IT is stated in *Nature* that the annual meeting of the Association of Public School Science Masters was held at the London Day Training College on December 31, 1918, and January 1, 1919, under the presidency of Sir Ronald Ross. The subject of the president's address was "Observations on the results of our system of education." A lecture on poison-gas warfare was given by Lieutenant-Colonel Smithells. There were discussions on the importance of restricting specialization in university scholarship examinations and giving weight to general education, opened by Mr. F. S. Young; science in the general education of boys, opened by Mr. W. D. Eggar and Mr. C. V. G. Civil; and courses in general science for classical Sixth Forms, opened by the Rev. S. A. McDowall.

UNIVERSITY AND EDUCATIONAL NEWS

GIFTS aggregating $128,000 to Yale University were announced on January 23. They include $25,000 to the Forestry School from Mr. and Mrs. Gifford Pinchot.

THE zoology department of Wabash College, of which Professor A. Richards has charge, has received from the estate of Professor Donaldson Bodine, formerly professor of zoology the sum of $5,000, to provide for the purchase of books for the zoology department, subject to an annuity.

AT the request of Professor Bailey Willis, professor of geology at Stanford University, who is continuing his war work with the House Commission in New York, Professor James Perrin Smith will act as executive head of the department of geology and mining for the coming year. Dr. Eliot Blackwelder, of the University of Illinois, has been appointed acting professor of geology during the winter quarter.

MR. H. P. STUCKEY, for the past ten years horticulturist at the Georgia Experiment Station, has been appointed director, to succeed J. D. Price, who resigned to accept the position on the Railroad Commission to which he was elected. Other changes in the station staff are the appointment of Mr. T. E. Keitt, formerly chemist of the South Carolina Station, as chemist the appointment of Mr. H. E. Shiver, formerly assistant in chemistry at the South Carolina Station as assistant chemist; the appointment of J. A. McClintock, formerly extension pathologist for Georgia, as plant pathologist and botanist, and the resignation of Mr. J. C. Temple, bacteriologist.

DR. N. L. BOWEN, of the Geophysical Laboratory, Carnegie Institution, has been appointed to the professorship of mineralogy at Queen's University, Kingston, Ontario.

DISCUSSION AND CORRESPONDENCE

AN UNCOMMON ICE FORMATION

WHILE skating on the upper part of the Charles River at North Bellingham, Mass., January 13, 1918, during a severe cold spell, we encountered an ice formation of a kind wholly new to us, though we have practised river skating for many years and are both fairly observant of natural phenomena. There is a low dam here over which a good head of water was flowing. Just below the dam an uneven bridge of ice resting partly on rocks and partly on the water formed a hood over the stream, and out of this rose a considerable number of upright columns of ice superficially somewhat resembling stalagmites. They were of pretty uniform diameter, about four or five inches, and varied in height from two or three inches to as many feet, while the tallest was perhaps three and a half feet. This tallest one and a number of the others were completed, being finished off with a tapering cap of snow-like structure that curved over towards the dam and into the wind, which was blowing pretty strongly down stream. Many, however, in process of formation showed how they were made.

They were all tubular and were built up from the inside by the bursting of bubbles that rose through the tubes and the freezing of the resulting spray. It was evident that the rush of water over the dam carried air with it under the hood of ice below, and that this air found vent here and there in the form of bubbles, which, bursting, gradually built up these vertical columns. Each unfinished, or live, column showed a crown of bursting

bubbles. The formation of the caps that finished off the completed, or dead, columns is, perhaps, to be explained in this way: When the column rose to a point where the wind reached it above the lee of the dam, the spray from the bursting bubbles would lodge chiefly on the leeward, or downstream, side of the orifice and in freezing would build up that side faster than the upstream side. The top would thus curve over upstream, the freezing spray building not only upwards but back against the wind, just as the hoar-frost or frozen mist of mountain-tops builds against a high wind. This would, of course, close the orifice in time and put a stop to the growth of the column.

It is not entirely clear how the bubbles rise to so considerable a height in the tubes—whether they are forced up by the rush of water over the dam and under the hood of ice, or whether it is because the air they contain is heated by the water to a higher temperature than the surrounding air. On this point, as on the whole subject, we should be very glad to get the opinions and observations of any one else who has seen this formation. Inquiry among friends has failed as yet to bring to light any similar observations on the part of others, and we find no mention of this phenomenon in the fourteen volumes of Thoreau's "Journal," observant as he was of the forms taken by ice, snow and frost along the Concord River and its tributaries. This has made our observation seem worth recording, though we can not doubt that under similar circumstances it might be repeated any cold winter.

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CELLULOID LANTERN SLIDES

To the Editor of Science: In a recent letter to Science regarding celluloid lantern slides, Mr. A. W. Gray states that "tracing cloth and waxed paper are usable; although their limited transparency produces a rather dark field, and the texture of the material shows plainly." The writer experimented some time ago with substitutes for glass lantern slides, giving special attention to slides which could be prepared quickly for temporary use.

I found that a satisfactory slide could be made by drawing figures or diagrams on thin white paper with india or colored ink. After the ink had become thoroughly dry both sides of the paper were brushed over with a light-colored penetrating oil. The thin glazed white paper used for duplicating typewritten letters serves admirably for the paper and a light neatsfoot makes a satisfactory oil. These paper slides may be inserted in cardboard holders and with suitable projecting apparatus the results are all that could be desired.

The effect of the oil is to increase greatly the transparency of the paper and when new the texture of the paper is quite imperceptible. Figures of lesser sharpness can be made with a fountain pen or even with a pencil. Diagrams and pictures of appropriate size may be cut from magazines or bulletins and treated with oil as outlined above. These are more satisfactory, of course, if no printing appears on the back, but for temporary use the printing in many cases will not destroy the usefulness of a diagram.

I have also made good slides in the same manner by treating $3\frac{1}{4} \times 4\frac{1}{4}$ photographic prints with oil. The projected pictures, while less bright than those procured with glass plates, present a softer effect and are especially interesting in the case of portraits. Since the usual photographic paper is quite heavy the lantern must be placed nearer the screen but if thinner paper could be obtained the results would be quite satisfactory if the usual distance were maintained.

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HOLDING LARGE SPECIMENS FOR DISSECTION

In the zoological laboratory there are many things which are valuable aids in time and convenience. In dissecting large specimens it is often necessary to have some method of holding parts of the anatomy away so as to allow freer rein to one's actions, or of holding