are conversant with the essential requirements of registration laws.¹

I have said nothing in regard to the registration of births, because I believe the registration of births may, as a rule, best be promoted by first passing and enforcing an up-to-date law for the registration of deaths. This will enable all the necessary registration machinery to be organized, and the registration of births can be added after the registration of deaths has proved to be a practical success. The registration of births is most difficult—so much so that no state in this country, and no city, not even excepting cities like Boston and New York where laws have been in force for many years, has obtained complete returns of births. It is likely seriously to hamper the efforts to secure complete returns of deaths, and, as the mortality statistics are of greater sanitary importance, it would seem expedient, as a rule, to direct effort exclusively to the registration of deaths. Exception may sometimes be made with good results, as in Pennsylvania, where a completely organized and well-appointed system for births, deaths, and morbidity statistics as well, was installed, but if there is any doubt as to the ability to frame and to enforce a thoroughly effective law for the registration of deaths then legislation should be limited to what we know can be obtained under proper provisions.

The Bureau of the Census is coöperating with the various states in accordance with a joint resolution of Congress approved Feb. 11, 1903, which "requests the favorable consideration and action of the state authorities, to the end that the United States may attain a complete and uniform system of registration," and has sent many copies of its special publications on this subject, with the approval of the state public health authorities, to the officers of the state and county medical societies which form a part of the American Medical Association. Their attention has been called to the following resolution, adopted by the Association at New Orleans in 1903, and it is hoped that the results shown by the vital statistics legislation of 1907 will indicate the beneficial effect of the interest exhibited by the members of the Association:

Resolved, That the American Medical Association strongly urges on the state medical societies that special committees be appointed to advocate and secure the passage of satisfactory registration laws in states that do not at present possess them, that county societies support and aid in the execution of such laws as far as possible, and that physicians individually, throughout the United States, endeavor to promote the accuracy and value of the mortality statistics by giving clear and definite statements of causes of death on certificates of death.

1. The following publications of the Bureau of the Census relating to this subject are available for distribution: No. 71. Registration of Deaths, including a paper on "The Essential Requirements of a Law for the Registration of Deaths and the Collection of Mortality Statistics." No. 101. Practical Registration Methods. No. 104. Registration of Births and Deaths—Drafts of Laws and Forms of Certificates. No. 106. Extension of the Registration Area for Births and Deaths—A Practical Example of Co-operative Census Methods as Applied to the State of Pennsylvania. A general account of the movement will also be found in the introduction to the special report on "Mortality Statistics, 1900 to 1904."

The Importance of Dietetics.—The various forms of food, the methods and requirements of normal digestion, the influence of age and the adaptability of nutrition in the various diseases to which the human body is liable are subjects to which we can not urge attention too forcibly. It is not wise to urge too rigid a diet in any particular disease. We no longer absolutely discard meat in the nephritic nor sugar in the diabetic patient.—*Medical Times*.

Clinical Notes

THE QUANTITATIVE DETERMINATION OF GLUCOSE IN THE URINE BY A NEW MODIFICATION OF FEHLING'S SOLUTION.

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In the volumetric determination of glucose in urine based on the property of sugar to reduce cupric oxid the end reaction is markedly obscured by the precipitation of insoluble red cuprous oxid. To find a solvent for it has been the object of most of the modifications of Fehling's method thus far proposed.

The employment of an ammoniacal solution of cupric oxid to avoid this disturbing factor was first suggested by Pavy, whose method was subsequently modified by a number of investigators, including one of us (J. Rudisch). Such ammoniacal solutions, however, have not entirely accomplished their purpose. Not alone is the odor of ammonia obnoxious, but unless the determination proceeds rapidly the ammonia is driven off in sufficient quantity during the boiling to permit the deposit of the red oxid of copper before the end reaction is complete.

These disadvantages are overcome in the method devised by Gerrard and Allan. Ten c.cm. of a mixture of equal parts of Fehling's copper sulphate and alkaline solutions are heated to boiling, and exactly or nearly decolorized by titration with a 5 per cent. solution of potassium cyanid. After the addition of another 10 c.cm. of Fehling mixture to the decolorized solution it is again heated to boiling, and the sugar-containing urine then titrated into it from a burette until the blue color of the added copper is again destroyed. The double salt of potassium and copper cyanid formed during the first titration suffices to keep the red cuprous oxid in solution. This method, involving, as it does, two titrations and extreme care in avoiding an excess of potassium cyanid, presents considerable difficulty to the clinical worker. The use of potassium cyanid, a highly poisonous substance, and the relative instability of the solution are further objections to its general use.

In the following method which we have devised the disadvantages of the Allan-Gerrard test are obviated. To four parts by volume of a 50 per cent. solution of potassium sulphocyanate, chemically pure, is added one part by volume of a mixture of equal parts of Fehling's copper sulphate and alkaline solutions. Twenty-five c.cm. of this solution are placed in a porcelain dish, and the urine to be tested added drop by drop from a burette until the blue color of the copper entirely disappears. Throughout the titration the solution should be slowly boiled and constantly stirred with a glass rod. The end reaction is extremely sharp, the fluid becoming colorless or assuming a faint yellow tinge. The advantages of this method are (1) only one titration is necessary as potassium sulphocyanate does not decolorize the copper solution; (2) potassium sulphocyanate is not poisonous; (3) as the mixture is stable a considerable quantity may be made to be kept as "stock." Such a "stock" solution was found to be unaffected after four months' exposure to heat and sunlight.

With aqueous solutions of glucose ranging from 0.25 to 6 per cent. the results obtained with the authors' method and with the polariscope are identical. With diabetic urines, however, variations of from 0.03 to 0.25 per cent. are occasionally found—differences that are too small to be of clinical significance. These variations are explicable on two grounds. First, substances other than glucose (creatinin, uric acid, glycuronic acid) reduce copper and give too high a reading with Fehling's solution; secondly, levorotating substances (albumin, levulose, β -oxybutyric acid) may coexist with the glucose in the urine, giving too low a percentage with the polariscope. To estimate properly the quantity of dextrose in any given specimen, therefore, it is necessary to make determinations both with the copper solution and with the polariscope. Should the former indicate a higher percentage than the latter, levulose should be suspected and tested for with the Seliwanoff resorcin-hydrochloric acid method. In the absence of levulose the most probable disturbing factor is β -oxybutyric acid, as albumin and other levorotators are precipitated when the urine is cleared with lead acetate for the polariscope.

Although with undiluted urines containing large amounts of dextrose satisfactory results have been obtained with the authors' method, the extreme care necessary in titrating under these conditions makes it advisable to dilute such urine from five to ten times. It is preferable to examine specimens when fresh, but should it become necessary to employ preservatives, toluol, salicylic acid or carbolic acid may be added in small quantities without markedly interfering with the reaction. Chloroform, on the other hand, must be avoided as even in minute traces its presence vitiates the test.

A SIMPLE METHOD OF FINDING THE OVA OF UNCINARIA.

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The following is a simple method of finding the ova of *Uncinaria americana*:

Mix thoroughly one-third of a teaspoonful of hard feces in about a pint of water. After this has stood for about five minutes the ova will have settled to the bottom. Pour off the clear liquid, leaving about one ounce in the bottom of the graduate. Wash the sediment in this manner for three or four times and then strain through cheese cloth or gauze. If the mass does not run through freely, press it with a glass rod. After rinsing, let it settle for a few minutes and then draw up a small quantity from the very bottom of the graduate with a medicine dropper. In a few minutes the ova will have settled at the bottom of the dropper. Put a drop on a slide and cover with a slip. By gentle pressure on the cover slip the drop will become thin enough to be examined. The ova are readily recognized under a $2/3$ inch objective.

The following trial showed the superiority of this method over those ordinarily employed. Four slides were made from the same specimen of feces. The first was made by taking a small piece of solid feces and spreading it on the slide with a drop of water. Not a single ovum was found on this slide. The second slide was prepared by washing and settling as described above, but was not stained, and the drop was obtained with a platinum loop instead of the pipette. Only three ova were found. The third was made by using the dropper instead of the loop. Ten ova were found. The fourth slide was made as described above, and 113 ova were counted.

CHEYNE-STOKES RESPIRATION.

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MCCAMMON, IDAHO.

—An editorial in THE JOURNAL, Oct. 27, 1906, on Cheyne-Stokes respiration suggested to me the idea of reporting the following case of pneumonia:

Patient.—B. P., aged 4, had always been a healthy boy, but not very robust. He had had an occasional "cold" and measles.

History.—On the night of October 25, he had a severe chill lasting one-half hour. He was restless all night, complained of slight pain in the right side; fever developed. In the morning the temperature was 102 F. A cathartic was given. He did not seem to be very ill until October 28, when I was called. The symptoms at that time were rather marked restlessness, rapid breathing, but no pain. The temperature had varied from 100 to 104 F.

Examination.—Examination showed a fairly well-developed boy. His face was flushed, breathing rapid but not labored, and he seemed rather dull mentally. The eyes showed cloudiness of the sclera, the pupils were even and responded to light; there was no photophobia. There was slight herpes labialis, the tongue was heavily coated with a brown coat, and there was some redness of the pharynx.

Heart: The pulse rate was 120, all sounds were normal, but louder than usual, except some accentuation of the second pulmonic.

Lungs: The middle lobe of the right lung was the only part involved and showed the classic signs of a lobar pneumonia. Respiration was 36.

The abdomen was rather tympanitic.

The urine was heavily colored, specific gravity 1026; there was no albumin, but there was diminution of chlorids; the exact amount of diminution was not determined.

Course of Disease.—Everything went well for a few days, when the lung symptoms grew less prominent, and marked toxic symptoms appeared. The breathing became quieter and the boy passed a pseudo-crisis on October 30, or five days after the initial chill. The temperature dropped to 97.6 F., the pulse to 60, and respiration to 16.

October 31: Marked meteorism developed, the breathing increased to 24, and was irregular, the temperature rose to 102 F., and delirium developed. The pulse varied between 90 and 130 and was very weak. Calomel and salines were used, as well as increased stimulation. The meteorism was very troublesome and frequent high colonic flushings were necessary to control it at all.

The next few days were stormy ones. Meningeal symptoms were marked, but the character changed from time to time.

November 1: There were marked stiffness of the muscles of the neck, and at times a transient opisthotonos, photophobia, dilated pupils, and almost constant crying. I feared a meningitis, but early on November 2 there was a change in the symptoms. The crying ceased, the photophobia lessened, but the stiffness of the neck remained. At 2 a. m. there set in a new symptom, which I thought was of fatal prognosis. The breathing which had been regular, and rapid only when interfered with by the marked meteorism, developed the Cheyne-Stokes type. From one complete pause to another there were usually seven breaths taken. A few times there were as few as five, and at others nine in the cycle. The heart seemed very weak. This condition lasted for about 16 hours, when there occurred a gradual change.

From this time on there was a slow but gradual improvement. It was a week, however, before the boy was considered safe. He is now in good condition.

I would direct attention to several factors in this case. As in a number of other pneumonia cases I have seen this autumn, the toxic symptoms were of more prominence and importance than those due to the lung involvement.

Even from the first there was not that classic symptom—a steady temperature. All through the course of sickness the temperature varied. From 102 to 104 F.