tion or halves to which acetate buffer was added immediately after they were placed in the culture flasks) exhibited much less activity. Whole or cut embryos allowed to develop after 5 hours incubation in the culture medium suffered no apparent ill-effects of the treatment.

This study augments the evidence that the dorsal half of the amphibian gastrula has a greater physiological activity than the ventral half and specifically a higher rate of protein metabolism. Several studies by Brachet and recently that of Steinert(4) suggest a relationship between ribonucleoprotein and neural induction. The curve shown by the latter for the synthesis of ribonucleic acid resembles that which we obtained in our study of the uptake of glycine, a precursor of purine. We do not know whether the greater incorporation of the sulfur-bearing amino acid, methionine, by the dorsal half-gastrula than by the ventral half has peculiar significance. It is not impossible that this difference is indirectly related to the apparent importance of sulfhydryl groups in the induction of the neural plate by the organizer as shown by Rapkine and Brachet(5) and Lallier(6).

Summary. The dorsal half of the amphibian gastrula was shown to have a significantly greater incorporation of methionine into protein than the ventral half.

4. Steinert, M., *Bull. Soc. Chim. Biol.*, 1951, v33, 549.

5. Rapkine, L., and Brachet, J., *Bull. Soc. Chim. Biol.*, 1951, v33, 427.

6. Lallier, R., *Bull. Soc. Chim. Biol.*, 1951, v33, 439.

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Renal Excretion of Digitoxin in the Rabbit and Dog.* (19120)

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Although the renal excretion of digitoxin was found to be negligible in the rat(1), the normal human subject appeared to excrete as much as 40% of a given dose of the drug(2). In an effort to discover whether the rat handled digitoxin anomalously in this particular respect, the possible renal excretion of the drug was studied in two other species. The results of this study are here reported.

Methods. Three rabbits weighing an average of 2525 g were given 0.2 μg of digitoxin per g of weight by intravenous injection. The urines of these rabbits then were collected for 24 hours. The total urine volume was extracted for its digitoxin content according to previously described methods(1,2). The assay of the extract was performed with the embryonic duck heart preparation(1,2). Two male dogs weighing 9 and 10 kg respectively, were given 0.2 μg of digitoxin per g of body weight. A third dog weighing 15 kg was given 0.1 μg of digitoxin per g of body weight. The urine of each of the 3 dogs was collected for 24 and 48 hours. A 200 cc sample of each 24-hour urine was extracted and assayed exactly as described(2) for human urine. The extraction and sensitivity of the assay were such that a minimum of 10 μg could be detected and assayed in a 24-hour urine collection.

Results. The kidney of the rabbit does not appear to excrete digitoxin. Thus, although each of the 3 rabbits received approximately 500 μg of digitoxin by vein and each exhibited a good urine flow, none of the urine collections contained detectable amounts of digitoxin. This indicates that less than 0.5% of a given dose of digitoxin is excreted in an unchanged form by the rabbit kidney. It is of course

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TABLE I. Renal Excretion of Digitoxin in Dog After Its Injection (0.2 μg/g).

Dog	Wt, kg	Amt digitoxin given, μg	Urine (0-24 hr)		Urine (24-48 hr)		% excreted
			vol., cc	Digitoxin, μg	Vol., cc	Digitoxin, μg	
R-1	9	1800	900	18	450	N.D.*	1.0
R-2	10	2000	1400	35	400	5.	2.0
R-3	15	1500	2220	12	1980	N.D.	0.8

* Non-detectable.

possible, even probable, that a breakdown product of a glycoside might be expected.

The 3 dogs, however, were found to excrete a small amount of digitoxin during the first 24 hours. One of the 3 continued to excrete the drug the second day after its injection. As Table I indicates, the 2 dogs receiving 0.2 μg of digitoxin per g of body weight excreted 18 μg and 35 μg respectively the first 24 hours. The third dog, which received only 0.1 μg of the drug per g of body weight excreted 12 μg. One of the dogs (R-2) excreted 5 μg of the drug during the second 24 hour period of collection. Thus, the total renal excretion of digitoxin in the dog is about 1-2% of a given dose.

Discussion. The above results together with earlier studies(1,2) suggest that differences exist between various species in respect to renal excretion of digitoxin. Thus, whereas the rabbit appears to excrete no digitoxin in its urine, the dog excretes approximately 1-2%, the rat about 3%, and man as much as 40%.

Despite the relative paucity of digitoxin in the urine of the rat(1), rabbit, and dog, considerable amounts of the drug when given intravenously accumulate in the kidney of these animals(3). This is particularly so in the dog whose kidney, for several days after the injection of digitoxin, may contain far more digitoxin than is found in the 24 or 48 hours of urine collection. Moreover, this renal digitoxin is concentrated primarily in the cortical segment of the kidney. These observations suggest the possibility that the kidney of some mammals may destroy more digitoxin than it excretes. This does not appear to be so, however, in man.

Summary. The kidney of the rabbit was not found to excrete significant amounts of administered digitoxin. The dog appeared to excrete approximately 1-2% of an administered dose of digitoxin. The probability of the renal destruction of digitoxin in these species was discussed.

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Effect of Adrenal Hormones on Infection of Mice with Pneumoia Virus of Mice (PVM).* (19121)

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The enhancing effect of urethane on the severity of the infection of mice with pneu-

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