

LETTER FROM LONDON



Unifying Government research

**Britain's research
corporation may
become a giant**

by David Fishlock

In Britain the inventor thwarted by banks can always turn to the state's fairy godmother, the National Research Development Corporation. It was state cash that turned Christopher Cockerell's cocoa tin into a Mountbatten Class Hovercraft that can ferry 600 passengers at a time across the channel to France. State cash also turned discoveries in Oxford Pathology Department into a multimillion-dollar business in the semisynthetic cephalosporin antibiotics, already earning NRDC over \$5 million in royalties.

But NRDC is no easy touch, as 1,000 inventors will readily testify. Its goal, in brief, no less than that of the regular finance houses, is to show a profit. It shies from the inventor who fails to argue convincingly that he can run a business, or entrust others to do it. About 1,000 private inventors ring its doorbell each year, though they tend to arrive only when repulsed by more orthodox financiers.

Also NRDC is the agency of commercial exploitation for many state-owned inventions made in universities or the national laboratories. Strong, stiff carbon fiber (SN: 6/21, p. 601), for instance, the route to which was discovered by a defense laboratory, the Royal Aircraft Establishment, should be earning NRDC several million dollars a year in United States royalties alone before the end of the decade. Most carbon fiber bought by United States aerospace companies today is of British manufacture.

It has put over \$1 million into one of the world's most advanced electric motors, a superconducting homopolar machine of over 3,000 horsepower. Again spawned by defense as a compact and silent submarine boater, the large version is about to start trials as a direct current drive for a powerstation pump.

But the Government has much bigger plans. It has just published proposals for a merger of 10 national laboratories with NRDC to form a huge national research corporation provisionally named British Research and Development Corporation.

With components that spend today about \$175 million a year and have capital assets of the same order, this company would be bigger than the Battelle Memorial Institute, the United States nonprofit research organization that is one of the world's giants with a turnover of about \$125 million a year. And it would be in the same line of business as Battelle, for it is part of the plan that the new corporation should

earn perhaps a third of its income from contracts placed by private industry. Battelle last year obtained contracts worth about \$2 million from Britain, almost wholly from private industry.

The shift in emphasis will be welcomed by NRDC officials, who have complained that until carbon fiber the agency had never been offered an invention of obvious commercial potential by a national laboratory.

Embraced by the new research corporation will be four big atomic energy laboratories, fertile establishments whose spinoff up to now has been handled independently by another state body, the Atomic Energy Authority. While initially these centers would still work mainly on reactor development, the intention is that they will turn increasingly to non-nuclear work of commercial potential. There are many lusty infants already appearing in desalination, ceramics and electronic instruments.

Opinions are divided whether NRDC, which came of age this year and is just becoming recognized by private industry as a valued partner, should risk its fledgling reputation on the new gambling venture.

Last year more than 2,000 new inventions and proposals for development contracts were submitted. One fear is that the private inventor may suffer once its staff of about 100 is swallowed by a team of about 18,000. But worthy inventions from private sources, says NRDC, have proved very rare and even the Hovercraft turned a bit sour when the inventor demanded royalties out of all proportion to the NRDC's estimates of the fledgling industry's immediate prospects.

The Government's attitude is that NRDC, as state agency of commercial exploitation, should be closer to the laboratory, helping to shape the research programs and not simply accepting what the inventor turns in. Government scientists, it thinks, should be "more fully involved in the exploitation of their invention."

Like any financier, NRDC tends to draw praise from those it is backing and abuse from the rejected. It has become reconciled to receiving from private sources only those ideas and inventions companies and banks are unwilling to back themselves. Yet in a world where, say British bankers, there is no shortage of risk capital for bright new ideas, NRDC last year managed to show only a small profit on all of the year's trading.