

by E.H.S. Burhop

The first suggestion that the W.F.S.W. should use its influence to have organised an international conference of scientists with the theme "Science for Peace" appears to have been made by Professor L. Infeld at the Second General Assembly (Prague section), April 11-13, 1951. The Minutes (GA.2/128/51) record that Professor Infeld proposed that the organization should be in the hands of a committee of 20 scientists called together by the W.F.S.W. but that the conference should be independent of the W.F.S.W. as far as policy and programme were concerned. Help should however be available from the W.F.S.W. for administration and travelling facilities. A resolution was passed which included the following:

"Scientific workers, with all forces of progress, should at this decisive stage of the fight actively develop the struggle for peace, working in their respective countries for the realization of the following objectives:

For the freedom of scientists and scientific thoughts;
 For the direction of science towards constructive and not destructive ends;
 For the strongest opposition to the criminal misuse of science in producing atom bombs and bacteriological weapons.

In order to enable men of science to contribute effectively to the maintenance of peace and the development of creative science and human progress, we request a speedy convocation of a Congress, where all scientific workers throughout the world could unite with the aim of ensuring a happy future for all mankind."

Discussion of calling such a conference was returned to at the Eleventh Executive Council meeting, held in Vienna, May 31 - June 2, 1952. The Minutes (W.161/52) contain the following:

"132. An International Conference of Scientists for Peace Professor Joliot-Curie said that the Conference should be one with the widest aims to secure the participation of scientists of the most diverse opinions. It should have two major objects in view; to examine the nature of the present tensions between nations and to discuss the role that scientists play in this situation and how best they can contribute to the cause of peace.

After a full discussion, it was agreed that the aims of the conference would be best secured if it were called by an independent body and that once this was done the Federation would give it its full support."

The efforts to organize a conference of this type did not meet with success at this time and the next step was taken by our Indian Affiliated Organization, the Association of Scientific Worker Workers of India. At a meeting of the General Body of the A.S.W.I., on 4 January 1954 at Hyderabad, the following resolution was passed:

"The Association of Scientific Workers of India requests the World Federation of Scientific Workers to approach the United Nations to organize an international convention of scientists for suggesting effective measures for ensuring a ban on all weapons of mass destruction."

The Bikini test of the first hydrogen bomb on 1st March, 1954, and the injuries produced by fall-out on the Japanese fishing vessel "Lucky Dragon" led the A.S.W.I. to repeat the call for a U.N. sponsored conference of scientists in their statement issued in June 1954:

"The A.S.W.I. calls on the United Nations Organization for immediate implementation of the stand-still plan of Mr. Nehru and to convene a conference of the scientists from all over the world to suggest ways and means and to take positive steps in banning all weapons of mass destruction and to prevent the misuse of science and scientists.

The A.S.W.I. requests all the Governments which are carrying out such experiments on hydrogen bomb explosions, for immediate cessation of these experiments in the interest of all humanity."

A lengthy discussion of the proposed international scientific conference was held at the Thirteenth Executive Council meeting, at Vienna, September 10 - 12, 1954. After which it was agreed (W37/54):

"That the Executive Council decide that the organizing of an international conference of

of scientists is the Federation's most urgent and important task. The conference should be as broad as possible and should be held in the Spring of 1955."

It was also agreed that:

"An active person without other commitments should be appointed to coordinate the work, and finance must be provided."

In the meantime, it had been announced that the United Nations Organization was planning to organize a conference on the peaceful uses of atomic energy in August 1955. The Executive Council was anxious that the conference the W.F.S.W. had in mind should not appear as a rival to the U.N. conference. Also it had in mind the terms of the resolution of the A.S.W.I. that had requested the W.F.S.W. to ask the United Nations Organization to arrange a conference of scientists to discuss measures of ensuring a ban on all weapons of mass destruction.

On 5 November 1954, therefore, the President of the W.F.S.W. Professor F. Joliot-Curie, wrote to the President of the General Assembly of the United Nations, Dr. E.V. van Kleffens, requesting that the agenda of the proposed U.N. conference should be extended to include "the dangers of atomic, nuclear and biological weapons, etc., the examination of the scientific and technical possibility of the control of atomic energy and atomic weapons in the light of the latest scientific data; the medical aspects of atomic energy, etc."

The full text of this letter and of the acknowledgement of Dr. van Kleffens is given in Appendix 4.

The agenda of the U.N. conference was in fact confined to the Peaceful Uses of Atomic Energy and problems of nuclear weapons were not included in its agenda, and in accordance with the decisions of the Thirteenth Executive Council meeting the W.F.S.W. went ahead with its alternative plans. Dr. E.H.S. Burhop accepted the responsibility of coordinating the work on behalf of the W.F.S.W. and on 4 January 1955, after discussion with Professor F. Joliot-Curie and Dr. P. Biquard, he sent a memorandum calling for support for a conference to some hundred scientists outside the W.F.S.W., in many countries. It said:

"Although statements have often been made in the past and in many countries about the dangers of the new weapons, both in war and even in peacetime tests, these warnings have mainly come from individual scientists or from groups of scientists on which it has been possible to put a particular 'label', so that one part or another of public opinion has perhaps received the warnings somewhat sceptically.

The danger that faces humanity appears to us so terribly real that we believe it essential to issue an objective statement on this matter, addressed to a very wide public, over the signature of scientists of great eminence and of such a broad range of views that it will be possible to raise a cry of alarm without any section of public opinion being able to doubt the sincerity of the warning.

The preparation of the text of such a statement will require careful study in different countries, and we propose the holding of an international scientific meeting to discuss the results of these preliminary studies and the drawing up of the terms of the statement."

At the same time, Professor Joliot-Curie, Dr. Biquard and Dr. Burhop made personal contact with a number of other scientists who had been active in independent moves to assemble a conference of scientists along the lines suggested, - with Professors A. Haddow and J. Rotblat in the U.K.; with Professor E. Rabinowitch in the U.S.A.; with Professors O. Kahn and M. Born in the Federal German Republic, among others.

It was clear from the result of these various approaches that there was wide support for the holding of a conference and the issuing of a statement along the lines proposed, but difficulty was being experienced in finding a scientist of sufficient eminence, influence and impartiality as between the Socialist and the Capitalist world to sponsor the first step.

Meantime, during Christmas 1954, a very remarkable and important broadcast talk was made in England by Bertrand Russell (Earl Russell), the noted philosopher, mathematician and Nobel Laureate in literature, in which he painted in graphic terms a picture of the devastation that would follow nuclear war and brought out, perhaps more clearly than had ever been done before, the doom that

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awaited our civilization and of mankind himself unless he renounced war.

On 31 January 1955 Joliot-Curie wrote to Russell in the following terms:

"Les périls qui menacent l'humanité sont tellement grands que je crois indispensable que les scientifiques se réunissent pour préparer à sujet une déclaration collective et objective. Il est essentiel à mes yeux que ceux qui devraient rédiger et signer cet avertissement solennel et motivé disposent d'une autorité scientifique incontestable et que leurs origines variées et leurs conceptions philosophiques diverses soient telles qu'aucune partie de l'opinion publique ne puisse être amenée à en mettre en doute la valeur ou la sincérité. On conçoit qu'un tel document aurait une valeur de base pour l'opinion publique et pour les gouvernements quels qu'ils soient.

Je me suis moi-même adressé, dans cet esprit, à un certain nombre de mes collègues, soit à titre personnel, soit au nom de la Fédération Mondiale des Travailleurs Scientifiques (FMTS), organisation qui groupe des scientifiques dans tous les grands pays du monde et dont j'ai l'honneur d'être le Président. Les premières réponses ont été encourageantes, mais il subsiste incontestablement des réserves et des reticences qui gênent encore le développement de cette action si nécessaire. Il faut absolument lever les doutes et vaincre les reticences. Le concours d'une personnalité comme la vôtre pourrait très largement contribuer à la faire et permettrait ainsi de promouvoir l'idée de cette conférence."

An immediate reply came from Russell who welcomed this approach. He felt, however, that, rather than calling a conference, the first step should be the issuing of a statement by a number of scientists of outstanding reputation. In his letter of 5 February 1955 he wrote:

"I think it very important that the signatories should have no common political complexion, and that their declaration should strenuously abstain from any blame to either side for past mistakes or what were thought such. We all have our prejudices in favour of one side or the other, but in view of the common peril it seems to me that men capable of scientific detachment ought to be able to achieve an intellectual neutrality, however little they may be neutral emotionally. If such a declaration as I have in mind is to be effective, the signatories should represent all shades of opinion so that, collectively, they could not be regarded as leaning towards either side."

The points made by Russell were very cogent. It was clear that any declaration, to be effective, would have to carry the authority of eminent scientists of many shades of opinion who might agree politically on few other matters except the overriding necessity of avoiding nuclear war and securing the elimination of nuclear armaments. On the other hand, a declaration of this kind could only be thought of as a first step to direct attention to the problem. It could be no substitute for a conference, or series of conferences, at a high level where scientists could discuss, from a thoroughly informed point of view, the difficulties that had so far prevented agreement on these matters being reached between governments.

Following some subsequent correspondence, several meetings were held between Russell and Burhop to discuss the declaration being prepared by Russell. Following these discussions and a further discussion between Russell and Joliot in Paris in April 1955, Russell agreed to add a paragraph calling specifically for a scientific conference. This became in fact the first paragraph of the Russell-Einstein declaration when it was finally issued in July 1955, Russell having secured Einstein's support for the statement only a few days prior to his death in May 1955. The statement began:

"In the tragic situation which confronts humanity, we feel that scientists should assemble in conference to appraise the perils that have arisen as a result of the development of weapons of mass destruction and to discuss a resolution in the spirit of the appended draft."

The draft resolution was indeed a very simple one. It said:

"We invite this Congress and through it the scientists of the world and the general public to subscribe to the following resolution:

In view of the fact that in any future world war thermonuclear weapons will certainly be employed and that such weapons threaten the continued existence of mankind, we urge Governments of the world to realize and to acknowledge publicly that their purposes cannot be furthered by a world war, and we urge them, consequently, to find peaceful means for the settlement of all matters of dispute between them."

Russell requested help from the W.F.S.W. in obtaining signatures to the Russell-Einstein declaration from eminent scientists associated with the Federation and the signatures of C.F. Powell, F. Joliot-Curie and L. Infeld were secured. (The full text of the Russell-Einstein Declaration is given in appendix 5).

The declaration was published at a press conference held in London on 9 July 1955. In the meantime, however, the independent approaches of Joliot-Curie to scientists all over the world for support of a conference were beginning to bear fruit. Offers of support had been coming in from many quarters. Inside the World Federation itself Joliot-Curie had urged affiliated organizations to take the initiative in organizing national conferences of scientists with as wide support as possible. Meetings of scientists were in fact organized in Bulgaria, China, Czechoslovakia, France, Great Britain, India, Holland and Norway.

It would obviously have been ill-advised to divide the efforts to arrange an international conference, and it now appeared that the conference envisaged in the Russell-Einstein declaration would eventually take place. In a circular address to affiliated organizations of the Federation on 22 August 1955, over the joint signatures of Drs. P. Biquard and E.H.S. Burhop, it was stated:

"In a sense therefore it can be said that the conference suggested by Bertrand Russell was partly inspired by the efforts we have been making in this direction. In these circumstances therefore we have offered, on behalf of the World Federation of Scientific Workers, our full support to Lord Russell in his efforts to convene such a conference. On his part he has made it clear that he welcomes our support and is prepared to work with us as he is with all other scientific bodies and individual scientists who are striving sincerely to bring about the conference he has in mind. Steps are being taken toward assembling an initiating committee to be charged with making all the arrangements for the conference.

We would therefore urge all our affiliated organizations, and the individual scientists with whom we have been in touch, to give that same support to this initiating committee, as soon as it is constituted, which they have already promised to us. We ask you in particular to popularize the idea of the conference among scientists and scientific organizations in your respective countries and to work for its success."

About twenty scientists belonging to organizations affiliated to the W.F.S.W. attended the U.N. Atoms for Peace Conference in Geneva in August 1955 as delegates of their various countries. At a luncheon organized by Drs. Biquard and Burhop a useful discussion took place about ways of furthering the international conference for which the W.F.S.W. was working.

At the Fourth General Assembly of the W.F.S.W. held the following month in Berlin a report was given on the stage reached in the preparation of the Conference and the resolution given in Appendix 6 was passed.

In the Autumn of 1955 Burhop help further discussions with Russell and efforts were made to form an initiating committee. These discussions were joined by Professor J. Rotblat, Executive Vice-President of the British Atomic Scientists' Association and one of the signatories of the Russell-Einstein appeal. Rotblat had organized a study group on problems of nuclear energy and its control within the Atomic Scientists' Association. He was in close touch with Professor E. Rabinowitch, Editor of the Bulletin of the Atomic Scientists and with a number of other American scientists, and had discussed with them the possibility of organizing an international scientific conference.

Rotblat and Rabinowitch together with Russell had participated in a conference, in London, of scientists and politicians organized by the World Association of Parliamentarians for World Government, on 3-5 August 1955, where problems of atomic weapons and their control were discussed. This conference was of importance because three Soviet scientists, including Academician A.V. Topchiev, attended - probably the first occasion apart from meetings of the World Federation of Scientific Workers, where Soviet scientists had attended an international conference at which political matters were discussed. The conference lacked representation from a number of leading countries, such as China, France, India and Japan. It showed, however, that the calling of a really representative international conference of scientists which could speak authoritatively to the peoples of the world had become a practical possibility.

Many difficulties remained to be overcome before arrangements for setting up the Initiating Committee could proceed. A small number of scientists had to be found to make the approaches to scientists to join the Committee; a convenient place to hold the meeting had to be decided; and

some means had to be found for raising the necessary financial support.

Things were greatly assisted at this time by the circumstances that Professor C.F. Powell, then Chairman of the Executive Council of the Federation, was visiting India, Japan and China at the beginning of 1956. While in India he had discussions on problems of the dangers of nuclear weapons with the Indian Prime Minister, Mr. Nehru, and many leading Indian scientists. In the course of these discussions, Powell enquired whether the first meeting of the International Conference could be held in New Delhi during January 1957, just prior to the Annual Meetings of the Indian Science Congress, and the Indian authorities kindly agreed. In Japan, Powell found a great deal of interest in the proposed conference and in particular enlisted the support of Professor H. Yukawa.

The continued and increasing importance of assembling an international scientific conference to discuss the dangers of nuclear weapons was stressed particularly at the Sixteenth Executive Council meeting of the World Federation, held in Peking in April 1956.

Russell, Powell, Rotblat and Burhop now formed themselves into a committee to organize a conference of the type suggested in the Russell-Einstein Statement and important concrete steps were taken at a meeting they held in Russell's home on 25 May 1956. Arrangements were made on the basis of a meeting of from 20 to 25 scientists of the highest eminence, and chosen on an international basis, to be held in New Delhi in December 1956. The invitations were to be issued in the names of a number of original signatories of the Russell-Einstein declaration, viz. Pauling, Born, Rotblat, Joliot, Yukawa, Powell and Infeld. It was decided that this would be regarded as a small conference in its own right, although it was well understood that, if at all possible, it should be the forerunner of a larger conference later. In addition, it was decided to approach various individuals for money to meet the travelling expenses of delegates to New Delhi.

Invitations were eventually sent out to some thirty scientists and by October acceptance had been received from about twenty of them. For two reasons, however, the New Delhi meeting never took place: On the one hand, the appeal for financial support had little success. Some money had been received, but not nearly enough to cover the costs of travel. Also, in October 1956, the events in Suez made the prospects of reaching India doubtful for many of those who would have attended.

It became clear that, before making further arrangements for a meeting, great efforts should be made to secure proper financial backing. At this stage, another possibility presented itself: After the publication of the Russell-Einstein statement many hundreds of letters were received by Earl Russell all over the world. One of these came from Mr. Cyrus Eaton, Chairman of the Chesapeake and Ohio Railway Company. Mr. Eaton was a Canadian by birth and had maintained his house in the little village of Pugwash, Nova Scotia, as a centre for conferences during the Summer months. He had written offering the facilities of his Pugwash house for the conference proposed in the Russell-Einstein statement, and offering financial support for it. At the time, in view of the proposed meeting in India, this offer was not accepted; but in the new situation it was decided again to approach Mr. Eaton. It thus came about that, when the International Meeting that had been planned for so long was finally assembled, it met in Pugwash with the very generous support of Mr. Eaton.

The subsequent history of the Pugwash Movement is now well known and has been the subject of many articles. Twenty-four scientists attended the first Pugwash Meeting, held in July 1957. It issued very important statements and provided the means whereby scientists of great eminence, from both East and West, were able to meet together to try to reach agreement on the difficult problems of securing the abolition of nuclear weapons and of disarmament.

In addition to Powell and Burhop another scientist active in W.F.S.W. affairs, Professor Chou Pei Yuan, attended the first Pugwash Conference.

This conference set up a Continuing Committee to organize further conferences of the Pugwash type, - a decision that was fully supported by the Fifth General Assembly of the W.F.S.W. that met in Helsinki in August 1957. One of the resolutions of this Assembly stated:

"The Assembly welcomes the holding of the recent international conference of scientists convened by Earl Russell at Pugwash in Canada. It believes that other, even more representative international conferences of scientists are necessary so that the dangers arising from the further development of nuclear weapons may be continually reassessed; and it pledges its support for efforts directed towards this end. It calls on its affiliated organizations also to support such conferences and to work for their success by doing all in their power to secure

the attendance of the most authoritative and representative scientists from their own country and by the widest dissemination of the findings of such conferences."

The W.F.S.W. has indeed played a most important role in the whole history of the Pugwash movement. Its active intervention at a critical stage of the arrangements for the first conference helped to secure the attendance of scientists from Socialist countries, without which the conferences would have been almost meaningless. Many scientists closely associated with the W.F.S.W. affairs have attended subsequent meetings. (Seventeen Pugwash conferences have been held so far). C.F. Powell has, from the very beginning, been chairman of the Continuing Committee while Professor Infeld and Academician Malek have also served on this Committee. And the character of the statements issued by successive Pugwash meetings have accorded closely with the aims set out in the Charter and Constitution of the W.F.S.W. This can be seen particularly from the statement issued after the Third Pugwash Conference that took place in 1958 in Kitzbühel and Vienna, - sometimes called the Vienna Declaration - that sets out the Aspirations of the Pugwash Movement:

"We believe that, as scientists, we have an important contribution to make towards establishing trust and cooperation among nations ... Scientists with different allegiances easily find a common basis of understanding; they use the same concepts and the same methods; they work toward intellectual goals, despite differences in philosophical, economic or political views,...

Scientists are, because of their special knowledge, well equipped for early awareness of the danger and the promise arising from scientific discoveries. Hence they have a special responsibility in relation to the most pressing problems of our times ... The increasing material support which science now enjoys in many countries is mainly due to its importance, direct or indirect, to the military strength of the nation and to its degree of success in the arms race. This diverts science from its true purpose, which is to increase human knowledge, and to promote man's mastery over the forces of nature for the benefit of all."

Of course, although the W.F.S.W. has contributed so much toward the Pugwash Movement, it should be made clear that there has been no organizational connection. Right from the start Russell made clear that scientists attending the Pugwash meetings do so as individuals and not as representatives of this or that organization. Other influences also contributed to moulding the Pugwash Movement into its present form. The early conferences could not have been possible without the effort and initiative of Rothlat and Haddow in Great Britain and of Rabinowitch in the U.S.A. The greatest credit to any individual must go to Rothlat who has become the indefatigable Secretary General of the Pugwash Movement. Academies of Science in many countries, including the U.S.A. and the U.S.S.R. as well as the Royal Society of London, have all given a measure of support to the Movement.

The strength of the Pugwash Movement lies in the fact that it has succeeded in attracting influential scientists from both East and West and representative of broad trends of scientific opinion in all their countries. It has issued important statements warning about the nuclear dangers and has helped to arouse public opinion, just as Joliot-Curie envisaged in 1954 when the first concerted efforts were being made to organize an international conference. But perhaps its most important and significant role has been the informal contacts it has made possible between scientists of East and West - often between scientists responsible for advising their respective governments on these issues.