tion. Some infectious diseases are most prevalent at the beginning of winter, others at the end. Scarlet fever reaches its maximum in England in October, in Germany and Scandinavia in January, in New York in April or May. And, further than this, the rise begins long before the maximum is reached; so that if it be alleged that the commencement of winter conditions causes the maximum of scarlet fever prevalence to be reached in October, it still remains to be explained why the rise begins as early as May, and continues throughout the summer.

Perhaps the most unequivocal instances of "seasonal" waves dependent upon social conditions are those which arise from the difference in risk of exposure to infection on Sundays as compared with other days of the week. Thus the rash of small-pox has been stated to appear most commonly on Sundays among domestic servants, the usual interval between infection and rash being fourteen days, and the chance of outdoor infection being often limited to Sunday. The notification records of Nottingham show a very decided minimum in the number of onsets of scarlet fever occurring on Wednesdays, corresponding, as it would seem, to a minimum risk of infection on Sundays.

ON THE ESTIMATION OF SUGAR IN URINE BY THE PICRIC ACID METHOD.

By SIR GEORGE JOHNSON, M.D. LOND., F.R.S.,
Consulting Physician to King's College Hospital; Physician Extraordinary to the Queen.

I AM anxious to explain to the profession my reasons for making a slight modification of the standard-colour solution, which for some years I have used in estimating the amount of sugar in urine. I have recently discovered that the manufacturer of my micro-saccharometer has been in the habit of graduating the tube by *external* linear measurement, and not by its *internal* capacity. The tubes employed not being of uniform calibre throughout their length, the result has been inaccurate graduation.

The standard colour was arrived at by imitating the tint given by a four-grain to the ounce solution of pure glucose, boiled with picric acid and potash, according to the method described by me in my two lectures on Albumen and Sugar Testing (Smith, Elder, and Co.), and in the chapter on Sugar Testing, in my *Medical Lectures and Essays* (J. and A. Churchill), and subsequently diluting four times in the graduated tube.

Now, as the upper divisions of the tube were more capacious than the lower, the result was a slight degree of over-dilution and a somewhat paler colour than would have been produced in an accurately graduated tube. Inasmuch as the same tube and the same method of procedure were adopted in analysing urines, the results obtained by me have been practically correct.

In order to avoid any error in future, I have corrected the standard colour solution by imitating the tint produced by diluting a solution of pure glucose in an accurately graduated tube, made for me by Mr. C. E. Müller, of 148, High Holborn, W.C., who will guarantee the accuracy of all graduated tubes supplied by him for my micro-saccharometer.

The corrected formula for the ferric acetate standard is as follows: R Liq. ferri perchlor. fort. (P.B. sp. grav. 1420) 3j; acid. acet. glacialis (P.B. sp. grav. 1058) 3iv; liq. ammoniæ (P.B. sp. grav. 959) 3ij; aquam destill. ad 3iv. The only change in this formula consists in the addition of π xx of liq. ammoniæ in the 4 fluid ounces. Since this method of analysis gives extremely accurate results, it has appeared desirable to indicate even so slight a source of error as that which I have here described.

THE late Signor Siro Valerio has bequeathed 1,130,000 lire (£45,200) as the nucleus of a fund for the foundation or transference to Milan of a university for the study of the sciences, or at least some section of them—preferably medicine and surgery.

ON THE RESTORATION OF THE FUNCTION OF MICTURITION.¹

By REGINALD HARRISON, F.R.C.S.,
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At a meeting of the International Medical Congress at Copenhagen in 1884,² I brought under discussion a method of dealing with the enlarged prostate when, in addition to retention of urine, it had caused other serious symptoms of obstruction and inflammation which were not at all, or imperfectly so, relieved by ordinary catheterism. This method consisted in puncturing the membranous urethra on a median grooved staff so as to obtain access to the interior of the bladder, as in Cock's well-known and useful operation. This preliminary having been accomplished, the prostate was dealt with in one of three ways, according to the circumstances elicited by exploration with the finger: (1) By division of the prostatic bar or floor of the gland; (2) by the enucleation or removal of some portion of the prostatic ring or outgrowth, or (3) by the mere stretching or divulsion of the canal with the index finger or sound. Whatever method of dealing with the canal as it passed through the prostate was adopted, the introduction and retention of a suitable drainage tube invariably followed. For the first few days a gum-elastic tube of some rigidity was selected, which gave place to one specially made of india-rubber for the purpose. The process of drainage was then continued for varying periods of days, to two or three weeks. A short time ago I had occasion to inquire into the results I had obtained, and to follow out as far as it was possible the later history of these cases. I found I had operated in somewhere about thirty-five cases of advanced prostatic obstruction in persons about 60 years of age, excluding, as far as I could ascertain, malignant growths, for the general reasons already assigned. In eighteen of these cases the floor of the prostate was divided, or a portion of the gland removed, whilst in eighteen drainage alone was effected. Without going into details which have already been published, it is sufficient for my purpose to state that in ten of these instances I was able to satisfy myself that the function of micturition had been restored, in addition to the immediate relief to retention the operation universally gave.

About the same time that I was engaged upon these observations I described³ a method of puncturing the bladder from the perineum, which has since been referred to as "tunnelling the prostate." This proceeding was also followed by more or less bladder drainage by means of the cannula that was used instead of a drainage tube. In illustration of this kind of practice I published the particulars of a case, where, in a man 84 years of age, shrinkage of the hypertrophied prostate and complete and permanent restoration of the lost function of micturition followed, the patient living and being in good health to the age of 90.

Further, as bearing upon the point under consideration, I would make reference to what has, not very infrequently, been observed in connection with the operation of lithotomy, where long continued atony or paralysis of the bladder had previously existed. In the instance of a patient (H. G.), 69 years of age, who is now alive with complete power over micturition, I opened his bladder from the perineum, and divided the floor of a greatly enlarged prostate, at the same time removing some phosphatic stones which were probably connected with the long continuing inflammation. After the prostate had thus been divided, a drainage tube was used as I have described. Previous to this operation, which was performed in 1887, the patient had been entirely dependent on the catheter for four years, during two years of which time he had worn the instrument continuously both by day and night. Had I in this instance contented myself by removing these phosphatic concretions, as I could easily have done with the lithotrite, the patient, I have not the least doubt, would never have recovered his bladder power, and in all probability have spent the remainder of his existence in the twofold employment of making stones and having them removed.

¹ Read in the Section of Surgery at the Annual Meeting of the British Medical Association held at Nottingham, July, 1892.

² *Trans. International Congress.*

³ *Surgical Disorders of the Urinary Organs.* 3rd Edition.