outside light. A lieberkuhn is furnished with the glass which can be screwed on in place of the cap while examining opaque objects. The speaker had not had the glass in his hands long enough to become perfectly acquainted with all its qualities, it certainly is a good one, however. It resolves angulatum very satisfactory, and bears eyepiecing extremely well, working admirably on anatomical structures.

The lieberkuhn seems to be a valuable addition for some sorts of study as it brings out surface workings with unusual clearness, even in transparent objects. Mr. E. B. Stuart exhibited a Hitchcock lamp which he stated commended itself to the use of microscopists. No chimney is required, it being a blast lamp, the flames of which is fanned by a passage of air from the bottom, the top of the lamp driven by a noiseless clockwork. The oil well is entirely separate from the outside part of the lamp, and is kept cool by the cold blast of air constantly surrounding it. It gives a light of about a six-foot gas burner and the flame is steady and more free from flicker than gas or the ordinary carbon burner. He also showed under the microscope specimens of the gelatine-bromide plates for photographic work, that had been submitted by a photographer as imperfect. An inspection under the microscope showed three kinds of spots. One caused by dust particles which had settled on the gelatine while still soft, and as the emulsion hardened, became firmly fixed on the plate. The second kind of spots were caused by, apparently, the solvent action of some substance on the film, as it could be seen to be less dense at those points, while the third were thicker and evidently caused by carelessly spattering the emulsion on partially dried plates.

The meeting was then declared informal.

WM. HOSKINS, *Secretary*.

THE AMERICAN CHEMICAL SOCIETY.

The papers appointed to be read on the evening of the December meeting were, owing to the election of officers, omitted and therefore at the *Conversazione* held on Dec. 16 they were again brought up for consideration.

The first and second papers were "On the Separation and Estimation of Manganese" and "On a Modification of Mohr's Burette; adopting it to use in delivering corrosive solution" by Nelson H. Barton. Both of these papers consisted of descriptions of details of manipulation which the author had been lead to use in his own laboratory resulting from his experience and which under favorable considerations might be desirable to employ.

The third paper was by Mr. Casamajor and titled "Analysis of Soghum Juice" an enumeration of the results obtained by him in his laboratory with comments on them.

"A new Laboratory Filter and Aspirator" was the next paper, also by Mr. Casamajor. The apparatus referred to has recently been patented, and in the above paper it was thoroughly described and a model exhibited. The fifth paper was by Dr. A. R. Leeds, entitled "A Chemical Inquiry into the Self-purifying Power of a Flowing Stream." In this paper the complete results of the work done by Dr. Leeds for the New Jersey Board of Health were presented. It will be recollected that in a previous number a synopsis of this paper was given to the readers of SCIENCE. On the present occasion charts were exhibited showing the exact relations existing between the various estimations which were made. These were peculiarly interesting to chemists although unfortunately the entire subject of water analysis is in such a state of confusion that it is difficult to make much headway in the accumulating and conflicting mass of literature which is current on this subject. The entire paper of Prof. Leeds will be published in the N. J. Board of Health Reports. The final paper of the evening was "A New Method for the Analysis of Mustard" by the same gentleman with the assistance of Mr. Everhart. The ordinary methods given by Hassall, Blyth and others were so unsatisfactory in their results that an effort was made to produce something more definite. After some little study it was found best to separate the various constituents by different extractions with various reagents, so that an addition to the conventional determinations of moisture, oil and ash (for the mineral adulterants) extractions of alcohol and ether are made for the remaining ingredients.

M. B.

SUICIDE, an Essay on Comparative Moral Statistics. By HENRY MORSELLI, M. D., Professor of Psychological Medicine, Royal University, Turin. Being abridged from the original, as Volume XXXVI of the International Scientific Series. New York. D. Appleton & Co.

The present moment seems peculiarly favorable to the presentation of a work on the subject of suicide. Whether it be the great accumulation of financial and political crises, or the increase of mental derangements, or a fundamental change in the *morale* of the civilized races, it would seem as if a great suicidal wave was sweeping over our social horizon. The labors of Buckle, Wallace and Bagshot have taught the necessity of studying such complicated problems synthetically. The statistics of no one community, the analysis of no one cause, will suffice to explain their phenomena. Professor Morselli, fully recognizing this fact, has undertaken a study of the question of suicide from a statistical point of view, and one involving in its analysis the results of Social Scientific, Anthropological, and Medico-Psychological inquiries.

The first fact demonstrated by a careful study of statistics is the regularity and the increase of suicide in civilized countries, which finds its expression in the painful conclusion, that "in the aggregate of the civilized States of Europe and America, the frequency of suicide shows a growing and uniform increase, so that generally, voluntary death since the beginning of the century has increased and goes on increasing more rapidly than the geometrical augmentation of the population and of the general mortality."

Among individual elements serving to explain this increase of suicide, climate deserves the least prominence as a direct factor. The only ascertained fact in this direction is that in the centre of Europe on an area of about 942, 000 square kilometers comprised between 47-57° of latitude and 20-40° of longitude, are found the people who manifest the greatest inclination to suicide. The least amount of suicide is found on the isothermal line of + 17.° 5 C, running through Portugal, Spain, Italy, Corsica and probably Greece. That the mere feature of temperature is not a very important one, is shown by the fact that on the isothermal line of + 10° C, there is the greatest variation. In the United States for example the suicidal rate is 35 per million; in Ireland 16, in England 67, in Belgium 55, the Netherlands 35, Hanover 140, Prussian Saxony 228, Galicia 98. A more direct and constant relation is found with other cosmical influences, thus the regions of the great rivers are most afflicted by suicide *coeteris paribus*, while on the contrary marshy or excessively low lands, like the Landes in France, the low countries about the Zuyder Zee and Jutland, show a lesser proportion. That suicide is most frequent in the warm seasons, is confirmed by Morselli, this observation is a familiar one to New Yorkers. In our city a perfect suicide *furore* occurs in certain summers, and the direct influence of the heat has no doubt much to do with this as with the summer increase in violent crimes similarly the results of insanity or passion, a fact to which, however, no reference is made by the author before us. It is certainly a noteworthy fact, in which he confirms Guerry, that the maximum of suicide falls under the summer solstice, the minimum under the winter solstice.