaging effect of acid rain on forest growth.<sup>81</sup> Despite Rosenqvist's criticism, Dahl's views prevailed, as Hafslund never got the permit needed to build the proposed plant.

Rosenqvist's criticism was based on one of Norway's largest post-war research projects in geology, namely the so-called Numedal-project, which started in 1966 and continued through the early 1970s. The aim of the project was to understand the nature of the sediments in the North Sea basin, by studying their origins in the Norwegian mountains, which were once carved out by glaciers. The continuous movements of sediments by water were at the heart of the project, which followed geological particles from the Hardangervidda mountain plateau through the river of the Numedal Valley and the coastal city of Larvik to the seabed. The team was led by Rosenqvist, and they began by analyzing the chemical components of rainfall to understand the weathering process in the high mountains. The team members followed the water and sediments all the way down to the oil platforms at the North Sea from which they got deep sea samples.<sup>82</sup> This was as close as the geologists could get to the oil without violating research restrictions. Rosenqvist had, in the Numedal project, followed the changing chemical nature of water, and could not see the effect of acid rain on soil.<sup>83</sup>

<sup>79</sup> Eilif Dahl, "Refugieproblemet og de kvartærgeologiske metodene," *Svensk naturvitenskap*, 14 (1961), 81–96.

<sup>80</sup> Ivan Th. Rosenqvist, "Refugieproblemet og de kvartærgeologiske metodene," *Norsk Geologisk Tidsskrift*, 41 (1961), 319–21. Eilif Dahl, "Bemerkninger om refugieproblemet og de kvartærgeologiske metodene," *Norsk Geologisk Tidsskrift*, 43 (1963), 260–5. Ivan Th. Rosenqvist, "Svar til Eilif Dahl," *Norsk Geologisk Tidsskrift*, 43 (1963), 266.

<sup>81</sup> Ivan Th. Rosenqvist, "Refugieproblemet og de kvartærgeologiske metodene," *Norsk Geologisk Tidsskrift*, 41 (1961), 319–21. Eilif Dahl, "Bemerkninger om refugieproblemet og de kvartærgeologiske metodene," *Norsk Geologisk Tidsskrift*, 43 (1963), 260–5. Ivan Th. Rosenqvist, "Svar til Eilif Dahl," *Norsk Geologisk Tidsskrift*, 43 (1963), 266.

<sup>82</sup> Ivan Th. Rosenqvist, *Numedalsprosjektet – en tværrgeovitenskapelig undersøkelse*, preliminary report, 2 Oct. (Oslo: Department of Geology, University of Oslo, 1970); "Origin and mineralogy glacial and interglacial clays of southern Norway," *Clays and Clay Minerals*, 23 (1972), 153–9; "Sub-Moraine Deposits in Numedal," *Bulletin of the Geological Institutions of the University of Uppsala*, 5 (1973), 7–12.

<sup>83</sup> Ivan Th. Rosenqvist, "Refugieproblemet og de kvartærgeologiske metodene," *Norsk Geologisk Tidsskrift*, 41 (1961), 319–21. Eilif Dahl, "Bemerkninger om refugieproblemet

Yet Rosenqvist's scientific disagreements with Dahl were not at the heart of the issue, as he would agree with Dahl, in an intramural publication, that acid rain under certain conditions could have damaging consequences on fish populations.<sup>84</sup> What troubled Rosenqvist was instead the damaging effect ecological argumentation could have on power-plant building and thus on the future welfare of the nation. Rosenqvist was irritated by the way in which Dahl and his fellow Labor Party environmentalists would undermine a united scientific effort to help the nation and, ultimately, the workers of the world out of poverty. The solidarity between scientists and the needy made "in many ways the scientific worker into a proletarian," he believed.<sup>85</sup> The unity of knowledge and science policy that Rosenqvist imagined to be present in the "University of Norway" ideals required "a common defense against the abuse of scientific results" from special interest groups such as the environmentalists. It was therefore most unfortunate that "some groups of researchers within biology and the environmental sciences would stand up against others within chemistry and technology."<sup>86</sup> Worse, instead of contributing to the welfare of the nation, Dahl and his ecology colleagues would "just walk around and shake their heads when DDT is proven to exist in penguin fat in the Antarctic."<sup>87</sup>

The underlying agenda behind this skirmish between Dahl and Rosenqvist was the establishment of the world's first Ministry of the Environment by the Labor Party environmentalists.<sup>88</sup> The new Prime Minister Trygve Bratteli agreed that a new Ministry would appeal to young voters concerned about hydropower developments, as in the case of the Mardøla demonstrations that took place in the summer of 1970 (see chapter 3). Perhaps such a Ministry could answer increasingly vocal criticisms from young ecophilosophers and also address the environmental activists' concerns about pollution and the exhaustion of natural

og de kvartærgeologiske metodene," *Norsk Geologisk Tidsskrift*, 43 (1963), 260–5. Ivan Th. Rosenqvist, "Svar til Eilif Dahl," *Norsk Geologisk Tidsskrift*, 43 (1963), 266.

<sup>84</sup> Inge Bryhni and Ivan Th. Rosenqvist, "De geologiske vitenskaper og menneskene," in Ivan Th. Rosenqvist (ed.), *Geologien og mennesket* (Oslo: Gyldendal, 1973), pp. 9–21, p. 17.

<sup>85</sup> Ivan Th. Rosenqvist, "Avskjedsord til realkandidatene," *Nytt fra Universitetet i Oslo*, no. 13 (1972), 3–4, 3, UO.

<sup>86</sup> Ivan Th. Rosenqvist, "Avskjedsord til realkandidatene," (1972), 4, RA.

<sup>87</sup> Ivan Th. Rosenqvist, "Avskjedsord til realkandidatene," (1972), 4, RA; "Cand.real. festen våren 1972" ms. 5 pages, RA.

<sup>88</sup> Per M. Jørgensen (eds.), *Botanikkens historie i Norge* (Oslo: Fagbokforlaget, 2007), p. 324. Olav Gjærevoll, *Mine memoarer* (Trondheim: Arbeiderbevegelsens historielag, 1998).

resources? Bratteli appointed Dahl's close friend and fellow botanist, Olav Gjærevoll (1916–94), as the first Cabinet Minister of the Ministry in May 1972. Gjærevoll was deeply impressed by the *The Limits to Growth* report issued in March of the same year, for which he wrote a sympathetic blurb, and he supported its Norwegian co-author Jørgen Randers (discussed in Chapter 7). As a former President of the Council of Environmental Protection, Gjærevoll was a stern proponent of national parks.<sup>89</sup> He would bring the concerns expressed in *The Limits to Growth* and Dahl's ecological perspectives to the core of the new Ministry through various informal working groups. The Ministry would, for example, have its own "Chief Ecologist" empowered to oversee and approve all its policies, a job given to the ecologist Rolf Vik from 1972 to 1974. Vik and his fellow Labor Party environmentalists within the Ministry would, in subsequent years, establish their own ecologically informed solutions to a whole set of issues, national as well as international.

In the eyes of Rosenqvist, the new Ministry and the Labor Party environmentalists were collaborators with the special interest groups who were undermining the modernization of Norway. Worries about degradation of the natural environment, pollution, population growth, and abuse of natural resources were unfounded, he argued. And their neo-Malthusian thinking sounded to him like doomsday predictions.<sup>90</sup> The world was not over-populated, there were plenty of natural resources, he claimed, even with radical population growth. And there was no danger of global self-poisoning from the greenhouse effect. He would typically defend power-socialism under the heading: "Brain Power or Hydro-Power?" Hydropower was a necessity for social welfare, he argued, as the alternative was the less desirable nuclear energy. In response to Labor Party environmentalists, he argued that, in the future, Norway could replace its energy consuming aluminum industry with an "intellectual industry" powered by its water resources.<sup>91</sup> Thus, there were no natural limits to growth. On the contrary, "the Norwegian resource situation [was] the best in the world."<sup>92</sup>

<sup>89</sup> Olav Gjærevoll, *Naturvern i Norge* (Oslo: Hygea, 1967).

<sup>90</sup> Ivan Th. Rosenqvist, "Verdifullt korrektiv til dommedagsprofetiene," *Forskningsnytt*, 19 (1974), 35.

<sup>91</sup> Ivan Th. Rosenqvist, "Vett eller vasskraft?" *Syn og segn*, 62, no. 9 (1966), 1–5; "Muligheter for kjemisk intelligensindustri i Norge," *Tidsskrift for kjemi, bergvesen og metallurgi*, 8/9 (1967), 142–6.

<sup>92</sup> Lied (et al.), *Norges ressursituasjon*, p. 201.

## THE ACID RAIN DEBATE

At the end of September 1972 the Labor Party suffered a humiliating political defeat with the country voting against membership of the European Community in the national referendum. As a result, Bratteli, along with his entire cabinet, resigned, and they were subsequently replaced with a conservative government. A year later, however, Bratteli and the Labor Party returned to power, which the Labor Party would keep until 1981. Among Party environmentalists was Gro Harlem Brundtland (b. 1939), who served as Minister of the Environment from 1974 to 1979.

Brundtland took her medical exams at the University of Oslo in 1963, and followed up with a Master of Public Health from Harvard University in 1965. She became active within the Labor Party through her job as Consultant Physician at the Oslo Board of Health from 1968 to 1974. She was known there for fighting for women's abortion rights, a struggle that was particularly intense in debates leading up to the Norwegian Law of Self-Determination of 1975. Brundtland was in the midst of these events, which led her to view scientists and experts with some skepticism. In the abortion debate, she noted, "experts" were presenting a "mixture of facts and personal beliefs" in a way that "abused – knowingly or unknowingly – their expert or scientific role in a political context."<sup>93</sup> It was as a young feminist that she was chosen to become Cabinet Minister of the Environment. Her experience as a physician and supporter of abortion rights came to frame the way in which she engaged with natural scientists on environmental issues. "Politics is like preventive health care," she would say.<sup>94</sup> In the process she transferred decision-making about a patient's body to the body politic. She was able to read complicated scientific papers, despite having been unable to finish her doctoral dissertation with only one coauthored study (in the history of science of medical records).<sup>95</sup> She took interest in research about sexual behavior among young people, which, in her opinion, documented women's need for self-determination with respect to abortion. She had faith in the idea that the

<sup>93</sup> Gro Harlem Brundtland, "Forskning, forvaltning og politikk," *Ting*, 2 (1977), 24–31, quote p. 28. Ellen Schruppf, *Abortsakens historie* (Oslo: Tiden, 1984).

<sup>94</sup> Brundtland quoted in Steinar Hansson and Ingolf Håkon Teigene, *Makt og mannefall: Historien om Gro Harlem Brundtland* (Oslo: Cappelen, 1992), p. 38.

<sup>95</sup> Gro Harlem Brundtland and Lars Walløe, "Menarcheal age in Norway in the 19th century: A re-evaluation of historical sources," *Annals of Human Biology*, 3 (1976), 363–74. Gro Harlem Brundtland and Knut Liestøl, "Seasonal variations in menarche in Oslo," *Annals of Human Biology*, 9 (1982), 35–43.

right knowledge would lead to the right action. This, at least, was the gist in a paper she gave to members of the Norwegian Association of Researchers in 1977. She recognized that different scientific “specialists” could have competing explanations of reality, and it was therefore of key importance to find scientific “generalists” with the ability to “translate” and “mediate” clusters of relevant facts to the politicians.<sup>96</sup> Addressing the problem of “which expert one should listen to” was a matter of willingness to base decisions upon scientific uncertainty, which was normal in the medical treatment of patients.<sup>97</sup> It was based on this argument of risk that she would argue that the environmental effect of resource exhaustion and pollution entailed limits to economic growth.<sup>98</sup>

When Brundtland became Minister of the Environment in 1974, she inherited the research program “Acid Precipitation: Effects on Forest and Fish” (SNSF), which was financed mostly by the Ministry, but also had support from Harlem (her father) at the Norwegian Technical and Scientific Research Council and the Labor Party’s Minister of Agriculture, Thorstein Treholt, who had mobilized the Norwegian Agricultural Science Foundation for the project. Dahl had also pushed for the program so that it could vindicate him from the accusation made in *Teknisk ukeblad* that he was an academic “ludicrous swindler.” More generally, the program was meant to showcase that the Labor Party took environmental questions seriously, and that it was possible through international and (especially) European cooperation to find technical and political solutions to these problems.

Between 1972 and 1976 the Acid Precipitation Program carried out large-scale scientific investigations into the possible effects of acid rain on forests and fish.<sup>99</sup> The research has been reviewed in a first-rate study by the historian of science Rachel E. Rothschild. She documents how Brundtland, through the program and with the help of the Norwegian atmospheric chemist Brynjulf Ottar, mapped acid precipitation in both East and West European countries, thanks to an extensive scientific

<sup>96</sup> Brundtland, “Forskning, forvaltning og politikk,” p. 25.

<sup>97</sup> Brundtland, “Forskning, forvaltning og politikk,” p. 29.

<sup>98</sup> Gro Harlem Brundtland, “Energiforsyning i Norge i framtida,” in *Stortingsforhandlinger 1974/1975*, May 13, 1975, p. 4163. Yngve Nilsen, *En felles plattform? Norsk oljeindustri og klimadebatten i Norge fram til 1998* (Oslo: TIK Senter, 2001), pp. 37–65.

<sup>99</sup> Ivan Th. Rosenqvist, “Refugieproblemet og de kvartærgeologiske metodene,” *Norsk Geologisk Tidsskrift*, 41 (1961), 319–21. Eilif Dahl, “Bemerkninger om refugieproblemet og de kvartærgeologiske metodene,” *Norsk Geologisk Tidsskrift*, 43 (1963), 260–5. Ivan Th. Rosenqvist, “Svar til Eilif Dahl,” *Norsk Geologisk Tidsskrift*, 43 (1963), 266.

research network.<sup>100</sup> The program not only documented the problem of acid rain, but also showed the importance of Norwegian collaboration across the Iron Curtain with Eastern Bloc countries, as well as with the European Community. The program tapped into a deeper tradition of multinational thinking in Europe about the scale of climate research.<sup>101</sup> To Brundtland it was paramount to showcase that the EC cared about and could take action with respect to environmental issues, thus undermining the arguments against the EC from the vocal Deep Ecologists. The program resulted in a European monitoring program of acid rain, which laid the groundwork for finding a solution to the problem through the vehicle of European environmental diplomacy. Some critics, especially the British, argued that there was a need for more knowledge to take political action and some of the scientists involved in the program were perhaps more concerned with providing scientific advice than facts.<sup>102</sup> The Ministry of the Environment had apparently decided in advance that acid rain was a problem, and that the task of the scientists was to verify this conclusion.<sup>103</sup> Dahl remained aloof, and would later claim that he had nothing to do with the results of the Acid Precipitation Program, which documented the damaging effects of acid rain, particularly on Norwegian fish populations in rivers and mountain lakes.<sup>104</sup>

When the results of the Acid Precipitation program were first presented in a seminar in the fall of 1976, Rosenqvist reiterated his earlier criticisms of Dahl on the chemical dynamics of rain on soil and clay. He must have been blunt, if one is to judge from reports from journalists who covered

<sup>100</sup> Rachel E. Rothschild, *Poisonous Skies: Acid Rain and the Globalization of Pollution* (Chicago: University of Chicago Press, 2019), 56–7.

<sup>101</sup> Deborah R. Coen, *Climate in Motion: Science, Empire, and the Problem of Scale* (Chicago: University of Chicago Press, 2018).

<sup>102</sup> Nils Roll-Hansen, *Ideological Obstacles to Scientific Advice in Politics? The Case of 'Forest Rain' from 'Acid Rain'* (Oslo: Makt og demokratiutredningen, 2002); "Science, politics, and the mass media: On biased communication of environmental issues," *Science, Technology and Human Values*, 19 (1994), 324–41; *Sur nedbør – et storprosjekt i norsk miljøforskning* (Oslo; NAVF, 1986); Nils Roll-Hansen and Geir Hestmark, *Miljøforskning mellom vitenskap og politikk* (Oslo: NAVF, 1990).

<sup>103</sup> Ministry of the Environment, *Sur nedbør og dens virkninger i Norge* (Oslo: Miljøverndepartementet, July 1974); *Internasjonale tiltak for bekjempelse av sur nedbør* (Oslo: Miljøverndepartementet, Sept. 1974).

<sup>104</sup> Eilif Dahl, *Sur nedbør og skog – tilbakeblikk og perspektiver*, ms. 21 pages, 1985, 7, LS. Gunnar Abrahamson and Finn H. Brække (eds. et al.), *Impact of Acid Precipitation on Forest and Freshwater Ecosystems in Norway: Summary Report on the Research Results from Phase I (1972–1975) of the SNSF-Project* (Oslo: Sur nedbørs virkning på skog og fisk, 1976).



the meeting.<sup>105</sup> The prime reason for acidity in water causing fish death was not acid rain but the changing environmental history of the land, Rosenqvist argued. According to Marxist theory, slavery, feudalism, capitalism, and the classless society were all stages of a necessary biological process, which in its last material manifestation, would appear as a conflict between humans and nature. Following this narrative, Rosenqvist understood changes in the fauna and flora of Norway in light of different usages of the land by hunter-gatherer, agricultural, and industrial societies. This perspective harkened back to Rosenqvist's debates with Dahl in the early 1960s about reading the environmental history of landscapes in the alkalinity of clay sections. "In the early stone age," Rosenqvist explained, "the entire Southern part of Norway up to the timberline [was] covered with forests," and there were hardly any populations of fish in lakes or rivers.<sup>106</sup> With the coming of the agricultural age, peasants would, through nomadic alpine dairy, cultivate grass, fish, and livestock, a process which created a more alkaline soil. The shift towards industrial farming and vacant alpine pastures changed much of the landscape back to forests again, he argued, a process which "within a few decades radically changed the chemical buffer level of the fluvial basin."<sup>107</sup> As a result, the rivers and lakes of Norway were much more vulnerable to acid rain from Europe, and one should consequently blame the changing Norwegian agricultural policy, and not oil-burning Europeans, for the problems. Rosenqvist would not keep his views to himself. Instead he reached out to British scientists with his arguments and even appeared in a British documentary on the topic.<sup>108</sup>

<sup>105</sup> Anonymous, "Bombe fra geologi-professor: Nedbøren avgjør ikke surhet i vassdragene," *Aftenposten*, Nov. 26, 1976, 1, RA. Anonymous, "Sur nedbør-forskere skeptiske til prof. Rosenqvists teorier," *Aftenposten*, Nov. 27, 1976, 4, RA. Anonymous, "Professor Rosenqvist: Negative kommentarer skyldes misforståelser," *Aftenposten*, Nov. 27, 1976, 4, RA. Anonymous, "Faglig isolasjon fare for forskere," *Aftenposten*, Nov. 27, 1976, 4, RA. Helge Røed, "Oppsiktsvekkende fra professor Rosenqvist: Det er ikke nedbøren som forsurer våre elver og vann," *Arbeiderbladet*, Nov. 26, 1976, 1, 7, RA. Anonymous, "Statssekretær i MD: Rosenqvists teori ikke ny," *Aftenposten*, Nov. 27, 1976, 1, 4, RA. Bo Lilledal Andersen, "Forskning om sur nedbør: Viktige forhold ikke undersøkt!" *Nationen*, Nov. 27, 1976, 1, RA. Rothschild, *Poisonous Skies*, 74–7.

<sup>106</sup> Ivan Th. Rosenqvist, *Et bidrag til analyse av geologiske materialers bufferegenskaper mot sterke syrer i nedbørsvann* (Oslo: NAVF, 1976), 115–16, quote p. 115.

<sup>107</sup> Ivan Th. Rosenqvist, *Sur jord surt vann* (Oslo: Ingeniørforlaget, 1977), 99–103, quote p. 101.

<sup>108</sup> Anonymous, "Norway is angry about film on acid rain," *New Scientist*, 1418 (Oct. 31, 1985), 13. I am grateful to Rachel Rothschild for this reference.

The public criticism and alternative explanation of the widespread fish death came as a surprise to Brundtland, who, in early April 1977, labeled Rosenqvist a “køpenickiade” at a press conference.<sup>109</sup> In Norwegian this is a somewhat archaic Germanic word used very rarely, as it left bewildered journalists scrambling through dictionaries trying to find out what it meant. In translation, it essentially means “ludicrous swindler.” It was also the same word used against Dahl in the acid rain exchange in *Teknisk ukeblad* five years earlier. Brundtland may have picked it up through that previous usage and decided to return the insult against Dahl’s chief opponent. In any case, with such a claim coming from a Minister against a well-respected scientist, acid rain became a media circus with numerous articles covering the evolving debate.<sup>110</sup> Some were concerned about the damaging effect that Rosenqvist’s argument had on ongoing international negotiations aiming to reduce sulfuric acid emissions. To others it was a question of defending the freedom of science against politically charged contract research.<sup>111</sup> At the University, witty students nicknamed him “Ivan pH Rosenqvist” and “Ivan the Terrible” while others fashioned him after the uncompromising heroic priest in Henrik Ibsen’s *Brand*. It is telling that a gossip magazine arranged, “This week’s most exciting meeting,” between Rosenqvist and Brundtland, in which they would have to make their case in plain language.

<sup>109</sup> Arne Sellæg, “Professorrapport blir kalt ’tull’: Kritik mot sur nedbør-forskning tilbakevises,” *Dagbladet*, Apr. 13, 1977, RA. Gro Harlem Brundtland, *Mitt liv 1939–1986* (Oslo: Gyldendal, 1997), 175.

<sup>110</sup> Anonymous, “Sur nedbør-debatt kan gi nye krav,” *Aftenposten*, Nov. 30, 1976, 1, RA. Anonymous, “Fortsatt innsats nødvendig for å finne virkningene av sur nedbør,” *Aftenposten*, Nov. 30, 1976, last page, RA. Anonymous, “Nye synspunkter på forurengingen av våre vassdrag,” *Nytt fra Universitetet i Oslo*, Nov. 30, 1976, 1–2, UO. Anonymous, “Rosenqvists bidrag viktig,” *Aftenposten*, Dec. 1, 1976, 1, 4, RA. Anonymous, “Sur nedbør-forskere avviser Rosenqvist,” *Arbeiderbladet*, Dec. 1, 1976, 7, RA. Bo Lilledal Andersen, “Kjemi-geolog bak omstridt rapport om sur nedbør,” *Nasjonen*, Dec. 4, 1976, 9, RA. John S. Gray, “Rosenqvist-rapporten: En fundamentalt riktig hypotese,” *Aftenposten*, Dec. 6, 1976, 2, RA. Per Jørgensen, Harald Bergseth, Johannes Kjensmo, Eigil Hestvedt, “Riktig å påpeke mangler ved SNSF-prosjektet,” *Aftenposten*, Mar. 31, 1977, RA. Gunnar Magnus, “Gro H.B. Min sti er ren,” *Aftenposten*, Nov. 11, 1977, 1, RA.

<sup>111</sup> Forskerforbundet, “Styrepapirer 1977,” Archive of the Norwegian Association of Researchers, page 5–6. Yngve Nilsen, *En sterk stilling? Norsk Forskerforbunds historie 1955–2005* (Oslo: Vigmostad, 2005), pp. 93–4. Arne Semb-Johansson, *Noen mimringer fra min tid som generalsekretær i Det Norske Videnskaps-Akademi*, unpublished 1985, Archive of The Norwegian Academy of Science and Letters, pp. 27–8. Kim Gunnar Helsevig, *Elitisme på Norsk: Det Norske Videnskaps-Akademi 1945–2007* (Oslo: Novus forlag, 2007), p. 160.

“It was beautiful music to the ears of all those who would not accept that we had an international [environmental] problem,” Brundtland later claimed.<sup>112</sup> In her opinion, Rosenqvist’s work undermined efforts to halt the European industrial pollution of sulfuric acid, which ended up as acid rain in her native Norway. In the subsequent debate Brundtland argued that Rosenqvist missed the point. What concerned her was not the history or exact cause of acidification of water, but what she, as an environmental politician, could do about the problem. She sought scientific facts that could help her in taking the right political action. “Is Norway exposed to pollution, transported from far away, that is of a degree and kind that we could do something about it?” was her key question.<sup>113</sup> The clay and soil chemical factors Rosenqvist pointed to were irrelevant to her, not because they were untrue, but because she, as an environmental politician, could not do anything about them. She accused Rosenqvist of confusing public opinion with a narrow set of facts, which did not take into account a broader ecological perspective or political realities with respect to how his science could be used by the polluters. Rosenqvist, on the other hand, was well aware of the political implications. He talked with Brundtland not only as a scientist, but also as a “worker on the left side of the labor movement.”<sup>114</sup> To him, the political issue at stake was Norway’s future use of its natural resources, which meant building oil-plants that would generate inexpensive electricity for the needy.

To summarize, Rosenqvist followed the doctrine of power-socialism that both Soviet communists, which he identified with, and the first post-war generation of Labor Party members adopted as a means for modernizing the nation through industrialization. This doctrine was challenged in the mid-1960s by radical agrarian eco-populists seeking a revolutionary break with industrial society and also by moderate environmentalists within the second generation of Labor Party members, who advanced their cause through existing political structures. Rosenqvist targeted environmentalists and ecologists as opponents of industrialization and resource exploration: “We need energy to develop. I have no faith in the blissful Nepalise society in equilibrium that Arne Næss tells us about.”<sup>115</sup> These

<sup>112</sup> Brundtland, *Mitt liv 1939–1986*, p. 173. On Rosenqvist as an “anti-environmentalist” see John Hille, *Miljøtrusler for dove ører* (Oslo: Fremtiden i våre hendes forskningsinstitutt, 2001). Erling Dokk Holm, “Rosenqvist saken,” *F.eks.*, 3 (1994), 22, 24.

<sup>113</sup> Anonymous, “Ukens mest spennende møte,” *Nå* 13 (April 1977), 2–5, 4, RA.

<sup>114</sup> Anonymous, “Ukens mest spennende møte,” p. 5.

<sup>115</sup> Ivan Rosenqvist quoted in Bjørn Talén, “Suksess for ‘sosialisme på norsk’,” *VG*, April 21, 1980, 4, RA.



FIGURE 8 The Minister of the Environment, Gro Harlem Brundtland, answering the world press about the major “Bravo” oil spill in the North Sea, 1977. Photo: NTB. Courtesy of Scanpix

debates became an issue of which field of science and whose knowledge one should trust in determining the right policy. In the process both sides of the debate (represented by Rosenqvist and Dahl) were labeled scientific “swindlers” by their opponents. Rosenqvist’s chief target, however, was Dahl’s patron, the Ministry of the Environment, which was controlled by the environmental reformers within the Labor Party. His scientific disagreements with Brundtland should thus be understood as part of his defense of his belief in industrialism and power to the proletarians.

In the midst of these debates the chief pipeline in an oil platform called “Bravo” exploded, causing a major oil spill that lasted for a week from the end of April until the beginning of May, 1977. This put Brundtland under an unwanted spotlight with national and international media covering the evolving disaster on an hourly basis (Figure 8). Her capacity as a Minister of the Environment was put to the test. And judging from her later political career she handled it well. The immediate political effect, however, was an energized environmental movement questioning Brundtland and the industrialization of Norway. All of which will be the topic of the next chapter.