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► To cite this version:

Patrick Petitjean. Needham and UNESCO: perspectives and realizations. Petitjean, P., Zharov, V., Glaser, G., Richardson, J., de Padirac, B. and Archibald, G. (eds). Sixty Years of Sciences at Unesco, 1945-2005, Unesco, pp.43-47, 2006. halshs-00166502

HAL Id: halshs-00166502

<https://shs.hal.science/halshs-00166502>

Submitted on 6 Aug 2007

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BLAZING THE TRAIL

Needham and UNESCO: perspectives and realizations

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The biochemist and historian of science Joseph Needham served a brief tenure as the first head of the Natural Sciences Section: a mere two years. However, with the support of the first Director-General Julian Huxley, Needham largely defined the role of “science” in UNESCO, guaranteeing that his influence on the Organization would endure far beyond his limited mandate. In three important memoranda composed during World War II, Needham outlined an ambitious project for international scientific cooperation. They were to become the basis of the first scientific programme that he proposed in June 1946 and which was presented to the 1st session of the General Conference (Paris, November 1946).

Born in London in 1900, Needham studied medicine and biochemistry at Cambridge but he also had a keen interest in religion and philosophy. His political commitment was forged during the Great Depression. The massive unemployment resulting from the economic crisis that began in 1929, led many people to criticize the role of science and its applications to industry. It also brought about a reduction in both finances and employment within the field of scientific research. Needham joined the International Council of Scientific Unions (ICSU) and, throughout the 1930s, benefited from his experiences with “movements for social relations in science.”¹ Needham was part of an idealistic generation of scientists who wanted to use discoveries and their applications to improve living conditions for all and to develop democracy.

The war did not interrupt this commitment. Quite the contrary. Needham, like most of his peers, was horrified by the way the Nazis deformed and used science to justify the racist ideology that led to the Holocaust. Most scientists participated directly in the struggle against Nazism. Even during the war, several conferences were organized in London by the British Association for the Advancement of Science (BAAS) and the British Association of Scientific Workers (AScW) to discuss the post-war role of science. Participants were determined that science and its applications be used for the well-being of all. The importance of international scientific cooperation would be paramount. In February 1945, several foreign delegations took part in the “Science for Peace” Conference during which the creation of international scientific associations was notably discussed. From 1946 onward, these same scientists quite naturally met up again at UNESCO, ICSU or the World Federation of Scientific Workers to put into practice their ideas and projects.

Needham’s orientations

In 1942, Needham, an accomplished Chinese speaking biochemist, travelled to China to head the Sino-British Science Cooperation Office, one of several scientific liaison offices that were created during the war. The Anglo-Chinese bureau, according to Needham, devoted one third of its activities to “war science,” another third to “pure science” and the final third to

¹ Included in this denomination: "Division for the Social and International Relations of Science" of the "British Association for the Advancement of Science" (BAAS), the "Committee on Science and its Social Relations" of ICSU, the "British Association of Scientific Workers" (AScW) and other similar groups. The reference book for these groups was: "The Social Function of Science" by John Desmond Bernal (1939): "Science will come to be recognized as the chief factor in fundamental social change" is their leitmotiv.

scientific applications for agriculture and industry. In spite of the war, the office exchanged a large amount of equipment, information and research with the West. In April 1946, Huxley summoned Needham back from China to join the UNESCO Secretariat.

For Needham UNESCO was to be inspired by both his war and peace-time experiences. Scientific Unions covered one subject and several countries and the Scientific Liaison Offices covered all subjects but were bilateral. The Scientific Unions he'd joined in peace-time were independent bodies but, often lacking financial and administrative resources, they could be inefficient. The Scientific Liaison Offices he had come to know during the war were better financed but were subject from time to time to bureaucratic controls. "What we need today is fundamentally a system which will combine the methods which have spontaneously grown up for assuring international relations in time of peace, with those which the nations have had to work out under the stress of war. None of the machinery ought to be scrapped. The problem is to weld it into a satisfactory functioning system." (Needham, 1946, p.6).

One of Needham's most original concepts was the "periphery principle." He believed that the most scientifically advanced nations must share their knowledge and resources with less developed countries---that is to say, countries "on the periphery"---in order to reduce disparities between the different regions of the world. This principle was Needham's personal brainchild and represented a radical break from the past. At the creation of UNESCO the majority of scientists were Eurocentric and did not think this way. Needham criticized "the parochial theory of the 'laissez faire' school" (Needham 1946, p.8) according to which everybody in the scientific world knew each other and therefore projects got done spontaneously. Needham pointed out that "the picture of world science looks very different when seen from Romania, Peru, Java, Iran or China" (Needham, 1944, p.7).

He believed that the "social function of sciences" had to be part and parcel of UNESCO's science programmes. The Organization would need to address the history of science, scientific education and the social consequences of scientific development. Behind Needham's thinking was the idea of the universality of science and its subsequent internationalism. In his report to UNESCO's Preparatory Commission, July 1946, Needham defined the aims of the Science Section: "UNESCO is an agency for peace through active international cooperation. In the field of scientific cooperation and service, we have one of the immediately effective means of accomplishing this. This is partly because scientific research is essentially and traditionally international and cooperative, and also because the applications of scientific knowledge to human welfare, if properly made, can be one of the most effective methods of removing some of the causes of war."

Conclusion

Joseph Needham met with two main difficulties in trying to realize his objectives. Little by little, UNESCO became a hostage of the Cold War. Even though the USSR only joined the Organization in 1954, political bickering among the principal contributors (USA, United Kingdom, France) stymied commitments and projects formulated at UNESCO's founding. As early as 1947, budgetary ambitions were limited, for science as for all UNESCO programmes.

Moreover, Needham and his left-wing friends were very marginal in the scientific world. UNESCO's support for ICSU was unanimously endorsed, but this was not the case for the "periphery principle" nor for Needham's ideas about the social relations of science.

Support for underdeveloped countries by scientists did not really get off the ground until the massive decolonization period in the 1960s.

Pierre Auger, a French physicist, replaced Needham in April 1948 and Julian Huxley quit the post of Director-General at the end 1948. The political climate led UNESCO (as well as the rest of the United Nations specialized agencies) toward a system of cooperation based on Technical Assistance, an objective announced by President Harry S Truman in his January 1949 inaugural address. Needham's idealistic aims were replaced by a more utilitarian concept of the "social and international functions of science," based on a Western liberal model for the economic development of societies. However, the "periphery principle" had pointed UNESCO in a direction that it would later resume and continues to follow.

After leaving UNESCO, Needham expressed his bitterness concerning scientific colleagues from the "Bright Zone" of developed nations: "I am frankly rather tired of the people who sit in their laboratories and never give a thought for their colleagues at the other end of the world who are working in difficult conditions and even desperate need. If they were to travel about the world and visit the places which are really remote, those are the conditions they will find. There must be an end of parochialism among scientific men themselves." (Needham 1949, p.29)

Joseph Needham lived until 1995, long enough to see that much of his original vision for UNESCO came to be realized by the Organization.

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