ner of launching it forth, and ask those interested most to add on as it were and to consider this as merely an "advance guard."

Our Subscribers' Discussions.

A SERIES OF PRIZE ESSAYS.

[Questions for discussion in this department are announced at regular intervals. So far as they have been decided upon, the further questions are as follows:

XXX.—What are your achievements in improvising surgical instruments and appliances? (Under adjudication.)

XXXI.—By what means have you ever saved a person supposed to have been drowned? (Under adjudication.)

XXXII.—How do you treat insomnia? (Answers due not later than August 16th.)

Whoever among our subscribers (with the limitations mentioned below) answers one of these questions in the manner most satisfactory to the editor and his advisers will receive a prize of $25. No importance whatever will be attached to literary style, but the award will be based solely on the value of the substance of the answer. It is requested (but NOT REQUIRED*) that the answers be short, if practicable, no one answer to contain more than six hundred words.*

Only subscribers to the NEW YORK MEDICAL JOURNAL AND PHILADELPHIA MEDICAL JOURNAL *(including regular and volunteer officers of the Medical corps of the United States Army, Navy, and Marine Hospital Service, commissioned or under contract) will be entitled to compete, and all persons known to be engaged in medical journalism are disqualified. This prize will not be awarded to any one person more than once within one year. Every answer must be accompanied by the writer's full name and address, both of which we must be at liberty to publish.]*

The prize of $25 for the best essay submitted in answer to question XXIX has been awarded to Dr. Samuel Stalberg, of Philadelphia, whose article appears below.

PRIZE QUESTION NO. XXIX.

THE TREATMENT OF NOCTURNAL INCONTINENCE OF URINE.

BY SAMUEL STALBERG, M. D.,

PHILADELPHIA.

The treatment of enuresis nocturna should begin with attention to any local or general condition which may act as a cause of the disease or help to aggravate it. Enuresis is a neurosis, in the majority of cases there being present excessive irritability of the muscular fibres of the bladder and of the reflex nervous mechanism concerned in the process of micturition; and, while it is true that in many cases the nervous mechanism of the bladder is alone at fault, the enuresis being the only symptom, it can readily be seen how such local conditions as an adherent prepuce or seat worms, through the intimate correlation of the nerve supply of those parts, or such a general condition as anæmia, which is known to increase reflex action, would stand in a causal relation by supplying the stimulus to that reflex action.

The chief conditions which may increase the tendency to enuresis are: Phimosis, preputial adhesions, pin and thread worms, balanitis, vulvitis, highly concentrated and hyperacid urine, constipation, and, finally, anæmia and malnutrition.

For phimosis, stretching of the foreskin should first be tried, and, if this is unsuccessful, circumcision should be performed. Preputial adhesions should be broken up. Ascarides or oxyurides should be treated by calomel and santonin. Balanitis requires cleansing of the glans and the use of some sedative powder or ointment. Vulvitis should receive its appropriate treatment. Constipation should be controlled by some simple laxative or by dietary measures, or, in some cases, by enemata. The urine should be examined in every case, and if it is found to be highly acid, the treatment should consist in the free administration of water, excepting at night, and the use of alkaline drugs. Either liquor potassæ, three to five drops in a tumblerful of water, t.i.d., or the following prescription should be ordered:

℞ Potassium citrate........................½ ounce;
Spirit of nitrous ether..............3 fluid drachms;
Water, enough to make..............4 fluid ounces.
M. Sig. A dessertspoonful in water every three hours.

Anæmia should be treated by the usual hygienic and dietary measures, and, in addition, the syrup of the iodide of iron, in five-drop doses, t.i.d.; or the following pill should be given three times a day:

℞ Iron carbonate............................30 grains;
Extract of nux vomica......................2 grains;
Extract of gentian.........................7½ grains.
M. Divide into 30 pills.

Cases of malnutrition should receive their appropriate treatment. It is in these cases that strychnine, instead of belladonna, should be used; but this will be discussed later.

We now come to the treatment proper of enuresis nocturna. While a few cases are undoubtedly cured by removing any one or more of the above mentioned causes, either by the methods suggested, or by any other proper mode of treatment, some are only relieved, and the majority require further treatment. This treatment should not be delayed long, and may be begun while the local condition is being removed. In those cases —and they are in the majority—where no causal condition is discoverable, the patient being perfectly healthy, except for the enuresis, this treatment must, of course, be instituted immediately.

The diet, while not much restricted, should aim at simplicity, and the eating of sweets should be interdicted. The amount of water drunk in

the afternoon should be limited. The patient should be accustomed to empty his bowels and bladder before going to bed. It is very important that the child should be awakened every night about an hour before its usual time of bed wetting.

Elevation of the foot of the bed, to keep the urine from impinging against the vesical trigonum, may be tried if the child will tolerate it.

Belladonna is the drug *par excellence*, and its use should not long be delayed. Atropine is preferable to other preparations, as it is of more uniform strength. The following prescription should be ordered:

℞ Atropine sulphate........................1 grain;
Water......................................1 ounce.

M. Sig. Two drops at 4, 7, and 10 p. m. for a child five years old.

One drop of this mixture represents $^1/_{480}$ of a grain of the alkaloid. A child of four, five, or six years should take two drops of this preparation, or $^1/_{240}$ of a grain of atropine, at the hours mentioned. This is to be increased a drop each day until five drops are taken three times a day, if necessary. The drug may be pushed to its physiological limit. After that the dose should be reduced. The mother should be entrusted with the medicine, and be warned that it is poison.

If this method is effective, the atropine, after controlling the enuresis, should be reduced, but its use must be continued for some months after the disappearance of the symptoms. If, when the drug has been withdrawn, there is a relapse, its use should immediately be resumed.

In cases requiring them, such measures as sponging the body with cold water or water and alcohol, outdoor exercise, etc., should be advised.

A word as to the probable action of belladonna in enuresis. In this condition, during sleep, when the inhibitory influence of the cerebral cortex is in abeyance, the slightest stimulus is sufficient to set in active operation the muscular and nervous mechanism of micturition, producing a simultaneous contraction of the detrusor urinæ and suspension of contraction of the vesical sphincter, when involuntary micturition results. Belladonna probably overcomes this by both stimulating the contraction of the sphincter muscles and acting as a sedative.

If belladonna, given for months, has not succeeded in controlling the condition, strychnine should be added. It may be given separately or in combination with the atropine, in the dose to a child of five, of $^1/_{200}$ of a grain three times a day. In cases of debility and malnutrition, where it may be inferred that the fault at bottom is a weak and lax sphincter, strychnine should be the only drug used.

If belladonna and strychnine are both inefficient, rhus aromatica should be tried. The dose is ten drops of the fluid extract, in water, three times a day. Quinine and antipyrine may be tried after rhus, either one in the dose of two grains three times a day. Ergot may do more harm than good, and should not be used.

If the above named measures, tried for a considerable time, fail to cure or relieve the enuresis, mechanical means—the sound, electricity, and instillation of silver nitrate—must be resorted to. At first, the sound should be tried. A cold steel sound, of such size that it enters the bladder without force, should be passed every fourth day for a month. This is often beneficial. If not, electricity is in order. One electrode is placed above the pubes or on the perinæum, and the other over the sacrum. Or—what should be tried next—one electrode is placed over the perinæum and the other in the urethra. The urethral electrode is shaped like a sound, and is insulated to within an inch of its extremity. In female patients the electrode is placed either in the urethra or the vagina. Fifty slow interruptions are given, and pain must not be caused. The treatment is repeated every fourth day. Perfect asepsis is necessary, or cystitis may be produced. This form of treatment is tried for a month or two, when, if it is unsuccessful, the instillation into the membranous or prostatic urethra of three drops of a two to five per cent. solution of silver nitrate should be practised every third day, for about two months. If this fails, electricity should be again tried for three or four months, or longer.

Hypertrophied tonsils and adenoids probably influence enuresis by causing deep sleep produced by the semiasphyxiating condition their presence induces, or by increasing the general nervous irritability; and since their removal has in some instances effected a cure, they should, whenever present, be removed on general principles.

Finally, children should never be chastised or humiliated for this defect; and older ones should be given to understand that, while their shortcoming is no fault of theirs and no cause for humiliation, they must exert their will power to overcome it.

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Dr. Edward R. Pfarre, of New York, writes:

Incontinence of urine signifies "the inability of the bladder to restrain the escape of its normal contents." However, this paper will not include such congenital or acquired abnormities of