

when he is at work. If a man believes that the leaves of the sacred tree in Thibet do bear alphabetical characters, his drawing will not fail to convey that belief to his distant readers somewhat more emphatically than the original. If he has a view of his own upon the connexion between Buddhist temples and Druidical remains, the conviction will make itself felt in the drawing. In matters of such delicate rendering as Egyptian hieroglyphics, Sinaitic carvings, Cuneiform inscriptions, the question whether this or that mark upon the weather-worn stone shall be recorded as the remains of a line or a dot, or shall be overlooked as a defect produced by age, will be decided, in the work even of the most conscientious draughtsmen, by the interpretation which he places upon the symbols he is recording. Such inaccuracy in the observer generates a corresponding inaccuracy in the student who generalizes from his observations. The student knows how the observations are taken, and justly looks upon them as all more or less arbitrary and conjectural; he is ready enough, therefore, whenever he is hopelessly at a loss, to evade the difficulty by audacious emendation. After all, the error may have been only the copyist's doing, and the true original may be in favour of his view. The pictures of the sun are subject to no such damaging suspicions. The scholar studying in the British Museum may have before him in a photograph the hieroglyphics from Carnac, or the inscriptions from Persepolis, or the outlines of a Buddhist temple in Ceylon, not as they may appear after they have been filtered through the brains of an imaginative artist and his engraver, but as they actually are, traced by the hand of the same unerring natural law as would have painted them on his own retina had he been there.

#### Reproduction of Historical Documents.

There is one other application of photography to the purposes of science which is impeded by no difficulties of this kind, and the neglect of which, therefore, is capable of no similar defence. Students in all these branches of learning which depend upon manuscript records—the philologist, the historian, and, above all, the theologian—have reason to complain that it has not been more largely employed to secure from the risks of time the stores from whence they draw their knowledge. It is notorious that, for the scholar's purposes, a printed book is no substitute for the MSS. on which it is nominally founded. Very few editions even profess to reproduce with rigid accuracy any particular MS. The editor uses his judgment in making this or that departure from the ordinary text, and in recording it if he does so. And even where an exact copy is professedly given, it is subject to all the ordinary fallibility of human work. Each new collator who consults an ancient MS. finds a fresh harvest of corrections to be applied to his predecessor's labours. And, beyond this, there is much in every MS., in its arrangement and in the character in which it is written, which no printed book can, without enormous cost, bring fully before the scholar's eye. The MSS., therefore, from which our knowledge of ancient literature is drawn are still an inestimable possession, in spite of all the printed editions that have been drawn from them. It is a possession, it is needless to say, resting upon

the frailest tenure, which war, or revolution, or accidental fire, or careless exposure to damp may at any time terminate. It is strange that, when science offers a guarantee against such accidents, the learned bodies or the governments of Europe have in so few cases made any effort to secure it. Both Sir Henry James and Mr. Osborne, of Melbourne, have shown that by the bichromate process any document can be unerringly and cheaply reproduced upon zinc or stone; and, so reproduced, any number of absolute facsimiles might easily be printed off. Or, to make the security of accuracy more perfect, they might be printed direct from the negative by the carbon process. Such a multiplication would have the double advantage, that it would place copies, indisputably accurate, of all important MSS. in every great European library, and it would make any risk that the originals might run, in this troublous age of the world, a matter of secondary account.

#### Photographing Engineer's Drawings.

By means of a photographic process, copies of drawings can be made rapidly and cheaply of the same size as the originals. The original drawing is in no way injured by the process, and the copy is produced by simple superposition over the chemically prepared paper, and is a positive copy direct without the intervention of a negative.

#### Photography in Natural Colours.

The *Cerneau*, a paper published in Port Louis, Mauritius, contains the following extraordinary announcement, according to *Galignani*:—"M. Chambay has succeeded in fixing the colours of the object. The picture is taken instantaneously, as in other kinds of photography. The modelling and relief are marvellous: the blood appears to circulate beneath the skin; the colour is fixed; and the portraits, which present a surprising resemblance, are equal to the finest pastels, miniature, or water-colour drawings. M. Chambay is about to remove to Paris."

#### Power of the Magnesium Light.

A singular circumstance was communicated to the French Photographic Society at its last sitting, by M. Placet. The magnesium light is so powerful, that when placed at a short distance from the object-glass, it will melt its surface. An object-glass spoilt in this way was produced by him at that sitting. Photographers had better take the hint, and not bring the light too near the apparatus.

## Statistical Information.

#### The Cotton Supply Restored.

In the circular issued to the cotton dealers of England by Messrs. Neil Brothers is this paragraph:—

Cotton trade writers generally still industriously keep up the notion that the course of prices of this staple depends upon American politics and the state of the money market, studiously ignoring the fact demonstrated by the figures given below that, owing to the increased supplies from all quarters