Ag-AgCl electrodes to a Type K potentiometer. The light was passed through ice water to avoid a heating effect. The rise in potential in nine skins was 28 to 86, 22 to 52, 15 to 75, 0 to 52, 20 to 50, 24 to 53, 14 to 32, 1 to 45 and 17 to 41 millivolts (see Fig. 1).

The photodynamic effect probably involves the oxidation of membrane proteins, as in muscle,[1] which might provide the slow colloidal anion capable of setting up a diffusion potential with a fast cation like K. Thus the radiated eosin has an effect opposite to that of heavy water.[2]

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THE SPECIFICITY OF PEPSIN ACTION

THE various enzymes which attack genuine proteins and which therefore are designated proteinases exhibit striking differences in the specificity of their chemical action. The clearest demonstration of these differences in enzymatic specificity has been obtained by means of synthetic substrates. Such substrates have recently been described[1] for all the known types of proteinases, with the exception of pepsin.

In this communication we wish to report the finding of a synthetic substrate for swine pepsin. Carbobenzoxy-*l*-glutamyl-*l*-tyrosine is extensively hydrolyzed in the presence of pepsin with the formation of carbobenzoxy glutamic acid and tyrosine; under our conditions the hydrolysis attained 70 per cent. in 3 days. This enzymatic hydrolysis occurs at pH 4. At the generally accepted pH optimum of pepsin—pH 2—, a hydrolysis of only 10 per cent. of the synthetic substrate was observed. Once recrystallized pepsin is more effective than a good commercial preparation.

The availability of synthetic substrates for pepsin makes possible a study of the specificities, homogeneity and kinetics of pepsin preparations from various animal species.

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SCIENTIFIC APPARATUS AND LABORATORY METHODS

A SYSTEM FOR NUMBERING LABORATORY ANIMALS

THERE are several systems in use for numbering experimental animals, and the following one, which makes use of permanent marks, has certain advantages over many of them.

The marks consist of notches, holes and slits in the ears, clipped toes and clipped tails (some species). Notches (made by scissors) in the right ear are taken as units and notches in the left ear as tens. Two positions on the ear are selected for the notches, the anterior margin or front portion, and the posterior margin or back portion. The notches give a continued sequence from 1 to 99 (see Table 1).

TABLE 1

Number of notches and position on margin	Right ear	Left ear
	No. of animal	No. of animal
1 front (anterior margin)	1	10
2 front " "	2	20
1 back (posterior margin)	3	30
2 back " "	4	40
1 front—1 back	5	50
2 " —1 "	6	60
1 " —2 "	7	70
2 " —2 "	8	80
3 "	9	90

Animal number 11 would have 1 notch placed in the anterior margin of the left ear and 1 notch placed in the anterior margin of the right ear.

The series is extended beyond 99 by punching holes in the ears. One hole in an ear designates animal No. 100 and nine holes designates No. 900.

The toes can be clipped off according to some plan and the readings combined with those from the marks in the ears. The toes of the animal are numbered clockwise when the animal is held by the back with its head up and its feet toward the worker. This is done by considering the leftmost toe on the right forefoot, analogous to the little finger on our right hands, as No. 1 and then counting the toes on the forefeet from left to right (clockwise). The toes on the hind feet are numbered from right to left (clockwise). Each toe would represent a thousand and therefore, if the No. 1 toe were clipped it would be animal No. 1,000. If the animal has 18 toes and the left one on the right hind foot were clipped, the animal would be No. 18,000. It is easy to select a combination of toes which will total 49,000 without incapacitating the animal. Then the total number obtained by combining the notches and holes in the ears and the clipped toes is 49,999.

A straight slit, placed in the tip of the right ear so that it does not pass through one of the holes, indicates No. 50,000 and a straight slit in the tip of the left ear signifies an additional 50,000.

[1] A. J. Kosman and R. S. Lillie, *Jour. Cell. and Comp. Physiol.*, 6: 505, 1935. For additional references *cf.* A. J. Kosman, *Jour. Cell. and Comp. Physiol.*, 11: 279, 1938.

[2] T. C. Barnes, SCIENCE, 83: 506, 1936.

[1] M. Bergmann, J. S. Fruton and H. Pollok, SCIENCE, 85: 410, 1937.

FIG. 1.

Fig. 1 illustrates how the marks would be in animal No. 201,111.

The clipping of tails for numbering animals is only applicable to certain species and, in some of these, it should be used with the greatest care. A clipped tail indicates animal No. 150,000. Then by combining the clipped tails with the previous parts of the system, a total of 299,999 animals may be numbered.

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PERMANENT MOUNTS OF HELMINTH EGGS IN AQUEOUS PRESERVING FLUIDS

IT is often desirable to prepare permanent mounts of helminth eggs by a simple technique which will eliminate the shrinkage and distortion that frequently occur in the longer process of dehydration and subsequent mounting in damar. In the following technique the eggs are mounted permanently on the slide in 4 per cent. formaldehyde: (1) Place the slide on a turn table and ring a cell with "Murrayite"; (2) fill the cell immediately with the preserving fluid (4 per cent. formaldehyde) containing the eggs. An excess of the preserving fluid should be placed in the cell to prevent trapping air bubbles; (3) place a circular coverglass in position immediately. With gentle pressure of the index fingers rotate the coverglass through an arc of approximately 30 degrees, thus pressing the edge into the soft cement. Usually the coverglass will adhere, even though the rim may have become wet with the overflowing preserving fluid; (4) allow the slide to dry over night and then re-ring it to insure a more permanent seal; (5) twenty-four hours later the slide can be rinsed in running water, dried with a cloth and labelled.

Similar permanent mounts of adults and larvae of *Trichinella spiralis* have been made by preserving them in an aqueous solution of 4 per cent. formaldehyde and 30 per cent. glycerine.

"Murrayite" adheres readily to the coverglass, even though the coverglass has been moistened previously with the preserving fluid. This is a distinct advantage, since in the use of other ringing cements it is necessary that the edges of the coverglass be absolutely dry. "Murrayite" is a spirit-proof cement used in sealing museum jars and microscopic fluid mounts. It was invented by Dr. C. Hay Murray, of Liverpool, and is sold by one or more American biological supply houses.

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