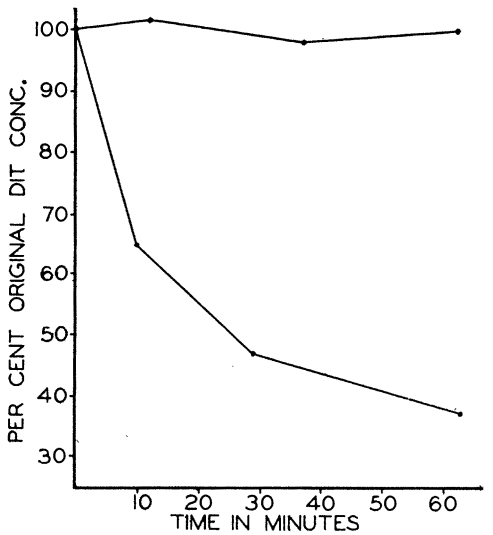

Fig. 1. Disappearance of intravenously injected DIT from the blood of salivariectomized (upper curve) and normal (lower curve) rats.

We have now been able to show that this rapid deiodination of intravenously administered DIT does not take place in rats from which the parotid, submaxillary, and sublingual salivary glands have been removed. Rats were placed under Nembutal anesthesia, and the submaxillary, parotid, and sublingual glands were removed. DIT (100 μg) labeled with I^{131} (100 μc) was then injected into the jugular vein, in physiological saline solution. A 0.5-ml aliquot of blood was collected from the tail-vein as soon as possible after the injection (usually about 2 min). This sample served to give zero-time values for iodide and DIT. Further 0.5-ml samples of blood were collected at convenient intervals. The heparinized blood samples were centrifuged, and aliquots of the resultant plasma were submitted directly to paper chromatographic analysis. The relative proportions of iodide ion and DIT on the chromatograms were determined by counting the appropriate spots with an end-window Geiger counter. The paper chromatographic and counting techniques have been described elsewhere (*1*).

Control rats were treated in exactly the same fashion, except that the salivary glands were left intact. The percentage activity as DIT in each plasma sample was compared with the percentage as DIT in the zero-time sample. In this way the results could be expressed as percentages of the original DIT concentration. The result of a typical experiment is shown in Fig. 1.

This evidence conclusively demonstrates that the salivary glands have a major role in the extrathyroidal metabolism of organic iodine in the body and that these organs function as "reverse thyroids."

D. M. Fawcett
S. Kirkwood

Department of Chemistry,
McMaster University, Hamilton, Ontario

References

1. D. M. Fawcett and S. Kirkwood, *J. Biol. Chem.* **209**, 249 (1954).
2. S. Kirkwood, paper presented at annual meeting, Am. Goiter Assoc., Boston, 29 Apr.–1 May 1954.
3. H. G. Thode, C. H. Jaimet, and S. Kirkwood, *New Engl. J. Med.*, in press.
4. W. Tong, A. Taurog, and I. L. Chaikoff, *J. Biol. Chem.* **195**, 407 (1952).
5. H. W. Johnson and A. Albert, *Endocrinology* **48**, 669 (1951).
6. A. Albert and F. R. Keating, Jr., *J. Clin. Endocrinol.* **11**, 996 (1951).
7. R. S. Benua, A. Albert, and F. R. Keating, Jr., *J. Clin. Endocrinol.* **12**, 1461 (1952).
8. W. Tong, A. Taurog, and I. L. Chaikoff, *J. Biol. Chem.* **207**, 59 (1954).

1 July 1954.

Rabies in Nonsanguivorous Bats of Texas

A survey conducted in nonsanguivorous bats of Texas has established two things: (i) the Mexican free-tailed bat (*Tadarida mexicana*) is a host for the virus of rabies in nature; and (ii) extensive inapparent infections occur in this species as evidenced by the development of neutralizing antibodies for the virus of rabies. Such immunity has been considered the result of naturally acquired inapparent infections. The opportunity to demonstrate such inapparent infection in bats in Texas was undertaken on an extensive scale on a military reservation because of a malady afflicting the bats.

The bat isolates have been identified, and serologic studies have been accomplished by employing the standard neutralization technique and accepting as a minimum positive criterion the serums that will neutralize 100 LD_{50} of a fixed strain of rabies virus.

Kenneth F. Burns
Charles J. Farinacci

Lt. Col., VC, and Col., MC, Fourth Army Area Medical Laboratory, Brooke Army Medical Center, Fort Sam Houston, Texas

19 July 1954.