Science, (Anti-)Communism and Diplomacy

The Pugwash Conferences on Science and World Affairs in the Early Cold War

Edited by

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COMMENTARY

Blurring the Borders of a New Discipline: The Achievements and Prospects of Pugwash History

Matthew Evangelista

VISCOUNT MONCK: My Lords, will my noble friend state (even if I am the only ignorant Member of your Lordships' House) where or what is "Pugwash"?

THE MARQUESS OF LOTHIAN: My Lords, Pugwash – and I am afraid I cannot inform the noble Viscount; I have been trying to find out myself how it got its name – is a conference of international scientists which is held every two or three years, and has been held, I think, for about the last twenty years.

THE LORD CHANCELLOR (LORD HAILSHAM OF SAINT MARYLEBONE): My Lords, perhaps my noble friend Lord Lothian will remind my other noble friend that Pugwash is a humble hamlet in Canada where the first conference was held.

[From a debate in the British House of Lords, September 1972][1]

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When the Pugwash Conferences on Science and World Affairs won the Nobel Peace Prize in 1995, the organization was nearly forty years old. As the editors point out in their introduction, even though Pugwash was hardly a household name, it must have been considered important enough to merit the award. Nevertheless it was apparently not important enough to have merited the attention of historians. To that point the main 'historian' of the organization was the physicist Joseph Rotblat, who ran Pugwash for decades and

1 Pugwash Conference and Scientists' Rights, *Hansard, HL Deb 22 September 1972 vol 335 cc1406-8*, http://hansard.millbanksystems.com/lords/1972/sep/22/pugwash-conference-and-scientists-rights. Accessed 2 May 2019.

 | DOI:10.1163/9789004340176_011

was recognized for those efforts as co-recipient of the Nobel.[2] Starting in 1962, Rotblat published periodic histories of the organization's activities, along with proceedings of many of its meetings. He subsequently requested Sandra Ionna Butcher – another Pugwash 'insider,' as the organization's executive director – to conduct research for a more comprehensive history.[3] Already during the 1960s Soviet Pugwashites had published books and articles on the movement, but nothing that would constitute original historical research.[4] In 1961, the US Congress issued a tendentious 'history' of Pugwash, dubbing it a dangerous communist front – a smear that still stuck to the organization when it accepted the prize in Oslo years after the Cold War ended and the Soviet Union had disintegrated.[5]

By the mid-1990s, a few scholars had produced valuable research on Pugwash, based in part on interviews with participants.[6] In his magisterial three-volume study of the world disarmament movement, Lawrence S. Wittner, gave considerable attention to Pugwash.[7] My own work on the Cold War and

2 Joseph Rotblat, *Science and World Affairs: History of the Pugwash Conferences* (London: Dawsons of Pall Mall, 1962); *Pugwash. The First Ten Years: History of the Conferences of Science and World Affairs* (London: Humanities Press, 1968); *Scientists in the Quest for Peace: A History of the Pugwash Conferences on Science and World Affairs* (Cambridge, MA: MIT Press, 1972).

3 https://pugwash.org/2013/11/06/sandra-ionno-butcher-executive-director/; Sandra Ionno Butcher, "Pugwash Conferences on Science and World Affairs," in *The Oxford International Encyclopedia of Peace* ed. Nigel J. Young (Oxford: Oxford University Press, 2010).

4 For example: Vladimir M. Buzuev and Vladimir P. Pavlichenko, *Uchenye predostergaiut* (Moscow: Nauka, 1964).

5 *The Pugwash Conferences: A Staff Analysis, Internal Security Subcommittee*, 87th Congress, 1st session (Washington, DC: Government Printing Office, 1961). For further analysis of this report – chaired by Senator Thomas Dodd – see the chapter in this volume by Paul Rubinson; George Melloan, "Oslo's Nobel Peace Message is Mostly Static," *Wall Street Journal*, 16 October 1995.

6 Metta Spencer, "'Political' Scientists," *The Bulletin of the Atomic Scientists* 51, no. 4 (July/August 1995): 62–68; Bernd W. Kubbig, *Communicators in the Cold War: The Pugwash Conferences, the US-Soviet Study Group and the ABM Treaty*, PRIF Reports No. 44, Peace Research Institute Frankfurt (Frankfurt am Main, Germany, October 1996). Later contributions include Kai-Henrik Barth, "Catalysts of Change: Scientists as Transnational Arms Control Advocates in the 1980s," in *Global Power Knowledge. Science and Technology in International Affairs, eds.* John Krige and Kai-Henrik Barth, *Osiris* 21, no. 1 (2006): 182–206; Jean Klein, "Atomic Scientists and Disarmament: The Pugwash Movement," in *Individualism and World Politics*, ed. Michel Girard (Basingstoke: Macmillan, 1999), 160–185; Paul Rubinson, *Redefining Science: Scientists, the National Security State, and Nuclear Weapons in Cold War America* (Amherst, MA: University of Massachusetts Press, 2017).

7 Lawrence S. Wittner, *Resisting the Bomb: A History of the World Nuclear Disarmament Movement, 1954–1970* (Stanford, CA: Stanford University Press, 1997); *Toward Nuclear Abolition: A History of the World Nuclear Disarmament Movement, 1971–Present* (Stanford, CA: Stanford University Press, 2003).

transnational efforts to end the Soviet-American arms race focused on particular issues in security policy – antiballistic missile defenses, the testing of nuclear weapons, and conventional armed forces in Europe – and examined the impact of work by scientists associated with Pugwash, along with scientists not associated with Pugwash, medical doctors, peace researchers, women's anti-war organizations, religious groups, and others involved in disarmament activism across borders.[8] I was drawn to the work of the scientists and doctors, in particular, because I knew several of them on the US side and was curious about whether their work was having any impact on the Soviet side. I never intended to write a work of Pugwash History – there was no such field then – or even a book about how the Cold War ended: I starting working on transnational scientists' activism at a point when no one anticipated the end of the East–West confrontation or the division of Europe, even though my subjects were working toward those goals.

Because my book took so long to write, it benefitted from the changes in the USSR that opened the country to researchers, even on sensitive topics of security, and I was able to interview Soviet scientists and policymakers and gain access to some archival materials before the dissolution of the Soviet Union provided even more such opportunities. Working later in post-Soviet Russia, I obtained a document in the archives of the Soviet (by then, Russian) Academy of Sciences that gave an indication of how Soviet Pugwash members evaluated that organization's impact on Soviet-American negotiations and the prospects for peace in the nuclear age.[9] I found additional materials in the Foreign Ministry and Communist Party Central Committee archives, relevant to the Pugwash scientists' relations with those organizations. Still, a few documents and several interviews do not constitute Pugwash History, especially by comparison with the impressive research conducted in the wake of the fall of communist regimes in eastern Europe and the end of the USSR that has

8 Matthew Evangelista, *Unarmed Forces: The Transnational Movement to End the Cold War* (Ithaca, New York: Cornell University Press, 1999). For the story of a transnational scientist-activist, unaffiliated with Pugwash, see Jeremy J. Stone, *"Every Man Should Try": Adventures of a Public Interest Activist* (New York: Public Affairs, 1999). For the transnational activities of government-affiliated scientists, see Carl Kaysen, chair, US National Academy of Sciences, *Review of US-USSR Interacademy Exchanges and Relations* (Washington, DC: National Academy of Sciences, 1977); John Krige, *Sharing Knowledge, Shaping Europe* (Cambridge, MA: MIT Press, 2016).

9 "Proekt (dokladnyi zapiski) v Prezidium Akademii nauk SSSR ob itogakh 15-ti letnei deiatelnosti Paguoshskogo dvizheniia uchenykh," September 24, 1972, Mikhail Millionshchikov papers, fond 1713, opis' 2, delo I.5.2, no. 209, Archive of the Academy of Sciences of the Russian Federation, Moscow.

been assembled in this volume, edited by Alison Kraft and Carola Sachse.[10] My goal in this concluding essay is to highlight some of the achievements of Pugwash History as represented by the preceding chapters and to suggest areas of potential future research, even if it entails blurring the borders of an only recently defined discipline. I conclude with some observations on the merits of certain theoretical approaches to understanding Pugwash, following up on the review in the editors' introduction.

1 Achievements and Potential of Pugwash History

Three features of the chapters assembled here stand out for me: 1) the impressive use of diverse archives in many countries, making the volume a genuinely international history; 2) the identification and portrayal of fascinating personalities, key figures in the leadership of Pugwash and the national groups/committees; and 3) investigation into the domestic and alliance politics of Pugwash, and, in particular how governments treated scientists who were variously – depending on the country and vantage point – perceived as too close to Soviet policy preferences or acting too independently and at odds with their government's or alliance's positions. Most chapters feature a combination of these strengths.

Alison Kraft, for example, has made excellent use of the extensive collection of materials in Joseph Rotblat's archive at Cambridge University, a source for several other authors as well. In her case, she uses the material to shed light on the important role that relations between scientists from East and West Germany played in debating questions of European security. Travel restrictions imposed by NATO countries on East German scientists prevented them from attending the 10th Pugwash meeting in London in 1962. The paradoxical effect of this, according to Kraft, was to bring the East German scientists into dialogue with their West German counterparts, as she illustrates with a fascinating discussion of the correspondence between Gerd Burkhardt and Max Steenbeck. Inter-German dialogue, in turn, contributed to the creation of a European Security study group under the auspices of Pugwash, which took up important issues such as the Rapacki Plan for European denuclearization and superpower disengagement from central Europe.

10 Russian scholars have also begun exploring the archives for information on Soviet-era Pugwash scientists. See, e.g., Yuri A. Ryzhov and Mikhail A. Lebedev, "RAS Scientists in the Pugwash Movement," *Herald of the Russian Academy of Sciences* 75, no. 3 (2005): 271–77.

Archives of the state socialist allies of the Soviet Union have also proved particularly rich. Doubravka Olšáková makes especially good use of the materials in the Czech Academy of Sciences archive to study the relations between Pugwash, the World Peace Council, and the World Federation of Scientific Workers. She was interested to discover the intentions of the Soviet leadership toward those organizations, as expressed by their directives to and supervision of the Czechoslovak Pugwash delegation. I was particularly struck by her argument that Pugwash was the Soviets' preferred vehicle for promoting its peace proposals. In my own work, I found, at least in the early years, that the Soviet Foreign Ministry much preferred the more clearly communist-friendly organizations to Pugwash, but were eventually overruled by Khrushchev himself; he had met and engaged in correspondence with Leo Szilard and been convinced by Szilard's arguments in favor of Pugwash and the bilateral US-Soviet contacts pursued under its auspices.[11]

I especially admire use of the Russian archives by Fabian Lüscher and Geoffey Roberts. Whereas I had barely scratched the surface in my 1999 book, Lüscher has delved deeply into the materials of the Soviet Pugwash Committee and the papers of its influential leader, Aleksandr Topchiev. He convincingly illustrates the dilemma that Soviet Pugwashites faced as transnational mediators: on the one hand, to convince their Western interlocutors that they were independent-minded (but still influential with their government) and driven by the same concerns of scientific responsibility to reduce the risk of nuclear war; on the other, to "speak Bolshevik" with enough fluency and parrot the official Soviet peace policy adequately to maintain the Communist Party's support for continuation of the Pugwash activities. Roberts' research has uncovered a crucial pre-history of the Pugwash movement in the Stalinist era transnational contacts. Justified as part of a broader peace offensive, and typically coordinated through the World Peace Council (WPC), these efforts involved prominent cultural figures and even economists, as well as scientists.

The authors bring to life the personalities of individuals who played important roles in Pugwash. Roberts concentrates on Frédéric Joliot-Curie, a pivotal figure in several of the communist-oriented international organizations. Roberts illuminates his influence on early developments in the Pugwash

11 Vladimir Bazykin to Andrei A. Gromyko, memorandum, 25 May 1955, Fond: Ref. po SSha, op. 39, por. 31, pap. 289, no. 194/112, Archive of Foreign Policy of the Russian Federation, Moscow; Andrei A. Gromyko to Central Committee, 20 July 1957, and other documents from the former Central Committee archive, cited and discussed in Evangelista, *Unarmed Forces*, 33–35.

movement, even though Joliot-Curie hesitated to sign the original Russell-Einstein Manifesto and offered various amendments. Carola Sachse's chapter features another central figure in the Pugwash movement: Cyrus Eaton, Nikita Khrushchev's "favorite capitalist," and the person who gave the organization its name. Sachse describes the many ways that Eaton constituted a mixed blessing for the Pugwash cause and how the Pugwash leadership sought to manage the risks and benefits of his involvement. Sachse points out, for example, that Eaton's colorful personality and good contacts with the US media made for a more sensational story than the serious discussions among the scientists (a phenomenon quite familiar in our time). Should Pugwash sacrifice the publicity by trying to muzzle or disassociate itself from Eaton? Or is potentially embarrassing attention to Pugwash better than none at all?

Gordon Barrett draws on the Chinese Ministry of Foreign Affairs archive and materials from leading Pugwash figures such as Dorothy Hodgkin, Bernard Feld, and Martin Kaplan to highlight the role of Zhou Peiyuan. An eminent theoretical physicist, Zhou attended the first Pugwash meeting in 1957, the second (Lac Beauport, 1958) and fourth (Baden, 1959) conferences and that held in Moscow in 1960, when the Chinese government ceased its scientists' participation in the movement; it did not resume until 1985. Zhou, however, maintained contact with his foreign colleagues and served as an intermediary for certain initiatives that Barrett describes. Such activities lead to Barrett's assessment that Pugwash – even when China did not actively participate – contributed to the avoidance and resolution of international conflicts to which China was a party.

The issue of domestic and alliance politics figures prominently in Silke Fengler's fascinating account of Austria's Pugwash movement. Austria is a particularly interesting case, because it shared the Germany legacy of World War II, as part of the *Reich* from the 1938 *Anschluss*, and, like Germany, the country and its capital were divided into zones of occupation by Britain, France, the USSR, and the United States. Unlike, Germany, which remained divided until 1990, Austria was reunited and attained neutral status in May 1955, just two months before the press conference in London that launched the Russell-Einstein Manifesto which subsequently inspired the Pugwash movement. Austria was a not a member of either alliance, NATO or the Warsaw Pact. The views of its government and its Pugwash scientists toward the USSR and policies regarding issues such as nuclear weapon-free zones and German re-unification were distinctive. Among the interesting themes Fengler pursues is how the status of Pugwash scientists, suspected by some of communist sympathies, affected the prospects for the Austrian government to play its preferred role as mediator between East and West.

Paul Rubinson draws on the papers of prominent US Pugwash participants Bernard Feld and Victor Weisskopf, senior scientists at the Massachusetts Institute of Technology (MIT) (among other materials), to explore the domestic US politics of anti-communism and how this affected the organization's work. He finds ample evidence to support the discovery that I and others have made that it was not only the Soviet government that kept close tabs on its scientists and objected when they deviated from the official line at Pugwash meetings. The administration of Lyndon Johnson, and particularly his national security adviser McGeorge Bundy, were often quite hostile, and Bundy gratuitously and characteristically nasty. And he did manage to intimidate the scientists, several of whom were his colleagues when he served as Harvard's Dean of the Faculty of Arts and Sciences. When Bundy declined their request to have President Johnson issue an official greeting to the 1964 conference at Karlovy Vary, as his predecessor had done for previous conferences, senior American Pugwashites took it as a shot across the bow. At the subsequent meeting in Venice in 1965, as Bernard Feld wrote in a letter to Eugene Rabinowitch (reported in Rubinson's chapter), "I took much more of the 'establishment' attitude than I would normally have taken had it not been for the fact that I felt that this conference was being regarded in some sense as a test by many people in Washington." Bundy's hostile attitude toward the efforts of Pugwash to transcend Cold War barriers contrasts sharply with his approach to other similar scientific endeavors. I discuss them in the next section to make the case for expanding Pugwash History by linking it to kindred explorations of transnational efforts to end the Cold War. Such efforts at 'broadening' the reach of Pugwash History need not come at the expense of 'deepening' it, on the model represented by the chapters of this volume. In fact several of the authors in this volume are already doing both.

2 Deepening and Broadening Pugwash History

This volume offers the most in-depth study of Pugwash available, based on extensive research in multiple archives, in many countries, and addressing a wide range of questions. To their credit, the authors have acknowledged the limits of their sources and have indicated areas where further research could turn up new information. This section adds a few suggestions, and then turns to the topic of how Pugwash History might be broadened to address related questions posed by historians of other transnational organizations of the Cold War era.

To supplement the strong chapters on the USSR, China, and Czechoslovakia, further work into the archives of other East European socialist states, including Yugoslavia, would be welcome. Other West European states deserve study. There is good work on the role of Italian scientists, for example, several of whom participated in Pugwash, and two of whom – Francesco Calogero and Paolo Cotta-Ramusino – eventually became the organization's secretary general.[12] Italian Pugwash members founded the International School on Disarmament and Research on Conflicts (Isodarco) in 1966. They consider it the teaching arm of Pugwash and have conducted winter and summer schools for over thirty years, including many seminars in China. Isodarco's website offers a short history of the institution, but further research by professional historians is merited, the sooner the better, while Carlo Schaerf, one of its founding members, is still alive and active.[13]

Another area that could use further study is the influence of Pugwash on the matters that its members most sought to influence: disarmament and security policy in general and the avoidance of nuclear war in particular. The editors of this volume, in their own contributions, touch on these matters of substance. Carola Sachse, for example, entertains the counterfactual possibility that if the Pugwash meeting planned for Moscow in April 1960 had gone forward, there might have been greater progress on negotiations for a test ban. Alison Kraft's treatment of German-German relations emphasizes the importance of this German-German dialogue for a deepening engagement within Pugwash with key issues relating to European security. Many of the other chapters are curiously devoid of discussions about the actual impact of the Pugwash organization on vital issues of war and peace, even though the danger of nuclear war and how to prevent it was the driving motivation for its inception.

The concerns expressed by Pugwash about the nuclear danger were widely shared at certain key points during the Cold War. There are opportunities for historians of Pugwash to broaden their approach to engage with work that focuses on other organizations that likewise sought a way to overcome the East–West divide and decrease the risk of war. In the wake of the Cuban Missile Crisis of 1962, for example, governments of both the United States and

12 Lodovica Clavarino, *Scienza e politica nell'era nucleare. La scelta pacifista di Edoardo Amaldi* (Rome: Carocci, 2014); "'Many Countries Will Have the Bomb: There Will Be Hell': Edoardo Amaldi and the Italian Physicists Committed to Disarmament, Arms Control and Détente," in *Nuclear Italy. An International History of Italian Nuclear Policies during the Cold War*, eds. Elisabetta Bini and Igor Londero (Trieste, EUT Edizioni Università di Trieste, 2017), 245–257.

13 http://www.isodarco.com/html/history.html. Accessed 2 May 2019.

the Soviet Union seemed eager to improve relations in order to avoid another crisis that risked catastrophic war. Many of the steps were rather modest, but still meaningful – a "hot line" to establish direct contact in future crises, agreements such as the Limited Test Ban Treaty (1963) and the Outer Space Treaty (1967). Others were intended as 'bridge-building' efforts. One such effort was announced at a White House press conference in December 1966 by McGeorge Bundy, Francis Bator and Walt Rostow. The press described a plan "to establish an International Center for Studies of the Common Problems of Advanced Societies," sometimes provisionally called the East–West Institute. The plan ultimately resulted in the creation of the International Institute for Applied Systems Analysis (IIASA), which opened its doors in Vienna in 1972.[14] This entailed cooperation between scientists from East and West (and, in Austria, in between) to pursue solutions to "common problems of advanced societies" – not unlike the Pugwash focus on the common problem of nuclear annihilation.[15] And, like Pugwash, the IIASA was premised on the assumption that scientists – in this case including specialists in cybernetics, modeling, and systems analysis, as well as various social scientists – could find a common language where political differences could be put aside. Yet the last thing Bundy wanted to do was invoke the Pugwash model. Although he left government in 1966 to head the Ford Foundation, Bundy maintained his anti-Pugwash animus.

As Eglė Rindzevičiūtė describes in her fascinating study of IIASA, "the negotiators were particularly careful not to associate with disarmament activists (or any activists at all), especially the Pugwash movement."[16] This position represented not only Bundy's preferences, but also the desire of his Soviet interlocutors to concentrate on the development of systems analysis for application to industrial production, environmental and resource management, and the health sector. Yet on the Soviet side, the leading official involved in the negotiations, Dzhermen Gvishiani, was also close to Pugwash, and knew many Soviet and American Pugwashites. Moreover, his wife Liudmila Gvishiani, a political scientist and specialist on the United States, attended several Pugwash meetings in the late 1960s and early 1970s. She was the daughter of Prime Minister Aleksei Kosygin. Dzhermen Gvishiani's high-level connections contributed to his successful role as a negotiator (fluent in Italian as well as English, he is also

14 Leena Riska-Campbell, *Bridging East and West: The Establishment of the International Institute for Applied Systems Analysis* (IIASA) *in the United States Foreign Policy of Bridge Building, 1964–1972* (Helsinki: Finnish Society of Science and Letters, 2011).

15 Riska-Campbell, *Bridging*, 29.

16 Eglė Rindzevičiūtė, *The Power of Systems: How Policy Sciences Opened Up the Cold War World* (Ithaca, New York: Cornell University Press, 2016), 69.

credited with bringing production facilities of the FIAT car company to the USSR in the 1960s). Historians of the origins of IIASA have stressed the importance of the Pugwash connections on the Soviet side, whereas a study based solely on US sources might have missed the connection.

The type of global computer modeling associated with IIASA eventually came to contribute to the understanding of nuclear war – the main area of Pugwash interest – despite the fact that its founders initially sought to avoid the "disarmament activists." The route was somewhat indirect, but it entailed collaboration in what Rindzevičiūtė calls "networks more or less loosely coupled with IIASA." One of the nodes of the network of modelers was the team of researchers affiliated with Cornell University astrophysicist Carl Sagan and their study of Nuclear Winter, the catastrophic climatic changes that would follow a nuclear war that would send vast amounts of particulate matter into the atmosphere and block the sun. Another node was the Soviet Academy of Sciences Computer Center in Moscow, led by Nikita Moiseev. In my book, *Unarmed Forces*, I had mentioned the transnational collaboration between Soviet and US climate modelers. Rindzevičiūtė correctly criticizes me for having referred to the public attention to Nuclear Winter as a "fleeting episode," because I had in mind its impact on the prospects for nuclear arms control and disarmament. She points out that the transnational contacts between Soviet and US scientists had a profound effect *inside* the USSR, because they legitimized an entire field of scientific endeavor, the use of computers for the modeling of global phenomena, and the promotion of "collaborative East–West research on global climate and environment change." She highlights the entrepreneurial efforts of Nikita Moiseev, the leading figure in the Soviet modeling community. He "mobilized the nuclear winter reports to advance his own innovative thinking, which extended mathematical modeling of the global climate and environment to a philosophy of a wholly new type of governance, one which had nothing to do with Marxism-Leninism, central Party control, or even Cold War confrontation."[17] Thus, for Rindzevičiūtė, the transnational involvement of Soviet scientists in the IIASA and related networks contributed to the internal transformation of the USSR, a claim comparable to those made by some scholars about the impact of Pugwash.

This example of research on IIASA suggests the merits of putting Pugwash into the broader context of East–West exchanges, a point that some of the authors of this volume also make. As Geoffrey Roberts points out in his chapter, for example, Pugwash was one of many examples of a "massive expansion of East–West cultural, sporting, scientific and technical interactions that

17 All quotes from Rindzevičiūtė on, respectively, pages: 150, 156–157 and 157–158.

developed after Stalin's death in March 1953." In my own work, I have also stressed the importance of the death of Stalin and the subsequent "thaw" promoted by Khrushchev. Yet, considerable research – Roberts' not least – has emerged to suggest the merits of studying contacts that took place even in Stalin's time. Roberts mentions the World Congress of Intellectuals for Peace, held in Wroclaw in August 1948; he considers it the progenitor of the WPC, whose president for many years was Frédéric Joliot-Curie. The Soviet delegation to the 1948 Congress was led by Aleksandr Fadeev, the head of the Soviet Writers' Union, and included journalist and writer Ilya Ehrenburg. Cultural figures such as Pablo Picasso and Bertolt Brecht attended, along with scientists, J.D. Bernal, J.B.S. Haldane, and Julian Huxley, and the historian A.J.P. Taylor.

Most of the subsequent efforts by the Soviet side to sponsor international meetings were carried out under the auspices of the WPC, where prominent celebrities such as Jean-Paul Sartre would often appear. Roberts indicates that the Soviet efforts extended even into the realm of economics and business:

> One peace movement initiative of particular note is the little-known Moscow International Economic Conference of April 1952, which derived from a Soviet proposal to the WPC in February 1951. The political aim of the conference was to erode the western cold war economic blockade of the communist bloc. The idea was that the peace movement would utilise its contacts to mobilise support and participation in the conference by economists and business leaders. Particularly active in recruiting support were the British and French peace committees. The conference attracted 470 delegates from 48 countries, including large delegations from Britain and France.

Clearly, such Moscow-inspired initiatives differed from Pugwash, whose non-communist members anyway took great care not simply to mimic Soviet peace proposals, even if they agreed with them on their merits, and who often saw themselves as introducing new ideas and proposals and trying to change minds on the Soviet side.

Yet, historians of Pugwash might ponder just how distinctive "their" organization's approach was. I understand Roberts' goal, in part, to shed light on the communist origins of Pugwash-like efforts (the role of Joliot-Curie, for example), without impugning the motives of the non-communist scientists in the McCarthy fashion. A further question is how much it mattered to the success and longevity of Pugwash that its members were primarily, initially anyway, physicists, chemists, engineers, and natural scientists. Is it true that scientists speak a common language that facilitates transnational understanding

in a way not possible for other professions? Historians have cast doubt on this question, or at least they have suggested that many professional groups – not to mention grassroots people-to-people exchanges – believed that they also could make contributions to breaking down Cold War barriers.

Scholars such as Jeffrey Checkel and Robert English have described how contacts between Soviet and Western social scientists contributed to the "new thinking" in Soviet foreign policy associated with the reforms of Mikhail Gorbachev.[18] Anatolii Cherniaev, Gorbachev's key foreign policy aide and a longtime Central Committee specialist, described in his memoirs that the attitudes and the international orientation associated with Gorbachev's *perestroika* reforms had a long pedigree. Cherniaev had been a member of the international editorial board of the journal *Problemy mira i sotsializma*, founded in 1958 and based in Prague. Soviet members of the staff who edited the journal in the early 1960s interacted regularly with European, US, and Third World communists, whose ideas often differed from the orthodox views they were used to hearing at home. Their membership reads as a Who's Who of reformist officials and academics who became Gorbachev's brain trust in the second half of the 1980s.[19]

One should not necessarily understand such contemporaneous transnational interactions as alternatives or rivals to Pugwash. Cherniaev, for example, was aware of Pugwash: his first published article was an obituary of Frédéric Joliot-Curie in which he noted the Frenchman's role as original signatory of the Russell-Einstein Manifesto. His appreciation of Pugwash led him to support the organization and related initiatives during the Gorbachev era, initiatives that contributed to the peaceful end of the Cold War.[20]

Yet thinking in terms of rivalry between Pugwash and other organizations could be a fruitful line of research for Pugwash historians. Alison Kraft mentions in her chapter, for example, the "growing competition that Pugwash was facing as a forum for international dialogue about disarmament," especially related to issues of European security. In the United States, the Dartmouth Conferences were often considered an alternative to Pugwash, even though

18 Robert D. English, *Russia and the Idea of the West: Gorbachev, Intellectuals, and the End of the Cold War* (New York: Columbia University Press, 2000); Jeffrey Checkel, *Ideas and International Political Change: Soviet/Russian Behavior and the End of the Cold War* (New Haven, CT: Yale University Press, 1997).

19 They include, in addition to Cherniaev himself, Georgii Arbatov, Oleg Bogomolov, Gennadii Gerasimov, and Georgii Shakhnazarov. See Anatolii S. Cherniaev, *Moia zhizn' i moe vremia* (Moscow: Mezhdunarodnye otnosheniia, 1995); and English, *Russia and the Idea of the West*, esp. 70–73.

20 Cherniaev, *Moia zhizn' i moe vremia*, 227.

there was considerable overlap in membership; to differentiate itself, Dartmouth tended to focus on resolution of regional conflicts, particularly in the Middle East.[21]

Another sort of rivalry might consist in the question of what kinds of transnational non-governmental exchanges work most effectively to defuse conflictual state-to-state relations? Or in the historical context, to what extent did Pugwash contribute to the peaceful end of the Cold War relative to other types of transnational contacts? Participants in various exchanges have been eager to assert the contributions of their professions or approaches. So, we have, for example, the Chautauqua Conferences on US-Soviet Relations, which brought together 'ordinary' US and Soviet citizens in the late 1980s, and the myriad programs sponsored by the US State Department under the rubric of cultural diplomacy.[22] If a "common language" is the key to transnational success, why should the scientists, with their mathematical formulas, be accorded pride of place? A strong case can be made that music or the visual arts constitute an even more universal, non-verbal language, and historians' work on the role of musicians and artists as transnational ambassadors has produced valuable insights on the relationship between culture and international politics.[23] Perhaps future work by Pugwash historians could attempt to link their findings to this work.

The European Society of Culture is a particularly intriguing organization to compare to Pugwash. It was founded in Venice in 1950, the same year as the Paris-based Congress for Cultural Freedom (CCF), an organization later revealed to have received substantial funding from the US Central Intelligence Agency. Unlike the CCF, the European Society of Culture, known by the acronym SEC from its French (Société Européene de Culture) and Italian (Società Europea di Cultura) names, was not explicitly anti-communist. It included communist members, but its founder, the Italian anti-fascist philosopher Umberto Campagnolo – like many of the atomic scientists in the early

21 James Voorhees, *Dialogue Sustained: The Multilevel Peace Process and the Dartmouth Conference* (Washington, DC: United States Institute of Peace Press, 2002).

22 Ross Mackenzie, *When Stars and Stripes Met Hammer and Sickle: The Chautauqua Conferences on US-Soviet Relations, 1985–1989* (Columbia, SC: University of South Carolina Press, 2006); Yale Richmond, *Cultural Exchange and the Cold War: Raising the Iron Curtain* (University Park, PA: Penn State University Press, 2003).

23 S. Frederick Starr, *Red and Hot: The Fate of Jazz in the Soviet Union, 1917–1980* (New York: Oxford University Press, 1983); Penny M. Von Eschen, *Satchmo Blows Up the World: Jazz Ambassadors Play the Cold War* (Cambridge, MA: Harvard University Press, 2006); Simo Mikkonen and Pia Koivunen eds. *Beyond the Divide: Entangled Histories of Cold War Europe* (New York: Berghahn, 2015); Simo Mikkonen and Pekka Suutari, *Music, Art and Diplomacy: East-West Cultural Exchanges and the Cold War* (London: Routledge, 2016).

postwar years – was mainly known for his world federalist views. Campagnolo developed these views while in exile in Switzerland in the 1930s when he came came under the influence of the Austrian-born international legal scholar Hans Kelsen, a proponent of world federalism. Campagnolo's experience in the Italian resistance to German occupation during the war influenced his attitudes toward postwar cooperation. Although political rivals, communists and Catholic opponents of fascism co-operated to defeat a common enemy, and Campagnolo found himself among those who hoped that such cooperation could continue afterward.

As the postwar collaboration between the USSR and the United States and Britain broke down and ushered in the Cold War, Campagnolo and his colleagues created an organization they hoped would keep open the prospects for dialogue and co-operation across what Winston Churchill soon dubbed the Iron Curtain. As Nancy Jachec, author of the definitive study of the SEC, characterizes their view, "it fell to intellectuals, working in the spirit of freedom and solidarity unique to culture, to prepare the terrain for the dialogue that could bring about the end of Europe's partitioning." To that end they issued in 1951 an *Appeal to the Intellectuals of Europe and the World* and invoked Campagnolo's notion of the "civilization of the universal" as its basis.[24]

Four years later Joseph Rotblat and Bernard Russell, in issuing the Russell-Einstein Manifesto, seemed to emphasize 'science' over 'culture', and expressed even greater urgency about the East–West divide, owing to the prospect that thermonuclear weapons could destroy the planet. But the spirit of appealing "as human beings to human beings" is similar. In its effort to maintain a dialogue with intellectuals in the emerging Soviet bloc, the SEC differed dramatically from the anti-Soviet orientation of the CCF. Nor, despite its eagerness to forge relations with communists such as the Soviet journalist and writer Ilya Ehrenburg and the Hungarian philosopher Georg Lukács did the SEC resemble the Moscow-directed WPC. Campagnolo's colleagues – mainly French and Italian writers, historians, and philosophers – were sympathetic to Marxism, but to a humanist variant that was scarcely conceivable in Stalinist Eastern Europe. In fact, Jachec considers it a major contribution of the SEC to have brought one prominent member, Jean-Paul Sartre, into contact with humanist Marxists during the post-Stalin Thaw, starting with the "East–West Dialogue" that took place in Venice in March 1956. From his interaction with independent-minded Marxist thinkers, argues Jachec, Sartre developed some of the key themes of his 1957 essay, "Questions de méthode," which in turn

24 Nancy Jachec, *Europe's Intellectuals and the Cold War: The European Society of Culture, Post-War Politics and International Relations* (London and New York: I.B. Tauris, 2015), 57.

provided inspiration for reformist socialist efforts such as the Prague Spring and the human-rights movement that contributed to the peaceful overthrow of Soviet-style communism in the late 1980s.[25] Thus we have yet another contender to consider when analyzing contributions that brought about the end of the Cold War.

3 Pugwash and the Limits of Theorizing Transnational Politics

The question of which organizations contributed most to ending the Cold War – states or non-state actors, and, if the latter, which – is unlikely to easily be agreed upon. Explanations that highlight a single cause are typically unsatisfying anyhow. The same holds true for attempts to fit Pugwash into a particular theoretical framework. As the editors suggest in their introduction, there are many contending frameworks, and Pugwash seems to share some features with many of them. In my concluding remarks I would like to focus on the question of whether Pugwash constitutes an "epistemic community." I have always argued against that claim, as long ago as 1995, yet my work is still commonly cited (unread, perhaps) as an example of the literature on epistemic communities.[26] For not entirely unselfish reasons, then, I would like to reiterate the case for excluding Pugwash from that category, drawing in part on the evidence from this volume.

In his foundational work from 1992, Peter Haas defined an epistemic community as "a network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area." They share a set of normative and principled beliefs, shared causal beliefs, shared notions of scientific validity, and a common policy enterprise.[27] They make themselves available to policymakers who face situations of uncertainty in the light, for example, of techno-scientific developments and/or interactions between state actors, and who welcome the advice that emerges from a scientific consensus about a particular problem or situation and its solution. This is probably how Pugwash scientists saw themselves. But the fact that the movement occasioned so much controversy makes one doubt the degree to which governments accepted

25 Ibid., esp. ch. 4, 7, 8.

26 Matthew Evangelista, "The Paradox of State Strength: Transnational Relations, Domestic Structures, and Security Policy in Russia and the Soviet Union," *International Organization* 49, no. 1 (Winter 1995): 1–38.

27 Peter M. Haas, "Epistemic Communities and International Policy Coordination," *International Organization* 46, no. 1 (Winter, 1992): 1–35, 3.

Pugwash analyses and policy prescriptions as "authoritative." Moreover the ideological rigidity of the Cold War world, with its competing political and social norms, raises questions about the extent to which policymakers would readily acknowledge their own uncertainty about policy choices and seek advice from a transnational organization of scientists.

The chapters by Paul Rubinson and Carola Sachse suggest that US political leaders, for example, were indeed inclined to dismiss Pugwash (the US group and the organization more broadly) and its advice as politically tainted because of its links with the communist world. Officials such as McGeorge Bundy criticized his former Harvard and MIT colleagues whenever their prescriptions deviated from preferred US policy, on issues such as the Multilateral Nuclear Force or the nuclear test ban – not to mention on the US war in Vietnam. China's policy toward Pugwash – refusing to allow its scientists to participate for decades, as Barrett's chapter describes – hardly constitutes an endorsement of the organization's authoritative policy expertise.

One way to clarify the degree to which members of a putative epistemic community share causal beliefs or notions of scientific validity is to focus on a particular issue and see whether there is any consensus. Silke Fengler, in her chapter on Austria, for example, points out that in the early years of Pugwash there was considerable disagreement between West German and Austrian scientists on the need to ban nuclear weapons. Yet, she argues, "the situation changed with rising public fears about nuclear fallout, which engendered concerns about radiation exposure including that associated with peaceful nuclear technologies, including energy." If this were a matter of emerging expert consensus on the danger of radioactive contamination from nuclear testing, one might adduce support for a common causal understanding of the need to ban tests. Yet Fengler's stress is on public fears rather than scientific consensus – and justifiably so. There was a wide range of views about the impact of radiation on human biology and genetics. At one extreme were the warnings issued by Linus Pauling and Helen Caldicott in the United States and Andrei Sakharov in the Soviet Union about dire consequences of genetic defects that would harm future generations. At the other extreme were the reassuring assessments of government scientists in both countries that radiation at the doses produced by nuclear explosions would produce no lasting deleterious effects.[28] The same training in physics or medicine or biology could

28 For a sense of this debate in the US, see for example: Caroline Kopp, "Origins of the American Scientific Debate over Fallout Hazards," *Social Studies of Science* 9, no. 4 (November 1979): 403–422; Jacob D. Hamblin, "'A Dispassionate and Objective Effort': Negotiating the First Study of the Biological Effects of Atomic Radiation," *Journal of the History of Biology* 40, no. 1 (March 2007): 147–177.

yield divergent assessments, none *ipso facto* accepted as authoritative. It was the public outcry that prompted states to deal with the threat of radioactive fallout.

The same pattern repeated itself in most technical debates in which Pugwash scientists were involved. The fact that there were "debates" at all is key here. There was no agreement, based on scientific assessments alone, about what kind of verification system or how many onsite inspections would reliably prevent cheating in a nuclear test ban. There was no agreement about the prospects for successful defense against a ballistic missile attack. On many such issues, scientists of comparable expertise and prestige could take diametrically opposed positions. On these two issues, for example, Hans Bethe and Edward Teller, both senior Manhattan Project scientists, found themselves on opposite sides. Bethe's Nobel Prize in Physics did not give him the edge over Teller, nor would its Peace Prize accord the assessment of Pugwash and its scientists any greater credibility than that of a government defender of the status quo. As issues discussed at Pugwash conferences became less technical and more political – the merits of a nuclear-free zone in central Europe, disengagement schemes for conventional forces, German unification, nonalignment and neutrality, the physicists' expertise became a waning asset, as the discussion in Alison Kraft's chapter makes clear.

Evidently there are some issues where the notion of an epistemic community makes sense, even in the controversial domain of security policy. I have been persuaded by the work of Denise Garcia, for example, who finds the theory useful to account for the emergence of concern about the proliferation of small arms throughout the world following the end of the Cold War and the establishment of a norm favoring limits on arms sales. With its focus on expert advice to governments facing conditions of uncertainty, the epistemic community approach generally seems too technocratic-functional and insufficiently political. Garcia effects a nice theoretical move of separating the knowledge-generating phase of a norm's emergence on the international agenda (the province of epistemic communities) from its political promotion by advocacy groups and entrepreneurs. In some cases the distinction may appear too neat, but for the realm of small arms regulation, it seems to work. Garcia makes a persuasive case that particular researchers used evidence of the widespread dispersal to conflict zones of Soviet-bloc weapons after the break-up of the USSR and Warsaw Pact to convince state actors of the importance of tracking their distribution and, if possible, destroying them. For the more politically controversial measures, scholarly efforts at disseminating information required support from activist organizations and sympathetic states. Thus, Garcia proposes a two-stage model where the epistemic community of arms researchers helps put the new issue onto the agenda, and transna-

tional advocacy networks promote it and turn it into politically and legally binding agreements.[29]

The Pugwash movement evinces qualities of both an *aspiring* epistemic community – its members want their assessments considered authoritative – and a transnational advocacy group. But because it is an organization of elite scientists and scholars – not really a "movement" at all – it is unlikely to function as a typical transnational social movement. Many episodes during the Cold War show, however, how Pugwash scientists worked with mass movements to promote certain initiatives – a nuclear test ban and restrictions on ballistic-missile defenses being two prominent examples. There is, then, some merit in entertaining the various theoretical frameworks that have been proposed to account for the successes and failures of the Pugwash phenomenon. Whichever theoretical insights eventually prove most useful will be much indebted to the path-breaking empirical research represented by this volume.

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