necessary to those he is wont to train in the knowledge whereby he is enabled to produce almost inimitable results. With the best intention he fails, feeling he cannot impart that which nature almost intuitively bestows, and he discovers that there is something more required than pigments, palette, and brush in the making of an artist.

But when the colorist, solemnly imbued with the truth of the photograph, and watching the fine management of its monochrome, from its high lights to its deepest shadows, can translate the same with a keen desire to imitate its inimitably delicate gradations into color; then indeed does the photograph as rendered on the ground glass of the camera serve as the true guide to the miniature colorist, and the result is a beautiful conjunction of nature and art to produce a faithful resemblance of the human face. Of course the taste of the artist will dictate to him to soften some of the harder lines rendered in the proof by the peculiar color of the original, or the furrows which time indents on the forehead, and which, by the concentration of the lines, may really appear deeper in the photograph than in the original.

Without attempting to go deeply in the philosophy of color, analytically or synthetically, it may not be out of place to give, however slight, an idea of how to proceed in coloring a photograph.

It is indispensable that you wash the proof well with a sponge, or, better, and even at your command, sweep your tongue across it in order to remove any traces of grease or starch. As far as my experience goes the later method is preferable. In rubbing down the colors on the palette give all attention to the manner in which it is softened with the gum and water added. If you rub with careless quickness the colors are rendered useless, owing to the numerous air bells that rise, which, when applied to the surface of the picture, give it a coarse, inartistic, and anything but a pleasing aspect.

To color a good, clean print, you must, in the first place wash on the face, use as much gum as will bring it nearly, although not quite, to the same gloss as the albumen surface; this wash to be composed of—for a person of ordinary complexion—a combination of rose madder and Indian yellow, or Venetian red alone. With these colors judiciously applied you can produce any complexion from the highest glow of health to the most sallow; the shadows to be warm, and in every case glazed even more than the albumen surface. Sepia, neutral tint, burnt umber, chrome yellow, and ivory black, if properly used, will give the blooming, graceful curls of the gentle queen of hearts, or the seared locks of the tottering dame of seventy, that life-like brilliancy which is characteristic of health or decay.

Should the photograph be clear and well-defined, for draperies and carpets (the coloring of which should ever be subservient to the figure), use transparent, but if the picture be deficient from underdevelopment, use *opaque*. Of transparent colors for such purposes use the following:—Crimson lake and burnt sienna, Prussian blue and Indian yellow. Chrome yellow and Prussian blue also make an excellent wash for draperies, although not purely transparent.

For backgrounds, which should ever be made to softly recede from the figure, the following colors may be used with much purpose:—Cobalt blue, and a little Chinese white, which gives a good effect and altogether a pleasing result, vignetting it to your own taste with sepia or other browns. By way of finish, or to relieve an otherwise poor production, it is sometimes necessary to make what is termed an introduction; that is, a side opening in the background, where a neat landscape may be lightly sketched and colored, comprised of water, land, and sky, or a bit of woodland. These sometimes give a freshness to an otherwise dull picture, or serve to exclude some of those hideous backgrounds so much displayed in *cartes* generally. But in putting in draperies, carpets, plain or pictorial backgrounds, let them ever be subdued, and in quiet harmony with the figure, the head of which should ever be the principal attraction for the eye.

With these rather incomplete remarks I hope you will feel satisfied, as I assure you my *forte* does not lie in writing papers, nor do I possess the capacity to express in words that which I can render in color. The specimens I now show will, in some measure, serve as an apology, and embody my ideas of what artistic coloring as applied to photographs ought to be.

SCOTT ALEXANDER.

Miscellaneous.

Obtaining Soda from Common Salt.

Mr. Welden of England has taken out a patent for a process for the above purpose, as follows:—

The new process consists in placing within a vessel capable of resisting the required pressure an equivalent of common salt, and another of carbonate of magnesia, with a small quantity of water, and then pumping into the vessel the carbonic acid formed by causing atmospheric air to traverse coal in a state of ignition. The carbonate thus becomes bicarbonate of magnesia, which dissolves in the water, and then decomposes the chloride of sodium, chloride of magnesium, which remains in solution, and bicarbonate of soda, which precipitates, being, formed. The whole process lasts but a quarter of an hour at most, and the cost is only that of the coal used in forming the carbonic acid. A moderate heat drives off the second atom of carbonic acid from the bicarbonate of soda, changing it into carbonate; and the magnesia may be recovered from the chloride by evaporating the solution containing it to dryness, and raising the residue to a temperature below redness.

Necrosis Produced by Tobacco.

A case has recently occured to Mr. Paget(*Lancet*) in which death of a portion of the bone of the lower jaw was occasioned by the introduction of the oil of tobacco into the cavity of a carious tooth, for the purpose of curing the toothache. The patient was an Italian sailor who used the oil from the stem of his pipe. Mr. Paget, in remarking upon the case after having removed several sequestra, said:—"The case well illustrates a source of danger which is not generally recognized. The practice