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THE MACROETHICS OF SCIENCE IN A TIME OF CRISIS: NOBEL SYMPOSIA, 1969–1978

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In the mid-1960s the Nobel Foundation initiated a series of Nobel Symposia that continue to this day. These concerned areas associated with the Nobel Prizes in the sciences, literature, peace, and soon also economics. In 1969 the first of four 'cross-cultural' symposia was organized. This paper focuses on the first three of these (1969, 1974, 1978) and comments on the fourth (1983). These symposia were non-technical and focused on what was often described as 'world problems' considered at the time to constitute a serious global crisis, which included, for example, environmental degradation, nuclear threats, overpopulation and a diminishing status of science. An important ambition of the symposia, which failed, was to produce authoritative syntheses concerning the role of science in grappling with the global crisis, a consideration that is here described as 'macroethical'. In conclusion, the sometimes-turbulent symposia are discussed in relation to ideas about reflexive modernization and associated phenomena (neoliberalism, innovation policy), seen as symptoms of the crisis and the criticism of traditional modernization theory that it helped trigger.

Keywords: crisis science; macroethics; Nobel Symposia; the problematique; reflexive modernity; Nobel Foundation

> In the continued absence of better ways of heading off these multiple crises, our half-life may no longer be 10 or 20 years, but more like 5 to 10 years, or less. We may have even less than a 50–50 chance of living until 1980. (John Platt, 1969)[1]
>
> If […] a global partnership is not forged within the next decade, then I very much fear that the problem I have mentioned will have reached such staggering proportions that they will be beyond our capacity to control. (U Thant, 1969, quoted in *The limits to growth* 1972)[2]

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1 John Platt, 'What we must do', *Science* **166**, 1115–1121 (1969), at p. 1116. This article and one by Eugene Rabinowitch were suggested reading for participants in Nobel Symposium 14: 'Resolutions and summaries' (undated), draft document prepared by the organizers for the symposium participant, Uppsala Universitets Arkiv, Institutionen för Naturvetenskaplig Biokemi, Arne Tiselius: Nobelstiftelsen [Uppsala University Archive, Department of Biochemistry, Arne Tiselius: The Nobel Foundation] (hereafter ATNF), F13:4.

> Five years, that's all we've got. (David Bowie, 1972)[3]

Introduction

By the end of the 1960s, many commentators described a combination of environmental, economic, demographic, political and cultural challenges as a mounting threat to global stability or even the survival of humankind. Simultaneously there was a growing critique against science and technology for aggravating, rather than contributing solutions to, the perceived crisis.

Criticism of scientific and technological developments by radicals during the so-called student revolution often focused on the scientific *system*, described by one of the actors in this paper, the Marxist physicist Bruno Vitale as:

> […] the whole body of the present practice on [*sic*] the control of nature and man: scientists, scientific/academic institutions, funding agencies, scientific journals and associations, administrative personnel (including the famous girl who 'typed and retyped with unfailing accuracy my unreadable manuscript ...'), the necessary constellation of students and young research workers.[4]

One reaction to such critique was a heightened awareness of the socio-political relevance of research that went beyond the postwar engagement with nuclear issues that had set the iconic doomsday clock ticking in 1947. Pugwash, for example, broadened its agenda in the early 1970s to include issues like the environment and global inequality.[5] There are various labels for the transition from so-called Cold War science to a broader engagement with global threats during the détente period in the decade before the Reagan presidency. Examples include 'détente science', 'action research', and 'survival science'—the latter designating research in 'crisis disciplines' aimed at combatting environmental problems.[6]

I use the label *crisis science* to indicate a move away from the crumbling Cold War ideology of science as a politically neutral component of Western-style modernization towards a sustained interdisciplinary engagement with global challenges whose urgency necessitated a new kind of involvement of science with politics.[7] Crisis science was fuelled by moral concerns that may be labelled (as they were by some of the actors in this paper) *macroethical*—ethical from the point of view of the system of science as a whole rather than

2 Donella H. Meadows, Dennis L. Meadows, Jørgen Randers and William W. Behrens III, *The limits to growth* (Universe Books, New York, 1972), p. 17. The ten-year perspective of U. Thant was endorsed by the Executive Committee of the Club of Rome; *ibid*., p. 194.

3 David Bowie, 'Five years', *The rise and fall of Ziggy Stardust and the spiders from Mars* (RCA, New York, 1972).

4 Bruno Vitale, 'Military funded research: the institution of science and the military', *Curr. Res. Peace Violence* **8**(2), 65–73 (1985), at p. 68. Vitale wrote about the 'institution' rather than the 'system' of science. I chose the latter less clumsy expression.

5 Matthew Evangelista, *Unarmed forces: the transnational movement to end the Cold War* (Cornell University Press, Ithaca, 2002), p. 144.

6 Rüdiger Graf, 'Detente science? Transformations of knowledge and expertise in the 1970s', *Centaurus* **59**, 10–25 (2017); Perrin Selcer, *The postwar origins of the global environment: how the United Nations built Spaceship Earth* (Columbia University Press, New York, 2018), p. 22; Michael Egan, 'Survival science: crisis disciplines and the shock of the environment in the 1970s', *Centaurus* **59**, 26–39 (2017).

7 Audra J. Wolfe, *Freedom's laboratory: the Cold War struggle for the soul of science*, Kindle edition, ch. 8 (Johns Hopkins University Press, Baltimore, 2018).

individual researchers.[8] As Jacob Darwin Hamblin has shown, crisis science was inspired by early Cold War ideas and methodologies (systems analysis for example) relating to nuclear strategies.[9] But, coinciding with 'the collapse of modernization theory', it branched out in different directions, gaining a broader cultural significance, as for example with the first Earth Day in 1970.[10] One aspect was the emergence of a host of alarmist publications aimed at a broader public. Rachel Carson's *Silent spring* (1962) was a precursor to a genre that expanded around 1970 with titles such as *The population explosion* (1968), *Only one Earth* (1972), *A blueprint for survival* (1972) and *The plot to save the world* (1973), indicating the extraordinary risks perceived to be at stake.[11]

These currents inspired the formulation of ideas about 'reflexive modernization'. Ulrich Beck and other proponents of the notion that postwar modernity was turning inwards and starting to regulate itself criticized radicals who would 'wash the whole project of modernity, along with its accompanying anomalies, down the river', inspiring the emergence of 'third way' Social Democracy in the process.[12] At the same time, Beck, impressed with the strong mood of 'unmitigated crisis' among German environmentalists, afforded such issues a central role in his 'risk society'.[13]

This paper captures a moment in time when the 'anomalies' of modernization were the subject of a series of so-called Nobel Symposia focusing on the perceived crisis, including that of science itself. These small conferences were launched in the mid-1960s by the Nobel Foundation—custodian of the Nobel Prizes, awarded since 1901 by the Swedish national scientific and literary academies, by the Karolinska Institute, and by the Norwegian parliament. The symposia continue to this day, with almost 200 having been organized so far. Originally conceived of as specialized meetings in the areas defined by the prizes, the symposia soon came to include 'cross-cultural' ones with participation by a broad range of experts and a focus on the 'world problems' defining crisis science. To the Foundation, this was (with respect to the sciences) a departure from an established ideology of political impartiality, a change reinforced by the introduction in 1968 of a prize in economic science (first awarded in 1969, see below).[14] This paper focuses on the first three such symposia in 1969, 1974 and 1978; it comments, in the Discussion, on a fourth and last one held in 1983. The analysis is founded on symposia publications, documentation in the archives of the Nobel Foundation and of Arne Tiselius (initiator of the whole series of symposia and

8 For discussions about macroethics in biology and engineering respectively, see Hub Zwart, 'Challenges of macro-ethics: bioethics and the transformation of knowledge production', *Bioeth. Inq.* **5**, 283–293 (2008), at p. 285; Joseph R. Herkert, 'Microethics, macroethics, and professional engineering societies', in *Emerging technologies and ethical issues in engineering: papers from a workshop*, pp. 107–114 (National Academies Press, Washington, DC, 2004).

9 Jacob Darwin Hamblin, *Arming Mother Nature: the birth of catastrophic environmentalism* (Oxford University Press, 2013), esp. ch. 7.

10 Nils Gilman, *Mandarins of the future: modernization theory in Cold War America*, ch. 6, pp. 203–240 (Johns Hopkins University Press, Baltimore, 2004), at p. 203.

11 Sabine Höhler, *Spaceship Earth in the environmental age, 1960–1990* (Taylor & Francis, London, 2014), pp. 10–12; Hamblin, *op. cit.* (note 9), pp. 165–178.

12 Ulrich Beck, *Risk society: towards a new modernity* (1986; Sage Publications, London, 1992), p. 12. Cf. Risto Heiskala, 'From modernity through postmodernity to reflexive modernization: did we learn anything?', *Int. Rev. Sociol.* **21**, 3–19 (2011) (http://dx.doi.org/10.1080/03906701.2011.544177); Nicos Mouzelis, 'Reflexivity, modernization and the third way: the impasse of Giddens' social democratic politics', *Sociol. Rev.* **49**, 436–456 (2001).

13 Iain Wilkinson, 'Ulrich Beck', in *The Wiley–Blackwell companion to major social theorists* (ed. George Ritzer and Jeffrey Stepnisky), pp. 480–499 (Blackwell, Oxford, 2011), at p. 483.

14 Jenny Beckman, 'Niche development: the International Foundation for Science and the road to Sweden', *Br. J. Hist. Sci.* **56**, 553–566 (2023); Sven Widmalm, '"Super Bowl of the world conference circuit"? A network approach to high-level science and policy conferencing', *Br. J. Hist. Sci.* **56**, 553–566 (2023).

of the first cross-cultural one), as well as the Foundation's clippings archive and other press material.

The titles of the first three cross-cultural symposia indicate their connection with a broader movement to address global issues from macroethical perspectives. Symposium 14, 'The place of value in a world of facts' (1969), was probably the most ambitious among all Nobel Symposia during the Cold War. Its history has been detailed in two published papers, of which one focuses on the role of arts and humanities and the other describes the symposium as a catalyst of other activities, of which the next two symposia discussed here are examples.[15] In this paper, the focus will be on how Symposium 14 was staged to give maximum media impact to the Nobel Foundation's novel ambition to appear as the voice of science (or even reason) in a world about to go terribly wrong. The second symposium, 'Man, environment, and resources' (number 29, 1974), was a sequel to the first but with a focus on environmental problems and with leading figures from the 1972 United Nations (UN) conference on the human environment in Stockholm as well as the Club of Rome participating. Symposium 44, 'Ethics for science policy' (1978), explicitly tackled macroethical issues: the responsibilities of scientists as a collective.

The aim of these meetings was not to reach complete unanimity among participants but rather to encourage discussions among experts representing a variety of fields and views that in some way could be synthesized for a larger audience—perhaps resembling the contemporary so-called Delphi method, according to which a convergence of views could be reached iteratively through intense intellectual exchange.[16] Even from this limited perspective, however, the symposia largely failed, and in a sense that is what makes them interesting. They exemplify—from an elitist perspective—the macroethical uncertainties when the system of science shifted from an early Cold War situation, with its overemphasis on rationality and deep embeddedness within a booming military–industrial complex, towards a policy-regulated and innovation-oriented consensus emerging from the 1980s. The difficulty of maintaining scientific authority in this period of uncertainty was recognized by the Nobel Foundation as an important crisis phenomenon; the failure of the cross-disciplinary symposia to produce potent statements concerning the role of science in society confirmed its reality.

Nobel Symposium 14: medializing the crisis

The Nobel Symposia belong to a tradition of small elitist conferences with a strong focus on cutting-edge science.[17] They were conceived of as informal meetings that would allow leading scientists to 'take down [their] hair', as conference theoretician Margaret Mead had put it in 1960.[18] The Nobel brand was seen as a guarantor for attracting the best minds—not

15 Sven Widmalm, 'The place of humanities in a world of science: Nobel Symposium 14 and the vanishing humanist', in *The humanities and the modern politics of knowledge: the impact and organization of the humanities in Sweden, 1850–2020* (ed. Anders Ekström and Hampus Östh Gustafsson), pp. 178–204 (Amsterdam University Press, 2022); Sven Widmalm, *op. cit.* (note 14).

16 Jenny Andersson, *The future of the world: futurology, futurists, and the struggle for the post-Cold War imagination* (Oxford University Press, 2016), pp. 85–90.

17 Charlotte Bigg, Jessica Reinisch, Geert Somsen and Sven Widmalm, 'The art of gathering: histories of international scientific conferences', *Br. J. Hist. Sci.* **56**, 423–433 (2023). For a penetrating case study of one such series of meetings, the Gordon Research Conferences, see Georgiana Kotsou, *Periodic table manners: rituals and routines in international chemistry conferences of the 20th century* (IDIOMORFi Publications, Sparta, Greece, 2024), ch. 4.

least Nobel Laureates and candidates in the pipeline. The cross-cultural symposia deviated from this format in that they did not focus on technical specialities. However, they too were elite-oriented, and they followed in the footsteps of similar meetings focusing on science and policy, like those organized by the United Nations Educational, Scientific and Cultural Organization (UNESCO), Cold War think tanks, or Pugwash.

The goal of Nobel Symposium 14, the first in this vein, was rather general. One did not expect to reach definitive conclusions concerning any of the world problems on the agenda, explained Arne Tiselius, chair of the organizing committee. But it was about time, he said, that scientists helped to clean up a mess they were partly responsible for.[19] He hoped for constructive discussions that could inspire consensus on how to achieve long-term progress. An important ambition was to promote better coordination of scientific knowledge for global problem-solving. Another was to counter disinformation about science by 'imparting facts and values to the man in the street'.[20]

The programme consisted of 30 papers divided into five sessions on themes that were rather vague—covering for instance the Janus-faced character of science (good and evil), education, policy and 'strategy for survival'. The papers were often only loosely connected to the themes. The voluminous printed transcript of the discussions shows that they were, to put it politely, explorative rather than focused, and sometimes quite irritable.[21] Perrin Selcer has described something similar happening during the 1972 UN environmental conference in Stockholm, when the Swedish Prime Minister Olof Palme invited twenty leading intellectuals to a discussion on the theme 'Where do we go from now?'. Pandemonium ensued, with scientists 'contradict[ing] each other at every turn.'[22] Nobel Symposium 14 was a bit like that too.

Media impact was seen as fundamental by the organizers.[23] A closer look at the front- and backstage aspects of the medialization effort makes clear what was at stake.[24] Simply put, modernization theory—the idea that Western market economy, democracy and science naturally would conquer the world—was at stake. The leading organizers—Nobel Laureate biochemist Tiselius along with microbiologist Carl-Göran Hedén and physicist Sam Nilsson—aimed to promote established science as a problem-solving authority at a time when this authority seemed to be dwindling. The symposium theme of values and facts was believed to capture the essence of what the Club of Rome would soon christen 'the problematique', with science representing factual knowledge and values representing the social and cultural inertia that sometimes kept science and technology from reaching their full potential as problem solvers. Ethical questions were discussed in connection with, for example, nuclear arms, but also from evolutionary or existential perspectives.[25] In order to

18 Margaret Mead, 'The cultural perspective', in *Communication or conflict: conferences, their nature, dynamics and planning* (ed. Mary Capes), pp. 9–18 (Routledge, London, 1960; 2001), at p. 15.

19 Arne Tiselius, 'Nobel Symposium' (undated memorandum in English on 'Some questions to be discussed within the framework of the proposed program'), F13:5, p. 2, ATNF.

20 Arne Tiselius, 'Opening remarks', in *The place of value in a world of facts: Proceedings of the fourteenth Nobel Symposium, Stockholm, September 15–20, 1969* (ed. Arne Tiselius and Sam Nilsson), pp. 11–15 (Almqvist & Wiksell, Stockholm; John Wiley & Sons, New York, 1970), at pp. 13–14.

21 The content of the symposium is covered in more detail in Widmalm, *op. cit.* (note 15).

22 Selcer, *op. cit.* (note 6), pp. 224–228, quotation at pp. 224–225.

23 Carl-Göran Hedén, 'Dear Sir', 21 May 1969, F13:4, ATNF. Cf. Widmalm *op. cit.* (note 14), p. 546.

24 Stephen Hilgartner, *Science on stage: expert advice and public drama* (Stanford University Press, 2000).

25 Widmalm, *op. cit.* (note 15).

enrol the media in promoting the importance of the symposium, rhetoric was used that can only be described as alarmist.

In the symposium's first press release, the tone struck by the headline (borrowed from one of the sessions) was dramatic and not a little pompous: 'STRATEGY FOR HUMAN SURVIVAL: Nobel Foundation Convenes a Meeting of "Wise Men"'. These would discuss 'nothing less than a reappraisal of human aims and values'. Raising the stakes further, the press release claimed that 'the Nobel Foundation, hopes that the participants, coming from East and West, will help to set a course for humanity, in some kind of collective declaration'.[26] In a more personalized letter of invitation by Tiselius, enclosed with the press release sent to 'about forty outstanding international journalists', it was pointed out that the Foundation wanted to use its 'special place in the world of learning to tackle some of the urgent and complex problems facing all mankind' and that the very presence of 'such a variety of men of distinction, debating so important a theme' as the symposium's star-studded cast might be reason enough to come to Stockholm.[27]

With the second press release, the emphasis had shifted a little, as the headline reveals: '"WISE MEN" DEBATE HUMAN FUTURE: Students to assist at Nobel Symposium'. It drew attention to the fact that a group of young radicals would attend and 'mix with outstanding scientists, philosophers and men of affairs'. One reason given for this unusual move was that the 'generation gap' was on the meeting's agenda.[28] Human survival, famous names, and student participation (enticingly described as a 'time bomb') were hence all used as public relations stunts and were—as we will see—successful as such.[29]

When journalists arrived they received practical information as well as advice on how to conduct themselves. There would be a press office with telephones and working space where they would be provided with 'press kits' containing background material on the Nobel Foundation, on speakers, and on the content of their papers.[30] They were encouraged to interview participants and these, in their turn, were asked to go along with being interviewed as media 'impact' was 'integral with the aims of your discussions'.[31]

The symposium was covered not only by the press but also by Swedish and international radio and television. In Sweden broadcasts were hosted by Bengt Feldreich, the leading science journalist of the monopolistic public-service television and embedded within the Nobel system as he hosted a yearly show with Nobel Laureates. In addition, Swedish television produced a short film about the symposium to be distributed worldwide and with 'the good will attached to the name Nobel and to Sweden as a point of departure'.[32] Such goodwill was, at this point in time, associated with, for example, the Swedish welfare state, its military non-alignment (neutrality), and a rather activist approach to post-colonial issues.[33]

26 First 'press notice', for publication 23 July 1969, F13:2, ATNF.

27 *Nobel Symposium 14: the place of value in a world of facts* (conference programme, 1969), F13:4, p. 8, ATNF; Arne Tiselius, Letter to recipients of the first press release, 10 July 1969, F13:2, ATNF.

28 Second 'press notice', for publication 7 September 1969. F13:2, ATNF. The generation gap is discussed in more detail in Widmalm, *op. cit.* (note 15).

29 Widmalm, *op. cit.* (note 15), p. 188.

30 'Press diary', undated. F13:4, ATNF.

31 Nigel Calder and Eskil Block, 'To all participants in Nobel Symposium 14', 3 September 1969, F13:4, ATNF.

32 Per Ragnarsson (?) to Sam Nilsson, 2 September 1969, F13:4, ATNF: ('med utgångspunkt i den good will som namnet Nobel och Sverige har').

33 Beckman, *op. cit.* (note 14); Widmalm, *op. cit.* (note 14).

News reporting began shortly after the first press release, repeating its claim that 'wise men' were going to discuss 'a strategy for human survival'.[34] A few days before the meeting kicked off, there was extensive coverage of a 'teach-in' at Lund University where symposium attendees Linus Pauling, Jan Tinbergen and John McHale participated.[35] The press reports focused on the theme of survival, with Tinbergen discussing third-world economics and Pauling speaking out against militarism and advocating mixed-economy socialism (as in Sweden in this period).[36]

Throughout the symposium week, the media adapted to a pattern that the organizers had scripted in advance: reporting from the daily press conferences and the open sessions; interviews with particularly well known participants; and a smattering of opinion pieces.[37] Among the latter there was one by the Swedish press officer before the symposium and one by the foreign press officer Nigel Calder, in *New Statesman*, after the meeting. The Permanent Secretary of the literary Swedish Academy, Carl-Ragnar Gierow (member of the organizing committee), also wrote one after the symposium.[38] These were all positive about the event. As we will see, spontaneous media reactions were sometimes more critical.

International coverage of the symposium was, judging from the clippings archive of the Nobel Foundation, less abundant and less detailed when it came to interviewing or reporting about participants than that of Swedish media. My account of news reports hence relies mostly on the latter, which did portray symposium participants as spokespersons for science but not as if they added up to anything resembling a unified voice. Rather the reports followed a media logic focusing on participants as interesting *individuals* with strongly held, though often diverging, views.

Right before the symposium, a leading Swedish broadsheet published interviews with three of the most famous speakers—Margaret Mead, Konrad Lorenz and Arthur Koestler—even sending top foreign correspondents to interview the latter two in Bretagne and Tyrol, respectively. In a preamble the newspaper presented the theme of the symposium in a rather bloodcurdling fashion:

> How shall earth survive the current chaotic situation where political antagonisms are constantly increasing because of suspicion and prestige, where the divide between rich and poor steadily increases, where armies stand ready to devastate continents, and where scientists invent the means of destruction?[39]

34 Anonymous, 'Internationella forskare till svenska symposier [International researchers to Swedish symposia]', *Svenska Dagbladet*, 27 July 1969, p. 7: ('vise män', 'en strategi för mänskligt överlevande').

35 Bitte Lund, 'Överlevandets strategi ä ren moralisk fråga [Strategy for survival is a moral issue]', *Svenska Dagbladet*, 14 September 1969, p. 10.

36 For example: Lund, *op. cit.* (note 35); Anonymous, 'Pauling tror människan överlever världskrig III [Pauling believes humankind will survive World War III]', *Sydsvenska Dagbladet*, clipping with illegible date from the Clippings Archive of the Nobel Foundation, Stockholm (hereafter CANF).

37 Most attention was paid to Linus Pauling, Konrad Lorenz, Arthur Koestler, Margaret Mead and Joshua Lederberg.

38 Eskil Block, 'Vetenskapen och framtiden [Science and the future]', *Göteborgs-Posten*, 17 August 1969 (from CANF, no page number); Nigel Calder, 'Wise men in Stockholm', *New Statesman*, 26 September 1969, pp. 410–411; Karl Ragnar Gierow, 'Randanteckningar vid ett symposium [Notes on a symposium]', *Svenska Dagbladet*, 26 September 1969, p. 4.

39 Åke Berling, Torsten Ehrenmark and Sven Öste, 'Forskare från hela världen till Nobelsymposiet diskuterar: Hur ska Jorden överleva? [Researchers from all over the world coming to the Nobel symposium discuss: How shall Earth survive?]', *Dagens Nyheter*, 14 September 1969 (Sunday supplement), p. 4: ('Hur ska Jorden överleva dagens kaotiska tillstånd där de politiska motsättningarna ständigt stegras på grund av misstänksamhet och prestigehänsyn, där klyftan mellan rik och fattig ständigt ökar, där arméer står redo att ödelägga världsdelar och vetenskapen uppfinner förintelsemedlen?').

This reflected the tone of the press releases more than the content of the symposium. When interviewed about these dire prospects, Lorenz spoke of eight 'deadly sins' that threatened Western culture and which included the usual crisis suspects (overpopulation, environmental degradation, the generation gap and nuclear arms) but also genetic deterioration and 'lost traditions'.[40] In contrast, Mead emphasized the need for a reformed education system adapted to the 'machine age', whereas Koestler described the human brain as an evolutionary failure, suggesting that new drugs might set it straight.[41] These and similar interviews used a crisis-oriented dramaturgy borrowed from the Nobel Foundation's press releases to provide personalized portraits of famous men and one famous woman (Meade being the only female participant). The 'so to speak aunt-like' Mead was presented as a 'wonderfully combative' but largely optimistic figurehead for the modernization of education, private life, and gender roles; Lorenz was a Cassandra-like conservative; Linus Pauling was a radical critic of capitalism and militarism but also, with his wife Ava, one half of a happy working and conjugal team.[42] Among the participants from arts and humanities, Koestler appeared as an intellectual generalist and like the others just mentioned a convivial raconteur with views on just about any topic, whereas the brilliant poet W. H. Auden—by all accounts an odd bird in this context—was portrayed as a crossword-puzzle solver with a drinking habit and a face like a tilled field.[43]

Journalists did remark on the disunity among the participants, and sometimes criticism against them or the symposium as a whole was explicit. This was true of interviews with student participants who complained bitterly that macroethical issues like the involvement of science with the military–industrial complex were not taken seriously enough.[44] The well known journalist Erik Hjalmar Linder noted that many of the more established participants were also unhappy with how the meeting proceeded: 'Lorenz exaggerates, Koestler does not come up with any practical suggestions, those are things that one hears in the armchairs at [the symposium venue] Södergarn'.[45] Another journalist was irritated by the 'confusing mixture of optimists and pessimists on the highest scientific level', noting that most participants 'give the impression of having met to play some kind of intellectual game and [that] many wonder what the point of it all is'.[46] Some journalists even criticized the symposium's secularist and scientistic approach.[47]

40 *Ibid*.: ('dödssynder', 'förlorade traditioner').

41 *Ibid*.: ('maskinåldern'). The largest Swedish tabloid copied the group portrait model when interviewing Mead, Lorenz, Pauling and H. W. Auden: Kerstin Matz, An Lindström, Lennart Edberg and Staffan Tjerneld, 'Hur ser ni på våra problem? [How do you view our problems?]', *Expressen*, 16 September 1960 (from CANF, no page number).

42 Erik Hjalmar Linder, 'Nobelsympoiet slut: kunskap vårt kapital, samarbetsåldern inne [Nobel symposium over: knowledge is our capital, the age of cooperation has arrived]', *Göteborgsposten*, 21 September 1969 (from CANF, no page number): ('så att säga mosterliknande'); Berling *et al*., *op. cit*. (note 39): ('härligt stridbar'). On Linus and Ava: Evastina Carlsson, 'Forskarplikt att påverka opinionen tycker nobelpristagaren Pauling [A duty of researchers to influence public opinion thinks Nobel Laureate Pauling]', *Västerbottenkuriren*, 23 September 1969 (from CANF, no page number).

43 Matz *et al*., *op. cit*. (note 41).

44 Widmalm, *op. cit*. (note 15).

45 Anonymous, 'Symposiet knakar i fogarna: ungdom vill störta Lorentz [*sic*] [The symposium under strain: youth want to topple Lorentz [*sic*]]', *Göteborgsposten*, 20 September 1969 (from CANF, no page number): ('Lorentz [*sic*] överdriver, Koester [*sic*] kommer inte med några praktiska förslag, det är sådant man hör i länstolarna ute på Södergarn').

46 [JIBE], 'Förslag till världsuniversiteten läggs fram för Nobel-symposium [Proposal for world universities made at Nobel symposium]', *Göteborgs Handels- och Sjöfartstidning*, 17 September 1969 (from CANF, no page number): ('förvirrande blandning av optimister och pessimister på högsta vetenskapliga nivå', 'gör mer intryck av att ha träffats för något slags intellektuell lek och flera av dem undrar vad det hela egentligen är bra för').

47 For example: Gunnar Edman, 'Den radioaktiva törnbusken [The radioactive bush of thorns]', *Göteborgsposten*, 20 October 1969 (from CANF, no page number).

The sharpest critique in established Swedish media came in an editorial in the leading broadsheet *Dagens Nyheter,* almost certainly written by one of its two editors in chief, the leftist literary scholar and poet Olof Lagercrantz. Siding with the students, he characterized the meeting as 'conventional and … vague', pointing out that the world did not really need more reminders about the dismal state of global affairs. He ridiculed several presentations: Jacques Monod's ideas about an axiomatic value system were 'naïve'; Lorenz's comments about the generation gap were 'embarrassing'. It would have been a good idea to invite more 'rebellious' thinkers, like Noam Chomsky.[48] Similar critique came from two leading American science writers, Daniel S. Greenberg of *Science* and Robert C. Cowen of *The Christian Science Monitor*. The former was, like Lagercrantz, sarcastic about the symposium's pretentiousness.[49] The latter gave a detailed and sympathetic account of the students' criticism of its too-abstract approach to issues that were a matter of life and death, in particular to the young.[50]

As we have seen, one aim of Symposium 14 had been to convince 'the man in the street' of the importance of scientific expertise for solving world problems, and the alarmist rhetoric adopted for this purpose did strike a chord at least with the Swedish press.[51] The strategy to create a buzz by inviting a stellar group of speakers as well as radical students also succeeded. As the symposium got going, however, it became apparent that a media logic over which the organizers had little control took over. Celebrities did draw attention but frequently the focus was on personalities and opinions rather than science. And journalists sometimes made comments that directly questioned the authority of science, by emphasizing its apparent disunity.[52] The rather tumultuous spectacle at an open session where Lorenz spoke out against the younger generation and in turn was heckled by members of that group was good copy but not in the sense that the Nobel Foundation had wished for. Leading members of its board therefore (unlike Tiselius and Nilsson) considered student participation in the symposium a fiasco.[53]

A final example of how media management misfired concerned the question of a resolution, which did not materialize despite several attempts to formulate one—apparently because the two Soviet participants would have refused to sign such a document.[54] Because the organizers' first press release mentioned a resolution, media expectations had, however, been raised concerning a newsworthy declaration. So much so that *Dagens Nyheter* mistook the summary of discussions presented at the final press conference for a manifesto, even christening it the 'Lidingö resolution' after the municipality in the Stockholm area where the meeting mostly took place.[55]

48 [Olof Lagercrantz (?)], 'Forskarnas ansvar [The responsibility of researchers]', *Dagens Nyheter*, 21 September 1969, p. 2: ('konventionella och … undflyende', 'naiva', 'beklämmande', 'rebellerande').

49 Widmalm, *op. cit.* (note 14), pp. 547–548.

50 Robert C. Cowen, 'Mastering technology: intellectual leaders see need to build new values for man' , *Christian Sci. Monit.*, 7 October 1969 (from CANF, no page number); Robert C. Cowen, 'Youths at Nobel symposium rap elders on "value gap"', *Christian Sci. Monit.*, 11 October 1969 (from CANF, no page number)

51 Judging by CANF, the international press did not pick up on this theme nearly as much as the Swedish.

52 One example, beside those already mentioned, that got much attention was the economist Gunnar Myrdal's discussion about biases in the social sciences, described as an *attack* on his own colleagues: Sven Hallén, 'Myrdal angriper enögd forskning [Myrdal attacks one-eyed research]', *Dagens Nyheter,* 17 September, 1969, p. 11; Anonymous, 'Sociologer fick känga på Nobel-symposiet [Sociologists were trounced at the Nobel symposium]', *Arbetet*, 17 September 1969 (from CANF, no page number).

53 Widmalm, *op. cit.* (note 15), pp. 192–193.

54 Arne Tiselius and Sam Nilsson, 'NOBEL SYMPOSIUM 14: rapport till Nobelstiftelsen [NOBEL SYMPOSIUM 14: report to the Nobel Foundation]', January 1970, F13:2, p. 7, ATNF; Tiselius, *op. cit.* (note 20), pp. 14–15.

Interlude: the prize in economic science

In the autumn of 1969, not long after Nobel Symposium 14 had ended, it was announced that the first Nobel Prizes in economic science were awarded to Ragnar Frisch and Jan Tinbergen, the latter having attended the symposium. Strictly speaking, this was of course not a 'real' Nobel Prize; it was funded by the Bank of Sweden (*Sveriges Riksbank*) and its official name was the Prize in Economic Sciences in Memory of Alfred Nobel.[56] Receiving their awards with the other laureates from the King in the Stockholm Concert Hall on 10 December (Nobel's date of death), the economists nevertheless were and are treated the same as the others in almost every respect; importantly the amount of money they receive is the same. When it was introduced, this prize was symptomatic of the same kind of 'political turn' that the cross-cultural symposia represented.

Negotiations concerning the creation of the prize took place in parallel with the planning of Symposium 14 and with the Nobel Foundation CEO Nils Ståhle as a central figure in both cases.[57] Primarily they involved the Nobel Foundation and the Bank of Sweden, which from their start had financed the Nobel Symposia through a research foundation created in connection with its 300th anniversary in 1968. The jubilee was likewise the excuse for launching a new Nobel Prize and the idea came from the Bank's chair, Per Åsbrink. The negotiations were in the main conducted between him and Ståhle and can be followed through documentation in the Foundation's archive.

Originally the aim was to create not a memorial prize but simply a new Nobel Prize.[58] At first, there seems to have been little opposition to this among the Foundation's board. Rather, the big issue was funding. The Foundation wanted a one-off donation that would be controlled by them and cover everything. This was for various reasons unacceptable to Åsbrink and at one stage negotiations broke down. The Foundation had by then discovered that the Nobel family, its own legal expert, and the Norwegian awarders of the peace prize did not support the creation of a new bona fide Nobel Prize and was therefore prepared to drop the whole idea. In private, Ståhle seemed to agree that economics had a 'quasi scientific character'.[59] Another worry was that these prizes would probably be contested on political grounds—something that would indeed happen, most famously in 1976 when Milton Friedman was awarded one. This concern was shared by Laureates Jacques Monod and Joshua Lederberg, who, during Symposium 14, said that the economics prize would tarnish the symbolic value of the others as it would be politically controversial and be awarded for work that probably had a short shelf-life.[60]

55 Anonymous, 'Driv utvecklingen mot enhetsstat [Push developments towards world state]', *Dagens Nyheter*, 21 September 1969, p. 6: ('Lidingöresolutionen').

56 For an overview of the background to the creation of the prize (written without access to the archive of the Nobel Foundation), see Avner Offer and Gabriel Söderberg, *The Nobel factor: the Prize in Economics, social democracy, and the market turn*, Kindle edition, ch. 4 (Princeton University Press, 2016).

57 Developments can be followed in a series of (sometimes numbered) memos by Nils Ståhle: Archive of the Nobel Foundation (hereafter ANF) at the Centre for Business History, Stockholm, F2 ab:1.

58 Nils Ståhle, 'P.M. ang. Nobelstiftelsens förutsättningar för mottagandet av en donation till ett nobelpris i ekonomi [Memo re the preconditions for the Nobel Foundation receiving a donation for a Nobel Prize in Economics]', 2 November 1967.

59 Nils Ståhle, 'P.M. 4, ang. samtal med Henning Bödtker [Memo 4, re discussion with Henning Bödtker]', 25 September 1967, ANF F2 AB:1: ('kvasivetenskapliga karaktär').

60 Nils Ståhle, 'P.M. angående det ekonomiska priset [Memo regarding the economics prize]', 18 September 1969, ANF F2 AB:1.

The decisive moment came when a few leading economists, mostly members of the Academy of Sciences, intervened and convinced Åsbrink to agree to a compromise: a foundation would be created that was controlled by the Bank rather than by the Foundation; the prize would be named after Nobel but be placed in a special memorial category. Academy members and future Laureates Bertil Ohlin (1977) and Gunnar Myrdal (1974) both participated in this intervention, as did (from a distance) Assar Lindbeck—a central person in Swedish economic science during the last third of the twentieth century and a key figure on the Economic Sciences Prize Committee in the same period (see below). The inappropriateness of some members with a special stake in the issue acting as a 'pressure group' was noted by the Foundation.[61] One member of its board even hinted that an ulterior motive was to award Myrdal the prize in connection with his 70th birthday in December 1968.[62] Nevertheless the Foundation accepted the compromise, and the Academy of Sciences grumblingly agreed to take on the evaluation process.[63]

When the new prize was presented to the parliament's Bank of Sweden Committee, it was described as a celebration of the so-called Swedish Model: its successful economic and social policies and 'the high regard, that Sweden has obtained for achievements in the field of economic science …, in later years through representatives of the so-called Stockholm School' (with Myrdal and Ohlin as prominent representatives).[64] The prize was therefore promoted as a celebration of the long (since 1932) reign of Social Democracy, in effect as a political prize. Among those campaigning for it, Åsbrink, Myrdal and Lindbeck were all Social Democrats whereas Ohlin had been leader of the main (liberal) opposition party until 1967. As has been shown by Avner Offer and Gabriel Söderberg, however, the prize quickly became associated with anti-Keynesian politics and has been seen as a pillar of support for the neoliberal 'market turn' in economics almost from its inception.[65] Gunnar Myrdal was horrified when he had to share the 1974 prize with Friedrich Hayek and proposed that it should be abandoned after it was awarded to Milton Friedman two years later.[66] With the prize in 'economic science', politics indeed became an overt aspect of the science awards, which the Board of the Nobel Foundation had foreseen.

Nobel Symposium 29: doom or boom?

As there was now—in all but name—a new Nobel Prize, members of the Academy's class for economics and statistics were included in the organization of Nobel Symposia, including cross-cultural ones. The second of this kind, Nobel Symposium 29 on 'Man, Environment, and Resources', was held in Stockholm on 16–20 September 1974. It was described as a first sequel to Symposium 14 and hence it too focused on world problems, in particular the environment and natural resources, population growth, and global inequality.[67]

61 Nils Ståhle, 'P.M. Nr. 29, ang. ett 6:te nobelpris [Memo no. 29 re a 6th Nobel Prize]', April 22 1968, ANF F2 AB:1: ('pressure-group'). Cf. Claes Berg, *Gunnar Myrdal: ett liv med många bottnar* (Dialogos, Stockholm, 2023), pp. 248–249.

62 Otto Frostman to Nils Ståhle, 11 April 1968, F2 AB:1, ANF.

63 Offer and Söderberg, *op. cit.* (note 56), pp. 101–102.

64 Kjell-Olof Feldt, Speech to the Bank of Sweden Committee, 14 May 1968, F2 AB:1, ANF: ('stora anseende, som Sverige förvärvat för insatser på den ekonomiska vetenskapens område …, senare genom den s.k. Stockholms-skolans företrädare').

65 Offer and Söderberg, *op. cit.* (note 56).

66 Berg, *op. cit.* (note 61), pp. 249–251.

Assar Lindbeck, now chairing the economic prize committee, was included among the organizers.[68]

Planning for Symposium 29 started in April 1973 when it was decided that Sam Nilsson would repeat his role from Symposium 14 as 'general secretary' and that the sociologist and Rector of Uppsala University Torgny Segerstedt would chair the organizing committee. Probably because of experiences during the UN environmental conference in Stockholm in 1972, which had included a fair amount of political protest and drug-related rowdiness, it was thought that the symposium could be 'politically incendiary', which is why it was located at a seventeenth-century castle at a fair distance from the city centre.[69]

The press release for Symposium 29 announced that it would focus on threats and opportunities facing 'mankind'.[70] By referring to Aurelio Peccei's concept 'the problematique', it connected explicitly with the Club of Rome's agenda in their controversial book *The limits to growth* (1972). It is remarkable that, among the speakers there was only one natural scientist (René Dubos), who furthermore withdrew late in the process so that there was none actually giving a talk.[71]

As with Symposium 14, the agenda related to various international initiatives. Examples include UN conferences on the environment, population, food and water, plus the General Assembly's proclamation on 1 May 1974 proposing a New International Economic Order (NIEO) founded on national independence, justice, and equality. *The limits to growth* and the first oil crisis were recurring talking points, the latter, like NIEO, not anticipated when planning for the symposium had begun.[72]

A list of participants in the archive of the Nobel Foundation contains brief comments indicating what to expect them to contribute. Economist Wilfred Beckerman, invited on the suggestion of Assar Lindbeck, was for example described as '[o]ne of the most articulated [sic] development optimists', whereas Georg Borgström—a Swedish–American biologist and neo-Malthusian activist—was '[f]amous for his doomsday prophecies'.[73] Sam Nilsson said the organizers wanted the symposium to become 'a platform for confrontations of minds' and pointed out that Peccei's presence would make '[c]ontrasts in the discussion about 'limits' during the symposium … even sharper'.[74] Torgny Segerstedt had said five

67 Sam Nilsson, 'Några synpunkter på ett nytt tvärvetenskapligt/kulturellt (samtliga prisgrupper) Nobel Symposium hösten 1974 [Points concerning a new cross disciplinary/cultural (all prize categories) Nobel Symposium autumn 1974]', F4 c:13, ANF.

68 Offer and Söderberg, *op. cit.* (note 56), pp. 178–183.

69 'Protokoll hållet vid sammanträde med Symposiekommittén hos Nobelstiftelsen i Stockholm [Minutes from meeting with the Symposium Committee at the Nobel Foundation in Stockholm]', 27 April 1973, F4: b9, ANF; ('politiskt brännbart').

70 'Press release: Man, environment and resources, in the perspective of the past and the future', undated, F4 c:13, ANF.

71 According to the printed programme, Dubos would have presented a paper in a session with Stephen Toulmin. He was replaced by the chair of the session, Maurice Strong. The programme is in F4 c:13. ANF. In an early draft listing possible participants, there were a similar number of names from social science, natural science, and the humanities; why scientific participation shrank is unclear. 'Preliminära förslag på deltagare [Preliminary proposal regarding participants]', undated, F4 c:13, ANF.

72 Sam Nilsson, 'Man, environment and resources …. Comments to the agenda', undated, F4 c:13, ANF; Sam Nilsson, 'Scope and purpose of the Nobel Symposium', undated, F4 c:13, ANF. On the NIEO, see Bo Stråth, *The Brandt Commission and the multinationals: planetary perspectives* (Routledge, London, 2023), pp. 92–104.

73 'List of participants, 2nd cross-cultural Nobel Symposium', undated, F4 c:13, ANF. On the invitation of Beckerman, see 'Protokoll från sammanträde den 14 juni [1973] å Nobelstiftelsen med organisationskommittén för tvärkulturellt Nobelsymposium 1974 [Minutes from meeting 14 June [1973] at the Nobel Foundation with the organizing committee of cross-cultural Nobel Symposium 1974]', F4 c:13, ANF.

74 Sam Nilsson to the Organising Committee of the Nobel Symposium 16–20 September 1974, F4 c:13, ANF: ('Kontrasterna i debatten om "gränser" vid symposiet skulle … skärpas ytterligare'); Nilsson, *op. cit.*, 'Scope' (note 72).

months before the symposium that a confrontation between pessimistic scientists and optimistic economists was expected.[75] All the evidence therefore indicates that the organizers thought that sparks would fly; however, they also hoped that discussions would provide raw material for a synthetic overview in book form.

In reaction to criticism against Symposium 14—excessively long papers, too little time for discussion—the format of Symposium 29 was geared very much towards the latter. The papers were few and short, and the cheaply printed conference volume ran to only 111 sparse pages. This was because the organizers had chosen a different publishing strategy compared with Symposium 14, which had resulted in a thick hardback volume of conference papers. Instead, they had struck a deal with the British journalist and science writer Peter Ritchie Calder (Baron Ritchie-Calder, father of the foreign press officer at Nobel Symposium 14) to write a book aimed at a broader audience on 'the predicament of mankind'.[76] The symposium volume was hence a provisional publication, pending this book, which for reasons explained below did not see the light of day.

The symposium contained four sessions with two talks each—one historically oriented and one focusing on the present and the future. The historically oriented speakers were statistician and economist Simon Kuznets (Nobel Laureate in 1971); philosopher–historian Stephen Toulmin; economic historian Carlo M. Cipolla; and the historian of nationalism Boyd C. Shafer. The speakers on the present and the future were social-science oriented: Lester R. Brown, environmentalist with a background in economy; businessman (in oil) and diplomat Maurice F. Strong, who had been Secretary General of the UN conference on the human environment in 1972; economist Barabara Ward, also deeply involved with that meeting; and finally, the lawyer Samuel Pisar, a prominent writer, political advisor to the Kennedy administration, and much else.

Among participants in the discussions who received a fair amount of media attention were Inga Thorson, Swedish UN ambassador and Social Democratic MP, who helped initiate the UN environmental conference; the above-mentioned Georg Borgström; and Aurelio Peccei. Prime Minister Olof Palme turned up during one session, criticizing Pisar's view that free trade between East and West was a key to détente.[77] There was hence a strong presence at the symposium of an establishment movement that criticized a habitual reliance on economic growth as an antidote to world problems—broadly speaking representing what Bo Stråth has identified as a Keynesian globalist approach.[78] Among those not presenting papers there was also a vocal fraction that disparaged this way of thinking, most aggressively (as far as available sources reveal) Beckerman and Lindbeck. In particular, Beckerman helped create an atmosphere of antagonism during the discussions, with *The limits to growth* as one focus of attention.

This book, which Peccei had taken the initiative to publish, was met with overwhelmingly negative reactions among economists but was also a best-seller. As was noted in the book itself, the world-modelling project at the heart of its arguments against unlimited growth was simultaneously criticized for being technocratic and making a fetish of computer

75 Sven Hallén, 'Befolkningsproblemen ämne för Nobeldebatt [Population problems topic of Nobel debate]', *Dagens Nyheter*, 24 April 1974, p. 3.

76 Sam Nilsson, 'Sammanfattande synpunkter på Nobelsymposium 29 [Summary of views on Nobel Symposium 29]', 10 November 1974, F4 c:13, ANF.

77 Björn Berglund, 'FN misslyckas gång på gång [UN fails time and again]', *Dagens Nyheter*, 20 September 1974, p. 20.

78 Stråth, *op. cit.* (note 72), ch. 8.

technology *and* for underestimating technology's power to ameliorate environmental problems, including the depletion of natural resources.[79] In Sweden, a debate concerning the pros and cons of economic growth had raged since around 1970, with a majority of economists, including Assar Lindbeck, on the pro side.[80] According to Eva Friman, the dividing line was simultaneously scientific and ethical. Critics of growth emphasized the intrinsic value of the natural environment and tended to rely on natural science. Professing to represent scientific objectivity and not affording nature any special ethical status, their opponents claimed that only economic growth could combat environmental problems.[81] The two positions therefore represented two kinds of macroethics.[82] However, they do not lend themselves to a straightforward categorization along Left–Right lines: pro-growth enthusiasts Beckerman and Lindbeck were associated with the Left, for instance. Around the time of the symposium, Beckerman was enrolled in the Swedish debate—for example, through a translation of his book *In defence of economic growth* (1974).[83] It was hardly a surprise that his participation in the symposium, like Peccei's, would fuel the flames of an already acrimonious discussion.

Judging only by the printed volume, Symposium 29 was, however, a quiet affair. In the introduction, Torgny Segerstedt defined the issues at hand in a way similar to Symposium 14: world problems should be tackled by scientific experts and the diminishing faith in science was one of the problems facing a humankind that, according to one early press report from the symposium, 'staggers from crisis to crisis'.[84] The papers were short and not obviously provocative. They indicated that because of the oil crisis the idea of a 'problematique' had been reinforced. Several speakers viewed the oil crisis as further proof that old truths about continuous growth must be revised and thought that it highlighted the danger of natural-resource depletion.

The first paper, by the well known American environmentalist Lester Brown, discussed the crisis in a similar vein to *The limits to growth*, warning that we might 'be on the verge of one of the great discontinuities in human history—economic, demographic, political'.[85]

79 Paul Ekins, '"Limits to growth" and "sustainable development": grappling with ecological realities', *Ecol. Econ.* **8**, 269–288 (1993); Elodie Vieille Blanchard, 'Modelling the future: an overview of the "limits to growth" debate', *Centaurus* **52**, 91–116 (2010); Elodie Vieille Blanchard, 'Technoscientific cornucopian futures versus doomsday futures: the world models and *The limits to growth*', in *The struggle for the long-term in transnational science and politics: forging the future* (ed. Jenny Andersson and Eglė Rindzevičiūtė), pp. 92–114 (Routledge, New York, 2015); Elke Seefried, 'Globalized science: the 1970 s futures field', *Centaurus* **59**, 40–57 (2017); Francis Sandbach, 'The rise and fall of the limits to growth debate', *Social Stud. Sci.* **8**, 495–520 (1978); Stråth, *op. cit.* (note 72), pp. 104–107. Cf. Meadows *et al.*, *op. cit.* (note 2), pp. 187–188.

80 Eva Friman, *No limits: the 20th century discourse on economic growth* (Institutionen för historiska studier, Umeå, 2002), pp. 135–169.

81 *Ibid.*, pp. 158–166.

82 Bernstein discusses these questions in terms of 'epistemic communities' and 'norms': Steven Bernstein, *The compromise of Liberal environmentalism* (Columbia University Press, New York, 2001), e.g. pp. 18–22.

83 Wilfred Beckerman, *Leve tillväxten!* [the Swedish title translates as *Long live growth!*] (Aldus, Stockholm, 1975). Nils Lundgren wrote the preface to this translation. The previous year he had edited a special issue of the journal *Ekonomisk Debatt* [*Economic Debate*] on the 'general atmosphere of doom', with contributions by, among others, Beckerman and Lindbeck. Lundgren's editorial claimed that most economists probably agreed with Beckerman's position on growth, that it was not to blame for e.g. environmental problems. Nils Lundgren, 'Den dystra vetenskapen? [The dismal science?]', *Ekon. Debatt* **8**, 445–446 (1974), at p. 445. For an overview of Beckerman's position in the growth debate, see Ekins, *op. cit.* (note 79), pp. 270–275.

84 Torgny Segerstedt, 'Introductory address at the Nobel Symposium 29 the 16th of September at Hässelby Castle, Stockholm', in, *Man, environment, and resources in the perspective of the past and the future* (ed. Torgny T. Segerstedt and Sam Nilsson), pp. 11–14 (Nobel Foundation, Stockholm, 1975); Lennart Lundegårdh, 'Nytt Nobelsymposium: Har mänskligheten nått gränsen? Världens vetenskapselit mobiliseras [New Nobel Symposium: Has humankind reached its limit? The world's scientific elite mobilized]', *Svenska Dagbladet*, 12 January 1974, p. 24: ('stapplar från kris till kris').

Brown argued in favour of new and better values, better leadership, and reformed economic thinking. He was by no means alone in bringing up these themes, but his talk in particular seems to have angered some of the economists. Assar Lindbeck said in an interview that Brown attempted to make 'long-term prognoses from news-paper articles'.[86]

According to Maurice Strong, talks and discussions fell into the 'doomsday' or 'Shangri-la' categories, whereas he himself indicated that the 'population–resource–environment question' called for a 'world system of government'.[87] Karl W. Deutch's concluding summary took a similarly Olympian approach, emphasizing that solutions to world problems would have to be social, political and economic rather than cultural or scientific. Playing down environmental alarmism, he criticized the idea that economic growth was limited by finite natural resources.[88] Press reports and archival sources show that discussions had, however, been more acrimonious than Strong's and Deutsch's overviews indicate.

Beckerman received a fair amount of media attention because of his abrasiveness. In one newspaper profile he was described as an 'angry enemy of the doomsday prophets' who believed that overpopulation was not real and that environmental degradation was the 'brainchild of an upper class wishing to preserve their salmon streams and their grouse moors'. He was quoted as saying that the green wave 'smells of Nazism' and that most world problems were made up by media and 'clamorous youth', recommending group therapy as a cure.[89]

Beckerman, like Konrad Lorenz before him, was hence good copy. The same was true of Georg Borgström, who had made a career as a public scientist by warning against the dire consequences of northern overconsumption and southern overpopulation and malnutrition. As a discussant on the second day of the symposium, Borgström attacked the economists for neither getting their maths straight nor taking the limits of natural resources seriously.[90] The press further reported on 'magnificent quarrels' involving Peccei and Beckerman, seconded by Lindbeck, about non-renewable resources, with the latter two claiming that resource problems would be solved through substitution, innovation and continued economic growth.[91] Already, eight months before the symposium, Lindbeck had published an article on these issues brandishing views similar to Beckerman's. Like Beckerman, he accused environmentalists and neo-Malthusians of employing a doomsday rhetoric, pointing to 'the report of the so-called Club of Rome' as the most 'pretentious and the most insolent example'.[92]

85 Lester R. Brown, 'Population increase, causes, consequences and remedies: present state and future perspective', in Segerstedt and Nilsson, *op. cit.* (note 84), pp. 17–27, at p. 17.

86 Tom Selander, 'Jordens resurser räcker ej till tio miljarder människor [Earth's resources not enough for ten billion people]', *Svenska Dagbladet*, 17 September 1974, p. 8: ('långtidsprognoser med utgångspunkt från dagstidningsartiklar').

87 Maurice F. Strong, 'Present state and future prospects', in Segerstedt and Nilsson, *op. cit.* (note 84), pp. 43–49, at pp. 43, 48.

88 Karl W. Deutsch, 'Some common views from the Symposium', in Segerstedt and Nilsson, *op. cit.* (note 84), pp. 109–111.

89 Anonymous, 'Outsidern på Nobel-symposiet [The outsider at the Nobel Symposium]', *Svenska Dagbladet*, 19 September 1974, p. 2: ('domedagsprofeternas arge fiende', 'påhitt av en överklass, som vill bevara sina laxälvar och riphedar', 'luktar nazism'); Björn Berglund, 'Framtidsdebatten behöver en psykiater [The debate on the future needs a psychiatrist]', *Dagens Nyheter*, 18 September 1974, p. 9: ('skrikiga ungdomen'). The psychiatric quip was repeated in print by Beckerman after the symposium, in Wilfred Beckerman, 'Nobel Symposium: man, environment and resources', *Futures*, December 1974, pp. 525–529, at pp. 526–527.

90 Karin Berglund, 'Georg Borgström: ser ni inte att världen går under? [Georg Borgström: don't you see that the world is being destroyed?]', *Dagens Nyheter*, 18 September 1974, p. 9.

91 Eva Redvall, 'Ligger krokodilen kvar under sängen? [Is the crocodile still under the bed?]', *Sydsvenska Dagbladet*, clipping from F4 c:13, CANF, without date or page number but probably from 18 September 1974: ('praktfulla gräl').

Reactions after the symposium confirm that discussions had been acrimonious. Boyd C. Shafer wrote that the meeting had been a 'learning experience'; he wished that 'academic people would concentrate less on exhortation and more on the "how"'.[93] Carroll Wilson, a professor of management at MIT and a member of the Executive Committee of the Club of Rome, did not attend the symposium but commented after Sam Nilsson had described it over the phone that he would like to know more about 'the appalling performance of some of your economist participants'.[94] Nikolaas Tinbergen regretted that a 'minority of participants could torpedo all four 'reports''.[95] That comment related to the Nobel Foundation's ambition to publish a synthesis of the meeting in book form, which was to have been founded on summaries of the discussions by appointed rapporteurs.

The most straightforward description of what had happened came in a paper published by Wilfred Beckerman himself. He indicated that there had been no reports from the sessions because draft summaries by 'the mainly eco-doomster rapporteurs' had not been acceptable to the economists.[96] Hence Beckerman confirmed that it was they who had torpedoed the reports and consequently Ritchie-Calder's book as well.

Nobel Symposium 44: the system attacked from within

The third cross-cultural Nobel Symposium, 'Ethics for Science Policy' (20–25 August 1978), was not formally a continuation of the earlier ones. The initiative came from a working group on research ethics set up at the Academy of Sciences that would—in collaboration with the Swedish UNESCO Council—discuss 'ethical questions connected to the role of research in society', defined as 'macroethical'.[97] The symposium was nevertheless seen as a continuation of the previous two, though modified: still focusing on the social relevance of science from an interdisciplinary perspective but less futurologically oriented.[98] It was indeed similar to the previous ones thematically and had some organizational overlap—Torgny Segerstedt was again chairman and Carl-Göran Hedén, a driving force in the 1969 organization committee, was back in that position. Furthermore, ethics were discussed from the point of view of scientists' social responsibility in relation to world problems. The macroethical approach involved, as the Secretary of the literary Swedish Academy (and biomedical researcher) Lars Gyllensten put it, 'ethical conflicts that concern researchers as a collective in their simultaneous roles as researchers and citizens'.[99]

92 Assar Lindbeck, 'Domedagsprofeternas julafton [Christmas day of the doomsday prophets]', *Dagens Nyheter*, 13 January 1974, p. 4: ('den s.k. Romklubbens rapport är kanske det mest pretentiösa och fräckaste exemplet'). Cf. Friman, *op. cit.* (note 80), pp. 145–146.

93 Boyd C. Shafer to Sam Nilsson, 24 September 1974, F4 c:13, ANS.

94 Carroll L. Wilson to Sam Nilsson, 29 September 1974, F4 c:13, ANS.

95 Nikolaas Tinbergen to Sam Nilsson, 23 September 1974, F4 c:13, ANS.

96 Beckerman, *op. cit.* (note 89), p. 526.

97 Carl Gustaf Bernhard, Tord Ganelius and Lennart Daléus (on behalf of the Academy of Sciences) to the Nobel Symposium Committee, 15 September 1976, F4 c:16, ANF: ('etiska frågor med anknytning till forskningens roll i samhället', 'makroetiska').

98 'Sammanfattning av slutsatser från Nobelstiftelsens sammanträde på Karolinska Institutet den 10 februari 1976 rörande Nobel Sympsiernas framtid [Summary of conclusions from the meeting of the Nobel Foundation at the Karolinska Institute on 10 February 1976 concerning the future of the Nobel Symposia]', F4 a:4, ANF.

99 Lars Gyllensten to Stig Ramel, 10 May 1976, F4 b:12, ANF: ('etiska konflikter som berör forskarna som kollektiv i deras dubbla roller av dels forskare och dels samhällsmedborgare'). Cf. Gyllensten's introduction in the printed programme, *Ethics for science policy, Nobel Symposium no. 44, Aug. 21–Aug. 25, 1978*, F4 c:16, p. 5, ANF.

Segerstedt added urgency to the topic by arguing that, because of risks associated with scientific and technological developments, difficult 'neo-political' questions, where politics and science were becoming more and more enmeshed, were now looming.[100]

The discussion-oriented format was now abandoned in favour of many (22) short papers and brief discussions. Participants came from all academic branches—natural and social sciences as well as the humanities; some held important policy positions, and some were intervening in policy matters as public intellectuals or activists. As in the previous symposia, discussions brought up problems that had received much recent attention, for example recombinant DNA, nuclear power, and the neutron bomb. Symposium 44 was less media-oriented than the others, perhaps because media relations were now handled in a more routine fashion by the Academy of Sciences' new information secretariat.[101] Like the previous symposia, it revealed chasms dividing participants on central issues.

As materials concerning Nobel Symposium 44 are scarcer than for its predecessors, in the archives as well as in mass media, the symposium volume is the main source for the following discussion. It contains papers and summaries of discussions as well as a summary of the symposium as a whole by Segerstedt.

The opening address was delivered by the Liberal Minister of Education and Cultural Affairs, Jan-Erik Wikström. He made a plea for what has often been called the 'social contract' for science, inspired by US policies and implemented in Sweden and many other Western countries after the war.[102] On the one hand, wrote Wikström, 'as much freedom as possible' was the 'rule' when it came to research as a means of knowledge production.[103] On the other hand, science was often supported because of its utility, and then political influence was legitimate. As with Symposium 29, two camps can be identified among the participants: those who were critical in principle of the system outlined by Wikström, and those who defended it but were sometimes critical of how it worked in practice.

A recurring issue was that of trust in scientific authority among the general public. Sociologist of science Dorothy Nelkin focused on conflicts about science and technology and singled out the fact that technical expertise was divided on important issues as especially noteworthy, pointing to the need for 'a greater role for the public in technical decision making'.[104] An early representative of Science and Technology Studies, Nelkin argued that scientists were not 'political celibates' and that research may very well be affected by 'bias'.[105] Nelkin positioned herself as a critic of naive trust in the traditional system of science, whereas philosopher Jerome Ravetz attacked the distinction between science and society more head on, sarcastically commenting on the implicit idea behind the symposium (as he perceived it), that the main issue at hand was one of communication rather than power.[106] In contrast, traditionalists like Segerstedt, his sociologist colleague

100 Torgny Segerstedt, 'Introduction', in *Ethics for science policy: Proceedings of a Nobel Symposium held at Södergarn, Sweden, 20-25 August 1978* (ed. Torgny Segerstedt), pp. vii-viii (Pergamon Press, Oxford, 1979), at p. vii; Torgny Segerstedt, 'The editor's view: research and ethics', *ibid*., pp. 245–253, at p. 249. Cf. Lars Gyllensten, 'Vetenskapens storhet och elände [The greatness and wretchedness of science]', *Svenska Dagbladet*, 7 February 1980, p. 8.

101 Jenny Beckman, ''Tarzan of the sciences': the Royal Swedish Academy of Sciences in the communication jungle, *ca* 1970', *Notes Rec*., 20230050 (2023), at pp. 11–13.

102 See, for example, David H. Guston and Kenneth Keniston (eds), *The fragile contract: university science and the federal government* (MIT Press, Cambridge, MA, 1994); Heather Douglas and T. Y. Branch, 'The social contract for science and the value-free ideal', *Synthese* **203**, 40 (2024) (https://doi.org/10.1007/s11229-023-04477-9).

103 J.-E. Wikström, 'Opening remarks', in Segerstedt, *op. cit*., *Ethics* (note 100), pp. xiii–xiv, at p. xiii.

104 Dorothy Nelkin, 'Science as a source of political conflict', in Segerstedt, *op. cit*., *Ethics* (note 100), pp. 9–24, at p. 17.

105 *Ibid*., p. 19.

Joseph Ben-David, and political scientist Don K. Price emphasized the value-free ideal and suggested preventive measures against 'antiscience', be it religiously or politically motivated.[107]

Critics of the scientific system further accused it of being intellectually and emotionally hollow. Physicist turned sociologist (and feminist activist) Jacqueline Feldman sympathized with 'a sort of spirituality' among young people who were 'disgusted by the rationality of their parents'.[108] Ravetz and Nelkin expressed similar views (as had Koestler done in 1969).[109] By 1978 they may have been encouraged by a movement in the USA that would make Fritjof Capra's *The tao of physics* (1975) a popular textbook at American universities for more than a decade.[110] As we will see, these ideas were not appreciated by the symposium organizers.

When discussions drifted towards concrete issues, some differences became more pronounced. Ravetz indicated that there was a connection between modernization and global inequality and pointed out that Western scientists shared the prejudices of their time and had therefore participated in colonial and post-colonial exploitation.[111] The Director of the Stockholm International Peace Research Institute (SIPRI), Frank Barnaby, gave a Strangelove-flavoured exposé of the nuclear threat and condemned the scientific community wholesale for being 'little interested in the potential social consequences of their work'.[112] The Marxist Bruno Vitale agreed, but a number of participants stuck to the guns of modernization theory, emphasizing that Western-style science would help solve world problems. According to Joseph Ben-David, the scientific spirit had helped raise consciousness about the evils of colonialism; according to Bernard Davies of Harvard Medical School the same was true of racism.[113] The Ghanaian scientist and policymaker at the United Nations Environmental Programme in Nairobi, Letitia E. Obeng, captured the dilemma from the perspective of developing countries: 'Science is the ultimate hope, and it is also the ultimate despair'.[114] Her recommendations concerning the introduction of Western-style science in former colonies was to focus on interdisciplinary problem-solving relevant in a local context.

The speakers who (with Ravetz, a former mathematician, and Barnaby, a former physicist) were most critical of the postwar scientific establishment were three physicists: Feldman, Vitale and the Swede Hannes Alfvén, Laureate in 1970 and an anti-nuclear-power activist. They were the three participants (in that order) in a session on 'Scientists as a social group', which made ideological differences especially evident.

106 J. R. Ravetz, 'A critical awareness of science', in Segerstedt, *op. cit.*, *Ethics* (note 100), pp. 49–56, at p. 50.

107 Don K. Price, 'The ethical principles of scientific institutions', in Segerstedt, *op. cit.*, *Ethics* (note 100), pp. 91–13; Torgny Segerstedt, 'Priorities and control in the organization of research from the scientific institution's point of view', *ibid.*, pp. 105–112; Joseph Ben-David, 'The ethical responsibility of social scientists: a historical survey and comment', *ibid.*, pp. 31–48.

108 'Discussion summary: session 6', in Segerstedt, *op. cit.*, *Ethics* (note 100), pp. 162–164, at p. 162.

109 Ravetz, *op. cit.* (note 106), pp. 54–55; Dorothy Nelkin, in 'Discussion summary: session 4', in Segerstedt, *op. cit.*, *Ethics* (note 100), pp. 113–116, at p. 113.

110 David Kaiser, *How the hippies saved physics: science, counterculture, and the quantum revival*, Kindle edition, pp. 153–166 (W. W. Norton & Company, New York, 2011).

111 'Discussion summary: session 2', in Segerstedt, *op. cit.*, *Ethics* (note 100), pp. 65–67, at p. 66.

112 Frank Barnaby, 'Ethical dilemmas in weapon development', in Segerstedt, *op. cit.*, *Ethics* (note 100), pp. 117–124, at p. 123; 'Discussion summary: session 5', *ibid.*, pp. 129–132, at p. 131.

113 'Discussion', *op. cit.* (note 111), pp. 66–67.

114 Letitia E. Obeng, 'Information and communication in the developing world', in Segerstedt, *op. cit.*, *Ethics* (note 100), pp. 165–176, at p. 166.

Feldman's critique of the scientific system was all-encompassing. Science was no longer 'associated with the wellbeing of people and with progress' she claimed, and condemned the symposium's macroethical theme for being a smokescreen behind which realities were hidden by 'a ruling class'.[115] The overall message was that criticism of science by non-scientists should be taken seriously, and that there was a lot to criticize. The elevation of scientific rationality high above other forms of knowledge revealed an 'imperialistic attitude'; science's track record regarding women's career opportunities was atrocious; these problems and others were related to the increasing dominance of large institutions over individual researchers.[116] She blamed nuclear arms, Nazi crimes, and environmental disasters on scientific rationality—echoing critique that had become commonplace in social movements emerging in connection with the student revolution, like Science for the People (SftP).[117] 'In a sense,' wrote Feldman, 'science no longer exists. There is only an imperialistic institution of knowledge, based on the scientist ideology'.[118]

Vitale focused on how power shapes science–society relations, in particular what scientists got out of their 'compliance with power' and what 'the ruling classes get out of the scientists'.[119] Like Ben-David, but from an opposite ideological standpoint, he dismissed the very idea that scientists had special moral obligations. Unlike the sociologist, he claimed that the belief in value-free science was equally bogus, as proved by the massive participation by academic researchers in nuclear-arms development. The system of science was corrupt and its ideology indistinguishable from that of brutal capitalism.[120]

Alfvén endorsed Feldman's and Vitale's stance on corruption. He described modern science as a 'servant of the economic and political establishments', which had resulted in its 'spirit' being lost, and he supported the view that science was increasingly a 'threat to mankind'.[121] A co-founder of Swedish Pugwash and a leading critic of nuclear power, Alfvén accused his physicist colleagues of macroethical corruption ('[o]ur science, right or wrong').[122] He suggested that Nobel Laurates should be chosen so that work rewarded was more in line with Nobel's will, which emphasized utility for mankind. By thus using 'its prestige' the Nobel Foundation would be able to make a positive difference.[123] Unlike Feldman and Vitale, Alfvén hence had some faith in the system; it was not beyond repair. Where he thought scientific corruption stemmed from was made clear in concluding comments on a number of macroethical dilemmas. In each case, he said, one must break free from 'powerful commercial interests'.[124]

In the discussion following this session Segerstedt made barbed comments on all three talks: did Feldman and Vitale think that science would have been different if many

115 Jacqueline Feldman, 'People, knowledge and science', in Segerstedt, *op. cit.*, *Ethics* (note 100), pp. 133–144, at p. 133 and p. 144, footnote 6.

116 *Ibid*, p. 133.

117 Kelly Moore, *Disrupting science: social movements, American scientists, and the politics of the military, 1945–1975*, ch. 6 (Princeton University Press, 2008); Jon Agar, *Science in the 20th century and beyond* (Polity Press, Cambridge, 2012), ch. 17.

118 Feldman, *op. cit.* (note 115), p. 136

119 Bruno Vitale, 'What becomes of a scientist?', in Segerstedt, *op. cit.*, *Ethics* (note 100), pp. 145–152, at p. 145.

120 *Ibid.*, pp. 145–150.

121 Hannes Alfvén, 'Science, progress and destruction', in Segerstedt, *op. cit.*, *Ethics* (note 100), pp. 153–159, at pp. 154–155.

122 *Ibid.*, p. 157. On Alfvén's activism, see Svante Lindqvist, *Tidens retorik: bilden av Hannes Alfvén*, ch. 10 (Carlssons, Stockholm, 2023).

123 Alfvén, *op. cit.* (note 121), at p. 159.

124 *Ibid.*

more researchers were women or Marxists? Did not Alfvén simultaneously dismiss and endorse science and its institutions? There were a number of questions by other participants regarding the speakers' negative attitude towards their chosen profession. Feldman was not attacked on the feminist issue and remarked that she was pleased to see that this was less controversial than criticism of science.[125]

The symposium volume was rounded off with a kind of evaluation by Segerstedt, a 'subjective digest of the proceedings' presented to the Academy of Sciences three weeks after the meeting was over. Claiming that there had 'always been groups or institutions which, from the vantage point of one value or another, have wished to clamp down on the search for truth', he warned that now 'antirationalist currents of opinion' increasingly came from within the ranks of science itself.[126] Segerstedt characterized the 'antiscientific' attitude as consisting of two parts. First was the idea that the scientific method does not have a privileged epistemological position in comparison with, for example, religion, art or magic. This, he thought, was the implication of what some participants at the symposium had said. Feldman, along with Ravetz and Nelkin, were obvious targets. Second was that science was a manifestation of power—of one class over another or of the industrialized world over less developed nations.[127] Here Vitale was an obvious target, though others also fitted the description. Segerstedt's own position was that political considerations should not stop researchers from publishing their findings—for example concerning genetic differences between races or sexes—but that the neo-political issues raised by modern science must be handled with care, for example through scientific 'war game[s]', where ethical implications of scientific breakthroughs were simulated in preparation for social–scientific and political management of their consequences[128]—a technocratic version of reflexive modernity, if you will.

The symposium volume was reviewed in the major Swedish conservative broadsheet by the organizing-committee member Lars Gyllensten. Echoing Segerstedt's criticism, he contrasted the 'irresponsible immaturities' of 'some western intellectuals' negatively with Letitia E. Obeng's 'weighty' contribution about science in developing countries.[129] Judging by the Nobel Foundation's clippings archive, national press coverage of Symposium 44 was limited and international coverage non-existent. The home-grown Physics Laureate Alfvén, who had criticized the Nobel awards, got most attention. There is no trace in the press of an expectation that the symposium should have resulted in a resolution or anything of that kind. But apparently such an ambition had been on the agenda this time as well.

In a footnote, Bruno Vitale quoted a 'memorandum' by the organizers, holding up the prospect that the symposium volume would contain a statement concerning 'general principles agreed upon'. This was why he, Barnaby, Feldman and Nelkin had suggested a brief resolution, the main point of which was that more effort should be made to 'inform the public not only of the benefits of research but also about the risks'—an approach that unlike Segerstedt's 'war games' hence relied on transparency.[130] According to the transcript of the discussion after the final session, the resolution was not discussed because too many

125 'Discussion', *op. cit.* (note 108).
126 Segerstedt, 'The editor's view', *op. cit.* (note 100), p. 245.
127 *Ibid.*, pp. 252–253.
128 *Ibid.*, pp. 245–246.
129 Gyllensten, *op. cit.* (note 100): ('tungt vägande', 'oansvariga omogenheter', 'västerländska intellektuella').
130 Vitale, *op. cit.* (note 119), pp. 151–152, n. 18.

participants had already left and because others felt that it was too 'specific'.[131] According to Vitale, however, Segerstedt had refused to bring it up as it could 'embarrass the Nobel Foundation'.[132]

Discussion

Like the UN, the Club of Rome, the World Bank through its 'Pearson report' (1969), or the Keynesian globalists behind the 'Brandt report' (1980), the first three cross-cultural Nobel Symposia had aimed to set an agenda for global problem-solving. Some media impact was achieved, especially by the first two, and some practical results were obtained at least by Symposium 14.[133] But no high-profile resolutions or publications that could be seen as important statements backed up by the prestige of the Nobel Foundation resulted from these meetings. This failure was in itself a crisis phenomenon. The cross-cultural symposia were broadly indicative of important structural and moral changes in the system of science.

In 1969, SftP was founded. Aggressively criticizing the system of science and its bogus liberal ideas about political neutrality, it organized protests at scientific meetings and promoted radical politics in a much broader sense than the scientific one.[134] The inclusion of student radicals in Nobel Symposium 14 the same year was hence timely. As with SftP, they represented organizations that were not in themselves science-oriented but engaged with issues like the Vietnam War and global inequality. Like the Americans, they attempted to provoke established scientists to consider their macroethical responsibilities in relation to the perceived crisis.[135] Symposia 29 and 44 were similarly antagonistic. Though the organizers expressed misgivings about critique against the scientific establishment during these meetings, they had in fact deliberately encouraged confrontation by inviting representatives of divergent views.

By all appearances, this strategy reflected an ambition to use the cross-cultural symposia as platforms for, if not bridging, then at least clarifying contradictions within the scientific system that were increasingly affecting relations between the science community and its stakeholders. Like the memorial prize in economic science, the symposia thus signified a recognition by the scientific establishment—organizers as well as participants—that science and politics were co-dependent, at least when it came to resolving macroethical issues related to world problems. The organizers behind Symposium 14 saw the general public as an important if unreliable stakeholder that could be reached by means of a choreographed media barrage. Leading members of the Nobel Foundation's board, however, considered this to have been a failure. Ambitions to achieve broad outreach thereafter diminished and had completely vanished in 1983 when a fourth and final cross-cultural symposium took place (see below).

During the 1980s, radical organizations like SftP dwindled, but according to Kelly Moore their influence persisted through 'networks and ideas' contributing to a broader

131 'Discussion summary: session 8', in Segerstedt, *op. cit.*, *Ethics* (note 100), pp. 241–244, at p. 244.

132 Vitale, *op. cit.* (note 119), p.152.

133 *North-south: a program for survival* (MIT Press, Cambridge, MA, 1980) ('Brandt report'); Lester B. Pearson, *Partners in development: report of the Commission on International Development* (Prege, New York, 1969) ('Pearson report').

134 Moore, *op. cit.* (note 117), ch. 6; Sigrid Schmalzer, Daniel S. Chard and Alyssa Botelho, *Science for the people: documents from America's movement of radical scientists* (University of Massachusetts Press, Amherst, 2018).

135 Widmalm, *op. cit.* (note 15), pp. 186–193.

acknowledgement of the entanglement of science with political and economic power that was soon to be regarded as a hallmark of reflexive modernity.[136] The cross-cultural Nobel Symposia gave witness to this development, which, according to Moore, signified that 'the authority of *scientists* to make unchallenged claims about nature and about their relationship to public political life' decreased whereas 'the authority of *scientific knowledge* itself increased'.[137] Social movements as well as increasing top-down regulations and commercialization of research resulted in the 'binding' of science 'to other decision makers' than individual scientists.[138]

Questions concerning values in science were hence removed from an individual to a macroethical plane, a change that Steven Shapin has described in terms of a 'moral equivalence' of scientists—the increasing recognition that individual scientists were no more in possession of superior moral virtues than the 'man in the street' (as Arne Tiselius had put it).[139] Furthermore, the regulation of risk in science now became progressively more important—a tendency theorized not only by Ulrich Beck but for example by Silvio Funtowicz and Jerome Ravetz (participant in Symposium 44) as an attempt to help policymakers manage 'uncertainty' without losing sight of macroethical principles.[140]

These developments related to ideas about how institutions and regulations should be set up to support economic globalization and privatization of the public sector.[141] In research policy the neoliberal turn was parallelled by an increasing emphasis on 'innovation', that is, the marketization of research.[142] Environmentalism, a main topic of Nobel Symposium 29, was one area where such developments occurred. As Steven Bernstein has discussed, the international 'norm complex' concerning environmental regulation in the UN conference in Stockholm (1972), the Brundtland report (1987), and the Earth Summit in Rio (1992) changed from 'environmental protection' to 'managed sustainable growth', and finally 'liberal environmentalism'.[143] Nobel Symposium 29 constituted an early shootout between representatives of the Stockholm and Rio positions.

Symposium 44 focused on government control of science more broadly and with regard to a number of acute problems. Radical critics of the military–industrial complex and defenders of 'traditional' academic freedom argued about whether the system of science should simply be shielded from unwanted political meddling or if the social contract of science ought to be shredded and reconstructed on new political foundations. Unlike Ulrich Beck, the radicals did not see world problems as unfortunate 'side effects' of modernization but as the result of a conscious misuse of science and capital—on the systems level as well as by individuals.[144] There was no consensus this time around either, not even

136 Moore, *op. cit.* (note 117), pp. 186–189, at p. 186.
137 *Ibid.*, pp. 3 (for quotation), 198–214.
138 *Ibid.*, p. 8.
139 Steven Shapin, *The scientific life: a moral history of a late modern vocation* (University of Chicago Press, Chicago, 2008), ch. 3.
140 Silvio O. Funtowicz and Jerome R. Ravetz, 'Science for the post-normal age', *Futures* **25**, 739–755 (1993), at p. 740.
141 Quinn Slobodian, *Globalists: the end of empire and the birth of neoliberalism* (Harvard University Press, Cambridge, MA, 2018).
142 For national case studies offering different perspectives, see: Jon Agar, *Science policy under Thatcher* (London, UCL Press, 2019) (https://doi.org/10.14324/111.9781787353411; Mats Benner, *Kunskapsnation i kris: politik, pengar och makt i svensk forskning* (SISTER, Stockholm, 2009); Philip Mirowski, *Science mart: privatizing American science* (Harvard University Press, Cambridge, MA, 2011).
143 For a table summarizing this analysis, see Bernstein, *op. cit.* (note 82), p. 109.
144 Beck, *op. cit.* (note 12), pp. 60–62.

concerning a proposed statement advocating that scientists should at least *inform* the public about potential risks of certain research developments. The sociologist Torgny Segerstedt acknowledged that this issue (the raison d'être of the symposium after all) was of central importance, and his coinage 'neo-political' captured an essential aspect of Beck's risk society. As we have seen, he suggested that risk assessment should be carried out by means of scientific war games. One ambition fit for such a treatment was 'to predict new crises of confidence' arising from new scientific breakthroughs. Results from such war-games analysis should not be 'censored' but perhaps 'doctored' before being made public.[145] Segerstedt, a firm supporter of *academic* freedom, was hence not prepared to let loose uncontrolled discussions about neo-political problems among the general public, like the organizers of Symposium 14 had done.

There was a fourth and final cross-cultural Nobel Symposium (number 58) held in 1983, on 'Progress in science and its social conditions', which did indicate the emergence of a new normal in thinking about science–society relations.[146] The symposium concerned 'conditions necessary for a healthy development of science' and how regulations could be implemented in science 'without destroying it'.[147] Most papers concerned issues internal to the system of science: national scientific governance, education, industry–university relations, etc. Critique of the kind put forth during the previous symposia was roundly condemned as symptomatic of anti-science, and media coverage of the symposium seems to have been nil.[148] At this point in time, a transformation of research policy towards innovation policy had begun and the regulation of risks associated with scientific research as well as applied science was on the rise.[149]

The first three cross-cultural Nobel Symposia in the turbulent late 1960s and 1970s signified the erosion of postwar modernization theory but also indicated its second coming, in the shape of neoliberalism, innovation policy, and reflexive modernization. Furthermore, if science had been key in prompting a (Weberian) disenchantment of nature and society often seen as characteristic of modernization, these developments indicated a disenchantment of science itself.

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145 'Discussion summary: session 4', in Segerstedt, *Ethics*, *op. cit.* (note 100), p. 113.

146 A list of the 197 symposia until and including planned ones for 2024 shows that the cross-cultural experiment ended with Symposium 58. I am indebted to Lotta Eberstein at the Swedish Academy of Sciences for providing me with this list.

147 Tord Ganelius, 'Introduction', in *Progress in science and its social conditions* (ed. Tord Ganelius), pp. vii–viii (Pergamon Press, Oxford, 1986), at p. vii.

148 No coverage of the symposium has been found in major Swedish newspapers.

149 As Peter Schilling has shown, in the period 1980–2000, trajectories, however, differed between countries like the UK (strongly oriented towards innovation) and Sweden (maintaining solid support for basic research). Peter Schilling, *Research as a source of strategic opportunity? Re-thinking research policy developments in the late 20th century* (Umeå University, 2005), p. 171. About risk, see Egan, *op. cit.* (note 6).

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