easily made directly on the films. Film slides may be stored and filed away in a small space and are therefore more accessible for reference. They are easier to make than glass slides and the cost is much less. Larger lantern slides, such as are used in Europe, can be conveniently cut to the size which is used in this country, if films are used.

It is probable that the idea of using films for lantern slides is not new, and yet the advantages are so many that it is difficult to understand why the principle is not in general use to-day.

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SPECIAL ARTICLES

ON REFLEX-HYPERLIPAEMIA

PRELIMINARY PAPER[1]

THAT stimulation of an afferent nerve results in a rise of the sugar content of the blood is a well-known fact; nothing, so far as we are aware, is known concerning changes in blood fat under this condition, although perhaps the "emotional" hyperlipaemia, found by Himwich and Fulton, is a related phenomenon.

We have, therefore, investigated the changes in blood fat in the cat under stimulation of an afferent nerve. The animals in this series were anesthetized by intraperitoneal injection of chloralose. At least two hours after the onset of the anesthesia the fat content of the arterial blood was determined (by the method of Stewart and White) before and after periodic faradic stimulation (periods of 5 seconds alternating with periods of rest of 5 seconds) for 2 to 5 minutes at various strengths.

In the great majority of the experiments a marked "reflex-hyperlipaemia" occurred; the increase in blood fat is very abrupt, as it was found to be present in the blood drawn immediately after cessation of afferent stimulation.

In several instances the rise in fat was greater with stronger stimulation.

The following protocol is typical for the experiments of this series:

Oct. 7, 1931.
Cat, female, 3.00 kg., starved for 16 hours.
11:00 p. m. 27 cc 1% (warm) chloralose intraperitoneally.
11:10. Animal in side position. Rectal temperature 39.0°.
Oct. 8.
8:00 a. m. Respiration regular. Temperature 40.3°. Heating off.
8:30. Temperature 40.0°.
9:00. Animal on board. Temperature 39.8°. Both femoral arteries and left sciatic exposed.
9:02. First blood drawn (about 9 cc). Respiration 15–16 per minute. Hyperreflexia on tapping on board.
9:08–9:10. Periodic faradic stimulation of left sciatic (5″–5″) for 2 minutes; coil distance 10 cm. Peripheral end of nerve not ligated. Moderate general responses during stimulation periods. Dilation of pupils. Rectal temperature 39.2°. Respiration 15 per minute.
9:10. Second blood drawn, about 9 cc.
11:30. Temperature 38.6°. Hyperreflexia.
11:50. Temperature 40.0°.
1:20. Temperature 39.5°.
2:04. Third blood drawn (about 9 cc).
2:11–2:13. Stimulation of left sciatic as per 9:08–9:10 (5″–5″, 2 min. 10 cm).
2:14. Fourth blood drawn.
Animal sacrificed.

FIGURES

	Hematocrit Per cent.	Sugar mg Per cent.	Fat mg Per cent.	Rise in fat Per cent.
1st blood	30	85	396	
2nd blood	34	98	538	35.9
3d blood	34	109	412	
4th blood	32	119	543	31.8

Investigations are in progress to determine whether or not a "center" exists for this reflex-hyperlipaemia, as well as the nature of the fats mobilized.

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[1] The experiments were started by one of us (Y. D. K.) during this summer. His thanks are due to Mr. H. Henstell, candidate in medicine of Yale University, for his cooperation during this part of the work.

VARIATIONS IN HOLOPEDIUM SPECIES

Holopedium gibberum is a cladoceran species well known to biologists as one of the very few members of the fresh-water plankton which possess a special adaptation to the floating habit in the form of a spherical "test" of a jelly-like substance which encloses the whole body of this small Entomostracan—a feature which is also found in the planktonic Rotifer *Mastigocerca setifera*. To ecologists and to students of animal geography, *H. gibberum* has a still stronger claim to interest in virtue of its characteristic habitat, namely, the slightly acid waters of stenothermous lakes and pools in North America and in northern Europe, and many authorities regard it as a glacial relict. The genus *Holopedium* is no less