Lectures

ON

EXPERIMENTAL AND PRACTICAL MEDICINE.

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I.—ON A NEW STYPTIC AND ADHESIVE FLUID— STYPTIC COLLOID; AND ON HEALING BY THE FIRST INTENTION.

THE lecturer first pointed out that, if experiment was of any use at all in medicine, it was so only when it served as a basis of experience and of curative practice. There remained in this direction, for the true medical inquirer, many grand fields for research in physiology, in pathology, but especially in therapeutics. In the present lecture, he should call attention to a compound fluid for instant and ready use in the dressing of wounds. The fluid placed before the audience, and which, for the sake of brevity, he called "*Styptic Colloid*", was very simple in its construction; and, although the process of making it was rather prolonged, it was sufficiently easy. The fluid consisted of ether and alcohol, the ether being in excess, saturated with tannin and gun-cotton. The fluids used as solvents must both be absolute; and the ether should have a low specific gravity, and a boiling-point not higher than 92°-94°. The fluid, diluted in equal parts with ether, may be used in the form of spray; but the most common way of applying it is with a brush, precisely as gum is applied.

When the solution is thus brought into contact with an open surface of the body, the resultant phenomena are these. The heat of the body gradually volatilises the ether and alcohol; and the tannin and the cotton are thus left stranded (as the ether leaves them) on the wounded surface, in close combination. In proportion as the ether escapes, the blood or the secretion of the open surface permeates the tannin and the cotton. The tannin acts directly on the albumen, coagulating it, and transforming it into a kind of membrane almost like leather. The cotton meanwhile gives consistency to the mass, unites the whole, and promotes adhesion. As the tannin is in excess, any new exudative matter or blood is for some hours taken up by it, thus rendering the annealing process the more complete.

Dr. Richardson next proceeded to demonstrate the effects of the solution on blood, albumen, serum, liquor sanguinis, and purulent fluid. He showed that it produced solidification of all these fluids, adhesion of their parts, and deodorisation when they were offensive.

By this dressing, then, the air is excluded from every possible point in a wound, in every possible direction; and that not by a mere septum, but by a direct combination of the animal fluids with the remedy.

The next part of the lecture bore on the modes of application. In the case of wounds of a recent kind, after the edges had been brought together by suture, the solution was freely applied with a brush; and a

thin layer of cotton-wool, saturated in the solution, was also laid in the line of the wound. To quicken hardening, the solution should be gently breathed upon as applied. In cases of open wounds, as open ulcer, the solution should be applied directly over the open surface; and, whenever there was reappearance of purulent or other discharge, again the solution should be applied. In compound fracture, the solution might even be poured gently into the wounded cavities. In no case need the dressing be removed, unless it were raised by discharge, unless there were foster from the wound, or unless there were some general symptoms indicating purulent formation.

After giving these general instructions, Dr. Richardson proceeded to the narration of cases in which he had applied the fluid in practice; viz., cases of profuse hæmorrhage; cases of common ulceration; cases of syphilitic ulceration; cases of open cancer; and cases of recent wound. In the latter class of case, he had treated with entire success an amputation of the foot by Chopart's plan, but in which the operator, Mr. Adams, owing to an ankylosis of the cuboid and os calcis, had been obliged to use the saw freely. In this case, the wound healed throughout in three days; and although, at the first dressing, a portion of the newly healed surface was torn open for about a quarter of an inch, that reunited, and, on the sixteenth day, the patient was able to return to the country quite well, having never had one unfavourable symptom.

The styptic fluid, in most cases, acts well by itself; but it also forms a base for many other useful medicinal agents.

With *creasote* and *carbolic acid*, it forms a very powerful antiseptic solution; but this solution is rather irritating.

With pure *quina*, it forms a powerful antiseptic; but the compound is not so adhesive as the base.

With *iodine*, it forms an admirable solution, especially for cases of slow, fetid, indolent ulcer, strumous in character. It also combines with *iodide of cadmium*.

With *bichloride of mercury*, it unites well, and the resultant compound is most useful in large, slow, syphilitic ulcers. The mercury salt should be added in the proportion of one-twentieth of a grain to the drachm.

With *morphia*, pure, it also combines, and forms a soothing dressing in cases of irritable ulcer.

With *cantharidine*, it combines readily, the solution producing a kind of dry blister.

The last subject in the lecture had reference to the principles of healing by the first intention. As was to be expected, the lecturer viewed the subject purely from a physical point of view. Taking as the foundation of his argument the natural fact that the largest wounds may heal by the first intention, he insisted that they ought to do so in every case; and that a correct knowledge of the process of healing would in time ensure that grand result. By various experimental facts, he went on to prove that healing or no healing by the first intention turned entirely on the physical state and condition in which the surgeon left the interstitial fluid, out of which the solid parts were formed, and a surface of which at every operation was laid bare by the knife. The rapidity with which this fluid underwent decomposition, first into acid and then into alkaline products, was shown; and the two processes of "healing from the bottom", so-called, and of "first healing", were compared and contrasted.

Dr. Richardson concluded as follows. From the time of Sir Kenelm Digby until this time, surgeons have fluctuated between the two extremes of healing

—of “healing by the first intention” or of healing slowly “from the bottom.” The time for this hesitation ought now to be considered as over, and the modern surgeon should neither hesitate, nor pause, nor tire, until he has made healing by the first intention a sure and certain portion of his science and art; and until he has lifted away that dark pall which the most eloquent of English surgeons describes as still enshrouding the most brilliant surgical exploits. To give direction and solidity to that great work had been the aim of the present lecture.

Progress of Medical Science.

MATERIA MEDICA, CHEMISTRY, AND PHARMACY.

AN ANODYNE FORMULA. The following formula is recommended for combining chloroform and morphia for internal administration. One part, by weight, of morphia is dissolved in two parts of rectified wine-vinegar and twenty parts of rectified spirit of wine; and the solution, when cold, is mixed with eighty parts of chloroform. One drop contains the three-hundredth part of a grain of morphia. The dose for a child is two to fifteen drops; for an adult, thirty to forty drops. It is said to give relief in most painful affections much more quickly and certainly than morphia alone, and to leave none of the unpleasant after-effects of opium. The subcutaneous injection of morphia during chloroform narcosis, is strongly advocated in all those cases where it is desirable to maintain the state of unconsciousness for a lengthened period.

CONIUM. At the State of New York Medical Congress, Dr. Manlius Smith read a paper upon the question, Which part of the plant *Conium maculatum* is the best for medicinal use? The conclusions arrived at, from careful experiments, were: 1. The partly, or fully grown, but wholly green seeds (popularly so called) are from three to seven times more active than the leaves collected at the time of flowering; and the leaves collected at that time are about twice as active as those collected later. 2. The fruits, properly collected and dried, retain their activity quite perfectly, and probably for a considerable length of time. 3. The third extract of conium seed, an unofficial preparation made by Dr. E. R. Squibb, produces well marked operative effects in doses of about fifteen minims. Probably a considerably less quantity will answer for many medicinal uses.—*Medical Reporter*.

COD-LIVER OIL. M. Naumann has arrived at the following conclusions concerning the physical constituents and the physiological action of cod-liver oil. 1. Cod-liver oil travels through dry or moist animal membranes with much greater facility than do any of the other fatty oils. 2. Brown cod-liver oil possesses this property in the most marked degree. 3. The cod-liver oil which has been the most completely deprived of its biliary principles, almost entirely loses its power of penetration, and acts only in the same manner as the other kinds of oil. 4. Cod-liver so deprived of its biliary manner can regain its power of penetration by the addition of bile to it. 5. The other kinds of oil treated in the same manner with bile, acquire the power of more easily traversing the animal membranes than they previously possessed. The fat of cod-liver is more easy of absorption than any other fat.

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PROFESSOR HUXLEY'S HUNTERIAN LECTURES.

ON March 29th, Professor Huxley concluded his course of Hunterian Lectures at the Royal College of Surgeons. This year, they were devoted exclusively to the osteology of the *Sauropsida*; that is to say, of Birds and Reptiles—two classes which the lecturer has before abundantly shown to agree together in a vast number of characters; while at the same time they similarly differ from mammals on the one hand, and from amphibia and fishes on the other.

Professor Huxley treated first of the osteology of Reptiles, which group he divided into the *Lacertilia*, *Ophidia*, *Plesiosauria*, *Ichthyosauria*, *Crocodylia*, *Pterosauria*, *Suchosauria*, and *Chelonina*.

The first group, *Lacertilia*, the lecturer divided into the amphibiaenans, the chameleons, and the lizards; the latter being further subdivided into two great sections, according to the form of the articular surfaces of the bodies of the vertebræ.

Attention was called to interesting peculiarities presented by the skeleton of the New Zealand genus *Hatteria*, which will soon be described in detail by Dr. Günther before the Royal Society.

The many differences between the two extinct groups, *Plesiosauria* and *Ichthyosauria*, were described, and the impossibility of placing them in the same order forcibly pointed out.

In treating of the *Crocodylia*, the lecturer took occasion to point out the very interesting fact of that gradual bending over more and more of the palatine and pterygoid bones, which we find as we survey the various crocodilian forms extending from the Trias to the Greensand. If such a lapse of time was required to effect so small a change, how fragmentary indeed (it was suggested) must be the record preserved to us of extinct forms of life!

As regards the *Pterosauria*, an interesting rectification was made; the fact being pointed out, that it