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Introduction

he Pugwash Conferences on Science and World Affairs grew from the Russell-Einstein Manifesto initiative in 1955 to become an amorphously structured transnational movement of natural and social scientists with a primary focus on the dangers of nuclear weapons. Pugwash, together with Sir Joseph Rotblat, a founding member and long-serving secretary-general and later president, won the Nobel Peace Prize in 1995 for its role in highlighting these dangers. It did so through its annual conferences that brought together scientists, government officials and observers from across the world, as well as its workshops and publications, and behind-thescenes interventions towards conflict resolution. The history and role of Pugwash has been the subject of many publications, but none of them pay adequate attention to Africans' participation in Pugwash, if at all. And yet, a preliminary review of the quinquennial annals and newsletters that

summarise the activities of Pugwash suggests that African scientists' involvement in the annual conferences was significant. Africans also organised regional workshops on issues of special interest to the continent and jointly published with other Pugwash members. National chapters were established in several African countries and over the course of two decades, a Pan-African Pugwash group held at least six meetings and published some of these meetings' proceedings. This opinion piece is based on a preliminary exploratory effort to highlight how Africans engaged the Pugwash movement, to know more about the impact that Africans had in Pugwash and Pugwash had in Africa, and to look to the future—to encourage science activism and youth participation in peace and anti-nuclearism on the continent. We start off with a short introduction of Pugwash, telling its origin story and then proceed to Africans' participation in and adoption of Pugwash to exercise peace activism.

Overview of Pugwash

The first Pugwash meeting was convened in a small town called Pugwash in Nova Scotia, Canada in July 1957. Amid the Cold War, it offered a rare channel of communication between scientists from the East and the West. The lead up to this historic meeting was the following: post-Hiroshima, there was a growing concern amongst western scientists, that they have a morally compelling role to play in shaping public policy regarding nuclear weapons and nuclear energy. Within months of Japan's surrender in August 1945, several organisations were founded the Federation of American Scientists, the Atomic Scientists Association of Britain and the Bulletin of the Atomic Scientists in the United States - all with the view to influencing public policy in preventing a nuclear arms race, while promoting the peaceful uses of atomic energy.

In 1955, in response to the testing of ever larger nuclear devices by both the United States (US) and the Soviet Union, the world-renowned scientist, Albert Einstein and the British mathematician and philosopher, Bertrand Russell, issued a statement on nuclear weapons, now universally known as the 'Russell-Einstein Manifesto'. Besides discussing the destructive power of the bomb with its deadly radiation, the manifesto also asked: "Shall we put an end to the human race or shall mankind renounce war?" To this end the manifesto called on scientists worldwide to gather, discuss and deliberate the perils of weapons of mass destruction (WMDs). This led to the first Pugwash meeting organised by Joseph Rotblat and Eugene Rabinowitch, a Russian-American physicist and activist against nuclear weapons. Joseph Rotblat, a Manhattan Project² physicist, left the project in 1944, because he came to know that Nazi Germany would not be able to develop the bomb and the US intended to use the bomb in Japan. Cyrus Eaton, a well-known industrialist and billionaire, offered to host the meeting at his vacation lodge in Pugwash, Canada, as he was all for establishing friendly relations between the US and the Soviet Union.

Twenty-two scientists (70% physicists) attended this first meeting – seven from the US; three from the Soviet Union; three from Japan; two from Britain; two from Canada and one each from Australia,

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Austria, China, France and Poland. Despite the arms race at the time, the hostile propaganda between East and West, and the sharp division amongst western scientists over Cold War issues. this meeting was not confrontational at all. This was most likely due to mutual respect for one another's scientific integrity and due to the fact that many knew each other personally or through their scientific publications. A resolution followed this meeting to hold regular conferences of western and eastern scientists, aimed at preventing the use of nuclear weapons. The following year, in 1958, the second (Canada) and third meetings (Austria) were held with several scientists from the Soviet Union playing a significant role. The Soviet leadership was in favour of widening this organisation considerably on the model of the World Peace Council, in contrast to western participants, including Rotblat and Russell, who favoured regular small 'closed' meetings of scientists, allowing more concrete steps to be debated in solving one or other international problem.

It is worth noting that at the fourth Pugwash meeting in 1959, scientists proposed to conclude the Treaty on the Non-Proliferation of Nuclear Weapons. It is also worth noting that the sixth Pugwash meeting took place in Moscow in 1960. Only after the tenth anniversary in 1967 at the 17th Pugwash meeting in Sweden, was there a major reorganisation in the structure of this movement, with the election of a Pugwash President, new continuing and executive Committees, and the decision taken to hold symposia on special issues several times a year, in additional to its annual meetings. By the mid-sixties, a new world

movement, The Pugwash Conferences on Science and World Affairs, had been formed.

The first decade of the Pugwash movement made a significant contribution to the conclusion of a number of international treaties on disarmament and arms control. Pugwashites³ proposed the immediate cessation of nuclear tests as one of the first steps to disarmament. In the 1970s and 1980s Pugwashites took active part in preparing the Chemical Weapons Convention. Since then, scientific-technological and political discussions within the Pugwash Movement, infused with social responsibility for future generations, often functioned as "ice-breakers" and have helped create a favorable climate for the signing of many different international treaties - nuclear, chemical and biological. In essence, over the years Pugwash has provided a forum for second track nuclear diplomacy.

In 1995, on the 50th anniversary of the use of the atom bomb on Hiroshima and Nagasaki, Pugwash and Rotblat received the Nobel Peace Prize, "for keeping the vision of a nuclear-free world alive, while working unwearyingly for specific armslimitation measures in the short term".

The annual Pugwash conferences brought scientists together from across the world to promote understanding and provide a forum for discussing issues related to nuclear weapons and many other global issues. The venue changed each year and the conference typically lasted three to five days. The program always included discussions of papers given by delegates, and sessions given to debate on topical issues. Due to the reputation of Pugwash (attended by many Nobel Laureates), each annual conference was regularly opened by the prime minister or ambassador or some prominent figure of the hosting country. The personal networking that ensued from these meetings was invaluable and also aided in recruiting new Pugwashites. Discussions were held in private, but with a record of each meeting published in the form of a statement, including key findings and broad recommendations made available to both politicians and the broader public. The portfolio of Pugwash activities was also carefully expanded over the years. In addition, there were smaller regional meetings held to foster closer analysis of key issues, and local meetings organised by national Pugwash groups in various countries.

At one such regional meeting in Berlin in the late 1980s, the then secretary-general of Pugwash, Prof Francesco Calogero, met Prof Marie Muller, a political scientist from the University of South Africa (UNISA). He encouraged Marie to establish a local South African National Pugwash group, which Marie then set about doing. The authors, respectively a physiologist/biochemist and a political scientist, became involved in Pugwash through the link with Marie Muller. Attendance at annual conferences was by invitation only and nominations were made by local heads of the national groups. Participants were selected by the Pugwash Head Office continuing committee. In this way each year Prof Muller would nominate both social and 'hard' scientists from South Africa, including young student scientists to join Student Pugwash.

African Participation in Pugwash Conferences and Meetings

The table below lists the number of African participants in Pugwash activities for each five-year period from its inception in 1957 to 2007. In the first five years no Africans participated, likely because African states were in the process of decolonising and Pugwash was still making a name for itself. However, as time went by, African participation slowly started to take off and in 1967, the Pugwash continuing committee (later referred to as the Council) explicitly included engagement with developing countries as a sub-theme on their agenda. See Table 1 on page 67.

Participants, who attended these meetings, and became the driving force behind national and regional groups, were of a high calibre and could see the benefits for African activism in Pugwash. A few examples serve to illustrate this point. Ambassador Ahmed Haggag from Egypt was the Former Assistant Secretary-General of the Organisation of Africa Union. Prof J Yanney-Ewusie was an ecologist and Former Vice-Chancellor of the University of Cape Coast in Ghana. Essam Galal of Egypt was professor of medicine and president of the African Union of Pharmacologists. He later became adviser to the Egyptian government and was the convenor of Pan-African Pugwash, which we discuss below. Ambassador Ochieng Adala from Kenya, who served on the Pugwash Council from 2002-2012, was a career diplomat,

Table 1: African participation in Pugwash meetings (1957-2007), compiled from the Pugwash Newsletter (2007)

Quinquennium	Participants states	Number of participants
1957-1962		0
1962-1967	South Africa, Nigeria, Ghana, Egypt, Uganda, Kenya, Sierra Leone, Tanzania	36
1967–1972	Nigeria, Tanzania, Togo, Ethiopia, Ghana, Egypt, Kenya, Madagascar, Zambia, Senegal	31
1972–1977	Nigeria, Sierra Leone, Ghana, Egypt, Congo, Zambia, South Africa, Cameroon, Tunisia, Madagascar	22
1977–1982	South Africa, Tanzania, Ethiopia, Sierra Leone, Madagascar, Morocco, Egypt, Zambia, Ghana, South Africa, Nigeria, Kenya, Tanzania, Sierra Leone, Cameroon	35
1982–1987	South Africa, Nigeria, Kenya, Cameroon, Sierra Leone, Senegal, Egypt, Zambia	28
1987–1992	Nigeria, Kenya, Cameroon, Egypt, Zambia, Sierra Leone, Algeria, Ghana	48
1992–1997	South Africa, Algeria, Nigeria, Kenya, Sierra Leone, Egypt, Zambia, Zimbabwe, Algeria, Ghana	45
1997–2002	South Africa, Algeria, Nigeria, Sierra Leonne, Ghana, Egypt, Tanzania, Zimbabwe, Kenya, Uganda, Malawi, Botswana, Zambia	53
2002–2007	South Africa, Nigeria, Kenya, Egypt, Zambia, Mozambique, Somalia	65

serving as ambassador in several African states and as permanent representative of Kenya to the United Nations. He is currently the acting executive director of the African Peace Forum. Prof Noel Manganyi from South Africa attended several Pugwash meetings (from 1978 through 1981). He was South Africa's first black clinical psychologist and set up the Department of Psychology at Transkei University. Manganyi's books Being Black in the World (1978) and Looking Through the Keyhole (1981) are recognised as key texts in Psychology to understand Black Consciousness (BC) and in the BC Movement. He was also Director of Education in Nelson Mandela's administration. Attending the Pugwash Conference must have been quite an act of dissidence for Manganyi in the face of apartheid and the South African nuclear weapons programme. The papers he presented

at the Pugwash Conferences are still highly regarded. Willem Oltmans quotes extensively from a "fascinating" paper Manganyi presented at a Pugwash meeting.

Pugwash Conferences in Africa

Three Pugwash Conferences were held in Africa. The 1966 conference in Ethiopia got coverage in the New York Times. At its inception Pugwash was seen by the Western governments as too left leaning. However, this changed during the 1960s when Pugwash became established as a site for dialogue and through the Secretary General's official persona as politically neutral. The New York Times (January, 28, 1966) article reads, "...an unusually large number of distinguished Africans gathered in Addis Ababa joined by physical and social scientists from the industrial communist

and non-communist countries to discuss problems of common interest." The report continued to say that it is encouraging that both Soviet and African participants took moderate and responsible positions and that the Soviets did not use the conference for propaganda on Vietnam.

The second conference held in Africa was in 1999 in Rustenburg, South Africa. Nola Dippenaar and Marie Muller were the local organisers, while Motumisi Tawana, an early-career South African diplomat at the time, and Joelien Pretorius helped to organise the Student Pugwash side of the conference. The third Pugwash conference held in Africa was in 2006 in Cairo, Egypt.

What makes hosting a Pugwash conference a powerful site of activism is that more local participation is allowed, and that panel sessions are organised around issues of special concern to the host country and its region. At the South African conference, Prof Waldo Stumpf, then CEO of the Atomic Energy Corporation of South Africa was invited to give a talk on South Africa's nuclear disarmament, and then Vice President Jacob Zuma and Director General of the Department of Foreign Affairs, Jackie Selebi⁴, gave talks on South Africa's position on arms control. On the morning of their talks, Patricia de Lille's dossier that implicated Jacob Zuma in large scale corruption during arms procurements made headline news and a number of Student Pugwash participants decided to boycott the session.

There were several local and regional meetings held in Africa over the years. Table 3 presents some of them. At these smaller meetings, as the topics covered indicate, Africans could focus on issues closer to home.

Table 2: List of Pugwash Conferences held in African states

Year	Place and state	Title of conference
1966	Addis Ababa, Ethiopia	Science in Aid of Developing Countries
1999	Rustenburg, South Africa	Confronting the Challenges of the 21st Century
2006	Cairo, Egypt	A Region in Transition: Peace and Reform in the Middle East

Table 3: List of workshops held in African states

Year	Place and state	Title of workshop
1975	Cairo, Egypt	Peace and Development in Africa: The Twenty First African Pugwash Symposium.
June 1975	Tanzania, Dar es Salaam	Pugwash 24th Symposium: The Role of Self-Reliance in Alternative Strategies for Development.
April 1978	Rabat, Morocco	The 1979 UN Conference Science on Science and Technology for Development
October 1984	Cairo, Egypt	Pugwash 46th Symposium: African Security
March 1990	Cairo, Egypt	6th Pan-African Pugwash Regional Conference, "Development and Security — Crises Resolution in Africa"
June 1998	Halfway House, South Africa	Pugwash Symposium on Human Security in the Southern African Context

Year	Place and state	Title of workshop
April 2001	Alexandria, Egypt	7 th workshop on the Middle East: Palestine, Israel and the Middle East Peace Process
February 2004	Betty's Bay, near Cape Town, South Africa.	Cape Town workshop on the security aspects of HIV/AIDS
June 2004	Pretoria, South Africa	Threats without enemies: the security aspects of HIV/ AIDS A second exploratory workshop
April-May 2005	Gordon's Bay, South Africa	Meeting on the Security Aspects of HIV/AIDS
March 2006	Nairobi, Kenya	Nairobi meeting on Security Architecture in the Horn of Africa

The Pan-African Pugwash Group

The Pan-African Pugwash group existed between 1972 to 1990, as far as we can establish. As the name suggests, African scientists infused their performance of activism through Pugwash with a regional political ethos. At the time of its formation, Pan-African Pugwash was the first regional iteration of the Pugwash movement. Some preliminary archival⁵ research indicates that the idea of a regional African Pugwash group was first discussed by African participants at the Ronneby Pugwash Conference in 1967 and subsequently at other meetings. The Africans wanted to launch Pan-African Pugwash in 1971, but it was only after the 1972 Cambridge conference, where the African participants emphasised the importance of linking the problems of development to Pugwash's concern for peace, that it was formally established. A preparatory meeting in Cairo in 1974 was followed by its first symposium in 1975 in Cairo on Peace and Development. The group had an office in Cairo and one of its most prominent convenors was Essam Galal. It held at least six meetings during this time (in addition to regular business meetings). Proceedings of at least two of these meetings were published and could be obtained. The first was a symposium on food security in Africa that was held in 1978 in Ghana and the second on African security and Namibia, which was held in 1984. At the latter meeting, apartheid South Africa was especially singled out for its destabilisation of the region, and states cooperating with South Africa were castigated for enabling the apartheid state. The group agitated for greater representation on the Pugwash Council and at business meetings discussed substantive issues, such as West German nuclear cooperation with South Africa that was taken up with German Pugwash members. South Africa's incursion into Angola in 1987 was raised with the Pugwash Council by the group and the group also showed solidarity with Palestine and supported the formation of Palestinian Pugwash groups.

Pugwash and Apartheid South Africa

In addition to Pan-African Pugwash's activism with respect to apartheid South Africa and Pugwash, other questions can be raised. Did South African scientists from the apartheid establishment attend Pugwash conferences? What did the apartheid government make of Pugwash? And did Pugwash have a back channel to engage in diplomacy with the apartheid government? T.E.W. Schumann was invited to attend the 1962 annual conference, which he did. He was the deputy chair of the South African Atomic Energy Board and in 1962 also published a book called The Abdication of the White Man, which has been described as a white supremacist text not unique for its time. We deduce, and future archival research may confirm this, that Schumann reported back to the apartheid government that Pugwash was not a worthwhile forum. Apart from Prof Manganyi, there was almost no South African participation until Marie Muller got involved towards the end of apartheid. In 1977, the Pugwash Council highlighted South Africa's possible nuclear programme as a great peril for the security of the peoples of southern Africa and the world at large

in its statement. It urged intense surveillance of the programme and the cessation of all collaboration (governmental, commercial and scientific) with the apartheid regime.

Personal Networks in Pugwash and Africa

A vignette related by Gordon Barrett⁶ illustrates how personal networks that were so vital to the big role in back-channel diplomacy that Pugwash was known for, also played out in an African context. Dorothy Hodgkin, a Nobel Laureate in Chemistry, was a Pugwash member who would later become the organisation's longest-serving president. From 1960 to the mid-1980s, Chinese participation in Pugwash halted, because of domestic issues in China, animosity between China and the Soviet Union and China's perception that Pugwash was losing its leftist orientation to curry favour with Western governments. To re-engage Chinese scientists, Hodgkin, whose husband, Thomas Hodgkin, worked for Kwame Nkrumah, tried to organise a meeting hosted by the Ghana Academy of Science where Pugwash members would be present.⁷ Ghana at the time had good relations with China and Nkrumah supported her efforts. Unfortunately, the meeting never took place because of the 1966 coup in Chana that deposed Nkrumah.

African Students and Pugwash

Pugwash provides a special place for student activism. Each Pugwash conference is preceded by a student conference and students go on to participate and present their papers at the main conference. Pugwash participants usually identify students to participate in Pugwash conferences, who are then encouraged to apply to attend the conferences. In this way a number of African students have attended Pugwash conferences. The Italian Pugwash group annually and in the past biannually hosted the International School on

Disarmament and Research on Conflicts (Isodarco), which provides a student-Pugwash interface. Over the years, a great number of students from Africa have benefited from attending these schools. In addition, International/Student Young Pugwash (ISYP) created in 2000 helps organise and facilitate student participation in the movement. ISYP also has an Africa Project that plans to provide capacity-building and community-building activities for young Africans in the field of nuclear disarmament and peaceful nuclear applications.⁸ Chapters of Student Pugwash can be formed at universities.

Conclusion

Pugwash has played a valuable role for decades in creating linkages among scientists, raising awareness about the ethical application of science, and impacting policy towards nuclear disarmament and conflict resolution. It approaches peace and nuclear activism from the pragmatic approach that is characteristic of scientific efforts, i.e. that most problems can be solved through their study, informed decision-making, and dialogue. African Pugwashites played a valuable role in Pugwash, gaining a voice on the Council, presenting papers at Pugwash meetings, orienting the Pugwash agenda to include issues of concern to Africans (e.g. development), jointly publishing with others in the movement on issues of concern, and importantly appropriating Pugwash through establishing national groups and Pan-African Pugwash. It is a great pity that the latter is no longer active. In the world today with its many challenges – stagnation in disarmament negotiations, the risk of new nuclear states, a spike in geopolitical tensions and bloody conflicts, environmental threats amidst climate change, and global pandemics - there is still a serious role for Pugwash in solving these global problems and for Africans in Pugwash.

Endnotes

The authors wish to acknowledge funding from the University of Johannesburg and Open University for the article processing fees.

- 1 Prof. Nola Dippenaar is the chair of the South African Pugwash chapter and Prof Joelien Pretorius serves on its executive committee.
- ² The Manhattan Project was the codename for the development of nuclear weapons in the US during World War II.
- ³ The name that regular attendees and individuals active in the movement assumed.
- Selebi, while permanent representative of South Africa to the UN in Geneva, had chaired the Oslo conference that gave rise to the Mine Ban Treaty.
- ⁵ Some documents from Joseph Rotblat's papers, held at the Churchill Archives Centre at Cambridge University, have been obtained.
- ⁶ Gordon Barrett. (2019). Minding the Gap: Zhou Peiyuan, Dorothy Hodgkin, and the Durability of Sino-Pugwash Networks. In Science, (Anti-)Communism and Diplomacy, Edited by Alison Kraft and Carola Sachse. Brill Publishers.
- ⁷ Hodgkin was awarded an honorary doctorate from the University of Cape Coast. She was in Ghana when the announcement was made that she had won a Nobel Prize for Chemistry and Nkrumah proceeded to organise a celebration function for her.
- 8 See: https://isyp.org/africa-project/.