of a repetitive response to a single stimulus delivered during diastole is related to the amount of digitalis glycoside administered. At present there exists no clinical method for assessing the degree of digitalization. Adaptation for clinical use of the phenomenon of repetitive ventricular response to single stimuli provides a possible approach to this important problem.

Summary. In the nondigitalized animal, a unipolar stimulus to the endocardium or myocardium discharged during diastole resulted in a single response unless energies greater than 5 J were used. During digitalization employing ouabain, the diastolic threshold energy for a repetitive ventricula response (RVR) was reduced by 6 orders of magnitude. RVR was first noted after 70% of the toxic dose of ouabain had been given and consisted of 2 ventricular ectopic beats. With advancing degrees of digitalization, a single stimulus evoked paroxysms of ventricular tachycardia. The most sensitive part of the cardiac cycle followed immediately after inscription of the T wave. As toxicity was approached, the zone of lowered threshold extended throughout most of the diastolic interval.

1. Kleiger, R., Lown, B., Circulation, 1966, v33, 878.

2. Lown, B., Kleiger, R., Williams, J., Circ. Res., 1965, v17, 519.

3. Brooks, McC., Hoffman, B. F., Suckling, E. E., Orias, O., Excitability of the Heart. Grune & Stratton, New York & London, 1955.

4. Castellanos, A., Jr., Brown, P. J., Lemberg, L., Berkovits, B., Am. J. Cardiol., 1967, v19, 121.

Received August 28, 1967. P.S.E.B.M., 1967, v126.

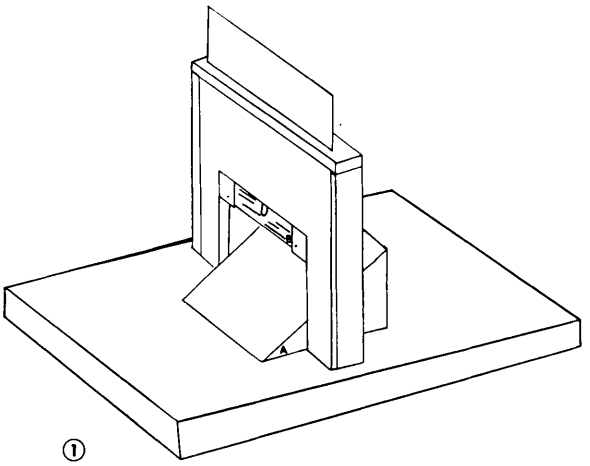
A Simple Device to Orientate Rat Brain for Cutting According to De Groot's Atlas.* (32546)

CLAUDE-LISE RICHER (Introduced by Gaëtan Jasmin)
Département d'Anatomie, Université de Montréal, Montréal, Canada

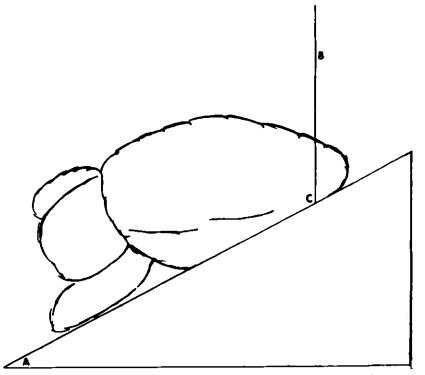
Most experimental work involving microscopic examination of the rat brain is done with the help of De Groot's Stereotaxic Atlas (1). In the stereotaxic apparatus the upper jaw of the rat is placed on the upper incisor bar at a height of 5 mm above the level of the interaural line. The horizontal zero plane is tangent to the upper surface of the incisor bar, and passes intracerebrally through the anterior and posterior commissures. The vertical zero plane is taken perpendicularly to the horizontal plane. The atlas is composed of tracings taken from transverse sections parallel to the chosen vertical plane. De Groot states that he has chosen this plane because it effects a somewhat equal distribution of important centers on either side in the regions of the diencephalon and telencephalon.

Duplication for brain cutting of the angle found in the atlas is the keynote to easy and rapid comparison of histological sections with the tracings. This angle can easily be achieved in every rat brain that is serially cut if the simple device shown in Fig. 1 is used to cut the anterior tip of the brains which have been fixed for 24 hours in formalin. The angle at which the brain is positioned in the stereotaxic apparatus can be duplicated after the brain has been removed from the skull by placing it on a wooden block which has an angle of 28°. A sharp blade can then be lowered perpendicularly to the base of the instrument. This produces a transverse section which slants posteriorly and forms an angle of approximately 118° with the ventral surface of the brain (Fig. 2). Embedding, after the fixation has been completed, is done by placing this anterior cut surface on the bottom of the embedding dish. When the block is later set up on the microtome, almost no adjustment is necessary to obtain the exact orientation described in the atlas. Thus no long experience is needed

* This work was supported by a grant from the Medical Research Council of Canada.



①



②

FIG. 1. A- Wooden block cut at an angle of 28°. B- Blade perpendicular to the base of the instrument.

FIG. 2. A and B- as in Fig. 1. C- Brain being transversely cut to present an anterior section slanting posteriorly and forming an angle of 118° with its ventral surface.

by the technician, and the rapid adjustment will increase his efficiency. If a great deal of work is involved the utility of this device is evident.

The drawing skill of Robert Marier and the technical assistance of Paul Ricard are gratefully acknowledged.

1. De Groot, J., J. Comp. Neurol., 1959, v113, 389.

Received August 28, 1967. P.S.E.B.M., 1967, v126.

Stabilization of Urinary 3-Hydroxyanthranilic Acid by Oral Administration of L-Ascorbic Acid.* (32547)

G. E. PIPKIN, R. NISHIMURA, L. BANOWSKY,† AND J. U. SCHLEGEL
Department of Surgery, Section of Urology, Tulane University School of Medicine, New Orleans, La.

Certain metabolites of dietary L-tryptophan produce uro-epithelial tumors when implanted into urinary bladders of mice(1). One such metabolite is 3-hydroxyanthranilic acid (3-HOA). This metabolite or a derivative thereof, if present in urine in sufficient concentration, could possibly produce tumors of the urinary bladder in man.

Therefore, data concerning true quantities of 3-HOA excreted in urine of tumor patients may be important in studying the etiology of tumors of the urinary bladder; yet, obtaining such data is complicated or prevented perhaps because of instability of 3-HOA in some urines. Data obtained in our laboratory(2,3) show that 3-HOA is unstable under certain simulated physiologic conditions, and is oxidatively decomposed in some samples of urine during incubation at 37°C for six hours. Since urine ordinarily remains in the bladder for at least six hours (overnight), and since voided samples of it are not always promptly analyzed for 3-HOA, these data suggest that amounts of 3-HOA found in some samples of voided urine are not necessarily a reliable index of true quantities formed, but rather may be the amounts remaining after decomposition of this metabo-

* Supported in part by USPHS Grant, National Cancer Institute, CA-05837-05 and The Council for Tobacco Research-U.S.A.

† Research Trainee under USPHS Grant CRT-5057 -07.