'Rubber Acid' Damage in Fire Hoses

Readers of the article on the above subject by Thaysen, Bunker and Adams[1] may be interested in my experience when called upon to suggest means of preventing or delaying the relatively rapid deterioration of war-time fire hoses.

It was early realized that this deterioration was of bacterial origin and associated with the formation of sulphuric acid, although no attempt was made to isolate or identify the organisms concerned. On the strength of the information available, however, I decided to try the effect of sterilizing the hose after use. Calcium hypochlorite bleach liquor was therefore added to a static water tank so as to produce a residual free chlorine content of 5–10 p.p.m. (*o*-tolidine test). The contents of the tank were pumped through the hose (by means of a trailer pump) and back again into the tank. This circulation was continued for about 15 min., after which the free chlorine had fallen to 1 p.p.m. or less. The hose was then drained and stored.

There was no evidence of damage due to the chlorine. Comparative tests with lengths of similar hose which had been treated as described above, using chlorinated and unchlorinated water, showed that the life of the former was 50–100 per cent longer than that of the latter. The treatment had little or no beneficial effect on pre-war hose, which had a longer life in the untreated state. The treatment should, of course, be applied each time the hose is used, before it is stored.

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[1] *Nature*, **155**, 322 (1945).

A Colonial Scientific Service

I am much interested in the idea of a Colonial biological service, as an independent organization or as part of a wider Colonial scientific service, that my friend Mr. K. H. Chapman has recently put forward[1].

What impresses one most often about the work of the scientific specialist serving overseas under the present system is the actual isolation in which his work is carried out, and the acute sense of this isolation which he often develops. One deleterious effect of this is that it may restrict research to problems for which facilities are available, and which may be relatively less important and perhaps not those for which the specialist's individual aptitudes are best suited.

Many particular problems would be more rapidly solved if either additional specialist help could be made temporarily available, or the worker and his problem could be transferred to some laboratory or research institute in Great Britain. Some specialists manage to arrange the latter either by persuading their superiors to grant special leave of absence to work at home or by sacrificing part of their normal leave to the work. Admirable as the spirit of the latter solution is, it is wrong in principle, and the former may be dependent on sympathetic consideration by a non-specialist superior. Some of Mr. Chapman's remarks are relevant to this last point.

A most important feature of a Colonial biological service with a centralized headquarters would be, as Mr. Chapman points out, the possibility of concentrating selected specialists as a team on any specific problem and preventing overlap of unco-ordinated individual efforts in different regions. An example of this kind of arrangement is the work of the Anti-Locust Centre in London[2], in connexion with which workers, scattered over a huge area, are all carrying out pieces of work in a pattern designed to solve the general problem of the locust pest. This particular project has drawn personnel from many sources not always immediately available in peace-time, but this only shows the resources which a centralized service might draw upon.

That biologists who intend to spend most of their active lives attached to research and teaching institutions in Britain would benefit from a temporary seconding to overseas work can scarcely be doubted. A centralized service would enable such secondings to be made in the most profitable way.

Another example is the work of the International Health Division of the Rockefeller Foundation. The Foundation's annual reports show how a cadre of experts has been moulded and remoulded to form the basis of a series of teams that have been sent all over the world to tackle problems in tropical medicine, especially those relating to insect-borne disease, a method yielding some quite spectacular results[3,4].

Whether a centralized service such as Mr. Chapman has suggested would, as he seems to hope, equalize the inequalities of status that he has found between medical and veterinary practitioners and biological specialists is difficult to know. Surely the solution of this problem lies in the direction of making biology an organized profession. Chemists and physicists are moving in this direction with their respective institutes. If medical men, veterinarians, chemists, physicists, accountants, librarians and others can do this, surely it would not be beyond the wit of biologists to do likewise.

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[1] Chapman, K. H., *Nature*, **155**, 146 (1945).
[2] Uvarov, B. P., *Nature*, **151**, 41 (1943).
[3] See Smart, J., *Nature*, **153**, 765 (1944).
[4] See Smart, J., *Nature*, **152**, 279 (1943).

Wax Pencils for Writing on Cold Wet Glassware

The wax pencils supplied commercially for writing on glass are unsatisfactory when the glass is cold, or covered with a film of moisture.

Pencils which will write on cold wet glass can, however, be prepared by the addition of 5–10 per cent of a detergent, preferably cationic, to the wax and pigment mixture forming the pencil 'lead'. Of the many possible formulæ, the following can readily be made up in the laboratory without special skill.

Hard paraffin wax (m.p. 65° C.)	100 gm.
Beeswax	20 ,,
'Vaseline'	20 ,,
C.T.A.B. (Cetyl trimethyl ammonium bromide)	10 ,,
Fat soluble dyestuff (for example, Sudan III)	0·5–1·0 ,,

The mixture is heated on a water bath and stirred until the waxes have melted and the dye and detergent dissolved; 20 gm. of titanium oxide or other white pigment are then stirred in. The pencils are made by casting the mixture in sticks about 6 in. long by $\frac{1}{8}$ in. in diameter and wrapping in paper.

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