

be made from native woods of the colony, in order that a complete representation of the forest resources of each colony may be practically shown; and it has also been suggested that the building stones and marbles of various colonies should be sent over in the form of pedestals. Special arrangements will be provided for the practical illustration, by one special kitchen, of all the frozen meat industries, and of the colonial preserved meats, fish, and vegetables. This department will be carried out by the National Training School of Cookery, under the direction of the Royal Commission itself, in order that the due participation of the various interests concerned may be maintained. It has been decided that only *bona fide* colonists can, through their respective governments, participate in the exhibition; it will not, therefore, be possible for the Royal Commission to entertain any applications, upon any pretence whatever, from colonial importers or agents in this country. The time for the opening of the exhibition is not yet definitely fixed, but it will be during the first fortnight in May, 1886.

TRANSFER PAPER FOR SILVER PRINTING.—There appears to be a very good prospect of the carbon printers' transfer paper, or a similar preparation, becoming an exceedingly useful article in the production of silver prints. Judging by examples which have reached us from correspondents, the double transfer paper, sensitized in the manner recommended by Ashman and Offord, forms such an excellent substitute for albumenized paper that it really becomes a difficult matter to distinguish prints of this class from those on albumen. Even the most critical eye might easily be deceived were Rive or Saxe papers employed. "A Printer" writes us:—"I have made an experiment on double transfer paper, the result of which I forward you. The washing was conducted with ordinary batches of silver prints. Toning the same, and as quick as the others. There was no difficulty in curling, or any other failing. The prints remained in water all night."

MORE LIGHTNING IMAGES.—Report of a curious freak of lightning comes to us from Albemarle Co., Va. A pane of glass in a window of a house in that section has on it, or rather in it, an exact reproduction of the features of a woman who, while standing at the window, was killed by the "thunderbolt" which so marvellously photographed her likeness on the glass. This is vouched for by the very best authority. This incident calls to mind another of a somewhat similar nature, the scene of action in this case being in New Jersey. A lad, standing on the threshold of his father's house, was struck down by lightning, and when his body was examined it was discovered that the limbs and leaves of the tree, through which the lightning had passed before reaching him, were photographed in livid colours on his flesh, and this through his clothing. These marks, however, gradually faded away, and at the time of his burial had entirely disappeared.—*Anthony's Bulletin.*

ABSTRACT OF CHAPMAN JONES'S LECTURES AT THE BIRKBECK INSTITUTE, DEC. 2nd and 9th.—Photographically considered, light generally decomposes, and in most cases darkens; but sulphite of lead, which is black, is converted by the action of light and air into the white sulphate. The pure oxide of lead is decomposed by light, and becomes lighter. Nitrate of silver is permanent when pure, but in the presence of organic matter, as when spread on paper, ivory, &c, it readily blackens by light, hence its use as a marking ink for linen. The chloride, bromide, and iodide of silver are darkened by light, unless perfectly pure and dry, a portion of the chlorine, bromine, or iodine being liberated from the silver. The salts, when not decomposed, are readily soluble in cyanide of potassium; they are also soluble in hyposulphite of soda, but a large excess of this latter salt must always be used to avoid the production of a sparingly soluble compound, and to retard the spontaneous decomposition of the compound formed. Sodium sulphite, sodium chloride, and ammonium chloride are somewhat similar to the cyanide and the hyposulphite, but they act so slowly that they are not practically useful as fixing agents. DEC. 9th.—If the mineral matter of bones is dissolved away, the form of the bone remains as a yellowish, transparent substance. This, or the original bone, boiled with water, gives gelatine. Skin and hide also give gelatine by boiling, but cartilage gives a jelly having different properties, and called chondrin. Chondrin is used for size, and is present in variable quantity in commercial gelatine. Isinglass, when boiled, gives a very pure gelatine. Glue is an impure, dried gelatine made from animal offal. Gelatine varies even when prepared from the same tissues of animals, if the animals were of different ages; it also varies according to the method of preparation. By

heating with water, gelatine gradually loses its gelatinizing qualities. Dilute acids do not prevent gelatinization, nor do dilute alkalis, nor strong ammonia. Gelatine keeps indefinitely when dry, but moist gelatine may begin to decompose in twenty-four hours, but many antiseptics prevent decomposition. Gelatine swelled in a chrome alum solution requires a higher temperature to meet it than if it were swelled in plain water.

THE SUN'S CORONA.—Signor F. Tacchini, the successor of Signor F. Secchi, at the Observatory of the Collegio Romano, has published a confirmation of the astronomer Forel's statement that the sun's corona is, in a clear sky, discernible on high mountains in a surprisingly distinct manner. He himself observed the phenomenon from the summit of *Ætna* at the beginning of July. At Rome, Naples, Messina, Catania, the sun appeared surrounded by a broad, white crown; but, from the top of *Ætna*, 3,300 metres above the level of the sea, in a very clear sky, it presented the appearance of a white ring surrounded by a splendid copper-red corona. Near the horizon, the sun's appearance changed into an ill-defined arch of great span. He was able to observe all these phenomena at leisure on two different days. At sunrise and sunset he saw clearly the beautiful red light of the arch. But he is of opinion that those appearances are not as strong and brilliant this year as in 1883 and 1884.—*Times.*

PHOTOGRAPHIC CLUB.—The subject for discussion on December 16th will be "Methods of Rendering Paper Transparent."

To Correspondents.

- * * * We cannot undertake to return rejected communications.
- R. S.—We will try and arrange for a series shortly; as far as we know, nothing of the kind has been published.
- W. H. H.—As the block has to be cut, your communication must stand over till next week.
- J. W. P.—Obtain Liesegang's "Carbon Printing," published by Sampson, Low, and Co.
- W. H. TUCK.—As we know nothing of the merits of the case, we can hardly do as you suggest; and this more especially as you intimate that it is likely to be the subject of further litigation. We imagine it to be tolerably well established that the mere possession of the negative confers no more copyright in a photograph than the possession of the stereotype plate does in the case of a literary work.
- BEGGAR.—The best thing is moderately strong glue, to which as much methylated spirit has been added as the glue will bear without precipitation taking place.
- THOS. H. M.—It is to hand, and we shall make good use of it. Thanks.
- FORRESTER.—Make it up like the gold bath, but using three or four times as much chloride of platinum as you would of gold.
2. We have had no difficulty in getting it in London at the ordinary oil shops; but if there is any doubt about the quality of the article sold in bulk at the oil shops in your neighbourhood, you had better obtain the mineral oil sold by gun-smiths under the name of "Rangoon" oil. Buying it in this way, one pays a trifle more than the market value, but one is sure of getting the right thing. Ebonite sheets are sold by the Silvertown Rubber Co., 100, Cannon Street, London.
- BRITANNY.—A weak solution of ozone bleach, or of chloride of lime, will probably answer. Wash well afterwards.
- NITRATE.—It is quite possible to take a very useful photographic equipment on a bicycle—in fact, we have done it ourselves—but a tricycle is to be preferred on the whole. The Coventry Rotary is a very suitable machine, but there are very few tricycles which will not admit of being used as luggage carriers provided that a little judgement is exercised in fitting the case to the machine.
- NOX.—1. There is no handbook better than Abney's "Instruction," as far as we know. You surely must have got hold of the first edition; obtain the latest, and you will find everything you require.
2. Dissolve it in weak hydrochloric acid.

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