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JG Crowther and the Anglo-French Society of Sciences

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Introduction

In spite of the development of science studies, the standard representation of scientific research is still dominantly seen as politically neutral, even when included in international relations. Science is considered to be spontaneously truly international, and scientists naturally predisposed to forget national and cultural boundaries in their activities.[1] Similar prejudices are noticed when studying the intellectuals and their political commitments: Writers and artists are mainly considered, scientists forgotten, and "natural and exact" scientists even more.
In the last decades, scientists have been collectively (and not only as individuals) politically active: the antifascist struggle in the 1930s, the war efforts during World War II, the atomic question, other scientific AND political post-war issues, and the cold war of the 1950s. It did not prevent the main academic institutions to warn frequently against the mixture of science and politics, as did for example the Royal Society in the 1930s.[2] The ICSU[3] limited itself in the 1950s to defend the scientists only when their scientific freedom was affected and not for their civil rights.
When studying international networks, the tangling between science and politics is omnipresent. Of particular interest are the "science and society movement" of the 1930s and 1940s, with their international connections. The part played by J. G. Crowther in these movements is well known. He played also a key role in the development of the sociabilities between British and French scientists in these years. He is the main founder of the "Anglo-French Society of Sciences" in April 1940, which lasted only a few months, but revived in September 1944. Louis Rapkine, a French biologist, became Crowther's assistant for the "Society for Visiting Scientists" (SVS) by the end of 1943, and organized what is known as the "French Scientific Mission" in United Kingdom from September 1944 to October 1945, with dozens of French scientists working in British laboratories and administrations. Finally, Crowther was the first General Secretary of the "World Federation of Scientific Workers" (WFScW), established in 1946, and a member of its leading quartet with Frederic Joliot, John Desmond Bernal and Pierre Biquard.

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[1] See for instance Needham when arguing in favour of UN scientific laboratories (UNESCO / Nat.Sci./24, 20/02/47): "When scientists meet, they understand each other instantaneously, whatever part of the world they come from" (p.11)

[2] A. V. Hill quoted by Gary Werskey (1988), The Visible College. A Collective Biography of British Scientists and Socialists of the 1930s (London: Free Association Books) p.154. First published 1978.

[3] ICSU : International Council of Scientific Unions. See Frank Greenaway (1996), Science International. A History of the International Council of Scientific Unions (Cambridge: Cambridge University Press).

The 1930s

The professional relations between French and British scientists became more political in the mid-1930s with the rise of fascism and the threat of war in Europe. Academic relations were important in the 1920s particularly in biochemistry (including Needham and Rapkine) and physics (Langevin, Biquard, Auger and the Cavendish Laboratory).
In the 1930s, the Great Depression provoked a crisis about the responsibility of science; scientists and laboratories shared economic difficulties and unemployment. In 1933, with the Nazi victory in Germany, many scholars were persecuted, and solidarity movements developed elsewhere. Scientists participated to antifascist and antiwar organizations. The political situation in Europe was urging for a British French democratic axis at all levels, including science.
Finally, scientists were particularly fascinated by the healthy situation of science in the USSR (at least, it appeared so until the end of the 1930s), which reinforced their social and political leanings. Many scientists travelled to Russia between 1925 and 1935. Crowther organized such political and professional expeditions, the main one being in 1931.[4]

In such a context, the 2nd International Congress of History of Science (London, 1931), to which a Soviet delegation headed by Bukharin[5] participated, was strongly influential among the young British scientists, but less directly on the French side.
In Great Britain, it gave an impulse to the development of a "social relations of science" movement, as it is now called,[6] with the "Division for the Social and International Relations of Science" (DSIRS) established by the British Association for the Advancement of Science (BAAS), the Association of Scientific Workers (AScW), the Cambridge Scientists Anti War Group (CSAWG), and many other committees.
In France, neither the Association Française pour l'Avancement des Sciences (AFAS) nor the scientific Trade Unions were playing a major role in the scientific community. The radicalisation of French scientists took other paths: the Union Rationaliste (founded in 1931) in defence of science and rationality; the Cercle de la Russie Neuve, with a scientific commission headed by Langevin,[7] to promote Marxism in science and to develop scientific relations with the USSR; and scientists participation to the Comité de Vigilance des Intellectuels contre le Fascisme (CVIA), established in 1934.[8]

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[4] James G. Crowther (1970), Fifty Years with Science (London: Barrie and Jenkins) p.84-85. The 1931 travel included Bernal, Pirie, Huxley, Haldane, Cockroft. On the French side, an official "French scientific decade" was organized in USSR in 1933-34. Joliot visited USSR in 1933 and 1936.

[5] Nicolas Bukharin et al. (1931), Science at the Crossroads. New edition in 1971 with a foreword by Joseph Needham (London: Frank Cass and Co)

[6] Werskey (1988), William McGucken (1984) Scientists, Society and State: the Social Relations of Science Movement in Great Britain, 1931-1947 (Columbus: Ohio State University Press)

[7] Henri Wallon et al. (1936), A la Lumière du marxisme (Paris: Éditions sociales internationales). Paul Labérenne (1979), 'le Cercle de la Russie Neuve (1928-1936) et l'Association pour l'étude de la culture soviétique (1936-1939)', in La Pensée, n°205, June 1979, 12-25

[8] Langevin, Rivet and Alain were the co-presidents of the CVIA, which lost its influence after 1936 because of political disagreements between pacifists and antifascists. A new Comité mondial de lutte contre la guerre et le fascisme was established

In both countries, at the end of the 1930s, Marxist scientists and intellectuals started similar reviews: the Modern Quarterly (1938) and La Pensée, Revue du rationalisme moderne (1939).[9]

Bilateral relations existed between similar movements in Great Britain and in France: BAAS and AFAS; the AScW and Jeune Science;[10] the relief societies for scientist refugees: the Society for the Protection of Science and Learning and the Comité d'Accueil et d'Organisation du Travail des Savants Etrangers (initiated by Rapkine). Paul Langevin, for his action during World War I and the CVIA, were a reference for the CSAWG.
There were cross-participations to antifascist conferences, for instance in Oxford, August 1935,[11] on "Academic Freedom", and in Paris, September 1936, on the support for the Spanish Republic. The Society for Intellectual Liberty[12] was in close relation with Langevin's Comité mondial…
Science and politics were inseparable in these commitments. The struggle against Nazism was a struggle to defend the integrity of science and democracy. There was a strong continuity of the engagements FOR science (its organization, its founding, its integration to the governmental policies, its popularization, the recognition of its social function…) and IN THE NAME of science (social welfare and justice, freedom, democracy…).

The British French sociabilities were due to a restricted number of scientists, but representative of their community, including Academicians. The most directly involved British scientists were those from the "visible college" and around. The French scientists were linked with the Popular Front and left parties. The leading figures included: Bernal, Needham, Huxley, Crowther, Blackett, Zuckerman, on the British side; Langevin, Rapkine, Laugier, Joliot, Auger, Biquard, on the French side.[13]
According to Eric H. S. Burhop, the idea of an international organization of scientists rose during these exchanges: "I recall particularly one such meeting when some British scientists, from Cambridge and London, went urgently to Paris to meet Langevin, Frédéric and Irène Joliot-Curie and other French scientists to discuss these matters. In these discussions, the idea germinated of an international organization of scientists to press for the proper organization of science to constructive ends and against obscurantist and Fascist trends".[14]
Crowther's active participation to this group started in 1937, when he travelled three times to Paris. The first travel was in April to study the renewal of French science during the Popular

[9] A third review, Science and Society, was published in the USA from 1936. There were many cross-participations in the Reviews.

[10] Jeune Science disappeared during the war, and was replaced by the Association des Travailleurs Scientifiques (ATS) after the Liberation.

[11] Organized by the Academic Freedom Committee, with the participation of the CVIA.

[12] Established in 1936, with Bernal, Leonard and Virginia Woolf, Blackett, Waddington, Levy, etc

[13] Bernal's Social Function of Science (London: Routledge, 1939) was a common reference for this group, even if it was never translated in French. Langevin translated the introduction which was published in Cahiers rationalistes (1939, n°75, 114-134), the monthly journal of the Union Rationaliste

[14] E. H. S. Burhop (1964), 'Scientists and Public Affairs' in Goldsmith and MacKay (org), The Science of Science (London: Souvenir Press), p.34

Front.[15] He was introduced to French scientists by Pierre Biquard, a physicist, pupil of Langevin and friend of Joliot, later to be his successor as the General Secretary of the WFScW. According to Crowther, they had already met in Cambridge some years before in Kapitza's club[16].
During this first travel, Crowther visited Joliot's laboratory. He met Laugier, head of the Service de la Recherche Scientifique[17] in the French Government, whose Director of Cabinet was Biquard.
Crowther met plenty of other French scientists, and became familiar with Pierre Auger, a physicist who will succeed to Needham as the head of Unesco Science division in 1948. Crowther used to live in Auger's home when in Paris in the following years until the Cold war.
His second travel was in the second half of July for the International Exhibition. His third was in the end of September, for the International Scientific Congress which marked the establishment of the Palais de la Découverte. Many British scientists participated to this congress, such as Needham, Waddington, Haldane, Blackett, Bernal, etc. In his report relating the Congress for the Manchester Guardian, Crowther highlighted the part played by the group of young French scientists working with Jean Perrin: Auger, Francis Perrin, Joliot, Irène Curie, Langevin, Biquard. They represented, according to Crowther, the brilliant intellectual life in a Country with a free and democratic Government.

The Anglo-French Society of Sciences in 1940

The Tots and Quots were a club of scientists involved in the struggle for the development of science, created by Solly Zuckerman in 1931, which had disappeared in the mid-1930s, but revived in November 1939 when the war began. Bernal, Crowther, Huxley, Waddington, Blackett were regular participants.[18]
Science in war, published in July 1940 (London, Penguin),[19] is the collective work of the Club. The book highlighted how science and scientists are fundamental for the war efforts, and was drawing the perspective of what will be called "the operational research".

In February 1940, Langevin, Laugier and Auger were sent to London by the French Government to set a scientific co-operation for war. They met many of the Club members. The monthly Tots and Quots diner (23 February) is dedicated to the British French scientific co-operation, with the participation of Captain Jacques Métadier, the French Navy attaché.

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[15] Reports were published in the Manchester Guardian

[16] J. W. Boag, P. E. Rubinin & D. Shoenberg (eds.) (1990), Kapitza in Cambridge and Moscow (Amsterdam: North Holland Publishing Co)

[17] Later, in 1939, Centre National de la Recherche Scientifique (CNRS), headed by Laugier until the war, and by Joliot after the war.

[18] Solly Zuckerman (1988) : From Apes to Warlords. An Autobiography, 1904-1946 (London: Collins) 108-118 and 393-402. The Zuckerman papers (Norwich University) contain many boxes about this Club. See also Crowther (1970) 210-222.

[19] The book was decided during the June diner, and written in 11 days. Rapkine, Huxley, Bernal Zuckerman, Waddington and Crowther participated among others to this book, published without author's names. See Zuckerman (1988) 398-401.

After a further discussion during the March Diner, Zuckerman proposed to establish an "Anglo-French Society of Sciences".[20]
Crowther and Métadier were then sent to Paris from the 8th to the 13th of April 1940 to set up the Society. Their visit was organized by Auger. The project met a large agreement among the French scientists. Joliot and Auger wrote the paper presenting the aims of the Society. The French branch was officially established on April 25, with the participation of Joliot, Auger, F. Perrin, Wurmser, Ephrussi… Joliot was chosen for President, and Auger for Secretary. Rapkine, who was already in London to organize the arrival of persecuted scientists, was chosen as the Secretary "in England" of the French branch. The main aims of the Society were the exchange of scientific information and publications, the coordination of research, with a stress put on the war effort.
A second visit is organized (April 21 – May 4) with Bernal and Zuckerman to establish a co-operation in military research. Contacts were made with Laugier and Longchambon (CNRS), the Army Health Service and a ballistic laboratory. Bernal and Zuckerman assisted to experiments with explosives. Back in his London laboratory, Zuckerman went on experimenting the effects of explosives on birds and rabbits.
Reports of both visits to Paris and of the French constitutive meeting were made during the 1st May diner of the Tots and Quots. The English branch was established two days later. Crowther convinced Dirac to chair the English branch, with Zuckerman as deputy chairman and himself as General Secretary.[21]
The French army was defeated in June 1940, and some scientists immediately rejoined London. Immediately after the German French armistice, the English branch met on June 23 to discuss the situation of the French scientists.[22] Soon after, Bernal and Laugier introduced a discussion on the difficulty for the scientists to leave France during the Tots and Quots diner of July 10, with the participation of Rapkine and Longchambon. But the naval battle of Mers-el-Kebir (July 3) put an end to this co-operation. Rapkine and Laugier had to leave London for the USA to go on rescuing the French scientists with the help of the Rockefeller Foundation.[23] This was the end of the first phase of the Society.

The Imaginary History of an Anglo-French Society of Sciences

Meanwhile, on June 12, Crowther had presented to the Tots and Quots diner his "Imaginary History of the Anglo-French Society of Sciences",[24] picturing the function of the Society as it could have been. The text was intended to gain more support to the Society among British scientists. Though a fiction, this history reveals the underlying conceptions of Crowther and his friends on the political function of international scientific co-operation.

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[20] The sources for the Society are in the Crowther papers (University of Sussex), the Zuckerman papers, and the Rapkine papers (Institut Pasteur, Paris).

[21] Bernal, Blackett, Cockroft, Waddington and Darlington were among the members of the Executive Committee.

[22] Crowther, Bernal, Zuckerman, Waddington, Laugier, Longchambon, Rapkine and Halban were present.

[23] For the rescue of French scientists, see Diane Dosso (1998) : Louis Rapkine (1904-1948) et la mobilisation scientifique de la France libre, unpublished Ph. D. (Université Paris VII-Denis Diderot, décembre 1998, 675 p.)

[24] Crowther papers. All quotations are from this document (9 pages), dated June 6, and annotated by Crowther

In 1936, a left Government won the polls in UK, as in France. The British foreign policy became based on a world alliance of democratic countries, and bills were introduced for the control of the country's resources and labour. The new policy extended the realm of social progress and "released a fresh enthusiasm for co-operation in science". "The scientists of England and France took the initiative of fostering this cooperation. Groups of some thirty were formed in both countries, under the presidency of Joliot and Dirac. Each group organized a bureau to centralize the interchange of information, arrange the exchange of research workers, organize French and British meetings, and combine Franco-British meetings". (…)
"The presence of an able group of French physicists contributed much towards the elimination of provincialism at Cambridge, while French scientists at Oxford, owing to their admirable culture, were able to secure for the first time in that University proper respect for science". (…) "Similar transformations occurred in France. The French Government was willing to provide sums of money to Englishmen to spend on experiments which it denied to its own citizens. Having acquired the habit of expenditure, it founded many new laboratories for research in technical sciences". (…)

This imaginary history goes on with the formation of Anglo-French specialized groups in various fields, publishing memoranda on the trends of research, which greatly influenced the governmental policies, and even the Rockefeller Foundation. An hospitality fund was created for the visiting scientists. The Bureaux received an important financial support for their activities. The Society contributed a great deal towards the transformation of the traditional governmental attitude to scientists and science. Through a Ministry of Information, created in 1937, the Society inspired a powerful new interest in science in the general population. The Times began to publish a daily article on science…

The deepest Society's influence is in Atomic Physics: "Through the Society, the dash of the French and the technical thoroughness of the English atomic physicists were combined, and the lead in this field was secured by them. They invented a compact form of particle accelerator, which superseded the big and expensive machines developed by the Americans. The mastery of research in atomic physics provided new industrial processes and military weapons which assured the security of the two countries". Other advances are described by Crowther in physics and biology.

The Society expanded, according to this imaginary history, to Canada and the USA, and then "to a world association of scientists, which promoted science among all peoples, and urged the best possible use of science for the benefit of the whole population of the earth".
If this sentence is the end of the imaginary history, Crowther added an appendix, saying that part of these prospects can still be achieved, in spite of the "gravest military reverses", to help the survival of the creative part of English and French science, with the establishment of branches in North America.

1944-45: the Society revival and the French Scientific Mission

In the first days of September, just after the Liberation of Paris, Joliot travelled to London. This time, Rapkine was successful with his 1940 project to regroup French scientists in London. A French Scientific Mission was constituted in September 1944. Scientists in exile in North and South America, and above all, scientists isolated in France by the German occupation, gathered to London to become familiar with new scientific standards. Over one

hundred French scientists stayed for short or long periods in British laboratories, until October 1945, and published hundreds of reports on the state of science.[25] Operational Research was developed in France with Rapkine, Auger and other scientists from this Mission.
The French Scientific Mission hosted the reconstitution of the Society. The Joint Executive Committees met on the 16th and 23rd of September in London, with Bernal, Blackett, Crowther, Zuckerman, Auger, F. Perrin and Rapkine. The immediate aims included the scientific rehabilitation, periodical reviews on the progress of science, lessons to be drawn from the reconstruction problems, joint conferences, etc.
During these months, a major part was played by the SVS. Its building was the QG of the Mission and of the Society. Crowther and Rapkine were omnipresent in all activities involving the French scientists
The first joint conference was on "Solid State Physics" and took place in January 1945, with dozen of British and French scientists. The Executive Committee of the Society[26] decided further conferences. One on Cosmic Ray Physics in Bristol, proposed by Mott, and various on Biology, proposed by Joseph Needham. The name of the Society was changed into British French…
But in February 1945, the British Council refused to give financial support to the Society. More generally, the relations between the British Council, Crowther and the SVS were becoming a conflict.[27] The Bristol conference was only organized by Bristol University. Back from Bristol, in September 1945, Joliot, Bernal and Blackett gave a conference in London for the SVS on the social consequences of the atomic bomb.
When the French scientific mission ended, so did the Society. As a follow-up of the Society, Crowther organized British scientific conferences in Paris, under the heading of the British Council: Dirac and Crowther himself were the first speakers in December 1945.

1946: Unesco and WFScW

During the war, the "Social Relations of Science" movement remained active in London, through various conferences[28] such as "Science and World Order" (1941), "The Planning of Science in War and Peace" (1943), "Science for Peace" (1945).[29]
In 1944, Crowther became secretary of the Science Commission of the Conference of Allied Ministries of Education.[30] This Conference was preparing the post-war educational and cultural international system. In the commission, Crowther acted as Needham's spokesman to include science in this future agency. Crowther was responsible for Needham's presence in China on behalf of the British Council from 1942 to 1946. He circulated to British Scientists

[25] Rapkine papers and CNRS Papers, 1980-0284 (CAC, Fontainebleau). All French scientists involved in British French networks participated to the Mission.

[26] Crowther papers and CNRS papers. This was discussed on the 21st of January by the French and British Executive Committees joint meeting, after the Solid State conference.

[27] Crowther papers.

[28] Some were organized by the DSIRS-BAAS, some by the AScW alone

[29] On these conferences, including the last one in 1946: BAAS archives (Bodleian Library, Oxford), AScW and WFScW archives (Warwick University)

[30] Crowther papers. CAME archives (Unesco, Paris)

the various manifestoes written by Needham when in China, developing his views about international scientific co-operation.[31] Crowther was then tightly associated with the birth of Unesco.

In 1946, the same year as Unesco, the WFScW came also into birth. It was prepared by the AScW with a conference "Science and the Welfare of Mankind", held in February 1946. More than six hundred scientists attended this conference, among which Huxley (already Head of Unesco), Blackett and J. P. Mathieu for the French ATS. Joliot was not present, but his speech on the atomic bomb was read. The success of the conference marked the ultimate step before the constitution of a new international scientific organization.
The WFScW founding Conference was held in London in July 1946.[32] A little more than a dozen of associations participated, part of them only as observers. Needham represented Unesco, Burgers the ICSU. The Federation of American Scientists (FAS) was among the observers, but never concluded its adhesion to the WFScW.
In its Constitution, the WFScW is defined as a "science and society" movement, rather than a Trade Union. Its first aim is "to work for the fullest utilization of science in promoting peace and the welfaure of mankind, and especially to ensure that science is applied to solve the urgent problems of the time". "To improve the professional, social, and economic status of scientific workers" appears only in the seventh position, just before the last one "to encourage the scientific workers to take an active part in the public affairs". Joliot is elected President, Bernal Vice-President and Crowther General Secretary. Biquard replaced Crowther in 1955.
The WFScW is undoubtedly the main follow-up of the British French sociabilities of the 1930s. The British ASCw and the French ATS were the pillars of the WFScW until 1952, when the USSR rejoined them. For the first General Assembly (Prague, 1948), nearly 80 per cent of the members were from both countries.

The WFScW was never in the position to build strong links with Unesco, although Needham and Joliot thought, in the beginning, that they could be complementary. The US State Department was hostile to the WFScW. A convention between the WFScW and Unesco was nevertheless established in 1947. It allowed the WFScW to participate to some Unesco activities, but with no financial support. Crowther even benefited an Unesco mission in 1947-48 in the USA and Mexico to study a foreseen UN Scientific Conference for the Conservation and the Utilization of Resources. The agreement did not last very long. Though a friend of Crowther and a former supporter of it, Auger, now head of the Science Division, had to yield before the American pressures and to apply the French directives: the cold war was on, and the agreement was suppressed in 1950.

Final remarks

From the mid-1930s to the late 1940s, a group of British and French scientists was deeply and constantly involved in international scientific relations. Some were liberals or democrats, other were socialists or Marxists. That's what was usually called the "scientists popular front". The network was partially rooted in professional co-operation, mainly in biochemistry and physics, then gained collective visibility during the anti-fascist struggle, and was dispersed in

[31] Needham papers (Cambridge Library)

[32] WFScW archives, FMTS (Fédération Mondiale des Travailleurs Scientifiques – WFScW) archives (fonds Jaeglé, archives départementales de Seine Saint-Denis, Bobigny), and Joliot papers (Institut Curie, Paris)

the 1950s by the cold war. The mixing of professional, institutional, political, and ideological relations never stopped. Various models were circulated through these networks, about issues such as science organization and state policy, political and social commitments, social responsibility of scientists (including popularization of science and involvement in public affairs), etc. These scientists were deeply convinced of the social and international functions of science, and put their conviction into practice. During the war, and immediately after, they had decisive political responsibilities.

After the Hiroshima bombing, the international level became fundamental for them. They strongly influenced the re-foundation of international scientific relations after World War II in many places: the Unesco Science Department, the establishment of the International Union of History of Science, the ICSU "committee for science and its social relations", and the WFScW.

Crowther was not directly involved in scientific research, but, familiar with scientists and laboratories, he was in the position to play a key part in linking the scientists, both sides of the Channel, in observing the transformations of science and scientific systems,[33] and in publicizing the ideas of this network through the Manchester Guardian.

[33] See for instance his survey: J. G. Crowther (1949), Science in Liberated Europe (London: The Pilot Press)