The Post-War International Laboratories Projects

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GIVING SCIENCE FOR PEACE A CHANCE

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After the devastation of the Second World War, many people looked to science as an antidote to chaos. It was hoped that scientific advances would usher in an era of peace and social progress. In the most idealistic vision, science would help eradicate war and fascism. International scientific cooperation became an ideological and political objective. The peaceful and rational application of science would enable new challenges to be met: such as combating hunger in the world, tackling the population boom, curing diseases, battling desertification, conserving natural resources, improving living conditions in the tropics and at high altitudes. All these challenges were dependent on scientific progress.
Many international initiatives were aimed in this hopeful direction in 1945 and 1946: the creation of an "atomic energy commission" under the United Nations Security Council; the inclusion of the "S" in UNESCO, with a Natural Sciences Section; an American proposal for a "Conference on the Conservation and Use of Natural Resources."
Following a decision at the San Francisco Conference (25 April - 26 June 1945), a United Nations Economic and Social Council (ECOSOC) was created in January 1946,[1] composed of 18 countries. Its function was defined by Article 62 of the Charter of the United Nations: "The Economic and Social Council may make or initiate studies and reports with respect to international economic, social, cultural, educational, health, and related matters and may make recommendations with respect to any such matters to the General Assembly, to the Members of the United Nations, and to the Specialized Agencies concerned."
ECOSOC was explicitly required to coordinate the activities of the different agencies. Two Assistant Secretaries-General of the United Nations were put in charge of ECOSOC, one responsible for economic affairs and the other for social affairs. Henri Laugier[2] was responsible for social affairs: human rights, the fight against drugs, the right to work, child protection, women's rights, education, culture, health, science, and so on. Laugier surrounded himself with an "intellectual secretariat" made up of high-level scientists.[3] With this arrangement he hoped that the United Nations would steer all aspects, from the debates to the coordination, of scientific research at the international level. His objective was to create what would, in fact, be an international equivalent of the French Centre National de Recherche Scientifique (CNRS), with laboratories and an International Research Council (IRC).

The international laboratory projects of ECOSOC…

Laugier presented his proposals for the United Nations to set up international research laboratories in June 1946, talking, for the first time, about establishing an IRC.
On 19 June 1946, the New York Times devoted a front page article to the United Nations programme on science. Its first sentence declared: "The UN's Secretariat is ready to marshal the world's scientists for peace as they were for war". The article explained that many of the "most famous" scientists had already been consulted. In peacetime, research should focus above all on tuberculosis, cancer, soil erosion, urbanization and astronomy; social problems should also be treated as a priority. According to Laugier, the "dream of many scientists" was

[1] First General Assembly of the United Nations.
[2] French physiologist, first director of the CNRS (French national council for scientific research) in 1939.
[3] Jean Gottman, geographer, was the key mover behind the international laboratory projects. Alongside him worked Alfred Métraux, ethnologist; Louis Gros, historian; Te Lou Chang; Duran.

the existence of an international research authority, linked to the United Nations, for the purpose of solving people's social problems. In his opinion, the coordination of international research should come directly within the purview of the United Nations and not only UNESCO.

Laugier's argument was based on the social and economic function of science and the weaknesses of national research systems. Pre-war international cooperation was not particularly effective. "This work of liaison, information, coordination between national scientific activities must be continued and considerably amplified by the United Nations. It will be one of the main tasks of the Department of Economic, Social and Cultural Affairs in the United Nations Secretariat and the specialized agency, UNESCO, that is being created....However, we may think today that in the general interest of humanity, we must go further than just coordination and we may well ask whether certain areas of scientific research should not be taken directly under the wing of the central bodies of the United Nations or of the specialized agencies."

Examples were put forward of the areas in which research could be carried out "rationally, efficiently and selflessly". Laugier concluded: "A significant amount of research in various fields would be far more effective if it was carried out with all the necessary means in perfectly equipped international laboratories, for which the United Nations would have financial and intellectual responsibility."

A resolution was adopted by ECOSOC in October 1946,[4] in which the prospect of an IRC had disappeared. The resolution confined itself to inviting "the Secretariat to consult UNESCO and the other specialized agencies concerned and to submit to ECOSOC, if possible during the next session, a global report on the matter of the creation of United Nations research laboratories".

… and those of UNESCO

At the same time, in June and July 1946, the "science" sub-commission, and then the Preparatory Commission for UNESCO, looked into the matter. The initial draft programme put forward by Needham did not include specific proposals for laboratories, but was complemented in June with suggestions from delegations: the Amazon Hylean project (proposed by Brazil); a computation centre for applied mathematics (by France); nutrition institutes (by the United States, Brazil and France) since food problems were global; health institutes for parasitology and immunology (by Mexico, France and Brazil); astronomical observatories (by the United States and the International Astronomical Union); and a meteorological laboratory (by the United States).

Unlike Laugier, Needham did not include in his document any idea for centralizing the laboratories: his approach was more pragmatic than political or ideological. The key words used are "to facilitate" cooperation, to "not replace existing arrangements," to investigate whether the work proposed was not already being done in an institute. The idea was to start with relatively modest, pilot projects. The proposal for an International Institute of the Hylean Amazon (IIHA) was ideal for that purpose and was selected as one of four priorities for all of UNESCO in 1947.

Needham was very skeptical about Laugier's projects, which he feared might separate the basic sciences (for UNESCO) and applied sciences (for ECOSOC). Needham prevented ECOSOC from coordinating international research. However, he did accept the ECOSOC resolution, which stressed consultation with UNESCO.

The Needham Report

[4] The quotation is taken from draft resolution E/147 of ECOSOC.

On 20 February 1947, Needham submitted a report[5] underscoring two principles. First: "the natural sciences [are] the most international of all human activities … Race, colour, creed, or geographical location, have demonstrably nothing whatever to do with the plausibility of a hypothesis … Scientific men understand one another at once, from whatever quarter of the world they come to meet together". Secondly, there was the "… necessity of [a] concerted attack on the great problems of natural phenomena which still elude us."

Needham remained very prudent regarding the selection criteria for laboratories. He rejected laboratories in the traditional university disciplines (general physics, botany, physiology, and so on) because what was being done in national laboratories was sufficient. And he did not select those in which commercial interests were at stake, since there, too, research already had sufficient support. Certain criteria were spelled out: no duplication; a problem to be examined had to have reached scientific "maturity"; a laboratory must be installed someplace where there were problems to solve, particularly in regions that had not yet been sufficiently studied. Needham had a vision of laboratories "without borders."

On the basis of these principles and criteria, Needham identified nine priority areas: astronomical observatories; laboratories of nutritional science and food technology; meteorological centres and stations; applied mathematics laboratories; medical and biological research institutes; a centre for study of tropical life and resources; projects for international ornithological observatories; international oceanographic laboratories; and stockrooms for type-collections and standards.

Of the 15 proposals made in these fields, Needham narrowed the final priority list to four/[6]

"1. an institute for the study of the chemistry and biology of self-reproducing substances, including cancer research;

2. a chain of laboratories and field teams in nutritional science and food technology (a) in China, (b) in the arid and humid tropical zone, (c) in the humid equatorial zone;

3. study of life and resources in the humid tropical zone, beginning with an institute of the Hylean Amazon and expanding into a chain of equatorial zone stations;

4. one or more institutes of oceanography or fisheries in Asia, their work to be correlated with that of the nutritional laboratories."

ECOSOC gives up

The Needham report, for the most part, went unheeded. For a year it was kept in a drawer before being included as a principal contribution to a more general document[7] of the United Nations presented to the seventh session of ECOSOC (July 1948), which referred it once more to a group of experts.

The meeting of this group of experts was held in August 1949 in Paris.[8] Needham, Levi-Strauss, Shapley and Ozorio de Almeida were invited and Auger (UNESCO) and Laugier (ECOSOC) were also present. They produced a lengthy document with three main priorities (a computation centre, a brain institute and a social sciences institute) and four secondary priorities (meteorology, arid zones, cancer, astronomy). This document too remained a dead letter: the eleventh session of ECOSOC (August 1950) once more referred the projects to a commission of experts and definitively entrusted UNESCO with the matter.

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[5] UNESCO/Nat.Sci./24/1947.

[6] Pages 59/60 of document Nat.Sci/24/1947. The second priorities: astronomical observatory in the Southern hemisphere, a tuberculosis research institute, a computing laboratory, a high altitude station in the Himalayas, laboratories for human biological and genetic analysis, an institute for the study of human evolution in Africa, an Arctic research institute, arid zone institutes, and an individual and social psychology institute.

[7] ECOSOC E/620.

[8] Minutes of the meeting of experts: E/Conf/PC/SR1 to SR11. Final report: documents E/1694 and E/1694 Add. UNESCO Archives.

In parallel to the ECOSOC debates, UNESCO launched the creation of the IIHA at the end of 1946, and discussed the possibility of an International Institute of the Arid Zone (IIAZ). At the 4th session of UNESCO's General Conference, held in Florence (June 1950), the principle of two laboratories was decided upon: the international computation centre and, an American proposal, CERN (European Centre for Nuclear Research – European Laboratory for Particle Physics).[9] This international laboratory was far removed from the initial projects: it was in Europe and not in a country of the South; it concerned basic physics; which was not very likely to meet the immediate needs of ordinary people.

The projects debated between 1946 and 1950 about establishing, if not a United Nations version of France's CNRS, then at least a significant group of international research laboratories in several disciplines, did not lead to much. Despite their differences, Laugier and Needham both wanted to provide new bases for international scientific relations: establishing the primacy of "thinking internationally" and the overall interests of humanity over national agendas and the spontaneous "laissez-faire" of academics. Set against these objectives, the failure was obvious. Laugier's desire to use ECOSOC rather than UNESCO and his goal of strong centralization on the CNRS model were more of a disservice than an aid to the laboratory projects developed more pragmatically by Needham and UNESCO.

[9] CERN was founded in 1954 in Geneva.