ligature, which perhaps it would be best to apply before division, loosening it as soon as division is complete, to see if bleeding threaten.

We may, in the smaller and more easily lifted growths, only pass the wire beneath, while the diseased portion is held up by a forceps. We should, however, make sure that the disease is well lifted, and none left.

Condylomata may be treated in the same manner; generally the larger part may be removed by the wire, and the remainder by the cones from the surface. Where the disease is accompanied by ulceration within and up the urethra, the cautery may be lightly employed as the potential caustics are to produce a healthy surface.

Vascular Growths of the Meatus are readily destroyed by the red-hot wire; the small wire does well. One cell is sufficient for these.

Malignant Disease of Os Uteri and Cervix.—In attacking malignant disease of the vagina and os uteri by the galvanic cautery, we are guided in our selection of the kind of instrument according to the amount of projection the disease has attained. If it be sessile, then, of course, the base must be reached through the surface; and the porcelain cones are best suited. Yet, one objection against this mode is found in the cloud of smoke which obscures our vision through the speculum. To overcome this, we can cut off the current, and blow out the smoke. This, however, detains us, though not long. If the disease be sessile and small, and can be brought straight before us, then we can use the flat porcelain spiral, which can be pressed flat on to the surface. When we wish to destroy epithelioma of the cervical canal, the small cone is well adapted; which, being passed up into position, can be heated by establishing the current.

Where the diseased part projects well into the vagina like a mushroom, which is very common in epithelioma of the os, then nothing answers better than to employ the loop, which should be adjusted as near the roof of the vagina as possible, without drawing down the uterus. If the cervix be very large and the current feeble, the parts adjacent may become much heated. It is well to intermit the current, and even to throw up cold water, after which the current may be re-established. When the disease threatens to run on to the vagina, and the cervix is but short, then the adaptation of the loop should be carried out very carefully, and the screw be used very carefully so as to cut as cleanly as possible. Generally, the finger can be allowed to remain during the severance, because the indentation produced by the tightening of the loop sufficiently protects it from contact with the wire. The conducting tubes should be placed anterior to the mass. Sometimes, owing to the small vulva or large size of the disease, it is difficult to carry a ready-made loop round the part to be removed. I have, therefore, got Messrs. Krohne and Sesemann to make an arrangement similar to Gooch's cannula, employing the platinum wire-rope for the twine, and substituting ivory for the metal rings which hold the cannulae together. It is not difficult to surround the mass in the same way as we do by the older instrument. The rope I have used is composed of two strands of small wire. This plan I have found very useful.

Polypi.—These can be removed by the ordinary loop, or the arrangement just mentioned. This cautery is especially suitable to those cases where the polypus is broad based, as is sometimes found in those of the cervix. In cases of polypi springing out of the anterior cervix, much danger is run in the use of the *craseur*, for, as it tends somewhat to glide off the rotundity of the polypus, it approaches the bladder, and is very liable to involve the posterior wall within its grip, or, if not so much as that, yet, to include a great portion of the anterior cervical wall. If, to avoid this, we employ scissors, we may have severe bleeding, as I have myself seen. The wire cautery will avoid this trouble. Where the polypus is broad based, or a part of a fibroid still remaining in the uterus, if we consider it necessary to remove it, which we may do if it cannot descend further down in consequence of the small size of the vulva, then the wire cautery is the best means of removal.

Where the polypous form is scarcely completed, as in the extrusion of a fibroid before it has descended through the os, the double cannula can be brought into use with much advantage, especially if the growth project from the side rather than the fundus.

Fibroid Tumours.—The centre of a fibroid tumour can be readily cauterised by the galvanic cautery. Supposing the os be open, the capsule incised, and with it the lower portion of the tumour, one of the cones can be inserted into the opening and burnt in as far as the centre of the growth; or, instead of the cone, the *navus-needle* may be employed. The effect of this action may be to totally destroy the tumour, which will be extruded by the uterine action in a sloughing state, or more safely to cause it to slowly disintegrate. I have found this an operation easy of management. Where it is doubtful how much of true uterine tissue may be dragged down by a tumour, as in a case of suspected

inversion with fibroid attached, this form of cautery is excellently adapted.

Amputation of the Cervix for elongation is readily managed by the loop. Although it is a safe procedure, it may be open to question whether the scissors first and two stitches afterwards to join the mucous membrane over the stump is not the best plan. To discuss this question, hardly falls in with the intention of this paper.

Vesical and Rectal Fistule of very small size, too small for plastic operation, may be effectually treated by passing the *navus-needle* carefully through them, and then establishing the current. The bladder and rectum should be as empty as possible, though care must be taken lest it pass in so far as to touch the healthy parts.

The Uterine Cavity may also be cauterised without difficulty, though, of course, very great care should be employed. Although I have not done it myself, I have heard that it has been done.

I have endeavoured in the foregoing remarks to avoid length; any one accustomed to operations on these parts will, I think, at once perceive the points of advantage afforded by the galvanic cautery. Some operations cannot be done by other means; some can be done more safely by this cautery; others equally well by other plans. I consider that it forms a valuable addition to our *armamenta*.

ON CERTAIN COMPOUNDS OF ALBUMEN WITH THE ACIDS.*

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IN testing albuminous liquids, much reliance is usually placed upon coagulation by nitric acid, which is added in excess, and in the concentrated form; if, however, the acid be very dilute, or added in small quantity, the precipitate which first falls is redissolved on shaking, and the acid liquid thus formed is not coagulated by heat, though the albumen is immediately precipitated by a few more drops of the strong nitric acid. This reaction has long been observed in testing albuminous urine. It was with a view to its explanation that the following experiments were conducted. The whites of four eggs were placed in a hoop dialyser of parchment-paper, which was floated upon the surface of some dilute nitric acid (sp. gr. 1.0025). After twenty-four hours, the albumen on the dialyser had become a clear semitransparent jelly, soluble in boiling water, yielding a strongly acid solution, in which nitric acid could be detected by the formation of a brown ring on the addition of protosulphate of iron and strong sulphuric acid. The solution of this jelly was not precipitated by corrosive sublimate, silver nitrate, lead subacetate, or alcohol.

When the acid was neutralised by an alkali, the albumen was precipitated. Excess of alkali redissolved the precipitated albumen in the cold, but not if the solution were previously heated above the coagulating point of albumen.

Excess of nitric acid, sulphuric or hydrochloric acids immediately coagulated the solution of albumen nitrate. Dried *in vacuo* over sulphuric acid, the compound became a hard, brittle, transparent mass, resembling gum; and in this form it was hygroscopic, but not deliquescent.

To determine the amount of acid in the compound, the dry nitrate (having ceased to lose weight *in vacuo*) was weighed and dissolved in boiling water. To the acid liquid thus obtained, and coloured by a solution of litmus, a solution of soda of known strength was added from a burette until the acid was exactly neutralised, the point of neutralisation being determined by the restoration of its blue colour to the litmus. The acid was then determined by calculation.

Analyses of two samples of the compound, prepared by dialysis over acids of specific gravities 1.002 and 1.001, yielded concordant results, which showed the presence of 6.7 per cent. by weight of nitric acid in the dry nitrate.

Hence it appears that there is a distinct compound of nitric acid with albumen: and it is the formation of this compound which explains the absence of any precipitate on heating albuminous urine to which a small quantity of nitric acid has been added. Similar compounds were obtained by dialysing white of egg over the other mineral, and some of the best known vegetable, acids. Each acid, however, imparts some characteristic reaction to the albumen by which its compound may be distinguished from all the others; and the proportions of acids in the different compounds vary according to their several combining weights.

* Abstract of a paper read before the Chemical Society.