CORRESPONDENCE

SIR,

Reorganization at Chatham Dockyard

Captain Griffin's article (Vol. 15, No. 2) had obviously required a considerable amount of time and effort to compile. I wonder how many of your readers repaid that effort by reading it and of those who read it how many will find a refit easier to endure?

Having just completed a most enjoyable but frantic spell as a main grade in a dockyard, and having overnight changed from the role of retailer to customer, I find myself doubly saddened by one fact of naval life—that the Fleet stops or goes on the quality and efficiency of the dockyard effort, yet those who man the Fleet know next to nothing about the complicated workings of the dockyard mind and body. Some, of course, will argue that the Fleet has no need to know—that one's ship should be driven into the yard and fetched on Completion Date. This is a pipe dream which, for many British reasons, can never be realized.

It is a hackneyed truism which I have recently *seen* to be true on many occasions, that the quality of a refit varies in direct proportion to the effort of the ship to get to know the dockyard people and problems. Captain Griffin's article can only but help to improve the understanding of the latter, but the dockyards themselves could do so much more. The 'them' (the Fleet) and 'us' (the Dockyard) gap seems to be slowly widening all the time with mutual losses thereby to both sides. Yet to use the word 'sides' indicates an attitude symbolized by the seating plan of a refit conference. The widening of the gap is a *naval* problem and one is throwing critical stones in a *naval glasshouse.*

Reorganization, as Captain Griffin says, was introduced to bring the dockyards into line with modern conditions. As a result of his article one hopes that some Engineering Specialization officers will know more about it. The rest of the Fleet is still ignorant and rightly or wrongly judge *their* yards by outward and visible signs, such as a clean finish, the keeping of refitting dates and the general impression gained of dynamism and efficiency. The latter, in the modern day and age, is by no means strong. May I suggest a few ways of strengthening it?

(*a*) Discard the universal drab brown overall in favour of material more suited to induce an appearance of cleanliness and efficiency.

(*b*) Provide a distinctive dress for supervisory grades—too often ignorant ships staff speak with the wrong man because they just do not know who is who. The bowler hat had its uses.

(*c*) Treat the ships staff supervisors to a short alive presentation of dockyard organization and problems at the start of a refit.

(*d*) Put a main grade in complete charge of a ships refit with executive powers to implement the refit plan.

(*e*) Provide suitable luncheon/club facilities for both dockyard (main grade) and naval officers wherein they can meet socially.

(*f*) Provide means of identification of trade for all workmen.

(*g*) Make it mandatory that ships under refit work dockyard hours (assuming there is no hope of altering the present Dickensian routine of work, theoretically starting at 0710).

(*h*) Reverse the tendency to 'de-navalise' the dockyard and supervisory staff.

(*i*) Face up to the inevitable cost and provide a proper ships cleaning organization.

(*j*) Provide a ships refitting office within the main Dockyard Office Block.

I know, by experience, that some of these ideas are not new, and the reasons for not implementing them vary from Treasury to Trade Union intransigence. But the Fleet does not know. Is it not time they were put in the picture?

(*Sgd.*) J. L. LEES,
Commander, R.N.

Departmental Reply

The recommendation by Commander Lees that a greater understanding by the Fleet of dockyard problems is agreed and any suggestions to that end are welcome. Comments on each suggestion are as follows:-

(*a*) Any overall is likely to become drab and brown is as suitable as any other colour.

(*b*) Protective helmets are being issued—grey for workmen and white for supervisory grades. In a reorganized yard the Ship Superintendent and the Project Officer should be known by all and it is thought that 'specialists' normally know their 'opposite' numbers.

(*c*) To provide an unsought briefing might not be the best answer. The wish of any captain for his staff to be briefed could no doubt be met.

(*d*) No main grade can have the necessary knowledge and experience to exercise such authority over all aspects of a refit with its complex inter-dependence between the trades and professions; to overome this, 'planning' has been introduced in reorganized yards and project officers and ship superintendents provided to give liaison and cohesion to the combined effort.

(*e*) It is thought that the need for liaison between the technical grades and ships officers and ratings is equally strong. Facilities are limited both in dockyard luncheon clubs and the Barracks, and to provide new facilities which would be acceptable to both naval and civilian officers would be very expensive.

(*f*) Centre numbers are stamped on all overalls and the information is therefore available to ships staff. Administrative difficulties exist and the scheme is far from perfect.

(*g*) Some ships have adjusted their working hours to match dockyard hours and with success. With the introduction of a 40-hour week the dockyards are likely to commence work at 0730.

(*h*) The distinction between 'dockyard' and 'supervisory staff' is not clear.

(*i*) This is being done, but the chief problem is to obtain the necessary labour. The losses in dockyard manpower have recently been considerable and the reduction in the number of ordinary labourers required for cleaning quite startling. No easy or early solution to this problem is apparent, but certain actions to ameliorate are in hand.

(*j*) An on-board office is best but ships which need a shore office should preferably have a portable one which can be moved with the ship. These are frequently available on request.

SIR,

Some Naval Engineering Calamities

As an erstwhile Chief of H.M.S. *Renown* I found Commander Goodwin's account, in the June, 1965, issue of the *Journal*, of her astern vacuum difficulties most interesting, especially as there was no record in the ship of the

troubles he mentioned or of the cutting of the ties. I am sorry to say, however, that this was not the end of the story: the ship continued to have vacuum trouble when going astern. One day we stripped off all the lagging from one astern turbine, replacing it temporarily so that the behaviour of the joints could be studied. We found that one joint opened up as soon as astern steam was applied, the situation apparently being aggravated by the effect of external strengthening ribs and of one in particular. Accordingly we cut through this so that it no longer had any effect, beneficial or otherwise, with marked improvement in the way the joint in question behaved. We then treated the other turbines in a similar way.

Unfortunately this was not the end of our troubles at the astern end of these turbines. On another occasion while we were raising steam during the Torch operations I heard from the engineers office a very loud and heavy crash which shook the ship. It was with relief that the vision of an armoured hatch cover having taken charge and crushed a man as he went down below was dispelled. All were safely in place, retained by catches secured by preventer pins specially fitted to insure against such a catastrophe.

The noise had come from the port after engine room where they were unable to raise vacuum. Removal of the lagging at the after end of the L.P. turbine showed the reason. The lower astern nozzle boxes on each side of the turbine were supplied with steam from the upper nozzle chests via short vertical pipes given flexibility by means of a forged steel bellows piece having a single convolution. One of these had fractured circumferencially and gaped open all round. It did not take long to remove the bellows and fit blanks, previously prepared for action damage to steam pipes, and the engine was once more in use.

Examination of the bellows pieces of the other turbines revealed similar cracks in some though none of these had yet been propagated right through the wall. A rough calculation, the best I could manage, seemed to indicate that the maximum stress could hardly fail to be beyond the yield point of the metal. The obvious course was to remove all the bellows, blank off the lower nozzle belts and operate with only half astern power available, which I judged to be ample for virtually all purposes, and this we did.

An immediate question was what form of permanent repair to adopt, preferably something which could be fitted by ships staff without too much difficulty. To renew the existing faulty design went against the grain, especially as I had previously had a battle, which I lost, over a similar design put forward by the contractors responsible for the turbine design of a class of destroyers. In any case each bellows piece would have had to be made to individual templates with allowances for final machining and fitting by ships staff. What we wanted was something with greater flexibility, which could be ordered by signal and which would entail a minimum of machining and fitting. The clue came from an expedient adopted in the fast minelayers where, in order to provide sufficient flexibility, the astern steam pipe diameter had been reduced and the steam speed thereby increased locally to double the current normal maximum under full-astern conditions. We decided to double the steam speed in our case also and provide flexibility by means of long 'U' or hairpin bends lying fore and aft along each side of the L.P. turbine, connected to the upper and lower nozzle boxes by means of tapered right-angled bends mating with the existing inlet and outlet flanges on the upper and lower nozzle chests and in which the steam would respectively accelerate and decelerate.

All this, except the tapered bends, could be provided from standard material. The bends would have standard flanges and all dimensions could be readily expressed in a simple signal. We ordered the parts in this way from the firm which had re-engined the ship; they duly arrived and were fitted, some by ship's staff and some by a kindly dockyard.

As far as I know this was the end of the tale, but perhaps it was not, for soon after this I left the ship.

(*Sgd.*) I. G. MACLEAN,
Rear-Admiral.

SIR,

Frying Tonight

The enclosed photograph (FIG. 1) may be of interest.

FIG. 1

H.M.S. *Mohawk*, when leaving Bahrain, steamed through a shoal of fish swimming in a large patch of weed. Within minutes every inlet strainer was choked.

The interesting thing about it is that the main condenser (FIG. 1), despite having roughly 85 per cent of the tubes blocked, gave us 60 per cent power at 26 inches of vacuum with a temperature rise across of only 16 degrees F.

A large proportion of the ships company, attracted by the sign 'Frying Tonight' on the engine-room door, inspected their first condenser (and in some cases their first engine room) while the P.O.M.(E) in charge collected the entrance fees.

(*Sgd.*) D. S. LEGGATT,
Lieutenant-Commander, R.N.

SIR,

Some Thoughts on Strategy

I read this paper in the June, 1965, edition of the *Journal* with very great interest and considerable admiration for the skill of the authors in treating such broad technical and historical issues in a comprehensive and coherent manner.

I would, however, like to offer a few comments on points where I think the need for compression and simplification has resulted in some distortion of the facts.

Spare Gear

It is, I think, an exaggeration to say that spare gear boards were 'purely ornamental' between the wars. White defect lists of that period contained

innumerable items '. . . to replace spares appropriated'. Certainly, many of the spares were large items and so seldom used, due to the nature of the service, but with mainly reciprocating auxiliaries there was a continual traffic in piston and plunger rods and rings, bushes, bridle gears, valves and glands, bearings and impellers. Many parts were supplied by dockyards in a rough machined state, which was essential to cater for the variations in dimension which had to be met before the policy of 'refit by replacement' was adopted.

Spanish Civil War and Abyssinian War

While it may have been true to say that these minor operations provided no maintenance challenge to the Fleet as a whole, they were certainly an invaluable 'dummy run' for many of us, running Home Fleet destroyers out of Aden for nine months. It certainly taught me two valuable lessons: the need to be fully stocked with repair materials at all times, and to revise my office organization so that complete pink and white defect lists could be produced immediately on the twitch of a signal halyard.

One direct result was that September, 1939, found *Ramillies* with her cross bunkers solid with firebricks, and her shaft tunnel bulging with quills, bar-stock and plate which, in the event, proved a most necessary provision.

Boiler Cleaning

I think the effect of the 21-day rule was more apparent than real. Many destroyer officers had reached the conclusion that, provided decent feed water quality was maintained, the interval was unduly short, so that, in fact, boilers were cleaned 'on paper only' on two of every three occasions. My own experience in *Ilex*, with a virtually uncleanable La Mont boiler seemed to confirm my rather insubordinate attitude to the *Engineering Manual*. Furthermore, I can recall no case when a Squadron Engineer Officer withheld an extension when operational necessity required it.

'Total Mobility'

It may be of interest to reflect that the older ships, say, pre-1930, were in many ways better equipped to spend long periods at sea than those of more recent design. Their machinery was much less heavily stressed, so wear rates were lower, and slow-speed reciprocating auxiliaries will tolerate a vast amount of wear before disaster occurs. Additionally, both boilers and many of the auxiliaries were far more numerous than in later designs, so that one unit could be taken in hand for repairs without significantly affecting the ship's performance. The action-station watchbill was, correspondingly, large enough to provide a useful maintenance party to carry on with repairs while steaming.

The machinery with which *Ramillies* started the First World War was virtually unaltered since its installation in 1912, with 18 boilers, 36 fans, and so on *pro rata*. In three months she steamed 22,806 miles, being at sea for 73 days out of 92. With the aid of refuelling and replenishment at sea, she could have remained at sea for the full three months as no large maintenance was possible during our short periods in port, but no large defects had developed.

However, after such a cruise in the tropics with the engine-room complement in virtually $2\frac{1}{2}$ watches, I think about 14 days' light duty and leave—not frantic maintenance—would have been essential for all hands to recruit physically and mentally.

In modern conditions, with possibly less physical and more mental strain, how is human endurance rated in relation to the maintenance of fighting and operational efficiency?

(*Sgd.*) J. H. MIDDLETON,
Commander R.N. (Retired).