EDITORIAL NOTES

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SYMPOSIUM ON OCCUPATIONAL DISEASES AT CHEMICAL SOCIETY CONVENTION.

At the meeting of the American Chemical Society in New York on September 25 to 30, there will be conducted a symposium on occupational diseases, presided over by Professor Charles Baskerville, head of the department of chemistry of the College of the City of New York.

The symposium will consider the chemical trades, prophylaxis in chemical industry, diseases incidental to work in aniline and other coal-tar products, cedar lumber, mines, explosives, and a general discussion by the leading authorities of the country. These will include Drs. W. Gilman Thompson, F. L. Hofman, J. W. Schereshewsky, G. P. Adamson, H. N. Benson, W. A. Lynott, Alice Hamilton and Mr. J. B. Andrews.

A NEW BUNSEN BURNER.

A recent issue of the *Chemiker Zeitung* contains a description of a new form of Bunsen burner for which special advantages are claimed. There are two concentric tubes mounted on a suitable base, and the air is drawn through the annular space between the tubes, being preheated in its passage. Gas is supplied in the usual way to a jet at the base of the inner tube, but the amount of gas admitted can be regulated by a pointed screw that controls the gas passage before the jet is reached. The air supply is adjusted by screwing the outer tube up or down, thus opening or closing the passage at its base, connecting with the inner burner tube. Both tubes are opened out, cone shaped at both top and bottom. This form of burner gives a short, thick flame that completely envelops a crucible; but if a long, slim flame is desired, a short length of straight cylindrical tube is slipped into the inner tube of the lamp.

A RAPID METHOD FOR THE ESTIMATION OF FAT IN POWDERS.

S. P. Phillips in the *Journal and Pharmacist* reports on a rapid method for the estimation of fat in powders and which was primarily devised for the estimation of fat in cocoa. It is, however, applicable to any substance which can be freely divided. The process consists of extracting the fat from a known quantity of the substance with trichlorethylene, and of determining the fat in an aliquot part of the solution. Such a quantity of the substance as is likely to contain 1.3 to 3.5 Gms. of fat is weighed by difference into a six-ounce wide-mouthed, stoppered bottle (about 3½ inches high to the shoulder). One hundred mils of solvent at room temperature is added from a pipette, and the mixture is thoroughly shaken. The filter used is made by folding two filter papers, 9 cm. in diameter, together into the shape of a Soxhlet thimble and tying them into a small perforated cork (hole about one-eighth inch) which is then fixed on to the end of a 20-Cc. pipette. Filtration is hastened by pressure applied to the bottle by means of a tube passed through a bung, which also carries the pipette. In this way 20 mils of a clear solution are removed and the fat in it is determined on evaporation of the solvent. The total weight of fat in the substance taken is determined by multiplying by a factor, which varies according to the weight of fat obtained. Thus, if 0.3 Gm. is obtained, the factor is 5.04; if 0.5 Gm., 5.11; if 0.7 Gm., 5.165.

THE TOXICITY OF ARSENOUS AND ARSENIC ACIDS.

In a recent issue of the *Journal of the A. M. A.*, an editorial stated that compounds of arsenic are becoming so prominent in therapy, and the types of arsenic products for use in medicine have become so diverse, that any

information bearing on their possible mode of action should be welcome. In further comment the article states that arsenic action is not due to the element, but to the ion, of arsenous acid, H_3AsO_3. Organic arsenic compounds in which the metallic atom is attached directly to carbon are only feebly toxic. In the course of time, within the body they seem to yield more or less arsenous acid, a reaction which may suffice to explain any pharmacologic potency possessed by the organic derivatives. It is a somewhat unexpected fact that the closely related arsenic acid, H_3AsO_4, its anhydride and its salts are far less poisonous than is arsenous acid. This statement has now and then been disputed, but only recently again substantiated at the pharmacologic institute of the University of Berlin by Joachimoglu. The relatively greater toxicity of arsenous in comparison with arsenic acid could be demonstrated by the proportion of 10:6 in the case of the lethal dose required for intravenous injection in animals. Perfusion experiments with isolated frogs' hearts indicated the arsenous compounds to be 300 times as harmful as those of arsenic acid. In the case of the isolated intestine the contrast, though plain, was not equally striking. This has raised the question why there should be a marked disproportion in the relative toxicity of comparable quantities of arsenic and arsenous acids, depending on the mode in which the test is made. The explanation proposed is as follows: The toxicity of the arsenic acid depends on the reducing power of the tissues with which it comes into contact. By this means it is converted into the very poisonous arsenous compound. Some individual organs or tissues have comparatively slight reducing potency. In the isolated heart, for example, arsenic acid exhibits little toxicity. Throughout the living organism as a whole the reduction of arsenic acid appears to be far more readily accomplished; hence, after intravenous administration of the ordinarily less nocuous derivative, it may become more toxic so promptly by conversion to arsenous acid that the real difference between these related arsenic derivatives is no longer conspicuous. This may also explain some of the uncertainty or confusion which has existed in the past in respect to the comparative action of the two substances.

IMPROVING NEGATIVES FOR PRINTING.

Edgar Senior in *Knowledge* states that negatives which from faulty development or other causes are more or less imperfect in some parts may be considerably improved in many ways. For instance, suppose that the subject is one in which a heavy mass of foliage occurs in the foreground, together with a well-lit distance. Now in order to represent the distance correctly in the negative the foreground in many cases is almost entirely devoid of detail, and is shown in the print as a heavy black mass. In such a case, if the negative is coated (on the glass side) with matt varnish, containing a small amount of iodine dissolved in it (the quantity depending upon the circumstances of the case), heavy shadows in negatives can be made to print much lighter and the results improved to a great extent. The varnish, after it is applied, will dry in a few minutes, and then over the parts not required to be lightened it is removed with a penknife or a piece of rag, moistened with a little methylated spirit of benzole. The same means may be applied in the case of portraits and groups, only greater care is required in scraping away the varnish from the parts where it is not needed in order to prevent any marks from showing. Portraits taken out of doors frequently show very heavy shadows under the eyebrows and chin: these may be considerably lessened by applying a little color (either red or blue) on the glass side of the negative, and then dabbing it with the finger, so as to form a kind of stipple caused by the texture of the skin. If carefully applied, the method is very satisfactory, and will tend greatly to reduce the heaviness of such shadows.

OBITUARY

DAVID STRAUSS.

Another champion for better pharmacy and for higher education passed away on Saturday, August 19th. Taking his first plunge in the ocean at Squan Beach, Manasquan, N. J., on the first day of a well-earned vacation, David Strauss was swept away by the undertow, and after a series of mishaps in the attempts of his rescue, namely the breaking of a rope and the upsetting of a boat, his body was recovered.

Born in Elizabeth on October 15, 1866,