

4. It is not possible to stimulate a heart brought to stand still by digitalin, to beat by mechanical means.

5. When the action is well pronounced, a large part of the time occupied in the systole of the ventricle is taken up in *maintaining* contraction when that is complete.

6. Digitalin neutralizes the action of various chemical agents which, when applied to the heart, tend to cause undue diastolic relaxation—(*e.g.*, Pot. Carb.)

7. A ventricle brought to stand still by digitalin is unusually small, hard and pale ("tonic" contraction).

#### NICOTIN IN 1 PER CENT. SOLUTION.

The effects of this agent I have found somewhat variable. A comparison of my different experiments will, I think, justify the following general statement :

1. The first effect of nicotin has generally been arrest of the heart in diastole for a variable, but brief, interval ; when actual arrest has not taken place, the beat has been much weakened and the rhythm slowed.

2. This condition is usually followed by irregularity and an increased rhythm, without much damage to the force of the beat.

3. The different parts of the heart may not act with their usual proportionate force or frequency. There may be two or more beats of the auricle for one of the ventricle, etc. (In-coördination.)

4. The fish's heart shows a remarkable power to recover entirely from the effects of nicotin.

#### VERATRIA IN RATHER LESS THAN 1 PER CENT. SOLUTION.

It is much more difficult to define the action of Veratria than that of Digitalin, though the *eye* readily appreciates differences. In general, the beat has that sluggish appearance seen after pilocarpin is used, but in other respects veratria is very unlike that drug in action. One of the most marked effects is the tendency to throw the parts of the heart and even parts of the ventricle out of harmony with each other, *e.g.*, the central portion of the