

The CHAIRMAN remarked that it was not quite satisfactory to measure off tissue for each exposure by rotating one of the rollers through a constant angle, as one roller became virtually larger, while the other became smaller, as the work proceeded.

Mr. WATSON showed some examples of excellent photographic cabinet work, and alluded to the advantage of employing Russian leather for camera bellows, when the apparatus was to be used in India.

The CHAIRMAN said that his personal experience in India had led him to regard the supposition that insects would not attack Russian leather as a popular delusion.

Mr. COWAN demonstrated the ease with which plates could be transferred from slide to plate-box, and *vice-versa*, in complete darkness, his sleeve-tent being used for the purpose.

#### SHEFFIELD PHOTOGRAPHIC SOCIETY.

THE annual meeting of the above Society was held in the Masonic Hall, on Tuesday, October 2nd, Dr. MORTON, the president, in the chair.

The minutes of the last meeting having been read and confirmed, and business arising thereout discussed, the accounts for the past year were presented to the meeting, having been audited by Messrs. Collinson and Yeomans, and showed a substantial balance in favour of the Society.

The election of officers was then proceeded with, with the following result:—

President—Councillor T. Firth.

Vice-Presidents—Dr. Morton, G. V. Yates.

Treasurer—W. B. Hatfield.

Council—Messrs. Rawson, J. Yeomans, and the Officers.

Hon. Secretary—J. Taylor, Holland Place, London Road.

The thanks of the Society were voted to the retiring officers for their past services, to which Dr. Morton briefly responded.

Mr. FIRTH then took the chair, and, in doing so, expressed the hope that the next year would be more prosperous, photographically speaking, than the last, and that some good work would be shown at the approaching exhibition.

The proposed exhibition then came up for discussion, and a committee was appointed, together with the officers, to make all necessary arrangements. The exhibition will be held early in January. It was also resolved that the next meeting be preceded by a substantial tea, to be provided by the steward.

The meeting then adjourned.

#### LONDON AND PROVINCIAL PHOTOGRAPHIC ASSOCIATION.

At a meeting of this Society held on Thursday, the 18th inst., Mr. W. J. OSMAN in the chair,

Mr. COWAN exhibited a frame of transparencies illustrating the latitude of colours obtainable by the gelatino-chloride process. When a suitable developer is used, the colours ranged from the cold slatey blue to red, without any alteration in the time of exposing. The exposure was five seconds to daylight, all the plates being from the same batch of emulsion. The difference in colour was obtained by the use of various citrates and modifications with ferrous sulphate and ferrous oxalate. In reply to questions, he (Mr. Cowan) had experimented with all the citrates; the citrates of soda and calcium were not suitable.

The CHAIRMAN asked if Mr. Cowan had used tungstate of soda or any of the tartrates.

Mr. COWAN had not experimented with either, but thought some of the tartrates might be found useful.

Mr. A. L. HENDERSON, in following some of Mr. Carey Lea's experiments, had tried ammonia-tartrate, but was not successful; he questioned whether the red colour, or any of the warm tones exhibited by Mr. Cowan, would be any more permanent than silver prints on albumenized paper.

Mr. COWAN had produced some more than eighteen months ago, and could discover no change in them.

Mr. HENDERSON desired to know which colours exhibited the finest deposit. In his experience, with wet collodion transparencies, he could get warm colours by over-exposing and developing less; but the deposit was not regular.

Mr. WELLINGTON said silver would be deposited much finer in the dark tones than it would in those of warmer colour.

Mr. HENDERSON passed round some negatives showing pinholes, and asked if any member was familiar with them. When the plates were sent to him by one of the country members, he attributed the cause to imperfect filtration, so he obtained some of the emulsion, filtered it, and coated more plates with very little better success. Mr. Starnes had given him a clue to the

mystery, and he should probably find it due to some particle of a compound present which is not sensitive to light.

Mr. BARKER thought, from the character of the pinholes, iodide of silver was present. The effect of iodide in emulsions depended much on how the double salt was formed.

Mr. HADDON thought if it were due to iodide, the same spots would be seen in any emulsion in which iodide is present; he should suspect the gelatine.

Mr. HENDERSON replied that other samples of gelatine gave a similar result; sulphate of silver might be present.

Mr. E. DEBENHAM said if it were sulphate of silver, the quantity would be infinitesimal, and the excess of iodide or bromide would tend to prevent any such formation, an opinion supported by several other gentlemen.

Mr. HENDERSON again brought forward a method of reducing the image, and clearing away green fog, by exposing the plates to the fumes of strong cyanide of potassium solution, or hydrocyanic acid (Scheele's). A very intense negative lent by Mr. Cowan had been equally reduced, and was now of good printing density. If a plate were left long enough, it would become perfectly clear, showing the evanescent state of silver under certain conditions. A cold saturated solution of cyanide of potassium should be used, so that air can freely pass between the surfaces of the plate and the solution. The plate should be in a moist condition. In reply to Mr. Brown, the green fog disappeared first, and the image by prolonged action.

Mr. DEBENHAM said as cyanide of silver is transparent, it might remain in the film without being observed.

The CHAIRMAN should expect the green fog to go first, then the image; but it was not clear that upon the application of a suitable developer the image could not be restored.

Mr. HART had formed a theory to account for this. Suppose the components of cyanide to be split up, and carbon disengaged to form carbon dioxide with air or water; ammonia might in the latter case be formed, which, being volatile, would evaporate, carrying the silver with it.

Mr. GOLDING asked if any member could suggest an effective and reliable method for reducing negatives locally.

The CHAIRMAN treated the dense parts, while still wet, with a solution of perchloride of iron, afterwards re-fixing in hyposulphite; he applied the iron by means of a camel hair pencil.

Mr. HENDERSON said Mr. Barber, of Sheffield, had been very successful with a cutting powder for local reduction.

Mr. BARKER had used fine emery and rotten stone with excellent results.

Mr. HART had tried perchloride of iron, but gave his preference to iodine and cyanide.

Mr. DEBENHAM used a mixture of ozone bleach and chrome alum; he found by applying it with a brush carefully there was little danger of its acting beyond the part desired, and it was easily washed off.

Mr. BARKER called attention to a plate showing some apparent insensitive markings, which he had proved to be caused by examining it too close to the dark room window. Emulsion on the back had acted as a screen in each case, the major portion being light-fogged.

The following questions from the box were read:—

Why is sulphide of calcium whiter in daylight than in a dark room? How much flux is required to reduce an ounce of silver chloride to the metallic state?

The CHAIRMAN said, theoretically, one-third the weight of chloride; but in practice, more would be required.

Mr. COWAN said equal parts of each would be a safe formulæ.

Mr. BARKER found less flux was required if a small portion were first placed in the crucible, then a layer of chloride, followed by a layer consisting of equal portions of chloride and flux.

The following gentlemen were elected members of the Association:—Messrs. J. Burgess, E. Morrow, E. S. Scranbrook, and W. T. Wilkinson.

Mr. HENDERSON passed round a cabinet group of some of the prominent members of the British Association, taken by Mr. Silas Eastham.

Mr. WELLINGTON called attention to a transparency he intensified in three sections: first portion with bichloride of mercury; second portion with bromide of potassium added; and the third portion, ammonium chloride added to bichloride of mercury. The first and third portions darkened when subsequently treated with ammonia; the second portion did not darken, but it readily blackened in a solution of cyanide of silver.

Mr. Prestwich was announced to occupy the chair on the next occasion.