MOREST is the name of new arrester gear now being used by the U.S. Navy on short runways. Making use of hydraulically braked winches it operates broadly on the principle of a carrier-borne arrester wire. It is here seen checking one of the F4D Skyrays in service with Marine Air Group Eleven in Formosa

FROM ALL QUARTERS . . .

The Scimitar Accident

DURING and after last week's Gosport inquest on Cdr. J. D. Russell, R.N., former C.O. of No. 803 Sqn., who lost his life when his Scimitar went over the side of H.M.S. *Victorious* in the Channel on September 25, some details were given of the sequence of events which led to his death. The squadron was coming aboard the new carrier and Cdr. Russell had made a series of normal "touch-and-go" approaches preparatory to making the first arrested landing. In this he made a normal touch-down and caught the first arrester wire; but, when the aircraft had almost stopped, the wire snapped and the aircraft rolled very slowly forward and toppled off the end of the angled deck into the sea. It remained afloat for a surprisingly long time and Cdr. Russell was seen to be operating various controls and removing his head-gear while an airman was lowered towards the aircraft from the plane-guard helicopter. The cockpit canopy momentarily opened and then slid shut again just before the aircraft sank out of sight with the pilot still on board. During a subsequent search of the area no trace of him could be found. Intensive salvage operations, frequently hampered by strong tides and bad weather, resulted in the recovery of the forward portion of the aircraft about a month later, together with the pilot's body.

Press photographers aboard *Victorious* at the time of the accident took pictures and film which were widely publicized in newspapers and on television. Mainly because of this, and of the puzzling failure of the pilot to leave his aircraft, the accident has attracted considerable attention.

From the evidence given at the inquest, and from facts made known by the Admiralty, the sequence of events is now fairly well established. It is clear that Cdr. Russell's death was the result of a combination of circumstances, each of which contributed towards final disaster. Firstly, the arrester wire broke because a small valve in the hydraulic decelerator gear was left open and this was not detected during normal testing of the system. (The traditional test procedure of pulling the wire out with a tractor is now to be changed.) When the wire broke the aircraft had almost stopped, but no attempt was apparently made to stop it finally or to steer it away from the edge of the deck. The pilot could almost certainly have braked to a standstill had he realized what was happening, but his attention was probably occupied by the checks which have to be carried out very quickly at that juncture.

The aircraft having settled in the water close alongside the carrier, and with the helicopter on the spot, the pilot's chances of a successful escape by climbing out into the water seemed excellent. All he had to do, in theory, was to get rid of the canopy, either explosively or manually, undo the quick-release box on his combined parachute/seat harness to detach himself from seat and parachute, remove his helmet and his dinghy-pack attachments, and unfasten the leg-restraint quick-release buckles.

In the event, it has been established that he was unable to pull the canopy-jettison handle because it became fouled. (The handle has already been redesigned.) The alternative in such cases is to use the ejection seat, but this Cdr. Russell certainly did not attempt at any stage. It may be that he felt he had precluded this by undoing his harness, possibly in order to get closer to the lever, or that he still considered that ejection was unnecessary. He may also have thought that the helicopter was too close overhead to permit ejection. In fact, he continued to try to open the canopy by sliding it back manually; but this would have been difficult, because the weight of the canopy tends to close it when the nose of the aircraft is down. He was seen to slide it some way back, but it slid closed again.

By this time water must have been entering the cockpit through the inward-relief system which is specifically intended to admit water to balance internal and external pressures and make underwater canopy-opening easier. All Cdr. Russell's breathing air was reaching his mask through the supply tube; therefore, when the water level reached the regulator, water would flow to his mask and force him to spend time in removing his headgear. This he was seen to do. A regulator setting for breathing 100 per cent oxygen would have excluded water from the system and increased his endurance, but it seems likely that his energies had been very considerably taxed by the struggle with canopy and headgear by the time the aircraft finally sank. He very probably did manage to open the canopy manually underwater (though it might have slid back after a change of aircraft attitude) but he did not release his leg-restraint straps. He remained held in the cockpit, though not necessarily by the leg-restraint gear.

On the Martin-Baker Mk 4 ejection seat fitted in the Scimitar the leg-restraint straps pass from the shear rivets on the floor, through snubber boxes, through D-rings on the pilot's garters and to attachments on the seat-pan which are unlocked either by the automatic sequence of ejection or by the manual operation of the override lever. This also unfastens the harness from the seat. After landing normally or ditching, the pilot leaves the seat by undoing the combined parachute/seat harness and detaching the D-rings on his garters by spring-loaded quick-releases. These were found to be in full working order after salvage, and it seems certain that Cdr. Russell did not reach the stage of undoing them. He had almost certainly spent much time and energy in overcoming earlier difficulties.

The Admiralty has stated definitely that in this accident, and in a subsequent unsuccessful ejection from a Scimitar near Lossiemouth (see "R.N. Scimitars Cleared," p. 925), no fault was found in the Martin-Baker ejection seats.

Strategic Studies Institute

KNOWN as the Institute for Strategic Studies, Ltd., a new body on an international basis has been formed for the study of defence and disarmament. It is to have headquarters in London and the initial finance for its first three years of operation has been generously provided by a grant of $150,000 from the Ford Foundation in New York. The first director will be the Hon. Alastair Buchan and its secretary Cdr. H. E. B. Jenkinson, R.N.(ret.).

The Institute's purpose is to further the study of strategy and security as a whole and its membership will not be confined to British subjects. The founder-members of its council are, however, all drawn from Britain. Sir Kenneth Grubb is chairman, the vice-chairman is Richard Goold-Adams and Lord Salter is treasurer. Other members include Marshal of the R.A.F. Sir John Slessor, the former Chief of Air Staff, and Air Chief Marshal Sir Ronald Ivelaw-Chapman, former V.C.A.S.

Technological Trust

THE CIBA organization—of which CIBA (A.R.L.), Ltd. (formerly Aero Research, Ltd.) is a member-company—has announced the founding of the CIBA Fellowship Trust, for the purpose of encouraging the interchange of ideas between British scientists and those of Continental countries.

The trustees are Sir Arthur Vere Harvey, M.P.; Lord Hives; and Prof. Sir Alexander R. Todd. The Fellowships will be awarded by an advisory panel consisting of Sir Arthur Vere Harvey (chairman); Prof. A. J. Birch, University of Manchester; Prof. W. Bradley, University of Leeds; Dr. A. Brunner, CIBA, Ltd., Basle; Dr. E. Brunner, the Clayton Aniline Co., Ltd., Manchester; Prof. D. H. Everett, University of Bristol; Prof. D. M. Newitt, University of London; and Dr. R. F. Webb, CIBA (A.R.L.), Ltd., Duxford.

Several Fellowships are to be awarded for tenure during the academic year 1959-1960 at Continental universities or institutions "for research in chemistry, physics or some other allied scientific subject." They will be awarded to graduates of universities situated in the United Kingdom or in the Republic of Ireland, or to members of such universities graduating this year. It is expected that some Fellowships will be awarded to recent graduates, and others to candidates who have already taken their Ph.D., or who have already spent some time in industry.

The basic award for Fellows who have been undertaking training in research and who wish to continue post-doctorate studies will be £800 per annum, plus allowances. For candidates who have obtained a First in science and who wish to undergo training in research the basic award will be £500 per annum, plus allowances.

Further details are available from the Secretary of the CIBA Fellowship Trust, CIBA (A.R.L.), Ltd., Duxford, Cambridge.