

## The Swedish UN Initiative

A major step in the institutionalization of climate science took place in the summer of 1967 at an otherwise obscure venue on the outskirts of Stockholm. The site had a few years earlier been set aside for the construction of an oil storage terminal, but the too-porous ground on a hillside overlooking the entrance to Stockholm's inner harbor instead became the location of an education and training facility for trade unions and other civic organizations associated with the Social Democratic Party. The compound's scenic setting stood in stark contrast to the austere modernist architecture of the Skepparholmen conference center, where around seventy world-leading climate scientists gathered in late June for two weeks of intensive discussions on scientific as well as organizational issues. This seminal event in international climate science would take place just months before a major societal breakthrough for environmental issues in Sweden and the launch of an initiative in the United Nations by Swedish diplomats that would lead to the first-ever global environmental conference.

A decade after the untimely death of Carl-Gustaf Rossby, the conference would confirm that Bert Bolin – Rossby's disciple and successor as head of the International Meteorological Institute (IMI) at Stockholm University – had become one of the leading figures in the advancement and organization of atmospheric science. His career path had in a sense been set twenty-five years earlier when his father Richard, a school teacher who was himself fascinated by weather phenomena, brought his teenage son to the Swedish Meteorological and Hydrological Institute to meet the renowned meteorologist Anders Ångström. Even as a young boy, Bolin had, like his father, demonstrated a keen interest in

weather, keeping temperature records in his home town of Nyköping, 100 km south of Stockholm. A year after his career coaching encounter with Ångström, Bolin began his undergraduate studies in mathematics and physics at his father's alma mater, Uppsala University. He subsequently moved to Stockholm for military service, where, as fate would have it, he came into contact with the recently returned Rossby who was in the process of establishing IMI. Over the next few years, Bolin completed his Master's degree and began his PhD training under Rossby at Stockholm Högskola's Meteorological Institute, with 1950–1951 as a year in-between spent working with numerical weather modeling in Chicago and Princeton, where he would draw upon his mentor's extensive contact network.<sup>1</sup> In the years leading up to the 1967 Global Atmospheric Research Programme (GARP) meeting, during which he helped launch the Swedish space program and served as scientific director of the European Space Research Organization, Bolin would continue to expand his engagement with cutting-edge technologies, such as satellites and sounding rockets, that were revolutionizing climate science and becoming another field where Cold War Sweden showed ambitions.<sup>2</sup>

The long legacy of cutting-edge climate research at Stockholm University and Bolin's skills as a science organizer ensured that the Swedish capital would be situated at the center of an emerging international movement of pioneering meteorologists and atmospheric scientists that included, among others, Jule Charney, Thomas Malone, Verner Suomi, Morris Tepper, and Rolando V. Garcia. The GARP Study Conference, named after a project its planners had been calling the Global Atmospheric Research Program, was organized by Bolin on behalf of the Committee on Atmospheric Sciences. Chaired by Bolin, the Committee was established in 1964 by the International Council of Scientific Unions (ICSU), together with the International Union of Geodesy and Geophysics. This was the opening phase of the large international collaborative science programs, and the Swedes were among the early adopters taking leading roles.

<sup>1</sup> Rodhe, "Bert Bolin." B. Bolin, *A History of the Science and Politics of Climate Change: The Role of the Intergovernmental Panel on Climate Change* (Cambridge: Cambridge University Press, 2007). Bolin maintained a continuous correspondence with Rossby during his time in Princeton, a practice that was to continue – by necessity since it was his mentor's habit to spend long periods in the US – until Rossby's passing in 1957. Bolin papers, KVA Archives, Stockholm, and Rossby papers, MISU Archives, Stockholm University.

<sup>2</sup> Chapter 3 above. Sörlin & Wormbs, "Rockets and Reindeer."

# GARP 1967: DEPARTURE POINT FOR THE INSTITUTIONALIZATION OF CLIMATE SCIENCE

The primary purpose of the GARP Conference was to plan a major international initiative, first proposed by Jule Charney (see Chapter 3), to study the global circulation of the troposphere and lower stratosphere. GARP had initially been conceived of as a limited-time experiment, coordinated by ICSU and World Meteorological Organization (WMO), that would, among other methodologies, involve the deployment of helium-filled balloons to conduct atmospheric measurements in different world regions.<sup>3</sup> Like the International Geophysical Year (IGY) a decade earlier, the GARP project was planned to last one to two years. It was, however, decided at Skepparholmen to institutionalize the GARP project by establishing it as a long-term program that would encompass a series of global experiments and observational activities over time. Based on his scientific credentials and – perhaps even more importantly – his personal integrity, communication skills, and ability to inspire others,<sup>4</sup> Bolin was appointed to chair the GARP Joint Organizing Committee by its sponsors, ICSU and WMO. Chairing GARP marked a milestone in Bolin's ascent as a science diplomat acting on the world stage, a career trajectory that paralleled the rise of climate change as a major political as well as scientific issue.

Over the next thirty years, during which he remained closely connected to Stockholm University as Professor of Meteorology and director of the IMI, Bolin became the central figure in the institutionalization of global climate change science. He was deeply engaged in shaping GARP successors such as the World Climate Programme (established in 1979), the World Climate Research Programme (1980), and the Intergovernmental Panel on Climate Change (IPCC) (1988), which he would help establish and chair for the first decade. The evolution of the

<sup>3</sup> World Meteorological Organization, International Council of Scientific Unions, International Union of Geodesy and Geophysics, *Report on the study conference held at Stockholm, June 28 to July 11, 1967, on the Global Atmospheric Research Programme (GARP)* (Geneva: World Meteorological Organization, 1967). Walter Orr Roberts, "The Global Atmospheric Research Program," *Bulletin of the American Meteorological Society* 48(1967):2, 85–88. Erik M. Conway, *Atmospheric Science at NASA: A History* (Baltimore: Johns Hopkins University Press, 2008). Henning Rodhe, "Bert Bolin and his Scientific Career," *Tellus B: Chemical and Physical Meteorology* 43(1991):4, 3–7. Henning Rodhe, "Bert Bolin (1925–2007) – A World Leading Climate Scientist and Science Organizer," *Tellus B: Chemical and Physical Meteorology* 65 (2013).

<sup>4</sup> Spencer Weart, "The Evolution of International Cooperation in Climate Science." B. Watson, "Bert Bolin (1925–2008)," *Nature* 451, 642 (2008).

intertwined science and politics of climate change as embodied by Bolin was ultimately reflected in the awarding of the Nobel Peace Prize to both Al Gore and the IPCC in 2007, shortly before the passing of the Panel's founding chairman at the end of that year.

In the summer of 1967, climate change was still only an incipient scientific concern limited to an international network of atmospheric specialists such as those gathered at Skepparholmen, and environmental issues were not yet entrenched on the international political agenda. Within eighteen months, however, the issue of climate change would be raised, for the first time, before the United Nations General Assembly (UNGA), by a Swedish diplomat, Sverker Åström. Sweden's UN ambassador, Åström, had been briefed on environmental issues by a scientifically well-read biochemist, Hans Palmstierna, who had recently risen to prominence after publishing a concerned scientist's environmental exposé, tellingly entitled *Plunder, Famine, Poisoning*.<sup>5</sup> Although quite different in style, and not written with quite the same literary prowess, Palmstierna's book can for its influence and its landmark status be considered Sweden's answer to Rachel Carson's *Silent Spring*.<sup>6</sup> In a similar wide-ranging indictment of humankind's growing impact on the global environment and the reciprocal effect ecological degradation was inflicting upon human well-being, Åström urged the Assembly to adopt a Swedish proposal to convene a major international conference on the human environment under UN auspices. Following Åström's speech on December 3, 1968, the UNGA unanimously adopted resolution 2398, *Problems of the human environment*, a document that had been drafted by Sweden's UN delegation with support from members of the Swedish scientific community. The successful outcome of "the Swedish initiative," one year in the making at that point, set in motion an intensive four-year preparatory period that would culminate in the 1972 United Nations Conference on the Human Environment.<sup>7</sup>

After the adoption of UNGA resolution 2398, the small cadre of Swedish diplomats and scientists that leveraged their respective skills to insert the human environment onto the UN agenda continued to collaborate, while also engaging a wider range of experts in support of the Stockholm Conference. Bert Bolin played a leading role in the

<sup>5</sup> Hans Palmstierna, *Plundring, svält, förgiftning* (Stockholm: Rabén & Sjögren, 1967).

<sup>6</sup> Eric Paglia, "Not a Proper Crisis," *The Anthropocene Review* 2(2015):3, 247–261.

<sup>7</sup> Eric Paglia, "The Swedish Initiative and the 1972 Stockholm Conference: The Decisive Role of Science Diplomacy in the Emergence of Global Environmental Governance," *Humanities and Social Sciences Communications* 8(2021):1.

Swedish preparations, but climate change was not the atmospheric issue that would represent his and Sweden's main contribution to the Conference's substantial scientific foundation. Rather, another previously opaque side effect of fossil fuel combustion – acid rain – had surfaced as a significant national issue in Sweden in autumn 1967. It was selected by Bolin as the topic of a Swedish case study in order to illustrate and draw political attention to the transboundary nature of contemporary environmental problems. As such, they required international cooperation to combat.<sup>8</sup>

#### SUMMER AND FALL 1967: BREAKTHROUGH MONTHS

In his seminal history of the environmental movement that also covers the 1972 Stockholm Conference, political scientist John McCormick suggests that the pernicious impact of acid pollution on fish and lakes in Sweden was a motivating factor behind the Swedish Initiative. Although a direct link between the discovery of acid rain and Sweden's intervention at the UN several months later is disputed by some of the primary participants,<sup>9</sup> the Swedish UN Mission was keenly aware of the explosive nature of the acid rain issue when drafting Sverker Åström's December 1968 address to the UNGA and did consider it a catalyst for the Swedish Initiative.<sup>10</sup> The issue had emerged within limited scientific circles in the spring of 1967,<sup>11</sup> before its major public splash that autumn. The key figures included Bert Bolin, atmospheric chemist Göran Persson of the Swedish EPA, and Bengt Lundholm, a zoologist and senior figure within Sweden's scientific bureaucracy who had led a 1964 government inquiry into natural resources. Given their scientific credentials and professional status, these three and a cadre of other experts that straddled the realms of science and policy were well positioned to sway political elites on questions related to the environment.

<sup>8</sup> Henning Rodhe, "Bert Bolin (1925–2007) – A World Leading Climate Scientist and Science Organizer," *Tellus B: Chemical and Physical Meteorology* 65(2013).

<sup>9</sup> John McCormick, *Reclaiming Paradise: The Global Environmental Movement*. (Bloomington & Indianapolis: Indiana University Press, 1989). McCormick's claim is countered by Lars-Göran Engfeldt (2009) based on his review of Swedish foreign ministry documents.

<sup>10</sup> It was ultimately decided not to include acid rain in Åström's speech due to the scientific uncertainty that still remained in the autumn of 1968. Lars-Göran Engfeldt, personal communication, July 23, 2022.

<sup>11</sup> Lars J. Lundgren, *Acid Rain on the Agenda: A Picture of a Chain of Events in Sweden, 1966–1968* (Lund: Lund University Press, 1998).

Thus, while the summer of 1967 GARP meeting laid the groundwork for the long-term institutionalization of climate science, the gathering storm of acid rain was poised to become a major societal issue as part of the environmental turn in Sweden that year.<sup>12</sup> It would soon spill over to become an issue of international politics.

The breakthrough was precipitated by yet another Swedish scientific expert, this time a soil specialist, Svante Odén, who would publish his consequential findings in an unconventional outlet for cutting-edge science: the culture section of Sweden's largest daily newspaper. The rapid rise of acid rain on the political agenda and the increasing level of alarm over the consequences of industrialized economic expansion were in fact the result of a pair of scientifically informed polemics that were published in October 1967. Odén's newspaper article and the aforementioned book by Hans Palmstierna together thrust the environment into the center of Swedish societal debate.<sup>13</sup> Public awareness of environmental issues was, however, far from nonexistent at that point. The environmental awakening that had begun several years earlier in other parts of the world, notably the United States, had soon spread to Sweden. The 1963 translation of *Silent Spring* made a powerful impact, and the discovery that mercury – used in some Swedish pesticides – was accumulating in fish and birds, and perhaps people, generated significant public concern. Research on the history of environmental concepts, with “environmental” (*miljö-*) as the prefix, and their appearance in Swedish media and other printed sources confirms very clearly that 1963 and 1964 were the years when a more widespread “environmental awareness” (*miljömedvetande*) – one of the words that entered circulation – had started its ascent.<sup>14</sup> Environment as a prefix had already circulated internationally for some time. For example, “environmental sciences,” was used by the South African-British primatologist and science advisor Solly Zuckerman in 1959. It would continue to spread in the 1960s as a prefix in the titles of books and conferences, and eventually in university departments as well as other areas of society.<sup>15</sup>

<sup>12</sup> David Larsson Heidenblad, *The Environmental Turn in Postwar Sweden: A New History of Knowledge* (Lund: Lund University Press, 2021).

<sup>13</sup> Larsson Heidenblad, *The Environmental Turn*.

<sup>14</sup> Ann-Mari Sellerberg, *Miljöns sociala dynamik – om ambivalens, skepsis, utpekanden, avslöjanden m.m.* Research Reports from the Department of Sociology (Lund University, 1994). Paul Warde, “The Environment,” In: Peter Coates, David Moon & Paul Warde, eds., *Local Places, Global Processes* (Oxford: Windgather Press, 2016), 32–46.

<sup>15</sup> Sverker Sörlin, “Environment,” In: Noel Castree, Mike Hulme & James D. Proctor, eds., *Companion to Environmental Studies* (London & New York: Routledge, 2018), 27–32.

In Swedish, the word *miljö* itself became widely used in the 1960s. Following an international pattern, it quickly shifted meaning around that time from its previous usage in pedagogy and on social issues to its current connotation with nature, typically under pressure or in some state of precarious decay. “Environment” in the 1960s signaled pollution, chemical contamination, and the spread of toxic elements in air and water; most of these were common concerns. Public interest was considerable and carried over into politics and public discourse, as well as arts and literature. In 1966, *Spillran av ett moln* (On the Shred of a Cloud) by Rolf Edberg became a national bestseller. Not bad for a secular, quasi-philosophical sermon *qua* novel on the relationship of humans and nature by a Swedish diplomat, Social Democratic politician, journalist, and, with that book, a novelist.<sup>16</sup> On the applied side, the Swedish government together with industrial interests had earlier that year created the Swedish Environmental Research Institute to develop technological solutions to environmental problems associated with manufacturing and resource extraction.<sup>17</sup> And on July 1, 1967, Sweden established its Environmental Protection Agency, the world’s first.<sup>18</sup>

It was a Swedish moment of momentum on environmental matters. The growing interest and concern over pollution also precipitated political action on a pan-Nordic level at the end of 1966. Preparations were at that point initiated by the Nordic Council for a high-level conference that would be held in Stockholm in May 1967. The Nordic Conference on Soil and Water Pollution, held in Lidingö outside Stockholm, involved 170 government officials, scientific experts, environmental activists, and industry representatives from Denmark, Finland, Norway, and Sweden. The conference marked the start of a multi-year intergovernmental process of institutionalizing political cooperation and scientific exchange on environmental issues between the Nordic countries. It would culminate with a first-of-its-kind treaty, the Nordic Environmental Protection Convention, which was signed in Stockholm in February 1974. The convention was the first international agreement to apply aspects of the 1972 UN Conference on the Human Environment, in particular Principle 21 of the Stockholm Declaration, which made countries

<sup>16</sup> Rolf Edberg, *Spillran av ett moln: Anteckningar i färdaboken* (Stockholm: Norstedts, 1966).

<sup>17</sup> Eva Bingel et al., *Från vetenskap till verklighet i 50 år* (Stockholm: IVL Svenska Miljöinstitutet, 2016).

<sup>18</sup> John McNeill, *Something New under the Sun: An Environmental History of the Twentieth-Century World* (New York: W. W. Norton & Company, 2000), 350.

accountable for any environmental damage they cause beyond their national borders. Even more than institutionalizing this principle within the Nordic context, the signatories of the 1974 Convention had their sights set on eventually expanding the idea of a transboundary pollution treaty to parts of Europe that were the source of acid rain in the North.<sup>19</sup>

The highly visible October 1967 interventions that would play out in the popular media and captivate the Swedish public were thus made under favorable preconditions for a receptive population and political class in Sweden. The first was Palmstierna's broad-based indictment of industrialized society. With his short book, Palmstierna would instantly become Sweden's leading environmentalist while also coming to serve as a government official, Social Democratic Party advisor, and, as will be explained later in this chapter, a key contributor to the Swedish UN initiative.<sup>20</sup> The other science-based critique that captured the attention of policymakers and the general public that month was targeted specifically at the atmospheric issue of acidification, the chemical process that was surreptitiously devastating soils, lakes, and forests in Sweden. As acid rain had not previously been identified as an area of acute environmental concern, it was not yet an issue of domestic or international politics. This would change literally overnight with a newspaper article published on the morning of October 24, 1967.

#### SVANTE ODÉN'S ACIDIFICATION INTERVENTION

The discovery of acid rain as a transboundary ecological menace was delivered to the Swedish public through what amounted to a direct action by Svante Odén (Figure 4.1), a soil chemist at the Royal Agricultural College in Uppsala, an hour's train ride north of Stockholm. Odén, who had spent several years at Bolin's Meteorological Institute at Stockholm

<sup>19</sup> Melina Antonia Buns 2021a and 2021b. "The Emergence of Nordic Environmental Cooperation, 1967–1974" <https://nordics.info/show/artikel/the-emergence-of-nordic-environmental-cooperation-1967-1974/> and "The 1974 Nordic Environmental Protection Convention" <https://nordics.info/show/artikel/the-1974-nordic-environmental-protection-convention/>. Melina Antonia Buns, "Making a Model: The 1974 Nordic Environmental Protection Convention and Nordic Attempts to Form International Environmental Law." *Scandinavian Journal of History*, 2022. <https://doi.org/10.1080/03468755.2022.2069151>.

<sup>20</sup> Eric Paglia, *The Northward Course of the Anthropocene: Transformation, Temporality and Telecoupling in a Time of Environmental Crisis*, PhD diss. (Stockholm: KTH Royal Institute of Technology, 2016).





FIGURE 4.1 Soil chemist Svante Odén, whose scientific discovery and October 1967 exposé of acid rain in the Swedish press brought transboundary environmental problems to the attention of the public and policymakers in Sweden and beyond. Photo: Sture Foto/Scanpix.

University in the early 1960s,<sup>21</sup> had for the previous decade been managing the European Air Chemistry Network (EACN). The EACN was a series of monitoring sites in Sweden and other parts of Europe that measured the chemical composition of precipitation, providing data over extended durations and large spatial scales. The network had been established in the late 1940s by soil scientist Hans Egnér and Erik Eriksson, a meteorologist and later professor of hydrology at Uppsala University who over the course of the 1950s employed EACN data in developing a general theory of biogeochemical circulation.<sup>22</sup>

An international expansion of the network was facilitated by Carl-Gustaf Rossby. In EACN, Rossby saw an opportunity to improve his understanding of long-range nutrient cycles and the relationship between

<sup>21</sup> Henning Rodhe, “Bert Bolin.”

<sup>22</sup> Ellis B. Cowling, “Acid Precipitation in Historical Perspective,” *Environmental Science & Technology* 16(1982):2, 110A–123A.

atmospheric and biogeochemical processes. Rossby and Eriksson, who joined Stockholm University's Meteorological Institute in 1954, were at the time leading the rapid development of the integrative field of atmospheric chemistry.<sup>23</sup> They convened a series of international conferences in Stockholm in 1954, 1955, 1956, and 1957 that brought together experts from a range of disciplines, including meteorology, oceanography, geography, and agriculture. The conferences' proceedings were presented in the Meteorological Institute's in-house scientific journal *Tellus*,<sup>24</sup> where some of the first articles on atmospheric chemistry and "Precipitation Chemistry" had been published.<sup>25</sup> Among the conference participants was Odén, who would take over the management of EACN after Rossby's death in 1957,<sup>26</sup> and Eriksson's departure for Yale that same year. Odén's immersion in the massive amount of data generated by EACN would a decade later lead to his discovery of the destructive environmental effects of acid precipitation.

Twenty years of EACN data analyzed by Odén demonstrated that, by 1967, acid rain was in fact intensifying across time and space. Rather than first publishing the results of his research on the likely cause of increasing acidification of Scandinavian ecosystems in a peer-reviewed academic journal, Odén went to the popular press with his explosive findings. His article "Nederbördens försurning" (The Acidification of Precipitation), which evoked "an insidious chemical warfare among the nations of Europe," appeared in *Dagens Nyheter* on October 24, 1967, provoking the public outcry and political response that Odén had intended.<sup>27</sup> In the article, appearing in the newspaper's culture

<sup>23</sup> Cowling, "Acid Precipitation."

<sup>24</sup> Erik Eriksson, "Report on an Informal Conference in Atmospheric Chemistry Held at the Meteorological Institute, University of Stockholm, May 24–26, 1954," *Tellus* 6(1954):3, 302–307. Erik Eriksson, "Report on the Second Informal Conference on Atmospheric Chemistry, held at the Meteorological Institute, University of Stockholm, May 31–June 4, 1955," *Tellus* 7(1955):3, 388–394. W. A. Mordy, "Report on the Third Annual Conference on Atmospheric Chemistry, May 28–30, 1956," *Tellus* 9(1957):1, 127–134. Georg Hugo Neumann, "The Fourth Annual Conference in Atmospheric Chemistry May 20–22, 1957," *Tellus* 10(1958):1, 165–169.

<sup>25</sup> American Meteorological Society University Corporation for Atmospheric Research, Tape Recorded Interview Project. Interview with C. C. [Carl Christian] Wallén conducted by Gordon Cartwright. November 21, 1995, December 9, 1995. Transcript retrieved November 18, 2021 from <https://opensky.ucar.edu/islandora/object/archives%3A7653/datastream/OBJ/view>

<sup>26</sup> Rachel Emma Rothschild, *Poisonous Skies: Acid Rain and the Globalization of Pollution* (Chicago: University of Chicago Press, 2019).

<sup>27</sup> Peringe Grennfelt et al., "Acid Rain and Air Pollution: 50 Years of Progress in Environmental Science and Policy," *Ambio* 49(2020): 849–864.

section – in and of itself a sign of how widespread interest in the environment had become – he attributed declining pH levels in waters and soils, and the consequent ecological degradation in Sweden, to the long-range transport of sulfur dioxide from the burning of fuel oil and coal in continental Europe and the United Kingdom.<sup>28</sup> Odén's acidification hypothesis was further amplified in an address by Sven Brohult, director of the respected Swedish Academy of Engineering Sciences, delivered the same night as the article's publication in *Dagens Nyheter*. Within days, the article was picked up by European and North American media, and the question of acid rain received additional treatment in Swedish scientific committees and government reports in the weeks and months that followed. With backing from figures such as Bengt Lundholm, a leading member of the Air Protection Council at the Swedish EPA among other official responsibilities, acid rain generated an immediate reaction by the Swedish government.<sup>29</sup> The issue was brought to the Organisation for Economic Co-operation and Development (OECD), where it initially received a tepid response. In the years following Odén's scientific exposé, however, transboundary acid rain would become one of the first, most prominent, and truly international environmental issues. It would also become the central scientific focus of Sweden's UN Stockholm Conference preparations.

#### HANS PALMSTIERNA'S POPULAR SCIENCE POLEMIC

The other October 1967 media event that brought the environment to the forefront of Swedish societal debate was the publication and extensive press coverage of Hans Palmstierna's (Figure 4.2) bestseller. In *Plunder, Famine, Poisoning*, Palmstierna situated the ongoing despoilment of the natural environment and its reciprocal impact on human well-being within a long-term narrative of the technological advance and industrialization of societies in the Global North. The slim paperback consisted of a series of short chapters that catalogued a selection of environmental problems such as soil erosion, overexploitation of the oceans, and the chemical contamination of ecosystems and human bodies resulting from the use of pesticides. Foreshadowing a

<sup>28</sup> Arne Kaijser, "Combatting 'Acid Rain': Protecting the Common European Sky," In: Anna-Katharina Wöbse & Patrick Kupper, eds., *Greening Europe: Environmental Protection in the Long Twentieth Century – A Handbook* (Berlin & Boston: De Gruyter Oldenbourg, 2021), 363–388.

<sup>29</sup> Lundgren, *Acid Rain*, 78–94.

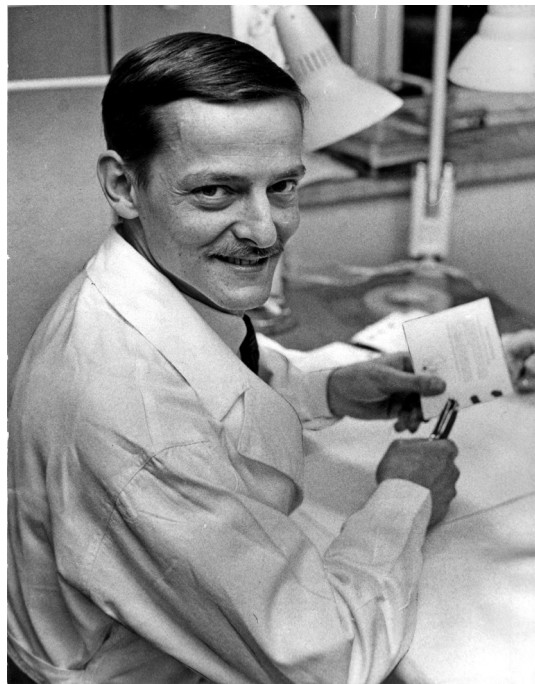


FIGURE 4.2 Biochemist Hans Palmstierna at work at a government bacteriological lab in 1965. His bestselling polemic *Plunder, Famine, Poisoning* helped spark the environmental awakening in Sweden in autumn 1967. He also played a critical scientific role in the Swedish initiative at the United Nations that led to the 1972 Stockholm Conference. Photo: Owe Sjöblom/Svenska Dagbladet.

fundamental theme of the Stockholm Conference, *Plunder* also condemned global inequalities and endemic poverty, incorporating a proto-sustainable development and environmental justice outlook grounded in Palmstierna's and Sweden's sense of solidarity with the Global South. Without radical reform and coordinated international action, he concluded, population growth and modern society's widespread waste of natural resources would jeopardize the survival of human civilization.

In the weeks following its publication, reviews and even editorials praising *Plunder* appeared in most major newspapers in Sweden, and Palmstierna himself became a media phenomenon – a “meta-specialist” that could speak broadly and with scientific authority on the complex and multifaceted environmental crisis that seemed to be spreading

and accelerating.<sup>30</sup> He was interviewed on prominent news programs, penned newspaper articles, and his book became, in a Swedish popular movement tradition with roots going back to the beginning of the century, the object of discussion in “study circles” across the country.<sup>31</sup> Palmstierna’s general critique can be seen in contrast, and perhaps as a complement, to the singular focus on the ecologically destructive sulfur dioxide – acid rain relationship exposed by Odén.<sup>32</sup> The pair of high-profile interventions, together with similar yet less sensational contributions to the public debate in the autumn of 1967, initiated a turning point in Swedish environmental consciousness. Rather than just a passing moment in the environmental history of a small northern European nation, the environmental awakening in Sweden set the stage for a diplomatic gambit at the UN several weeks later that would lead to the establishment of the human environment as an issue of international concern.<sup>33</sup>

#### THE SWEDISH INITIATIVE: SCIENCE DIPLOMACY AT THE UNITED NATIONS 1967–1968

The catalyst for the diplomatic process that would culminate in the Stockholm Conference came from Inga Thorsson (Figure 4.3), a Swedish politician and diplomat who in 1967 had become Director of the Social Development Division at the United Nations. A dedicated nuclear disarmament and women’s rights advocate, Thorsson and her career trajectory drew inspiration from a 1941 book by the Swedish author and journalist Elin Wägner (see Chapter 1). In *Väckarklocka* (Alarm Clock), Wägner had put forward a feminist and ecological perspective, somewhat ironically called “functional poverty.” This was a program which in its

<sup>30</sup> David Larsson Heidenblad, “Mapping a New History of the Ecological Turn: The Circulation of Environmental Knowledge in Sweden 1967,” *Environment and History* 24(2018):2, 265–284. Paul Warde, Libby Robin & Sverker Sörlin, *The Environment – A History of the Idea* (Baltimore: Johns Hopkins University Press, 2018).

<sup>31</sup> Larsson Heidenblad, *Environmental Turn*. Staffan Larsson & Henrik Nordblad, *Study Circles in Sweden: An Overview with a Bibliography of Existing Literature* (Linköping: Linköping University Electronic Press, 2010). <http://urn.kb.se/resolve?urn=urn:nbn:se:liu:diva-57887>

<sup>32</sup> The first edition of *Plunder* did not make reference to acid rain, but following Odén’s revelation in October 1967, future editions of Palmstierna’s book, as well as many of his media interventions, mentioned the acid rain issue (Lundgren 1998). The scientific material Palmstierna produced in 1968 in support of the Swedish Initiative also included references to acid rain.

<sup>33</sup> Paglia, “The Swedish Initiative.”



FIGURE 4.3 Politician and diplomat Inga Thorsson, a strong advocate of women's rights, nuclear disarmament, and international development, who sparked the Swedish initiative at the United Nations in 1967, leading to the convening of the Stockholm Conference five years later. Photo: Freddy Lindström/Scanpix.

main thrusts (though perhaps not the acclaim of poverty) was shared by Thorsson, who also questioned aspects of patriarchal industrial society and its reliance on the unconstrained advance of technology.<sup>34</sup> Wägner, a study circle supporter teaching at a women's "folk high school" for rural women with little formal education and also a member of the Swedish Academy that awards the literary Nobel Prize, had become a controversial figure for her 1941 book. Not everyone liked its ideas of small-scale economics. It was heavily critiqued by Karin Koch, an up-and-coming economist who became the first female member of the Swedish government in 1949. "Does Elin Wägner want to take us back to a preindustrial society based on natural self-sufficiency, or not?"<sup>35</sup>

<sup>34</sup> Elin Wägner, *Väckarklocka* (Stockholm: Bonnier, 1941).

<sup>35</sup> Karin Koch, review in *Social-Demokraten*, cited in Boel Hackman, *Elin Wägner* (Stockholm: Bonniers, 2005).



Koch represented the mainstream Social Democrat opinion of industrial modernization. For a long time, voices such as Wägner's had a hard time finding their way as the party was leading the country into a future based on increasing wealth and equal welfare, and with a limited understanding of nature preservation. Wägner and other green feminists were torn between industrial modernism and retrospective utopianism, along the lines of the anarchist Peter Kropotkin, the agrarian reformist Henry George, and other rural radicals. This was a far cry from Palmstierna's science and technology approach to radicalism, and it was he who became the government's environmental advisor, rather than a representative of the green camp.<sup>36</sup> A few decades later, the fault lines of this conflict were reshuffled as a first wave of green transformation shook Swedish political and public life. It did not in any major way change the ideological ball game, but the discussion broadened, and it certainly brought with it a whole new level of agency and activism.

Thorsson's environmental concerns were coupled with a keen interest in international development issues, which she worked on as an expert at the Swedish Foreign Ministry prior to her UN assignment.<sup>37</sup> Not long after her arrival in New York, Thorsson became involved in discussions on organizing a meeting on environmental issues under the UN Economic Commission for Europe – one of the five regional commissions under the United Nations Economic and Social Council (ECOSOC). This experience encouraged her to approach Under Secretary-General Phillipe de Seynes with the idea of convening a major international conference on the human environment at the highest level of the United Nations system. Such a conference, she suggested, could possibly supplant the fourth International Conference on the Peaceful Uses of Atomic Energy, which had recently been proposed by the UN Scientific Advisory Committee. The idea appealed to de Seynes, who was skeptical of yet another nuclear energy conference, and was strongly supported by other officials at the UN Secretariat. Thorsson's proposal was also firmly backed by Alva Myrdal, the politically influential head of Sweden's UN delegation, whose blessing provided the Swedish diplomats in New York the operating space to develop the initiative as they saw fit.<sup>38</sup>

<sup>36</sup> Jonas Anshelm, *Socialdemokraterna och miljöfrågan: Om framstegstankens paradoxer* (Stehag: Symposion, 1995).

<sup>37</sup> Gunnel Karlsson, "Inga Margarethe Thorsson," *Svenskt kvinnobiografiskt lexikon*, [www.skbl.se/sv/artikel/IngaThorsson](https://www.skbl.se/sv/artikel/IngaThorsson) (retrieved November 16, 2021).

<sup>38</sup> This section draws upon the experiences and insights of Ambassador Lars-Göran Engfeldt, including his 2009 and 2019 books, the latter his diplomatic memoirs, and



FIGURE 4.4 Swedish Prime Minister Tage Erlander (left), future Prime Minister Olof Palme (middle), and ambassador Sverker Åström (right), Sweden's permanent representative at the United Nations, in 1965. A political insider and major figure in shaping Swedish foreign policy during the post-war decades, Åström devised and implemented the diplomatic strategy that ensured the successful outcome of the Swedish initiative for an environmental conference under UN auspices. Photo: Sture Waldö/Aftonbladet.

The diplomatic strategy that was to unfold over the next twelve months was devised by Sweden's UN ambassador Sverker Åström (Figure 4.4), one of the most influential diplomats and shapers of

a series of interviews, conversations, and correspondences between Engfeldt and Eric Paglia between 2014 and 2020. Lars-Göran Engfeldt, *From Stockholm to Johannesburg and Beyond: The Evolution of the International System for Sustainable Development Governance and Its Implications* (Stockholm: Government Offices of Sweden, 2009); Lars-Göran Engfeldt, *Diplomati i förändring: I UD:s tjänst 1965–2009* (Stockholm: Ekerlids Förlag, 2019). Sverker Åström's 1992 memoirs were also a key resource for this section, Sverker Åström, *Ögonblick: Från ett halusekel i UD-tjänst* (Stockholm: Bonnier Alba, 1992). Göran Bäckstrand of the Swedish Foreign Ministry was another important participant in the processes described in this section and a further source of first-hand insight gained through several interviews and email exchanges with Eric Paglia. Documents from the Swedish Foreign Ministry archives (in Sweden's National Archives, <https://sok.riksarkivet.se/>) also underpinned much of the empirical analysis in this section. Additional analysis of archival documents can be found in Paglia, "The Swedish Initiative."



Swedish foreign policy of his generation. Before becoming permanent representative at the Swedish UN mission in 1964, Åström held senior positions at the foreign ministry, where he was the head of the political department from 1956, and served at Sweden's embassies in Moscow, Washington, and London. In Åström's estimation, government leaders had been too slow in recognizing the global significance of the environmental issue. Emboldened by the environmental awakening back home in Sweden, he was convinced that the time had become ripe for international action and that the diplomatic initiative would receive domestic political support.<sup>39</sup> His strategy centered on working through ECOSOC to bring a formal motion before the General Assembly for adoption.<sup>40</sup> This would entail a mobilization of Swedish bureaucratic and scientific resources to help formulate a convincing case that Åström and his colleagues could use to persuade other, possibly skeptical or even hostile, delegations on the imperative for convening an environmental conference under UN auspices. Ironically, the intellectual basis of the conference imagined by Thorsson, Myrdal, and Åström represented a *de facto* rebuke of the model of industrialized economic growth that had made Sweden's welfare state the envy of much of the world. Demonstrating his commitment to internationalism, and despite his position as a government official, even the institution of national sovereignty was seen by Åström as an obstacle in tackling transnational threats to the human environment. The UN, in the eyes of Åström, represented the best hope for humanity in its global struggle with overpopulation, resource depletion, and the spread of toxic substances.<sup>41</sup>

The first step was to swiftly inject the idea of an environmental conference into circulation at the United Nations by way of a short statement before the General Assembly. Delivered on December 13, 1967, by Börje Billner, the deputy head of Sweden's UN mission, the main points of the Swedish proposal were reminiscent of the radical reflexivity contained in the writings of Elin Wägner and Hans Palmstierna, despite all their differences. In calling for a conference on the human

<sup>39</sup> Åström, *Ögonblick*; Engfeldt, *From Stockholm to Johannesburg*.

<sup>40</sup> Based on UN procedure, ECOSOC was a necessary first step for the UNGA to take up a matter like the Swedish Initiative.

<sup>41</sup> Sverker Åström, "Global Consensus or Global Catastrophe?" *Ambio* 1(1972):1, 2–5. [www.jstor.org/stable/4311934](https://www.jstor.org/stable/4311934). Sverker Sörlin, "The Environment as Seen through the Life of a Journal: *Ambio* 1972–2022." *Ambio* 50(2021): 10–30, on 15. <https://doi.org/10.1007/s13280-020-01421-w>

environment, Billner identified technology-driven industrial development as the principal driver of various forms of pollution and their subsequent effect on humans:

The impact of the technological revolution that is taking place around us is felt by all peoples, irrespective of their present technological level. It has far-reaching effects on the environment of man. The human body and the human mind are subjected to serious and ever-increasing inconveniences and dangers. These are caused by air pollution, water pollution, sulfur fall-out waste, etc. – in short by all the secondary effects related to the process of industrialization and urbanization.<sup>42</sup>

The statement makes clear that even at this early stage of the “Swedish initiative,” as Sweden’s diplomatic intervention was referred to in UN circles, human wellbeing would be a primary focus, perhaps even more so than the environment itself. For the purposes of the conference, as imagined by the diplomats at Sweden’s UN mission, the environment was a medium through which technology, industrialization, and urbanization impacted people, rather than an object explicitly valued in and of itself, separate from its influence on humans. This anthropocentric conception of the environment – the *human* environment – was a 1960s novelty that complemented and to some extent supplanted conservationist and preservationist ethics that saw nature as something that should be set aside to be managed or protected against human encroachment. The Swedish initiative and the Stockholm Conference were decisive in elaborating and elevating the new human environment concept to the level of international politics. Although “human environment” today may sound anachronistic, the human dimension is implied and almost always present – if not predominant – in discussions on the environment, which are often integrated or interchangeable with the concept of sustainable development.

The overarching themes of Billner’s brief statement – preliminary or even tentative as it was at that point – would become further developed and scientifically substantiated as the Swedish initiative progressed over the course of 1968. In a memorandum telexed to the foreign ministry in Stockholm on March 13, 1968, Åström outlined his diplomatic strategy and general objectives for the conference. These included increasing worldwide environmental awareness, engagement, and cooperation

<sup>42</sup> “Statement by Mr. Börje Billner before the General Assembly on December 13, 1967, on agenda item 27, Question of holding further conferences on the peaceful uses of atomic energy,” cited in Paglia, “The Swedish Initiative.”

among actors from government, science, and civil society. He also identified potential diplomatic pitfalls, such as opposition from financial interests or from countries that might see the environment as potentially sidetracking the development agenda, and targeted two upcoming ECOSOC sessions in May and July 1968 as opportunities for advancing the idea of an environmental conference and securing support from other UN member states.<sup>43</sup> The first stage of diplomatic strategizing took place almost exclusively in New York, where Åström consulted with other UN delegations as well as experts such as the American cultural anthropologist and public intellectual Margaret Mead.<sup>44</sup> Moving forward with the initiative, however, demanded greater consultation and coordination with Stockholm, and the participation of relevant government ministries and specialized agencies. Moreover, preparing for the ECOSOC sessions, where Åström would make the case for a conference based on the state of the global environment, required a level of scientific expertise that the Swedish UN mission did not have in house. The Foreign Ministry therefore convened a pair of interagency meetings in April 1968 that were pivotal in formulating the next phase of the Swedish initiative.

#### STOCKHOLM, 1968: FORTIFYING THE SWEDISH INITIATIVE WITH ENVIRONMENTAL EXPERTISE

Attending the first meeting, held on April 10, were senior officials from government authorities that represented sectors such as environmental protection, public health, scientific and defense-related research, international development, and foreign affairs.<sup>45</sup> Sverker Åström, chairing the meeting, laid out the overarching objectives of the conference: to raise environmental awareness internationally and align action between governments, scientists, and industry. He emphasized that the environment should be interpreted in the widest possible manner to encompass its range of relevant social and economic development dimensions. Related to this broad interpretation of the issue, Åström and the other officials agreed that Sweden's call for universal engagement on the environment needed to be carefully motivated in anticipation of potential pushback by some developing countries. This concern proved justified.

<sup>43</sup> Sverker Åström, Memorandum to Swedish Foreign Ministry," March 13, 1968.

<sup>44</sup> Engfeldt, *From Stockholm to Johannesburg*.

<sup>45</sup> Kanslisekreterare Göran Bäckstrand, Swedish Foreign Ministry, Promemoria April 11, 1968, "FN-konferens för miljövård."

While India and especially Brazil, as well as other countries of the Global South, would later express degrees of skepticism, it was France and the United Kingdom that would be the first countries to question the need of convening an environmental conference under United Nations auspices.

Åström and Börje Billner also foresaw resistance on another front: established UN bodies that could very well perceive an environment conference, and new institutions that might follow from it, as an intrusion on their organizational turf. UNESCO, for example, considered the environment to be within its remit and was convening the Man in the Biosphere conference just a few months later. Although, as Billner noted at the meeting, the Biosphere conference, scheduled for September 1968, was narrowly focused on conservation issues as compared to the much more expansive human environment conference envisioned by the architects of the Swedish initiative. Navigating the intricacies and sensitivities of the UN system presented a formidable challenge that would command Åström's attention in the months ahead. The more immediate concern that he brought up at the inter-agency meeting in Stockholm was the drafting of a thirty to forty-page scientific document that could underpin a two-hour presentation at the United Nations. Åström considered the report he called for to be of the utmost importance since, from his extensive diplomatic experience, he expected it would serve as a point of reference and framework for conference preparations going forward.<sup>46</sup>

Two weeks later, the second Foreign Ministry meeting addressed the imperative of infusing Sweden's incipient environmental diplomacy with scientific substance.<sup>47</sup> On the agenda was the key statements Åström would deliver at the upcoming ECOSOC sessions. These needed to be scientifically grounded in order to convince other delegations of the rationale for convening a major environmental conference. Representing the Swedish EPA, Hans Palmstierna was tasked with preparing a memorandum that would provide a scientific perspective on the declining state of the global environment. One year after he had penned *Plunder*, the report Palmstierna would rapidly produce in support of the Swedish initiative was not limited to scientific facts and

<sup>46</sup> Göran Bäckstrand, Swedish Foreign Ministry, Promemoria April 16, 1968, Sammanträde om miljövårdsproblem.

<sup>47</sup> Kanslisekreterare Bäckstrand, Swedish Foreign Ministry, Promemoria April 25, 1968, "Kort resumé av diskussioner och beslut vid sammanträde med den förberedande arbetsgruppen för eventuell FN-konferens kring miljövårdsproblem."

analysis. Similar to his popular science writing, Palmstierna's assessment included strong normative positions, historical comparisons, and political prescriptions. The report condemned unequal access to natural resources over time and space, as well as the recurring pattern of small groups enriching themselves at the expense of the natural environment and wider swaths of humanity. Since modern environmental problems and associated development issues were qualitatively different from those of the past, often transcending political boundaries or driven by transnational processes, Palmstierna asserted that measures taken at the local or national level would in many cases be futile. He therefore called for solutions based on international solidarity:

As will be evident, many of the problems are international and must be solved internationally. The very big problems, common to all nations, cannot be solved by any individual country. A prerequisite to the solution of these problems is an intimate and trustful cooperation between all the nations of this globe.<sup>48</sup>

The two-part memorandum covered a wide range of specific aspects of the environmental crisis, and in turn, infused Åström's ECOSOC statements with a degree of scientifically informed dramaturgy and a sweeping historical narrative on the relationship of humans to the environment.

Situating the Swedish initiative within the context of the UN Development Decade, Åström's July 19 ECOSOC speech drew upon Palmstierna in outlining the main components of the physical environment that supported human survival: fertile soil, fresh water, living oceans, and clean air, and how human activity had undermined their quality and integrity. Åström evoked what would today be called ecological tipping points and cited the emergence of transboundary environmental problems such as acid rain, eutrophication, and even human-driven climate destabilization as motivating factors for international cooperation. The lion's share of the blame for the deteriorating condition of the global environment was assigned to accelerating urbanization and unrestrained industrialization – a cautionary tale from the Global North that developing countries should avoid repeating. A pillar of the Swedish initiative was precisely this idea that societies at earlier stages of industrialization could draw lessons from the myriad mistakes made by wealthier nations in the course of their own development, which came at great

<sup>48</sup> Letter containing a translation of Palmstierna's text (Swedish to English) sent by Lennart Eckerberg at the Swedish Foreign Ministry to Sverker Åström on July 5, 1968, "Översättning av svensk miljövårdsdokument till ECOSOC/ Anförande i FN:s Ekonomiska och sociala råd (ECOSOC)."

human and environmental cost. Learning from these historical experiences, according to Åström and Palmstierna, developing countries could embark upon pathways toward prosperity that were more sustainable than the kind of unreflexive economic growth paradigm that had devastated the biosphere.

Internalizing the environment at an early phase of economic planning would also have the added benefit of reducing costs associated with ecological degradation later on. Furthermore, despite differing levels of development, the environment had become a common concern for all of humanity, impacting people and countries in all parts of the world. The Swedes at the center of the initiative were convinced that a major international conference on the human environment could serve as a catalyst for mobilizing the resources, knowledge, and political will necessary to rethink, reform, and redirect this deeply flawed trajectory of industrialized economic development. Particularly in places where its roots did not yet run deep. To this end, the synthesis of Sverker Åström's diplomatic acumen and Hans Palmstierna's scientific expertise and dramatic flair in framing the environmental crisis provided the Swedish initiative with a strong science diplomacy foundation upon which a compelling case could be made.<sup>49</sup>

Both of Åström's ECOSOC statements,<sup>50</sup> as well as his December 1968 UNGA speech,<sup>51</sup> mirrored many of the points contained in Palmstierna's memorandum, which reiterated themes such as overconsumption and chemical poisoning from his popular science bestseller *Plunder*. Recent advances in science and technology, according to Palmstierna, had led to excessive exploitation of natural resources, rendering environmental degradation a structural condition in industrial societies and a rupture in humanity's long-term relationship with nature. On what he considered a fully settled planet characterized by exponential population growth, migration was no longer an option in the face of localized resource depletion. International cooperation, assistance, and solidarity, as well as the sharing of appropriate technologies, were critical necessities to

<sup>49</sup> Paglia, "The Swedish Initiative."

<sup>50</sup> "Statement by the Representative of Sweden, Ambassador Sverker Åström, on agenda items 5 (c) and (d) in the Economic Committee of the Economic and Social Council, May 24, 1968"; and, "Statement by Ambassador Sverker Åström, on agenda item 12, the question of convening an international Conference on the problems of human environment, in the ECOSOC meeting in Geneva, on July 19, 1968." Swedish Ministry for Foreign Affairs.

<sup>51</sup> "Statement by the Swedish Representative, Ambassador Sverker Åström, in the General Assembly on Tuesday, 3 December, 1968."

secure less destructive development pathways for countries of the Global South while also reforming the economies of the Global North. A crucial aspect of this narrative was that a healthy environment was a prerequisite for development, rather than something that could be sacrificed on the altar of economic growth. This relationship between environment and development would prove to be an essential source of tension later in the conference's preparation period (see Chapter 5) and in the decades since Stockholm.

The core arguments and main objectives of Sweden's science diplomacy carried through to the decisive UN resolutions to which the emergence of global environmental governance, as associated with the Stockholm Conference, can be traced. Even after undergoing scrutiny from UN bodies and member states, the texts of both foundational documents – UNGA resolution 2398 *Problems of the human environment*, and ECOSOC resolution 1346 (XLV), which recommended the General Assembly take up the idea of an environmental conference – retained indelible Swedish fingerprints. The ECOSOC resolution strongly resembled the Explanatory Memorandum that Sverker Åström had submitted to UN Secretary General U Thant to formally inscribe the Swedish initiative on the ECOSOC agenda.<sup>52</sup> And the seminal UNGA 2398 was written by a young diplomat at Sweden's UN mission, Lars-Göran Engfeldt (Figure 4.5), who also drafted Åström's pivotal speech before the General Assembly on December 3, 1968, where the resolution was adopted unanimously.<sup>53</sup>

The Swedish initiative embodied by Åström's statements and the UN resolutions was a formative moment in the globalization of environmental politics. Further, over the course of the almost four-year preparation period that followed, international development and its links to the environment would not only become an intrinsic part of the proposed conference but also the basis of the future concept of sustainable development. In front of the full Assembly in December 1968, Åström revisited many of the points he had made before ECOSOC earlier in the year, articulating his vision of an action-oriented event lasting two to three weeks with broad civil society participation. To avoid complications

<sup>52</sup> The Explanatory Memorandum included a cover letter dated May 20, 1968 written by Sverker Åström and addressed to U.N. Secretary-General U Thant requesting that an item entitled "The question of convening an international conference on the problems of human environment" be inscribed on the agenda of the 45th Session of the Economic and Social Council.

<sup>53</sup> Lars-Göran Engfeldt, personal communication (Paglia), March 8, 2016.



FIGURE 4.5 Swedish UN delegation and Crown Prince Carl-Gustaf in September 1970 at the 25th anniversary commemoration of the founding of the United Nations. First row from left: Ambassador Lennart Petri, Crown Prince Carl-Gustaf, Sweden's UN Ambassador Olof Rydbeck. Second row from left: Secretary of Embassy Lars-Göran Engfeldt, First Secretary of Embassy Torsten Örn, and Minister Kaj Sundberg. Photo: United Nations.

inside the UN system, he also emphasized that he did not foresee any new institutions resulting from the conference. The scientific case made by Åström also followed his previous statements, with some small but significant modifications. Global warming caused by carbon dioxide emissions was according to Åström now the more likely climate change scenario, compared to his earlier ECOSOC statements that had given equal weight to the possibility of global cooling from particle pollution. Perhaps surprisingly, acid rain was not mentioned in Åström's UNGA speech. The issue was, however, of great concern for Sweden and would soon become a central aspect of Swedish activity during the preparation period set in motion with the adoption of UNGA 2398.