charitable scheme alone established, the result being the commencement of our British Medical Benevolent Fund. The second attempt was made at the Bristol meeting of the Association in 1863, upon a proposal by Dr. Richardson to establish a provident association. A committee was appointed, and a long report presented and discussed at the following annual meeting at Cambridge, and a society established; but its lifetime was only two years, for before the meeting of 1867 it had been dissolved in consequence of the lack of support. The third sick benefit club was suggested by Sir John Forbes in 1850, but, like the others, it either never existed or speedily ceased to exist.

The object is most estimable, but the difficulties and obstacles have hitherto proved insurmountable. The professional income of a medical man depends entirely upon his own personal exertions; he cannot delegate his duties to others for any length of time without sacrificing his practice, and is, therefore, in the same position as an artisan, and equally in need of assurance against disablement. But really, to meet our needs, a provident society should fulfil two distinct requirements: 1, assistance during temporary disablement by sickness or accident, and, 2, provision for widows and orphans after death. There can be no doubt we are open to the charge of improvidence, from the frequency with which death or disablement overtakes us before we have made adequate provision for those dependent upon us. But the explanation of this is, that we are called upon to do so much in early life gratuitously, in the hope that success may attend us later on. If life and strength be given us this good time may come, but too frequently it has not come before death has found a widow and orphans unprovided for, or the necessities of early days have so involved our finances, that even when success has come, it has not been sufficient to enable us to lay by a store.

The sick club now proposed may be a wise provision for mutual support, and may do much to help us during life, but it will not remove the responsibility resting upon us to make provision for those whom we may leave after death, or free the profession from the reproach that in too many instances the widows and orphans of those who have lived in affluence and luxury are suddenly reduced to penury and want.

What seems needed, is the addition of a scheme drawn upon the lines of the Society for the Relief of Widows and Orphans of Medical Men in London, a Society now nearly 100 years old, which has successfully combined the advantages of providence with benevolence. It is provident, inasmuch as by the small yearly subscription of two guineas, the members do, through it, protect their own families from destitution, should they unexpectedly need it. And it is benevolent, as its benefits are conferred only on those who are left in indigent circumstances. The report says: "The experience of ninety years, has fully proved the need that existed for this Society; 194 widows and 277 children of members of this Society have been placed in comparative comfort by an aggregate sum of over £100,000 paid in half-yearly instalments. Many of these would have been in a state of absolute poverty, had not the Society stepped in to succour them."

But, gentlemen, my time is exhausted, and I fear your patience also; if it were not so, I would gladly enter upon other topics bearing upon the great problem of "maintenance of the honour and respectability of the profession," and, as a stimulus to further exertion, I would invite you to recall what has already been accomplished through the instrumentality of this Association and its powerful organ, the JOURNAL, in the army and Poor-law medical services, in sanitary science, State medicine and medical reform.

I cannot expect the views I have propounded to be in accord with the opinions of all who have so kindly listened to me; but I trust that nothing I have said has wounded the susceptibilities of any.

Ours is a noble work, and we should be noble in our bearing. It is a great and glorious calling we have chosen; and it rests with us individually to make its disciples respected and esteemed. We cannot all be great, but we can all be good; we can all be inspired with the desire to maintain the honour and respectability of our profession; each in his little sphere can do his social duty, remembering—

"This above all. To thine own self be true,
and it must follow, as the night the day,
Thou canst not then be false to any man."

"God and the doctor alike adore,
But only when there's danger, not before.
The danger o'er, both are alike requited;
God is forgotten, and the doctor slighted."

Gentlemen, before I sit down, allow me to express my sense of the honour you have done me in making me your President. I will ask you to accept my assurance that it shall be my endeavour, to the best of my ability, to do my duty in the position to which you have called me. But let me remind you that I am but an humble unit, that the maintenance of this large and important Branch in its ever increasing sphere of usefulness and efficiency must depend upon its members, and that it is only with your kind consideration and support, I can hope to pilot it safely through my year of office.

CASE OF COEXISTENCE OF DIPHTHERIA AND TYPHOID FEVER.¹

By G. E. PAGET, M.D., F.R.S.,

Regius Professor of Physic in the University of Cambridge.

THE recent illness of the Postmaster-General may add interest to the following case. The patient was Mrs. J. K., a married woman, about twenty-eight years of age, living in Manor Street, Cambridge. Three days before her illness began, one of her children had died of diphtheria, two of them having been affected. Mr. Carter, who attended them, had no doubt as to the diagnosis. The children had sore-throat, and exudation upon it.

When I first saw Mrs. K. (on December 14th, 1861), she had been confined to her bed about a week. From Mr. Carter I learnt that her illness had begun with sore-throat, and that there had been small white diphtheritic patches upon the throat. When I examined it, I could find none, nor any signs of diphtheria; but upon her abdomen were some of the rose-spots characteristic of typhoid fever; and at the base of her right lung, to the extent of two or three inches, the percussion-sound was dull, and small crepitation could be heard. She was feverish; her pulse was 130; her bowels loose. She was in the seventh month of pregnancy.

For six days she continued in much the same state, as an ordinary case of typhoid fever, with moderate pneumonic complications; her bowels loose; her pulse above 120; her tongue dryish; and a general condition requiring wine and brandy. During these six days, her throat remained free from diphtheritic appearances; but on the morning of December 20th it again became sore, and in the evening the uvula and soft palate were covered with a white exudation, the adjacent parts being bright red. Her pulse then became a little less frequent, falling to 116. Chlorate of potash was now prescribed in small frequent doses, and next day tincture of perchloride of iron. On December 28th, her urine contained albumen. The exudation, after its reappearance on December 20th, was seen from day to day; it had a diphtheritic character, and was very extensive. It was still present, though somewhat reduced in extent, on January 2nd. When I saw her on January 5th, it had been completely cleared off.

Early in January, she began to suffer much from retching and vomiting. She was troubled also with cough. The right lung was consolidated at its base, but to a small extent only. The vomiting so persisted from day to day as to bring her into great peril. On January 20th, the liquor amnii escaped. Active delirium now came on, and continued for upwards of twelve hours, when she suddenly aborted of a seven months' child, which lived half a day. The mother nearly died during the removal of the placenta, though scarcely any blood was lost. After labour was completed, the vomiting ceased, and she gradually recovered.

Mrs. K. had been nursed during her illness by her mother, Mrs. S., aged 58, who lived in the outskirts of Cambridge, in an isolated cottage within a large garden. On February 14th, 1862, she took to her bed with typhoid fever. She had the ordinary symptoms: the rose-spots, loose stools, etc. She went on favourably until March 13th, when, after sitting up near an open door, she had rigors, ushering in double pneumonia and hæmorrhage from the bowels. She died on March 24th.

The chief interest of Mrs. K.'s case is in the disappearance of the local signs of diphtheria, and their suspension for six days during the continuance of the typhoid fever, and then their reappearance and persistence for thirteen days or more. This appears to me a fact, not perhaps contrary to what might be expected, but at least worth notice. It differs from what was reported in the case of Mr. Fawcett.

Nine years previously, I had attended a severe case of typhoid fever in the same house, in Manor Street, in which Mrs. K.'s illness occurred. The patient was a young man of a different family.

¹ Read at a meeting of the East Anglian and Cambridge and Huntingdon Branches.

The recorded cases of co-existence of diphtheria and typhoid fever are not numerous. If they were, they would afford some countenance to the view, that the poison of diphtheria is identical with that of typhoid. It is, of course, conceivable that they might be. But so many epidemics of typhoid fever occur without diphtheria, and so many of diphtheria without typhoid, that the evidence at present is strongly against the identity of these essential causes.

CASCARA SAGRADA IN CONSTIPATION.

By R. A. DOUGLAS LITHGOW, LL.D., M.R.C.P.Ed., etc.

NEW remedies succeed each other with such remarkable rapidity now-a-days, that, notwithstanding the ephemeral existence of the majority of them, a fresh series is ever ready to take their place, and "the cry is still, they come." Amid this infinite progression, it is pleasant and instructive to find even one agent that may be regarded as a valuable addition to the medical *armamentarium*; and that such an agent exists in cascara sagrada, time will, I think, inevitably show.

Like many useful remedies, cascara sagrada (a term of Spanish derivation, and signifying "sacred bark") was well known to early writers, and is mentioned by Peter de Crescentius in a botanical work published by him in Bologna in the thirteenth century, in which it is recommended as a remedy for constipation. Its efficacy is also referred to by many Continental authors during the seventeenth and eighteenth centuries. As Dr. Eddmon has pointed out, the term "sacred bark" has been applied to this plant from a very early period. Thus, Pausanias, who flourished during the reigns of Hadrian and the Antonines, in the second century, says: "Æsculapius held the tree sacred; and Bion, who was superstitious, had branches from the rhamnus purshiana fastened over his door;" and Diogenes Laertius, who lived during the reign of Severus or Caracalla, in the third century, observes: "Branches and bark of the rhamnus purshiana were burned as a sacred offering in front of houses when a person died." Verily, "there is no new thing under the sun."

At least three species of the rhamnaceæ are more or less known in medicine; viz., rhamnus catharticus (the common buckthorn), rhamnus frangula (the black alder), and the rhamnus purshiana, now under consideration. The former is such a powerful cathartic as to be now seldom or never used, and the second is still less laxative than the cascara sagrada. It is quite possible, however, that the aperient property which seems common to all the rhamnaceæ may be supplemented in each of the species by such other properties as might result from the action of analogous but not identical chemical constituents.

My attention was first directed to cascara sagrada by an American pamphlet which fell into my hands some years ago, since which time I have prescribed it with almost invariably successful results, and cannot but regard it, under favourable conditions, as a specific in cases of chronic constipation.

Cascara sagrada seems to act as a tonic to the pneumogastric and sympathetic supplies of the *primæ viæ*, aiding the general processes of digestion, whilst, especially promoting those of nutrition and assimilation. At the same time, it so influences the secretory system as to increase deficient, and to improve and restore vitiated secretions, by regulating the action of proximate visceral and intestinal glands. From this it will be seen that its use is especially indicated in cases characterised by torpidity of the liver and an atonic condition of the stomach and bowels.

Where habitual constipation depends upon derangement of the intestinal glands, with consequent defective or perverted biliary and intestinal secretions, associated with an adynamic condition of the muscular and nervous forces of the alimentary canal—involving congestion of the portal circulation, and also of the gastro-intestinal mucous membrane—the action of cascara sagrada will be found most satisfactory, and I have repeatedly known it to succeed in relieving and regulating the bowels when all the other usual remedies had failed. I am glad to find its usefulness is being recognised in British practice, and have little doubt but that increased experience of its therapeutic action will be found to justify the encomiums pronounced upon its value by our professional brethren in America.

As far as my own experience extends, I have seen no reason to withhold its use in any case of habitual constipation of a functional character, even in those occurring amongst children; but it must be admitted that it acts differently in different individuals, some requiring more, and others less; in some, occasionally producing

gripping pains, while in most cases its action is quite painless. Symptoms of tenesmus can, however, be readily obviated, either by limiting the dose or by combining some suitable antispasmodic with the active agent.

In the numerous cases in which chronic constipation is associated with hæmorrhoids, cascara sagrada is of especial service, as its efficient action as an aperient relieves the venous congestion; whilst, instead of irritating, as many cathartics do, it seems to exercise a soothing effect upon the rectal mucous membrane.

With regard to the dose and mode of administration, I need scarcely say that, as in all other cases, the physician should exercise some discretionary power in suiting the remedy to the morbid condition, and in combining it with such other remedies or adjuvants as may seem desirable. My own opinion is that small doses, frequently repeated, will be found more satisfactory than large doses; and this is what we might naturally expect from the physiological action of the drug. When chronic constipation is complicated with flatulent dyspepsia, deficient gastro-intestinal secretion, and impaired muscular tonicity of the bowel, ten to fifteen drops three or four times a day, either before, with, or immediately after meals, will be found to give the most gratifying results. Two to five drops may be given twice or thrice daily to children of a month old. Except in one case, in which an overdose had been taken without medical sanction, I have never known cascara sagrada produce any undue local or systemic disturbance, such as nausea, tormina, impaired appetite, or eructations; and, in fact, I know of no therapeutic agent which is altogether so reliable and satisfactory in the numerous class of cases to which I have alluded.

Ten or fifteen drops should be taken regularly twice or thrice daily for a week, after which time, if no material improvement has been effected, the dose may be increased until the bowels have been freely relieved, when it may be gradually decreased in amount and frequency until healthy intestinal secretions and increased peristaltic action have restored the alimentary canal to its normal condition. Lactopeptin, dilute hydrochloric and nitric acids, tincture of nuxvomica, liquor strychniæ, glycerine, extract of malt, aromatic syrups, etc., may often be advantageously combined with the cascara sagrada, according to circumstances.

The preparation I have been in the habit of using is the fluid extract manufactured by Messrs. Parke, Davis, and Co., and it has invariably given satisfaction.

ON THE CONDITIONS AFFECTING PRECIPITATION OF PHOSPHATE OF LIME FROM URINE BY HEAT.

By WALTER G. SMITH, M.D. Dublin,
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THE fact that clear urines, free from albumen, and neutral or even faintly acid in reaction, frequently yield a precipitate upon heating, is familiar to every one. The explanation commonly given is the expulsion by heat of the free carbonic acid, which is supposed to hold the calcium phosphate in solution. This explanation does not rest upon a sound basis, and is disproved, *inter alia*, by the fact that the precipitate will frequently clear away in part or whole when the urine is thoroughly cooled. This latter curious fact appears to have been unaccountably overlooked until pointed out by E. Salkowski, in a recent number of the *Zeitschrift für Phys. Chemie*, 1883, p. 119. As a rule, no alteration in the reaction of the urine is noticeable after boiling. Salkowski adduces experimental reasons for believing that the phenomenon depends upon the formation of a combination of calcium phosphate ($\text{Ca}_3\text{P}_2\text{O}_8$) and alkaline phosphate, which is easily decomposed by heat; but he does not attempt any precise explanation of the facts.

From some experiments which I have made in conjunction with Dr. Emerson Reynolds, it appears probable that the production of the precipitate depends upon a nice adjustment in the proportions and basicity of the phosphatic salts existing in the urine.

The following equation may express the precipitation which occurs upon applying heat: $2(\text{Ca}_3\text{H}_2\text{P}_2\text{O}_8) + \text{CaH}_4\text{P}_2\text{O}_8 = \text{Ca}_3\text{P}_2\text{O}_8$ (insoluble); + $2(\text{CaH}_4\text{P}_2\text{O}_8)$ (soluble). Upon reduction of the temperature, the inverse change takes place, attended with resolution of the precipitate in part or full, according to the relative amount of acid phosphate present. In short, the phenomenon in question seems to be one of unstable equilibrium among certain phosphatic salts, the balance of solubility being easily disturbed by changes of temperature.

These considerations tend to throw some light upon the deposition