the end of the humerus in its normal position as regards the forearm bones, flexion and extension being impressed on the joint to see that everything is free. Before reduction is accomplished a slight use of the knife or scissors on the lateral tissues may be requisite. When it is accomplished, the olecranon fragment is turned down into position and secured there by a wire or plate; if by the former a drill-hole has been made in it before section of the bone. Several sutures are used in the lateral expansions of the triceps tendon, the skin edges incised and coapted.

In four days a single passive motion of flexion and extension is made and again at the end of the week; a splint is necessary only if there be much pain after the operation.

The result in the case mentioned, that of a healthy middle-aged woman admitted under my care at the Melbourne Hospital, though not perfect was excellent. The disability beforehand was very great and no traction had any effect upon the position of the bones. It was only at operation that one could realize what a solid mass preventing replacement the new tissue provided. The maxim learnt was that traction could only do harm and had no chance of consummating reduction.

NAPHTHALENE FOR THE DESTRUCTION OF MOSQUITOS IN COVERED CISTERNS AND WELLS.

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WHILE the following experiments are admittedly of a slight and tentative character, the results appear of sufficient general interest and importance to warrant their publication, in the hope that workers abroad, where experiments on a practical scale are possible, may be induced to try naphthalene as a deterrent to the breeding of mosquitos. For any exposed water surface oil as at present used would certainly be more effective, but in such windless situations as wells and covered cisterns naphthalene has an obvious advantage owing to its slow evaporation and the fact that the vapour is fatal to the adults, which are apt to seek cover in such situations.

Flake naphthalene sprinkled on the water surface as used in these experiments imparts a slight flavour to the water; but if no contact takes place, and it is suspended above the water surface, this defect is obviated. Lack of opportunity to continue the experiments has prevented my thoroughly testing its effectiveness as a larvicide when used under these conditions, but I am of opinion that further experiments would yield a satisfactory method for its application.

The experiments with the adult insects, while they certainly point to the prevention of any breeding in closed cisterns, also afford hope that such species as *Stegomyia fasciata* might be prevented from taking up their quarters in the quiet nooks and corners within doors that they are stated to seek out for tenancy.

Experiments with Adult *Culex pipiens*.

Method.—Half-pint waxed-card cream jars of 330 c.cm. capacity were prepared by placing discs of wet blotting paper at the bottom; on this the flake naphthalene was scattered; the mosquitos were introduced and the jars, covered with mosquito netting, placed on the laboratory bench. The temperature during the trials was about 63° to 66° F.

No. 1.—Ten adult *Culex pipiens* put into each of two jars prepared as above; in one 1 gram of naphthalene was scattered (1 in 330).

Control:

1½ hrs. ...	...	...	...	All living.
9 hrs. ...	...	...	...	All living.
20 hrs. ...	...	...	...	All living.
68 hrs. ...	...	...	...	2 dead.

Test Jar:

1½ hrs. ...	...	...	...	8 dead or stupefied.
5 hrs. ...	...	...	...	9
20 hrs. ...	...	...	...	All dead or stupefied.

No. 2.—In the second test difficulty was experienced in getting equal numbers into each jar, and tests were made with 0.5 gram, 0.2 gram, 0.1 gram.

	Control.	Using 0.5 gram = 1 in 660.	Using 0.2 gram = 1 in 1,650.	Using 0.1 gram = 1 in 3,300.
2 hrs. ...	All living	3 down; 4 living	All living.	All living
3 hrs. ...	All living	4 down; 3 living	All living	1 dead
17 hrs. ...	All living	All dead	All dead or dying	All dead or dying
42 hrs. ...	All living	—	—	—
66 hrs. ...	1 dead; 6 living	—	—	—

No. 3.

	Control.	Using 0.05 gram = 1 in 6,600.	Using 0.02 gram = 1 in 16,500.	Using 0.01 gram = 1 in 33,000.
18 hrs. ...	All living	All dead	All down; 3 capable of feeble movement	1 dead; 3 down, but capable of feeble movement
43 hrs. ...	All living	—	—	—
63 hrs. ...	All living	—	—	—

Experiments with Larvae.

Method.—Into each of two square-bottomed troughs, having a surface area of 72½ in. (462 cm.), 4 litres of strained rain water was poured.

1. 100 active larvae (86 in penultimate and 14 in final larval instar) were then added.

On the surface of one 1 gram of flake naphthalene was added (1 in 462 surface area). Both troughs were covered with mosquito netting stretching over a wooden frame that raised the walls of the receptacles to 6 in. above the water surface. Both troughs were then placed on the laboratory bench close to the window. Temperature from 65° to 67° F. Within twenty-four hours all the larvae were dead in the trough which had the naphthalene scattered in it. **Result, all killed.** None were dead in the control trough, and the larvae developed satisfactorily.

2. The experiment was repeated with 90 small and 10 large larvae in each jar, only 0.5 gram of naphthalene being used—1 in 924 surface area. Temperature 60° F. After twenty-four hours only a few of the large larvae remained active. After twenty-seven hours all were dead in the test trough. **Result, all killed.** The larvae in the control were all living and most of them developed to the pupa stage.

3. The experiment was again repeated with 16 large and 84 small larvae in each trough, only 0.2 gram of naphthalene being used—1 in 310 surface area. Temperature 60° to 65° F. After twenty hours a large number had ceased to move in the test trough, but a few survived after seventy-two hours, when the naphthalene had all evaporated. **Result, all the small and some of the large larvae killed—10 or 12 per cent. survived.**

Pure naphthalene can be obtained from wholesale chemists for 3d. per lb. for quantities of 14 lb. or over. In bulk it may be obtained direct from the gas companies.

Memoranda: MEDICAL, SURGICAL, OBSTETRICAL.

THE ETIOLOGY OF TYPHUS FEVER.

(Preliminary Note.)

We wish briefly to record the results of our examination of the blood and urine in 25 cases of typhus fever during a recent outbreak in Belfast, as well as of the cerebro-spinal fluid.

The urines, many of which were catheter specimens collected by a special method to exclude air contamination, were examined when fresh, and also after incubation for twelve hours. In all of them we found before the crisis a minute organism which we believe has not yet been described. It was also found in the lysed deposit of the fresh blood taken by venupuncture before the crisis, in the cerebro-spinal fluid, and again in the fresh urine of five bonnet monkeys in whom after the lapse of a well-marked incubation period we had induced a continued fever by inoculation of human typhus blood collected before the crisis. It disappeared from the urine of the injected monkeys after their fever had subsided.

The organism in question appears to be pleomorphic, being coccobacillary in form, and we shall in future refer to it as a coccobacillus. In fresh specimens it varies between 0.25 μ and 0.6 μ in its greatest diameter, and in its smaller forms passes through carefully tested Berkefeld filters. It is both Gram-positive and Gram-negative in the