ONR London: Two Decades of Scientific Quid pro Quo

London. The Office of Naval Research's branch office in London has been in business since shortly after the end of World War II, when it took over the functions, along with the clientele and goodwill, of the wartime London liaison Office of Scientific Research and Development (OSRD).

The Office of Naval Research itself was established in Washington in 1946 as a result of the reciprocal desires of the Navy to maintain its wartime working alliance with the scientific community and of scientists to institutionalize government support of research in peacetime. ONR London, of course, was an extension of its parent, but the scale of its operations was naturally much smaller, and the conditions it faced were very different.

In Europe outside Britain the war brought not only a dispersal of staff and physical destruction to laboratories but also a breakdown of communication among scientists. ONR London's staff tackled the immediate task of assessing scientific activities that had gone unreported during the war and transmitting the results to scientists in the United States. At the same time ONR London people were providing information for European scientists about what had been happening in American laboratories. Throughout the period of remarkably rapid recovery in European science and up until the present, ONR London has continued to act the role of intermediary and, in effect, to do its bit in internationalizing science.

Institutionally, ONR London is a microcosm of ONR, with a group of technically trained Navy officers working in parallel with a group of civilian scientists. In charge of the London office is a Navy captain. He is assisted by a civilian chief scientist responsible for giving technical direction to the operation and for recruiting civilian scientists.

The current commanding officer is 47-year-old Captain C. T. Froscher, who, in addition to having served on destroyers and as a naval aviator, has earned degrees for work in aeronautical engineering and fluid mechanics. His more recent duty assignments have been in aeronautical R & D.

Chief scientist is Aubrey W. Pryce, a British-born and British-educated physicist who joined the acoustics branch of the Office of Naval Research in 1951 and was director of ONR's acoustics program when he was appointed to his present job.

Froscher and Pryce preside over an operation which, through the years, hasn't much varied its modest size—normally about 20 professionals, split evenly between Navy officers and civilians.

Its size makes ONR London a highly personal operation, but the personalities change regularly. Civilian scientists work in London for a year or two, their terms tailored to fit university sabbaticals or leaves of absence from government or industry laboratories. For Navy officers, the length of assignment is a little longer, corresponding to the normal tour of overseas duty—2 or 3 years.

At the moment, both top jobs in London are filled by men who came here this summer. (Peter King, Pryce's predecessor in London, has moved into ONR's top civilian berth as chief scientist in Washington.) Assuring continuity in the face of a steady turnover of personnel would appear to be a problem, but ONR London has lived with it since the beginning. Navy officers are habituated to changing stations and carrying on coolly, and the civilian scientists usually have contacts with colleagues in their disciplines in Europe which enable them to take up their work without long breaking-in periods. Each scientist maintains a file in his discipline, to which his successor has access. Usually there is a period of overlap in the terms of men in the same field. Staff meetings involving everybody are held monthly, division meetings are held weekly, and the organization is small enough and run with sufficient informality so that it is very unlikely that anyone will be left out in the cold.

The mission of the office has obviously evolved in 20 years, and interpretations naturally vary according to the people actually working in the office. What the Navy officially expects, however, is summed up in a statement of the mission of ONR London formulated in 1960 and still current.

> To assist the Chief of Naval Research in discharging his responsibilities to the Secretary of the Navy and the Chief of Naval Operations for surveying the worldwide findings, trends, potentialities and achievements in research and development by establishing and maintaining liaison between the U.S. Navy and all scientific research agencies and those development agencies conducting programs of naval interest in the United Kingdom, Europe and such other areas as may be designated by the Chief of Naval Research;
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> To represent the Assistant Secretary of the Navy (Research and Development), the Chief of Naval Operations and the Chief of Naval Research in all matters of general scientific and technical interest to the Navy in the designated geographic areas of responsibility;
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> To assist Navy bureaus and offices in contracting for desirable research and development, and in patent matters, in the United Kingdom, Europe and adjacent areas;
>
> To provide general technical assistance as may be required to other U.S. Government scientific and technical agencies, and U.S. Military commands and activities within the designated geographic areas of responsibility.

As the statement indicates, ONR London serves multiple masters. It not only has responsibilities to the Navy and other government scientific and technical agencies but it also has regarded itself, and has been regarded, as a European outpost for the American scientific community as a whole.

To pursue its major task of scientific liaison, ONR London is organized into four sections, two major ones—an applications division and a sciences division—and two minor ones—a contracts office and a patent section. Since the beginning it has been deemed inappropriate for ONR people doing liaison work to have or appear to have research funds on tap. The ONR London contract office, which is responsible for administering ONR contracts in Europe and doing a certain amount of evaluation of contract work, has always been separate and is now located in Brussels. The patent section is manned by a patent counsel who acts

NEWS IN BRIEF

• **GROUP PRACTICE FACILITIES:** Included in the new Demonstration Cities Act is authorization for the government to insure mortgages on facilities for group practice in medicine, dentistry, and optometry. The issue was handled by the Banking and Commerce Committee in an attempt to dig it up from burial in the House Interstate and Foreign Commerce Committee.

Federal insurance on mortgages for 90 percent of construction and equipment costs is guaranteed for sums up to $5 million at interest rates not higher than 6 percent and maturity not to exceed 25 years, if the applicant satisfies the Secretary of the Department of Housing and Urban Development that he is unable to obtain a loan without government insurance.

In House hearings, the American Medical Association's biggest complaint was that the original bill, although it stated that private groups could be mortgagors, gave priority to public, nonprofit organizations. The AMA said this would favor "closed panel" group practices (in which a nonmedical group, such as a union, owns the medical services for its membership) over medically owned group practice.

The final act states that the mortgagor must be a private, nonprofit organization, but a profit group may enter into agreement with such an organization for use of the insured facilities.

• **CONGRESSIONAL SCIENCE ADVISORS:** The Legislative Reference Service's Science Policy Division, which has been receiving favorable notices for its studies of government science policy and activity, is under new management. Theodore M. Schad, formerly senior specialist for engineering and public works, recently became the division's acting chief, replacing Edward Wenk, Jr., who has taken an 18-month leave of absence to accept a Presidential appointment as executive secretary of the new National Council on Marine Resources and Engineering Development. That Wenk will, in fact, return to LRS is by no means certain. Interest in establishing a federal marine resources agency has been increasing, and it is not unreasonable to assume that Wenk will be considered for high office in any new agency created. Schad, like Wenk, has had extensive experience both on Capitol Hill and in the Executive Branch. His engineering training was at Johns Hopkins.

• **CONTRACTS FORBID POLLUTION:** Two contracts executed last week by which the U.S. government will allow the Southern California Edison Company to use Colorado River water for its Mohave steamplant contained what Secretary of the Interior Stewart L. Udall called a "unique" anti-pollution provision. Udall indicated that henceforth such provisions, requiring effective preventive measures against air and water pollution, will be a standard feature in contracts executed between Interior and users of natural resources under Interior's jurisdiction.

• **ENVIRONMENTAL POLLUTION:** Problems of air and water pollution cannot be met within the limits of existing scientific knowledge and technology, the House Subcommittee on Science, Research, and Development has concluded. In a report issued 28 October, the subcommittee, chaired by Emilio Q. Daddario of Connecticut, called for a ten-fold increase over the next 5 years in the commitment of federal funds (now $30 million per year) for research, development, and demonstration work on pollution problems. The report, which contains a number of other findings and recommendations, is based on an 18-month inquiry. It may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, for 20 cents.

• **JOHN F. KENNEDY SCHOOL:** After receiving the approval of the Massachusetts courts, Harvard University has formally launched the John F. Kennedy School of Government (*Science*, 7 October). The school, which will combine the Graduate School of Public Administration and the Kennedy Institute of Politics, will be built adjoining the Kennedy Library on the banks of the Charles River in Cambridge, Massachusetts. Don K. Price is the dean of the new school, and Richard E. Neustadt serves as director of the Kennedy Institute.

for the Navy in patent matters in which it has an interest and who also keeps tabs on patent law developments in Europe.

The applications division, which until recently was called the Naval Applications Division, is staffed completely by Navy officers with a spread of technical backgrounds. As the name of the division implies, the job of the Navy officers is to keep in touch with developments in NATO navies and in the labs of their civilian contractors. A certain amount of the officers' time is spent on assisting with the administration of U.S. overseas R & D programs. In addition, ONR London officers often act as U.S. observers or members on NATO committees or in other international negotiations.

The main task of the civilians in the Sciences Division is visiting individual scientists and laboratories in Britain and the rest of Western Europe and, less frequently, in the countries of the eastern Mediterranean. Occasionally in recent years, ONR London scientists have gone, on invitation, to Soviet bloc countries.

The operating policy of the ONR men in Europe is the scientific *quid pro quo*. They seek to learn about significant new and unpublished work in European labs. In the course of their travels they provide European scientists with information on new work in the United States which is not yet available in the literature. To do their jobs successfully they obviously must be competent in their own fields. It helps a good deal if, as is the case with many ONR London recruits, they already have professional ties in Europe, or if their reputations have preceded them.

ONR London scientists attend meetings in their own disciplines or related ones, but meeting-hopping is not encouraged. The face-to-face visit with the individual researcher in his laboratory is regarded as more productive. ONR scientists are frequently asked to lecture in their specialties, which indicates a definite sort of acceptance.

Acceptance is a relevant consideration, since ONR's conspicuous tie with the United States Navy might be expected to raise the hackles of European scientists who are anti-American or simply antimilitarist. The fact that most of ONR London's people are university or industry scientists who, after a year or so, will go back where they came from, and who are identified

as scientists and not as cold-warriors, seems to have prevented this from becoming much of an issue.

ONR London is located in an ordinary office building just off busy Oxford Street, and there are no guards on the door or security procedures which might put off foreign scientists who come in to talk shop.

Of the nine men on the current sciences division roster, four have university affiliations, three are on leave from government laboratories, one is on leave of absence from an industrial research laboratory, and one is a Navy captain from the Bureau of Medicine and Surgery, who is a psychologist.

Liaison work is always hard to evaluate, but, because of the extent and the character of the reporting its staff members do, the ONR London product is, to an unusual extent, available for scrutiny by both the scientific community and the Navy.

The best-known ONR London output is the *European Scientific Notes*, a monthly, inexpensively produced "informal publication" of 20 pages or so, of which some 7000 copies go to individuals in government agencies and research labs, to ONR contractors, and to scientists in the United States. *ESN* carries news of noteworthy developments in European research, highlights of scientific meetings, and a certain amount of parish-pump news of European scientists. It carries the caveat that material which appears in it is "not part of the scientific literature and must not be abstracted, reprinted or given further distribution."

Every 6 months another member of the London office staff takes over the editing of *ESN*, sharing the chore with the organization's librarian, Virginia Hewitson, who provides continuity. Everyone is expected to contribute to the notes; a premium is placed on conciseness and readability, and some staff members accustomed to the style and syntax of the scientific paper find it difficult to unbend.

Much more detailed information is put into ONR London's technical reports, which are sent to several hundred American scientists in addition to those on the government list. A serious attempt is made to send a particular report only to people likely to be interested in it. Other forms of ONR reporting are letters in response to inquiries from the ONR home office and other Navy and government scientists, and conference reports dealing with the main points of interest at international meetings and symposia. A small number of Europeans receive copies of the latter reports.

If it is to go on serving the scientific community, ONR London must, it is clear, continue to justify its existence to the Navy, which has the Department of Defense looking over its shoulder and Congress always there as the ultimate auditor. ONR London's fate, of course, is tied to the fate of ONR Washington. As a research-supporting agency, ONR has been dwarfed by later arrivals on the scene—AEC, NSF, NASA, and its own siblings in the Department of Defense. In part because of the activities of these agencies, pressure has been generated within the Department of Defense for emphasizing applications rather than basic research, and ONR's budget has, in the federal comptrollers' jargon, plateau-ed.

ONR London is a small operation costing about $600,000 a year—picayune in the perspective of the federal budget—but its location gives it visibility and vulnerability, particularly in view of current worries over the gold drain. It may also be pointed out that times have changed since ONR London was established. European science is thriving, and the existence of a scientific jet set shows how diminished a barrier the Atlantic has become.

Partisans of ONR London, however, have arguments to refute any suggestion that the office is lingering on like some bureaucratic anachronism left over from the Mexican War. The very vitality of European science today, they say, puts ONR London's services at a premium, since, in practical terms, it is impossible to assess scientific developments from a vantage point 3000 miles away.

As a counterargument to the balance-of-payments plaint, partisans point out that research of high quality can be contracted for much less expensively in Europe than in the United States, and so, they argue, it is worth while to have people here who really know where good work is being done and who can serve as matchmakers.

ONR London's mode of operation has changed over the years. Increasingly, a lookout is being kept for work in application of new scientific developments, and, because of this attention to "technology transfer," the applications and sciences divisions are working more closely together than they have in the past.

One further argument is that ONR London is unique. Neither the State Department science attaché program nor the military services nor the overseas representatives of other agencies, such as NSF and AEC, provide similar broad coverage. Whether other agencies really haven't tried to provide what ONR has provided or whether ONR London has simply managed better can be debated. But, as the visitors' book testifies, ONR London, which 20 years ago was a modest beachhead, has become a familiar international scientific trading post.—JOHN WALSH

Research and the Munitions List: Scientific Exchange Not Always Easy

Scientists who confine themselves to basic research may be surprised to learn that, for their brethren in more worldly pursuits, a scientific paper is an exportable "commodity" requiring a State Department license—an item on the U.S. Munitions List along with submarines, tanks, flak suits, and a host of other implements of war.

The effect of the Munitions List—which is intended to limit international traffic in arms—on the international flow of unclassified scientific and technical data came to light during the 17th International Astronautics Congress, held in Madrid last month. Among the American papers scheduled for the Congress, the major international meeting in the field of space engineering, were four that never were delivered. According to newspaper reports, these were: a survey of "Chemical rocket propulsion" by Leon Green, Chief Scientist of the U.S. Air Force; a report on "Trends in reaction control propulsions for satellites and space-