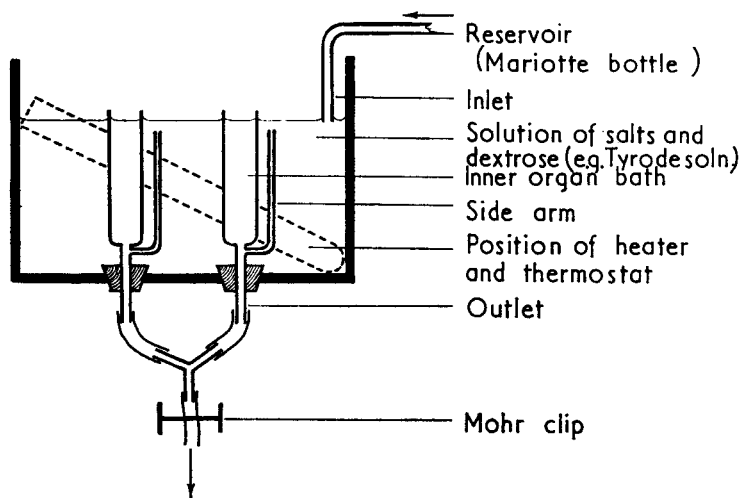


A Modified Dual Unit Organ Bath for Isolated Tissues

SIR,—Isolated tissue preparations are widely used for the investigation, estimation and standardisation of the pharmacological activity of natural and chemically synthesised compounds. Of these preparations, the tissues isolated from warm-blooded vertebrates must be suspended in a solution of salts and dextrose (e.g., Tyrode solution) which is adequately oxygenated or aerated, and maintained at an optimal temperature for the particular tissue. An apparatus incorporating these requirements which is simple but adequate for most routine purposes has been described by Burn (1952). It is often desirable or necessary to experiment with two isolated tissues simultaneously; to answer this need a modified dual unit organ bath has been developed having distinct advantages over those in conventional use.



The apparatus (Fig. 1) consists of a perspex container, 18 cm. long \times 10 cm. wide \times 12 cm. deep, mounted on a metal frame. The two cylindrical inner organ baths have an internal diameter 1.5 cm. and are 8 cm. in length; in addition, there is a side arm of internal diameter 0.3 cm. and 7 cm. long extending from the base of each organ bath. The perspex container and organ baths are filled with Ringer's solution, the level of this solution being maintained by means of a Mariotte bottle acting as a reservoir. The height of the solution in the container is so adjusted, that, on draining the solution from the organ baths, they are automatically re-filled by the side arm, which in turn activates the filling of the perspex container from the reservoir to the predetermined level. Using this procedure, the volume of solution in the organ baths remains constant during the experimental use of the apparatus.

A heater and thermostat are placed directly into the Ringer's solution in the perspex container; this ensures negligible variation of the required temperature of this solution, even when the organ baths are drained and re-filled at frequent intervals. With this apparatus it is usual to oxygenate or aerate the Ringer's solution both in the organ baths and the perspex container.

LETTERS TO THE EDITOR

Simple experiments have shown that when dyes are introduced into the oxygenated solution in the organ baths, there is no diffusion into the side arms even when the dyes are allowed to remain in the organ baths for periods up to 2 hr.

The apparatus is simple, compact, presents no cleaning difficulties, and facilitates an easy and efficient working procedure; it can be used with equal success for either one or two simultaneous isolated tissue experiments.

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REFERENCE

Burn, J. H. (1952). *Practical Pharmacology*, p. 9, Oxford: Blackwell.