

employee should be increased, the latter to 6 $\frac{3}{4}$ %. However, the recent publication of the Government Actuary's septennial review of the scheme up to 1969 showed a surplus then of £228m.<sup>9</sup> and this surplus has presumably since increased. Thus it might prove possible to revert to the old employee contribution rate of 6% or to negotiate further improvements or both. This is a matter which the Superannuation Committee is now looking at, though the outcome will obviously be affected by the views of the other participants in the scheme.

No scheme can be ideal for all and Mr. Rowlands himself has admitted that there are shortcomings in the new scheme—the recent A.R.M. has called for further improvements. But he has also wisely pointed out<sup>7</sup> that “though the profession's negotiators did a lot of fighting members gave them no weapons . . . Therefore only reason, common sense, and intellectual pressures were available to achieve improvements. On what had been achieved, however,” he added, “the negotiators claimed no particular merit—they left that to the judgement of members.”

<sup>1</sup> *British Medical Journal Supplement*, 1972, 3, 134.

<sup>2</sup> *British Medical Journal*, 1973, 2, 56; 1973, 2, 182.

<sup>3</sup> *Superannuation Act 1972*, London, H.M.S.O., 1972.

<sup>4</sup> *British Medical Journal Supplement*, 1972, 1, 46.

<sup>5</sup> *British Medical Journal Supplement*, 1973, 2, 15.

<sup>6</sup> *British Medical Journal Supplement*, 1973, 2, 75.

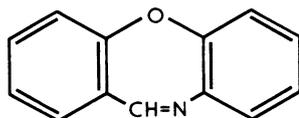
<sup>7</sup> *British Medical Journal Supplement*, 1973, 2, 125.

<sup>8</sup> *British Medical Journal Supplement*, 1973, 1, 118.

<sup>9</sup> *British Medical Journal Supplement*, 1973, 2, 76.

## Riot Control Agent

At present CS gas (O-chlorobenzylidene malononitrile) dispersed as smoke from pyrotechnic devices is the only riot control agent authorized for use by the security forces of the United Kingdom. Now another compound, dibenz (b, f)—1:4—oxazepine, with the formula given below and code-named CR, may also be considered for use in riot control, but it still awaits official approval.



This substance was first noted to cause intense irritation of the skin and lachrymation in 1962.<sup>1</sup> It has been investigated at the Chemical Defence Establishment, Porton,<sup>2</sup> for its irritant potency and possible hazards to man, and was confirmed as being a potent stimulator of sensory nerve endings—for example, producing blepharospasm at concentrations of about 0.0001% w/v. It has a relatively low lethal toxicity to mammals, the acute oral LD<sub>50</sub> to various species lying between 0.6 and 7 g/kg. This combination of potent irritancy with very low toxicity puts CR into the class of compounds that can be considered as possible riot control agents. Furthermore, though it is a solid sparingly soluble in water, it appears to retain its irritancy in this medium and therefore could be dispersed in aimed liquid jets without influence by climatic conditions, which must be taken into account when smokes are used. Such a method of dispersion is less likely to be effective with CS, since it is rapidly hydrolysed in water.<sup>3</sup>

The Porton workers base their description of the effects of

contaminating the face with dilute solutions of CR, varying from 0.01 to 0.1% w/v, on reports from and examinations of 150 volunteers. Eyes, skin, mouth, and nose are affected. CR solution in the eyes causes immediate intense blepharospasm, pain, and lachrymation lasting about 20 minutes. These are accompanied by injection of the conjunctival vessels and minimal oedema of the eyelids—symptoms that gradually disappear over three to six hours—and by a short-lasting small rise in intraocular pressure. The development of skin effects, pain, and erythema is slower and depends on the thickness of the stratum corneum. The pain is substantially diminished after 30 minutes but the erythema persists for longer, up to three hours. No instances of vesication or sensitization have been observed. Material that enters the mouth causes a burning, unpleasant taste and sometimes a soreness of the throat. These symptoms are accompanied by a copious secretion of thick mucoid saliva and rarely last longer than five minutes. There may also be rhinorrhoea, nasal irritation, and a stuffy sensation in the nose. That the effects are unpleasant is confirmed by the person's feeling of agitation and by recorded, short-lived increases of between 5 and 100 mm Hg in the systolic blood pressure and up to 40 mm in the diastolic pressure, which returns to normal within five minutes of contamination.

Since the effects of CR are brief and reversible, the treatment of persons need be only symptomatic. Reassurance and relief of the eye pain—for example, with amethocaine B.P.—are the usual measures required, followed by prolonged washing with soap and water, which may momentarily exacerbate the skin symptoms, after removal and subsequent thorough washing of contaminated clothing.

Information on the likelihood of long-term effects after exposure to CR is not available, but a toxicological study of this agent has been in progress in Britain for several years, and the results to date have given no cause for concern.<sup>4</sup> No doubt the data will be made generally available in the near future.

<sup>1</sup> Higginbottom, R., and Suschitzky, H., *Journal of the Chemical Society*, 1962, 2367.

<sup>2</sup> Ballantyne, B., Beswick, F. W., and Price-Thomas, D., *Medicine, Science and the Law* (in press).

<sup>3</sup> *Report of the Enquiry into the Medical and Toxicological Aspects of CS (Orthochlorobenzylidene Malononitrile)*, Part II, Cmnd. 4775. London, H.M.S.O., 1971.

<sup>4</sup> *Hansard*, 13 June 1973, col. 331.

## The Patient's View

The King Edward's Hospital Fund for London<sup>1</sup> sponsored a study with the aim of devising a method by which patients' views in psychiatric hospitals could be made available to the staff caring for them. Similar studies are being undertaken in psychiatric units of general hospitals, and a further report may be expected soon.

The initial studies were carried out in six large hospitals, where two-thirds of the patients invited to participate did so and only 2% gave irrational answers. These anonymous participants offered more praise than criticism and rather more than half indicated that they enjoyed their stay in hospital. Both dormitories and day rooms were usually considered comfortable, but frequent complaints were made about noise, lack of privacy, and inadequate lockers. The sanitary arrangements were less often criticized than in