or dry soybeans were eaten, but, when they were provided in the soaked or softened state, substantial amounts of peas (excepting the skin) and some soybeans were eaten. In a study of the effect of the addition of various types of bulk-formers to the diet of rats (*2*), it was also found that the food intake was influenced considerably by the texture of the added bulk-former. Thus, the growth of young rats, particularly females, was retarded much more by the addition of 10% ground cellophane (40 mesh) to the diet than by the addition of 10% cellulose flour (Cellu Flour). The acceptance of food by rats, like the acceptance of food by man, is therefore influenced more or less by the texture of the food.

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The Influence of Brief Periods of Strenuous Exercise on the Blood Platelet Count

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Reports in the literature on the effect of exercise on the blood platelet count have been conflicting. Behrens (*1*) found that rowing over a course 6 km long or running a distance of 200–400 m always caused an increase of 18–20% in the platelet count of trained and untrained men. Isaacs and Gordon (*3*) estimated that the number of platelets was increased 2–3 times after a race lasting 2.5–3 hrs over a 26-mile course. Biggs, MacFarlane, and Pilling (*2*) observed platelet increases of approximately 20–40% in subjects running up flights of stairs for periods of 2–12 min. Kristenson (*4*), on the other hand, found no significant change in the platelet count after exercise of moderate intensity that lasted 1.5–9 hrs. Differences in the type and duration of the exercise and in the technique of collecting the blood and making the platelet counts may account for these discrepancies. Our experience in counting platelets has convinced us that counts are unreliable unless they are made quickly after the sample is obtained and that the importance of meticulous technique cannot be overemphasized. The data in this paper represent a large number of platelet counts on one subject, in moderately good training, who performed at two standardized grades of exercise.

The exercise consisted in running on a treadmill for 5 min at a speed of 7 mph and a grade of 17.5% (strenuous exercise), or for 2 min at 12 mph, zero grade (exhausting exercise). The severity of the exercise was judged on the basis of the subjective impressions of the subject and the magnitude of the leucocytosis. The platelets were counted in a certified counting chamber using the diluting fluid of Rees and Ecker (*6*). Daily blank counts were made on the diluting fluid in order to avoid artifact errors. Leucocyte and erythrocyte counts were also made in most of the experiments. In each experiment platelet counts were made on blood samples obtained before exercise, immediately after exercise, and at intervals of 10, 30, 60, and 90 min during the recovery period.

The data on the platelet counts are recorded in Table 1. The data on leucocyte and erythrocyte counts are omitted because they are in accord with previous studies on exercise of comparable intensity (*5*). It is apparent that there was no increase in the platelet count in short periods of exercise.

TABLE 1

EFFECT OF BRIEF PERIODS OF EXERCISE ON THE BLOOD PLATELET COUNT*

No. of experiments	Intensity of exercise	Blood platelets (thousands/mm³)					
		Pre-exercise	Minutes postexercise				
			0	10	30	60	90
13	Strenuous	213 ± 15	208 ± 19	205 ± 18	201 ± 17	195 ± 18	196 ± 19
3	Exhausting	212 ± 13	198 ± 18	197 ± 17	200 ± 10	195 ± 15	197 ± 12

* The duration of the periods of strenuous exercise was 5 min and of the periods of exhausting exercise 2 min.

The lack of increase in the platelet count in these experiments, in spite of increases of 60–100% in the leucocyte count, may be interpreted as evidence against an appreciable storage or sequestration of platelets. The extreme fragility of platelets, however, renders them readily susceptible to mechanical trauma, and it is possible that the greatly increased circulation velocity during exercise may destroy enough platelets to mask a moderate increase in numbers. The small postexercise decline in platelet count seen in most of our experiments is probably to be explained on this basis.

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The Zone of Localization of Anti-Mouse-Kidney Serum as Determined by Radioautographs[1]

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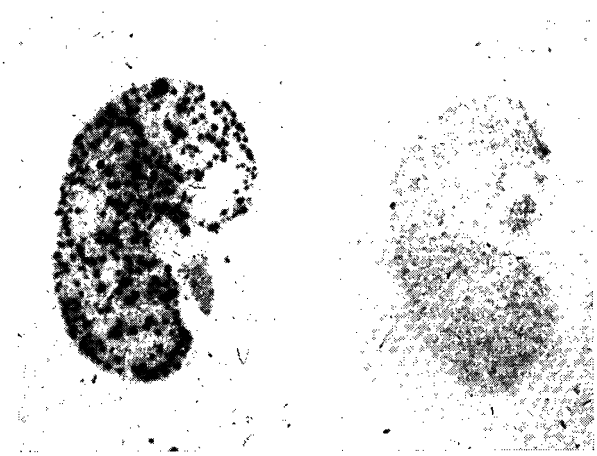
It has been shown previously by Pressman and Keighley (*4*) that antiserum prepared against rat kidney actually localizes in the kidney after intravenous injection into a rat. This was accomplished by iodinating the globulin fraction of anti-rat-kidney serum, prepared according to the method of Smadel (*5*), with iodine containing tracer amounts of I^{131} and following the localization of the radioactivity in the kidney of the rat inoculated with this preparation. Similar results with mice have since been obtained with antiserum prepared against mouse-kidney tissue (*3*). By using iodine with a sufficient admixture of I^{131}, it has been possible for us to obtain radioautographs of the kidney tissue of mice injected intravenously with the radioiodinated globulin fraction of anti-mouse-kidney serum, and thus to determine more precisely the region of localization within the kidney.

In the experiment reported here, two mice were injected intravenously with the radioiodinated globulin fraction of anti-mouse-kidney serum prepared similarly to the radioiodinated globulin fraction of anti-rat-kidney serum described previously (*4*). Two control mice were injected with the radioiodinated globulin fraction of anti-mouse-plasma serum, prepared similarly, using the serum from rabbits which had been injected with mouse plasma. Such serum does not localize in the kidney as does the anti-mouse-kidney serum. Each mouse injected with the antikidney preparation received 0.3 ml of solution containing 3.3 mg of protein combined with 17 μc of radioiodine and, in the case of the mice injected with the antiplasma fraction, 4.8 mg of protein, combined with 13 μc of radioiodine in 0.3 ml of solution, was used. Five days after the injection the animals were sacrificed. A blood sample was obtained before death from the dorsal aorta, and then the kidneys, spleen, and liver were removed without perfusion. One kidney, one half of the liver and spleen, and all the blood were used in the preparation of samples for the determination of the radioactivity content of the tissue. The results are given in Table 1. The other kidney and the rest of the spleen and the liver were fixed in 10% formalin and subsequently sectioned. Sections 10-μ thick and the blocks remaining after several sections had been cut were used in the preparation of radioautographs. The blocks were set up on Eastman Kodak medium lantern slides, while the sections were set up on Ansco No Screen X-ray film, according to the method described by Marinelli and Hill (*2*).

TABLE 1

RADIOACTIVITY OF TISSUES OF MICE INOCULATED WITH RADIOANTISERA 5 DAYS AFTER INOCULATION

	Antiserum used	
	Antikidney serum	Antiplasma serum
Protein inoculated (mg)	3.3	4.8
Radioiodine on protein at the time of injection (μc)	17	13
Tissue	**Activity of tissue (μc/gram, 5 days after inoculation)**	
Kidney	0.25	0.08
Liver	.08	.06
Spleen	.16	.13
Blood	.27	.21



A B

FIG. 1. Radioautographs of blocks of kidney tissue. A—from mouse injected with radioanti-mouse-kidney serum; B—from mouse injected with radioanti-mouse-plasma serum.

Fig. 1 shows the radioautographs of the kidney tissue blocks. The kidney from the mouse receiving the radioantikidney serum showed a definite accumulation of radioactivity around the cortex[3] (Fig. 1A) while the kid-

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[3] This is in accordance with the results of Heymann and Lund (*Science,* 1948, **108**, 448), who found that nephrotoxic antisera are produced from the cortical rather than the medullary kidney tissue.