of normetanephrine (10^{-4} M) had no effect on the neuronal accumulation but completely prevented the accumulation in the small non-neuronal cells.

These findings strongly indicate that not all the noradrenaline or α-methyl-noradrenaline present in the heart immediately after the perfusion with high concentrations of the amine (that is, $Uptake_2$) is located in the adrenergic nerves, but that it is also accumulated extraneuronally, most evidently in the muscle cells and in small non-neuronal cells.

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A new programmed interval timer for use with automatic assay apparatus

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The apparatus is designed to give accurate programmed intervals from 1 to 1,000 sec. An electronic pulse generator provides the basic frequency, which is divided by dekatron tubes into tens and units to give the required time intervals. The cathodes of the dekatrons are brought to switches, two for each channel, and the circuit (called a coincidence circuit) is so arranged that a signal from the pulse generator is made available to both of the switches when the required ten and unit selected is reached.

Each channel has a bistable circuit which controls its own output relay. If a channel is live, the coincidence pulse from the generator will switch it off, and automatically the circuit will then return the dekatron to the zero position and the new count will start.

The front panel of the apparatus has plugs so that a programme of any sequence can be selected. The "off" pulse of any one bistable circuit is used to trigger the "on" position of the next bistable circuit, which is switched off by its selected time pulse, and so on. "Hold" and "cancel" controls are fitted on each channel. An important feature is the time multiplier which allows the apparatus to be infinitely variable up to a thousand seconds in each individual channel and therefore for any number of operations the machine is required to perform. Spare bistable circuits are available so that sequences of operations may be repeated within a programme.

The machine can be used to produce an infinitely variable programme. It can be used to control, say, a 90 sec cycle for use with acetylcholine-like compounds on the guinea-pig ileum or a frog rectus preparation for the assay of nicotine-like compounds in which the time cycle is 30 min.

The apparatus will drive standard G.P.O. relays and can also be used to control solenoid valves.

The use of intracerebral pyretogenins in testing for antipyretic activity in conscious mice

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The injection of pyretogenins into the cerebral ventricles of conscious mice produces a pyresis of short duration, which can be antagonized by prior administration of antipyretic drugs at doses approximating those used clinically.

Temperatures are measured at 15 min intervals for 1 hr with a thermistor (Standard Telephones and Cables Ltd., Type F15) inserted 1 cm into the rectum of each mouse.

Injections are made with a 100 μl. Hamilton syringe fitted with a 26 g×$\frac{3}{8}$ in. needle (Gillette) reduced to an effective length of $\frac{1}{4}$ in. with a rubber stop. The syringe is clamped in a "rack-work X" block (C. F. Palmer) to facilitate perpendicular penetration of the skull. The injection site is the midline, on a line drawn through the anterior base of the ears. To check the location of the injection site, 20 μl. of a 1 in 5 dilution of Indian ink in 0.9% NaCl was injected. Pathological evidence showing distribution of ink throughout the aqueducts and ventricles will be presented.

The pyrexia following injection of standard pyrogen ('E' Pyrogen, Organon) can be expressed numerically as the "temperature index", which is a simplified integral of the temperature changes seen during the 60 min after injection. The response (temperature index) to 'E' Pyrogen is proportional to the log of the dose, and when a constant dose of 'E' Pyrogen (2.5 μg/kg) is used, the responses obtained with prior administration of antipyretic drugs are proportional to the log of the dose of antipyretic drug. Relative potencies of antipyretic drugs may be assessed, and in our experiments these are expressed as the dose of drug necessary to reduce the response of 2.5 μg/kg of 'E' Pyrogen to that of 0.25 μg/kg in the absence of the drug.

The results show that the method is reliable and has a high degree of sensitivity, making it a useful screening procedure for antipyretic activity.

Electromyography in the diagnosis and treatment of myasthenia gravis

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When a motor nerve is stimulated, the release of acetylcholine (ACh) from the nerve endings is not always the same but decreases progressively from the first to the fourth

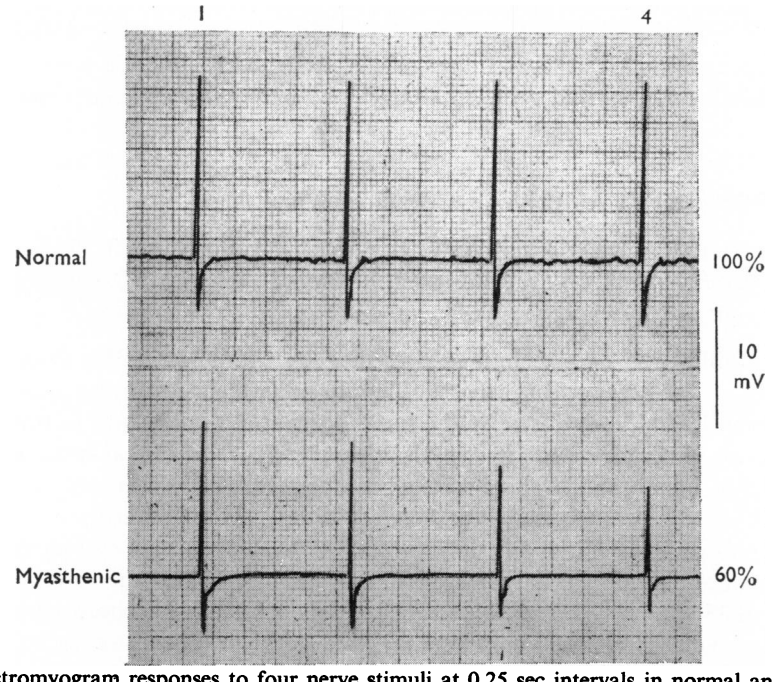

FIG. 1. Electromyogram responses to four nerve stimuli at 0.25 sec intervals in normal and myasthenic subjects. Neuromuscular transmission is measured by expressing the amplitude of the fourth response as a percentage of the first.