

is a cardiac excitant, potassium carbonate a depressant. The former tends to quicken the beats and diminish diastole. A heart arrested in diastole by potassium carbonate may be excited to action by sodium carbonate. Potassium carbonate must be regarded as a cardiac poison.

*Lactic Acid.* (1) In five per cent. solution this is a rapid cardiac poison. (2) In one per cent. solution its action is slower, but it proves a decided depressant, and the heart arrested by lactic acid cannot be excited to action by digitalis, sodium carbonate, &c.

*Nicotin* in one per cent. solution. (1) Its first action was often to arrest the heart in diastole. (2) This was sometimes followed by an irregular, slowed rhythm giving way to a more rapid but weaker heart beat. But the fish heart shows great power of resistance against the effect of nicotin in weak solution and can, it would seem, recover almost wholly from the effect of this poison. Nicotin tends strongly to produce inco-ordination of the beat.

*Chloroform* (undiluted) acts as a decided cardiac depressant, tending to arrest the heart in diastole. The heart can, however, recover fairly well from a considerable quantity of this poison applied directly to it.

*Acetate of Strychnia* in one per cent. solution. This poison did not seem to have the most pronounced action, but *tended* to strengthen the systole, diminish diastole and arrest the heart in systole.

*Veratria* in rather less than one per cent. solution. The most distinct action is on the diastole, which it retards. The heart in action has a generally sluggish movement rather than a weakened one; the systole may in fact be slightly improved. It also tends to cause arrhythmic phenomena—want of harmony in the sequence of the beats of different parts and of different fibres in the same part, *e. g.*, there may be two or more beats of the auricle for one of the ventricle, &c., or one part of the ventricle may be pulsating out of harmony with the rest.

*Digitalin* in somewhat less than one per cent. solution has more than any other of the agents tested a *constant*, decided and well-defined action. (1) A short time elapses before its