more important one. It is a transparent, oily-looking liquid, which dissolves very sparingly in water, and is exceedingly heavy, its specific gravity being 2.257. It is very volatile, and the vapour is rather pungent. In odour and taste it is more pleasant than wood-spirit, to which it bears some resemblance. Like other ethers, it acts as a diffusible stimulant, but is more powerful than most of them. The immediate heating and exciting effect it produces upon the system is undoubtedly due to the methyle base, but it also produces the physiological effects of iodine, and this we should naturally expect when we consider that iodine constitutes nine-tenths of the weight of the compound. It increases the secretions, especially the salivary and urinary, and it affects the mouth, the gums becoming red and swollen, with a tendency in some instances to bleed. In half an hour after a few drops have been swallowed, the presence of iodine may be detected in the saliva and in the urine by means of the starch and sulphuric acid test; and, as the iodide of methyle itself does not act with this test, it is evident that it must be rapidly decomposed in the animal economy, the methyle being separated from the iodine, which no doubt unites with sodium or potassium. I have prescribed it as an internal remedy in some cases where it was desirable to give iodine as a medicine; but, as its stimulating effects are sometimes objectionable, I have directed my attention more to its use as an external remedy, and I have also used it for inhalation. Iodide of methyle unites readily with lard, and in the proportion of half a drachm or a drachm to the ounce it forms a stimulating ointment, which I have tried with advantage as an application to indolent ulcers, more especially those of scrofulous nature. I have also used it in two cases of psoriasis, one of them of syphilitic origin, and in both it assisted, in conjunction with the internal means which were likewise employed, in removing the scaly eruption of the skin. In directing my attention to these ethereal compounds, I was influenced in some measure by a desire to obtain remedies capable by their volatility of being made to act directly upon ulcers of the lungs. I formerly stated, in my report on the 'Progress of Improvement in the Treatment of Consumption,' that we often succeed in arresting this disease without being able to heal the ulcers which have formed in the lungs; that the disease is in consequence apt to regain new activity, and that I considered the discovery of means which would promote the cicatrization of cavities in these cases of arrested phthisis a desideratum, and a legitimate object of inquiry. Having, therefore, found iodide of methyle useful as an application to external ulcers, I was naturally led to expect that it might prove serviceable when applied to those of the lungs in the way of inhalation. I have used it in cases such as I have alluded to, and in some I think it has been of service. It is, however, too pungent when there is any considerable bronchial irritation; and where this is the case, I have found another compound, which I shall presently describe, more applicable, viz., the iodide of ethyle."

I have long thought, and on more than one occasion I have expressed the opinion that, therapeutical inquiry has been the most neglected branch of scientific medicine. Pathology, which shows us more of the effects of disease than of the way to treat it, has been much cultivated, and we have made sufficient advances in this branch, and also in our knowledge of the natural history and course of diseases, so that we are no longer without a good basis for scientific therapeutical inquiry. Meanwhile organic chemistry has been making great strides, opening a way for those who have opportunity and ability to enter experimentally into this promising field; and I am glad to see that the profession has become alive to the importance of the subject. I have read with much satisfaction the account in this JOURNAL of Drs. Crum Brown and T. R. Fraser's interesting researches into the relation existing between the chemical constitution and the physiological action of medicinal and poisonous substances, and on the addition of iodide of methyle to vegetable alkaloids; likewise the forcible paper "On Drugs," which was brought by Dr. Fuller before the Harveian Society; and I rejoice to see that so scientific an observer as Dr. Richardson is bending his attention in a similar direction.

Many of the simplest and most practical therapeutical questions may be said to have received little or no scientific examination. By way of illustration, I may observe, in regard to iodine, that it must vary in its effects according to the base with which it is combined. Iodide of iron, for example, does not seem to have any greater efficacy in the treatment of secondary syphilis than other preparations of iron—certainly not the efficacy of iodide of potassium; therefore we know that the action of iodine must be materially affected by the base with which it is combined. Well directed scientific inquiry should, with the aid of chemistry, throw light on a difference of effect such as this. And it might be a fit subject for the Therapeutical Committee of the Harveian Society to propose for investigation the modifications in the action of iodine from its combination with potassium, sodium, ammonium, and other bases.

In the form of iodide of potassium, it is believed that in most individuals it is eliminated chiefly by the kidneys. My researches showed

me two singular facts in regard to its action when in combination with methyle and ethyle, which seem to prove that its action may be diverted from one to another organ by the base with which it is combined. Whether inhaled or given internally, iodide of methyle quickly affects the mouth, and even causes the gums to bleed; and iodide of ethyle produces a similar but less quick and energetic action on the mouth. Observing these facts, I thought I had discovered compounds of iodine which would prove of superior efficacy in the treatment of syphilis; but on trial, I found them very inferior to iodide of potassium, and I am even doubtful if iodide of ethyle, which I tried in many cases, has any value in this disease.

I may advert to another interesting fact in regard to iodide of ethyle. We all know that, when sulphuric ether—that is, oxide of ethyle—is taken medicinally, it is largely eliminated by the lungs, the breath being strongly impregnated with its odour. When iodine is combined with the ethyle base, and the iodide of ethyle is either given internally or by inhalation, the breath soon acquires a peculiar garlic-like odour, no such effect being produced by iodide of methyle. From these facts I would infer that, the combination of iodine with one base may direct its action to one organ in particular, and with another base to a different organ. Does the combination of iodine with methyle direct the action more particularly to the mouth and gums? the combination with ethyle to the lungs? with potassium to the kidneys? with sodium to the liver? with ammonium to the skin? These, or some of these, are questions on which medical men engaged in the daily business of practice must form opinions from general observation, but they cannot solve them without such experimental researches, aided by chemistry, as they have not the time and opportunity to engage in. Let us, however, hope that the attention now directed to therapeutical investigations will lead to the collection of more definite facts relating to such simple questions, so that we may have not only new remedies, but also more exact knowledge of those we wield in our warfare with disease.

NOTES ON THE PATHOLOGY OF ARABIAN ELEPHANTIASIS.

By JOHN COCKLE, A.M., M.D.,
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A VERY moderate acquaintance with the subject shows us that there are at least three points in the history of Arabian elephantiasis sufficiently interesting to merit attention:—first, that a disease possessing such trenchant characters, and one moreover, though endemic, and at times epidemic in some countries, nevertheless common to all, should (unless of later origin) have escaped the notice both of the Greek and Latin observers; second, that, although so admirably described about the ninth century, in its two more commonly observed forms, by Rhazes (nearly the only really original physician who flourished during an almost Augustan period of the Arabian Caliphate), the disease in question was but dimly recognised during succeeding ages until our own countrymen, in the eighteenth century, described, with accuracy of detail, its more general characters and affinities, as observed among the inhabitants of the island of Barbadoes. For, although Prosper Alpinus, in the sixteenth century in Egypt, Kæmpfer, on the coast of Malabar, and the physicians of the French army in Egypt, in the eighteenth century, had partially discerned the features of the disease, still the then current terms, "fleshy hernia" (Alpinus), "endemic hydrocele," "pedarthrosis" (Kæmpfer), and "sarcocele" (Larrey), applied to the same elementary lesion, sufficiently prove how crude were the notions held by them as to its true pathology. The third point is the uncertainty which even yet exists respecting the precise ætiology of the affection, which has been handed down to us under the designation of elephantiasis Arabum—the suffix, as is well known, being intended not to indicate a country to which it is peculiar, but to honour the people who first so well described it.

Arabian elephantiasis must now be regarded as a generic name under which many affections have been included; some, clearly on inadequate pathological grounds, while others, with a more direct affinity, have been excluded. All, however, mostly present an unnatural and more or less abiding deformity of the part affected, caused by actual augment or degeneration of the tissues involved.

Affections, the most dissimilar, may operate as the exciting causes of elephantiasis. Some of the earlier English pathologists alluded to were disposed to adopt a humoral origin of the disease; but one, Dr. Hendy, as also a French physician, Dr. Alard (possibly influenced by recent interesting researches respecting the absorbent system) regarded inflammation of these vessels as the proximate local cause of the affection, and

"Glandular leg of Barbadoes," or "Une Maladie particulière au Système Lymphatique," were its respective designations. But, in the cases of angioleucitis ordinarily observed, and generally resulting either from injury or from the irritation of some specific poison, although the red ribband-like band or cord extending to the nearest glands is seen, causing, at times, severe constitutional disturbance, resembling that described as peculiar to elephantiasis, still, either extensive effusion of simple lymph or permanent enlargement of the affected part, is of extreme rarity indeed—almost an unknown result of such inflammation, and quite inadequate *per se* to the production of the disease. Subsequently, Bouillaud and Cruveilhier, observing the immense oedema of the extremities consequent upon obstruction of the femoral veins, and finding such effusion occasionally becoming solid and undergoing conversion into fibrous tissue, regarded the permanent deformity as a secondary consequence of the obstructed venous current. The former pathologist, in the course of his valuable inquiries into the causes of oedema, met with the case of a young woman whose legs and thighs actually resembled those of an elephant in point of size, owing to complete obstruction of the cava and the femoral veins. Dr. Meigs has also known the enlargement of the extremity caused by phlegmasia dolens to persist for years. Indeed, a limb thus permanently enlarged would constitute the purest type of local elephantiasis, and form a class of cases, at times demanding treatment. Frequently recurring erysipelas, and even eczema, may occasionally be exciting causes of the disease, from the implication of the connective tissue and adhesive phlebitis of the smaller veins. Syphilis and the paludal poison are, at times, more especially influential. The author has observed a case of chronic albuminuria in which the skin of one of the enormously distended legs gave way, and constant drain ensued for nearly twelve months preceding a fatal termination. Here the skin of the leg and thigh was exceedingly hard, brawny, and tuberos, with greatly diminished sensibility, giving the affected parts a somewhat elephantoid aspect.

Of these alleged causes, however, none act with such uniform certainty in the production of the disease as to entitle them to a higher rank than that of "occasional" or "exciting." As Rhazes most accurately pointed out, there are two forms of Arabian elephantiasis—the white and smooth, and the brown and coarse; the former caused by "phlegm" or lymph; the latter by dark blood and knotted veins (to be distinguished, however, from simple varix). In the first form, the disease would seem principally to affect the deeper structures and dermic layers, giving rise, at times, to fatty degeneration of the muscular or even osseous tissues, or to a collection of viscid fluid, leaving the surface comparatively unaffected; while, in the second form, the cuticular aspect of the dermis is additionally affected, stretching the skin and rendering it knotty, fissured, and otherwise diseased. Here the cuticular sensibility is very much diminished, while in the smooth variety it mostly remains intact. It must, however, be borne in mind that the diminished sensibility is restricted to the part involved, and is, apparently, simply the result of the thickened cuticular surface, differing much from that more general anaesthesia which is so characteristic of one of the forms of Greek leprosy—*Lepra mutilans vel anaesthetica*. In this variety, the nervous cords are involved, as shown by the recent investigations of Studener.

It must be admitted that, genuine Arabian elephantiasis at its onset probably involves both the circulating and lymphatic systems, since more or less of local oedema usually heralds in the attack. This position, however, is disputed by Professor Allan Webb, who studied the disease on a very large scale in a hospital devoted to such cases in Bengal. He denies the participation of either veins or lymphatics, and describes the disease as commencing *without* these vessels, by the development of nuclei in a blastema, and their conversion into fibrous and elastic tissue enclosing an albuminous fluid. This view derives support, to some extent, from Virchow's well-known researches in "cell-pathology."

There yet remains, then, to be discovered, the unknown factor which immediately determines the perversion of nutrition on which the disease depends. It must be some special constitutional condition, since, notwithstanding what has been designated as elephantiasis is at times apparently a simple local condition, there is abundant evidence to show that, in the great majority of cases, some general dyscrasia must coexist. Such necessity would seem to be enforced by the following facts:—the peculiar and almost periodically recurring "paroxysms" or "accessions" of the disease, as they are termed, much resembling those of intermittent fever, and under which accessions the disease gradually advances; the frequent coexistence of visceral fatty degeneration; the occasionally insidious onset of the disease, unattended by any prior marked symptoms; the occasional disappearance of the disease from its first site to reappear in another and often remote part of the body; and lastly, the occasional immediate recurrence of the disease in the opposite extremity to the one

removed by amputation. Whatever the constitutional peculiarity may be, it is unquestionably an acquired one, since all testimony concurs in proving it to be neither a heritable nor a contagious disorder.

ON A READY METHOD OF MAKING A FEMALE CATHETER.

By T. APPLEBY STEPHENSON, Esq.,

Surgeon to the Nottingham and Midland Eye Infirmary, etc.

I AM not quite sure whether I am the inventor, or merely the adopter, of the ready female catheter which I am about to describe; but at least I cannot tax my memory with having heard of it before, and it is certainly new to all the medical friends to whom I have mentioned it.

I refer to the employment of a portion of an *ordinary tobacco-pipe*, warmed, oiled, and introduced in the usual way. I have been in the habit for several years of using occasionally this simple contrivance, and have never found either the least danger or difficulty in its application. I have shown nurses and friends waiting on the sick how to pass this catheter; and, within the last few days, used, and caused it to be used, in the case of a young girl aged 18, suffering from tubercular meningitis.

Every surgeon, especially country ones, must have felt the great annoyance of being called some distance—perhaps in the night—to a case where it is necessary to draw off the urine, and where, suspecting nothing of the kind, he has not brought a female catheter. I know it was in such an emergency, at least nine miles from remedy, that I first perverted the tobacco-pipe from its customary purpose. It saved my patient much anguish and danger, and myself a journey home and back of nearly twenty miles just to fetch an instrument. Of course, a large reed or a piece of India-rubber tubing might answer the purpose; but they are not so firm, nor, what is more to the point, so easily procurable; while one could scarcely find "any lone house, however lonely," where a tobacco-pipe could not be soon obtained.

The pipe being well oiled and warmed, placed lightly between the thumb and forefinger, inserted in the meatus, and gently wriggled about, any surgeon that chooses to try this plan, in the absence of the regular instrument, will find the thin end of a tobacco-pipe a first-rate ready method of extemporising a female catheter.

THERAPEUTICAL MEMORANDA.

[Under this head, we shall publish from time to time, as materials accumulate, short records of remarkable cases in practice which are sufficiently rare, interesting, or instructive, to deserve record, but do not call for lengthened statement or comment. Brevity and point should be the valuable characteristics of cases forwarded for this column.]

CASE OF MAMMARY ABSCESS TREATED BY LISTER'S METHOD.

By GEORGE H. WILLIAMS, M.D., Rhyl.

MRS. J., aged 27, a fine healthy woman, was confined four months ago of her first child; although it was a face presentation she did well; she suffered much from excoriated nipples while suckling. About a month ago she imprudently had a morning's washing, and stood in thin slippers; this brought on pain and throbbing in the left breast, and, in spite of active treatment, a large abscess formed a little above the nipple.

On Thursday, April 23rd, 1868, I opened it according to Mr. Lister's directions. My friend Mr. Price Roberts, who had not often seen this treatment, was present, and held the soaked rag. After pressing out every drop of pus, which was fully a large tablespoonful in quantity, the putty was immediately applied; the next day I dressed it, under the same process, when, to our surprise, there was not a drop of discharge on the dressings. On the Sunday following, the cavity had filled up and healed over, and the whole breast presented as soft and healthy an appearance as the other. It has continued so, the secretion of milk reappearing at the nipple, which the child takes readily. Under ordinary treatment with unguents, poultices, etc., it would have taken a fortnight or three weeks in healing. I have under similar treatment at present a case of sinus beneath the instep, communicating with the fourth metatarsal bone, of eighteen months' duration. I shall relate the results in a future number.