

disease of the semilunar valves, always accompanying the second sound of the heart, it is very evident that this must be the case. It could not accompany the first sound, for the ventricle is still contracted at the mouth of the aorta when the aortic systole takes place. Consequently the blood could not then regurgitate into the ventricle. But when the parietes relax, or dilatation commences, the blood regurgitates into the ventricle, and this is synchronous with the contraction of the auricles and the second sound of the heart. Dr. Hope says, "the regurgitant murmur is distinguished from the systolic murmur in the aortic orifice, by the weakness of the reflux current always imparting to it the softness of the bellows murmur, an inferior degree of loudness, and a lower key, like whispering the word *ave* during inspiration. It often becomes musical." But if the reflux current be weak, how could it produce by falling back against the semilunar valves, during the dilatation of the ventricle, the acute sharp second sound that is heard? and as regards regurgitant musical murmurs, that is no evidence of the strength of the backward current being able to produce the second sound, for Dr. Hope informs us (page 88), "that Dr. Latour succeeded in producing musical notes, by the flow of liquids through apertures in tubes." We must also state, that as the regurgitant murmur is synchronous with the second sound of the heart, it must mask that sound, and prevent it from being distinctly heard.

When we commenced these experiments on the turtle in the early part of the season, we could only recognise the first sound of the heart—a dull and prolonged sound, but fully and distinctly brought out; there was no second sound heard. But in a few days, as the temperature of the season advanced, the action of the heart increased, and the auricles began to contract, with greater vigour, and the second sound became audible—a sharp, short sound. We could then distinctly recognise both sounds of the heart lubb-dup, lubb-dup, and during the greatest part of summer, we were accustomed every few days, for several weeks, to examine the action and listen to the sounds of the heart, in several turtles, and nothing could be more satisfactory than the results. We could then, hear the sounds of the heart in these animals, as correctly as in man and warm-blooded animals.

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—In consideration of the numerous victims of homœopathic treatment, a decree of the Emperor of Russia prohibits the practice of homœopathy in the entire territories of Russian America.—*Union Médicale*.

## LIGATURE OF CAROTIDS IN CASE OF CANCER UNDER LOWER JAW.

By T. J. ORTON,

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(Specially reported for Dominion Medical Journal.)

The Rev. Mr. F—, of the American Presbyterian Mission to India, came under my care, suffering from a malignant tumour under the left side of lower jaw; had previously consulted Assistant Surgeon Outchiff, a man of the highest repute as a Surgeon in India, and Civil Surgeon of Mussoorie, and both he and I were of opinion that there was no possibility of removing this tumour, for it was rapidly and from day to day seizing fresh tissues, till both sides were almost equally affected, and all the salivary glands and root of the tongue were soon evidently one mass of solid stone, like scirrhus. Abscesses formed in the mouth, under the tongue, and externally all over the surface of the tumour; the patient's breathing and swallowing became difficult, and he suffered such agony and such constant distress, that he himself, his wife and friends, kept constantly beseeching me to think of something to relieve, if only temporarily, and at any risk, for they said that death was positively to be regarded as a blessing to him, in comparison to what they saw him suffer and knew he would have still to undergo, if the disease were left to run its course.

The removal of the diseased structures by the knife was utterly impossible, but I thought that if the external carotid on each side were tied, the tumour must at least remain stationary till the collateral circulation could establish itself, and this might give the patient time to go, as they all wished, back with his family to America, and die amongst friends who would care for the family he would leave behind him.

I was now continually importuned to carry out my suggestion, and though I saw all the difficulty of doing so, at last consented, making them give me a written statement that they one and all agreed to assume all the responsibility as to the result, and clear me of all blame, should my idea not prove correct, or should the operation fail in the execution.

The left side had the largest share of disease, and I had to cut down through the tumour to get near the point where the external is given off from the