does not correspond to the absorption spectrum of the original tissue. It is apparent that the withdrawal of water from the tissue leads to structural changes of the cornea, which are revealed by the infra-red absorption bands found in the dried tissue. The inability to re-establish the infra-red curve *A*, Fig. 1, by adding water to the dried tissue indicates that the polar groups which were associated with water in the fresh cornea are no longer available. The loss of water in the cornea apparently breaks the association between the protein and water molecules. Since the final dried cornea is hard and has the physical characteristics of a high molecular weight polymer, it is suggested that the active polar groups of the released protein may then become re-oriented among themselves to form higher molecular weight components.

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Diuretic Activity of 2-Amino-4-meta-chloro-anilino-1,3,5,triazine (*R*-37)

A SERIES of new derivatives of *s*-triazine synthesized in the Department of Chemotherapy, Haffkine Institute, Bombay, have been tested for their diuretic activity. Of the 12 compounds tested, 2-amino-4-meta-chloro-anilino-1,3,5,triazine (*R*-37), which is the metachloro analogue of amanozine, was found to be most promising. Diuretic activity was determined by a modified method of Lipschitz *et al.* (1943) developed in this laboratory[1].

Unanæsthetized rats received normal saline orally, 2·5 per cent of body-weight, followed by the drug under test. Urine was collected over a period of 5 hr. Dogs were anæsthetized, hydrated with normal saline, 2·5 per cent of body-weight, and the drug given intravenously. Urine was collected for the next 5 hr. by catheterizing both ureters, and urinary sodium, potassium and chloride were determined.

Results obtained with *R*-37 were compared with those obtained with urea and hydrochlorothiazide in rats, and with hydrochlorothiazide in dogs. The results of experiments with rats are given in Table 1, and those with dogs in Table 2.

Table 1. RESULTS FOR RATS

Average of percentage excretion of initial load of water, sodium and chloride in groups of four animals. Potassium values represent average of total amount of potassium thrown out by each group

	Urea	Hydrochlorothiazide		*R*-37	
Dose (mgm./kgm.)	750	1·25	2·58	5·0	10·0
Groups	(14)	(8)	(8)	(8)	(8)
Sodium	30	89*	89	60*	154
Chloride	111	217	211	157	287
Water	61	71	64	58	122
Potassium	0·50	0·76†	0·90*	0·64	0·77*†

A '*t*' test for significance was carried out. Any two values not underscored by the same line or marked with same signs are significantly different (*P*, 0·01).

Table 2. RESULTS FOR DOGS

Average of percentage increase over control values of urine volume and electrolyte excretion over intravenous administration of the drug: control observations are for 1 hr., while 'test' values are average of 5 hr. in each animal. Each figure is an average from three animals

Drug	Hydrochloro-thiazide	Hydrochloro-thiazide	*R*-37	*R*-37
Dose (mgm./kgm.)	2·5	5·0	5·0	10·0
Sodium	270	1,590*	100	1,130*
Potassium	315*	280*	55	360*
Chloride	390	1,135	265	835
Urine volume	470	225	230	1,110

A '*t*' test for significance was carried out. Any two values not underscored by the same line or marked with asterisks are significantly different (*P*, 0·01).

These results show that *R*-37 is a very powerful diuretic in animals and compares favourably with hydrochlorothiazide in the range of dosages of the two drugs employed by us. The drug has a good margin of safety in animals and is not toxic when used in diuretically active dosage given daily over a period of four weeks in animals. None of the dogs given *R*-37 in doses of either 5 mgm./kgm. (3 dogs) or 10 mgm./kgm. (3 dogs) showed any sign of hæmaturia or crystalluria.

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A Suggested Effect on Levels of Catecholamine in Brain produced by Small Doses of Reserpine

IN a recent communication, Sheppard and Zimmerman[1] criticized the results obtained by numerous other workers indicating that reserpine reduces the content of brain norepinephrine and serotonin. Their objections were based on the "toxicological doses" which had been used. However, they failed to mention that reserpine had also been reported to reduce levels of brain serotonin[2] and norepinephrine[3] in non-toxic doses as low as 0·1 mgm./kgm. and to deplete heart norepinephrine in doses as low as 5 μgm./kgm.[4]. Sheppard and Zimmerman's results showed that the administration of 0·1 mgm./kgm. of reserpine subcutaneously to female guinea pigs weighing 300 gm. elicited a rise of 74 per cent in brain norepinephrine in 20 min. and a rise in heart norepinephrine of 30 per cent in 20 min. and 45 per cent in 2 hr. No diminution in brain and heart norepinephrine was noted for 8 hr. In contrast, serotonin-levels in the brain fell by 50 per cent in 4 hr. They concluded that their results constituted the first demonstration of a rise in catecholamine content following the administration of reserpine.

Sheppard and Zimmerman measured norepinephrine fluorometrically by a procedure using a filter for isolating the activation and fluorescent light bands. Since filters have relatively wide spectral bands, the validity of their values is contingent on proof that the method for norepinephrine is specific. This is especially relevant in view of the presence of reserpine and its metabolites in the body. However, no evidence is offered for the specificity of the method.

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