

Resting epithelial cells from the skin of the *Amblystoma* larva were dissected for comparison. These cells are quite elastic. If a portion of the cytoplasm or nucleus be cut away, the remainder of the cell undergoes no demonstrable change in form. There is no evidence of a loss of substance from the nucleus when it is cut or torn. The nucleus in this cell is a quite concentrated gel. The intercellular matrix is non-viscous and highly elastic.

Extended studies in this field will be published later.

G. L. KITE

ROBERT CHAMBERS, JR.

THE MARINE BIOLOGICAL LABORATORY,

WOODS HOLE, MASS.,

September 25, 1912

#### EXPERIMENTS WITH DESICCATED THYROID, THYMUS AND SUPRARENALS<sup>1</sup>

THIS preliminary study of the effects of feeding the desiccated endosecretory organs was made on rabbits, guinea-pigs and fowls during June, July and August of the present year. The chief aim was to determine what proportion of the offspring of females given an excess of the dry substances were viable. The proportion of deformed offspring is not significant, but the action of the drugs on the fetuses and sucklings seems worthy of a brief note.

##### RESULTS IN THE PREGNANT RABBITS

Drug	Females	No. of Offspring	Deaths					Living	Killed for Study on 4th Day
			At Birth	1 Day	2 Days	3 Days	23 Days		
Thyroid..	4	24	2	10	3	6	1	2	
Thymus..	4	22	10			5		7	
Suprar. .	1	11				2*		9	
Control..	1	10						6	4

From four to ten capsules (.76-1.9 gm.) of thyroid were given daily to rabbits during the last 20 days of their pregnancy, with no apparent symptoms of thyroidism. The offspring, however, either died at birth or during the first

three days of lactation. Before their pregnancies it was found that from .38 gm. to .57 gm. of thyroid sufficed to produce extreme diarrhea and very rapid heart action; no exophthalmos developed. Weight decreased rapidly with .57 gm.

It was noted that if the offspring were not dead at birth and the heavy doses of thyroid were discontinued during lactation, the offspring lived.

In the case of one female of this thyroid group, preliminary feeding with thyroidection had taken place until six days before parturition, when doses of thyroid increasing from .38 gm. to 1.52 gm. per diem were administered by the capsule method. The lactating young were killed on the third day of this treatment, although they had gained somewhat in weight during that time.

In the case of the thymus-treated females, the resistance to heavy doses (2.16-2.17 gm.) during the latter half of pregnancy also held. The offspring of three females were killed by the drug at an early age; one litter of the fourth succumbed at the third day of lactation, the other litter was born two days after the cessation of thymus feeding and though smaller than either of the two litters of the control rabbit in this series, lived. The effects of thymus on the adult females not in the later stages of pregnancy were similar to those in the non-pregnant females.

Unfortunately, but one of the suprarenal-fed rabbits gave birth during my period of experimentation. Her young were alive on the twenty-fifth day after birth, having grown much more rapidly than those of the control. Two of this litter were placed with one of the thymus females whose young had just died, on the day after birth, and two days later were dead. A third suckling from the suprarenal female was placed with the thyroid female which was receiving diminished doses during lactation, and this last adoption was successful also, but with the result that the stranger grew 5 gm. more in two days than a brother with the same initial weight in the home nest.

No discussion of these facts is needed; the table speaks for itself. These females were

<sup>1</sup> From the Station for Experimental Evolution, Carnegie Institution of Washington.

not pregnant during the first 31 days, when these records were kept. The certainty of this condition is known, for the animals had not brought forth young at the end of 68 days of observation.

#### RESULTS IN THE NON-PREGNANT RABBITS

Drug	Dose	Rabbit's Number	Effect
Thymus..	.270-1.08	III.	1.08 produced illness.
Suprar. .	.54 -2.16	VI.	Steady increase in weight.
Suprar. .	.54 -2.16	VIII.	Steady increase in weight.

Owing to the scarcity of guinea-pigs at the time we attempted to secure them, work was carried on with but five females. The same apparent stimulating effect of suprarenalin on the growth and well-being of the adults and young was noted in two of these females. The data of this group are not complete.

Average Dose of Drug	Effects on the Body-weights of Fowls	
	Weight at Beginning of Exp't, Kg.	Weight After 10 Days, Kg.
.355 g. thyroid....	1.574	1.35
.355 g. thyroid....	1.476	1.378
.355 g. thyroid....	1.574	1.574
.39 g. suprar.....	1.4414	1.23
.414 g. suprar.....	1.294	1.150
.39 g. suprar.....	1.180	.972
.776 g. thymus....	1.66	1.66
Control.....	1.180	1.180

The fowls exhibited no symptoms of discomfort or illness during treatment.

Eggs were secured from the fowls treated, but their paucity and the infertility of a large proportion of both the eggs of drugged hens and the control fowl render the data scarcely worth considering.

We may conclude from this study that

1. Thyroid fed in considerable quantities to pregnant female rabbits produces weakness in the offspring.

2. Thymus is similar in its effect on the offspring.

3. Suprarenalin does not hinder development in the rabbit, but appears to slightly accelerate growth.

4. Thyroid and thymus are most injurious to the suckling rabbit.

5. The fowl is not materially affected by doses of thyroid and thymus which produce diarrhea, tachycardia and alopecia in the rabbit.

F. E. CHIDESTER

COLD SPRING HARBOR,  
LONG ISLAND, N. Y.,  
September 10, 1912

#### NOTICE OF NEWLY DISCOVERED EURYPTERIDS IN NEBRASKA

A BED of Eurypterids has just been discovered by the Nebraska Geological Survey in the Carboniferous shales of southeastern Nebraska, and thus a new locality is added to the list for the United States. Such localities are somewhat rare, and notice of any and every new one must be acceptable.

The Carboniferous outcrops are confined to some eight or ten counties in the extreme southeastern corner of the state, and though covered heavily by glacial clays, bold exposures occur in proximity to the bolder streams, especially the Missouri River. About a mile south of Peru, on the Missouri River front, the bluffs are limestones interbedded with thin layers of shale. But within a few hundred feet the shale thickens until the limestone pinches out altogether, and within as many feet the shale becomes increasingly arenaceous until it merges into a bed of massive cross-bedded sandstone. Within a mile this order is symmetrically reversed.

About one and a half miles south of Peru and immediately at the side of the Burlington track, and some thirty feet above the river, there occurs in this massive sandrock an irregular bed about a foot thick comprising alternating bands of sand and thin layers of compact slate-colored shale. These shale seams are seldom thicker than a quarter of an inch. They cleave readily and expose surfaces covered by innumerable leaves, stems, and their fragments. *Neuropteris* pinnules, and stems of *Calamites* are abundant.

Associated with these are the newly discovered Eurypterids. From observation in the field they seem to be adults, and yet they are diminutive, measuring but  $1\frac{1}{2}$  inches (38 mm.) in length. They appear to be fairly