

loys the method of circular compression of Riva-Rocci, and Hill, with the 12 cm. width of armlet proved necessary by von Recklinghausen. The special construction of the cuff allows of adaptation to arms from 15 cm. to 34 cm. in circumference. The original feature of the instrument is the folding U tube manometer. This is a jointed U tube manometer (copied from Cook), fastened to the under surface of the box-lid, so arranged that, when closed for carrying, it measures  $10\frac{1}{4} \times 4\frac{5}{8} \times 1\frac{7}{8}$  ins., and, with armlet and inflator, weighs  $2\frac{1}{2}$  lbs. The manometer is perfectly secure when closed and stands firmly when open. The tube caliber is 3 mm. The sliding scale is empirically graduated for each instrument, to compensate for variations in the glass tubing, and is accurate. All connections are of heavy pressure tubing. For inflation a Politzer bag is used, as by Erlanger, except that one with valve is necessary to fill the large armlet. The gradual release of pressure is provided for by a stopcock, with needle-valve of special construction, the work of Mr. Charles E. Dressler, who is making the sphygmomanometer for sale.

The method of use, as of the other modern sphygmomanometers, is based on the criterion of the return of the pulse after obliteration (Vierordt), for systolic pressure, and is similar to the Riva-Rocci and its modifications. A fair approximation of diastolic pressure may also be obtained in most cases, using the criterion of maximum pulsation (Marey, Mosso). This is especially useful in cases of aortic insufficiency, or marked hypertension. For experimental work upon the systolic and diastolic pressures, it cannot compare with Erlanger's more elaborate and costly instrument, but aims to serve the clinician by providing him with an accurate, yet not bulky or costly instrument, for general use. Stanton's sphygmomanometer, which appeared after this one had been begun, answers the same purposes. The only criticism to be made of it is, that 8 cm. width of armpiece does not afford a guarantee of complete accuracy on large arms.

#### **45. "Demonstration of cytological preparations": NAOHIDÉ YATSU.**

The author exhibited seven preparations demonstrating important cytological structures found both in eggs normally fertilized, and in some treated chemically. He spoke on the achro-

matic figure in mitosis, with special reference to the morphology and cycle of the centrosome.

Preparation I. — Metaphase of the first polar mitosis with two centrioles at each pole (egg of *Cerebratulus*).

Preparation II. — Sperm nucleus with sperm aster, in which each daughter centriole has acquired a new system of rays (egg of *Cerebratulus*).

Preparation III. — Anaphase of the first cleavage mitosis, showing two centrioles in each centrosome (egg of *Cerebratulus*).

Preparation IV. — Telophase of the first cleavage mitosis, showing typical centrosomes (egg of *Ascaris*, Professor Wilson's preparation).

Preparation V. — Mitosis without chromosomes in a late blastula (egg of *Asterias*, unfertilized and etherized). In one of the blastomeres the aster is dividing, forming a typical central spindle, but devoid of chromosomes.

Preparation VI. — Cytasters (egg of *Asterias*, unfertilized and etherized). Many cytasters are found in the cytoplasm, some dividing, some forming synthetic triasters.

Preparation VII. — Cytasters (egg of *Cerebratulus*, unfertilized and treated with a solution of calcium chlorid). Many cytasters have appeared, the first polar mitosis being disturbed.

**46. "The influence of subcutaneous injections and of instillations of adrenalin upon the pupils of frogs,"** with demonstrations: **S. J. MELTZER** and **CLARA MELTZER AUER**.

Many observers have established the fact that subcutaneous injections as well as instillations of adrenalin exert no influence upon the width of the pupil in normal mammals. In a series of experiments published recently by the authors of this report it was shown that from 24 hours to 48 hours after the removal of the superior cervical ganglion, a subcutaneous injection or an instillation of adrenalin caused considerable dilation of the pupil, which lasted an hour or longer.

In the present communication the authors report that in frogs a subcutaneous injection or an instillation of adrenalin into the conjunctival sac causes an unmistakable dilation of the pupils of a normal animal. The dilation lasts a good deal longer than was ever observed in mammals even after removal of the ganglion ;