light, and pointed out with greater precision the successive evolutions of different parts of the heart, but we are unable to show the tracings of the instrument in such cases; we will confine ourselves, therefore, to an analysis of the three principle experiments which have enabled them to give the autographic representations of the movements of the heart.

1st Experiment.

The determination of the succession of the different movements of the heart.

This sketch represents the tracings of the action of the right auricle in No. 1; of the right ventricle in No. 2, and of the cardiac pulsation in No. 3.

These lines show that the contraction of the auricle precedes considerably the shock, which commences with the contraction of the ventricle.

The systole of the auricle is of extremely short duration; the systole of the ventricle lasts a much longer time.

The cardiac pulsation shows exactly the same duration of time as the ventricular systole.

The auriculo, ventricular, and sigmoid valves produce oscillations at the moment of their closure, which is shown by the undulations of the curves.

2d Experiment.

A comparison of the movements of the left ventricle with those of the right.

From this diagram you perceive that the two ventricles contract together, but they show a great difference in the energy or force of their contractions.

3rd Experiment.

The relations between the ventricular contraction and the aortic pulsation.

The upper line gives, in the first place, a tracing of two pulsations of the left ventricle, then two pulsations of the aorta. The second line indicates that the aortic pulsation is only produced at the moment that the ventricular contraction has arrived at its greatest intensity.

From the sketch which I have been able to give of these experiments and investigations, it is not difficult to see the immense importance they must possess in studying the pathology of the heart, and in the treatment of the diseases to which that organ is liable.

But for a detailed account of the instrument as well as its application to the exploration of the movements of the heart and pulse in health and disease, I must refer you to the able lectures of Dr. Burdon Sanderson and Dr. Francis Astic, published in the *Lancet* in 1866, and August, 1867, to Dr. Marey's work, recently published, and to the "Physiology of Man," by Dr. Austin Flint, &c., &c.

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LLEWELLYN BROCK, M.D., EDITOR.

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PERISCOPE.

SVAPNIA, OR PURIFIED OPIUM,

Consisting of Meconates of Morphia, Codeia and Narceia, made by Assay; an important Substitute for Morphia and Crude Opium.

This is a paper which was contributed to the Detroit *Review of Medicine and Pharmacy*, and discusses the relative effects of narceine, morphine, and codeine. He says morphine acts principally upon the brain; codeine especially on the cerebellum, medulla oblongata, and pneumogastric nerves. When one grain of morphine was injected into one dog, and one grain of codeine into another, both slept calmly for three or four hours. Then the morphine dog waked up wildly, recognized no one, looked haggard, and did not recover his good humour till the next day. The codeine dog waked up bright and playful. The experiment was then reversed, each dog being injected with the other's medicine, with exactly the same results. Morphine produces headache and vomiting very soon, and before a dangerous dose is arrived at, while codeine does not produce these unpleasant effects, and hence requires more care in its exhibition than morphine when given alone. Narceine, as an anodyne and narcotic, may be always employed in place of morphine, and is, in every respect, equal to it in value, and even, in a great many cases, to be preferred to it. In *Svapnia*, all the narceine of the opium is retained, but the attempt to isolate it from the codeine and morphine