

jaw-bones that died in company with mastodon and mammoth, the story of the primeval earth—these, and not the jaunty gentlemen in stars and ribbons, are the men whom history will take note of.

Photography—almost the latest born of scientific inventions—is a proof of what we mean. At first only the experiment of the savant in his study, it has become in turn an elegant amusement, a trade and a necessity, until we almost wonder how our forefathers managed to be satisfied with silhouettes and miniatures. It would take all the columns that lie before the reader even to touch upon the thousand and one ramifications of the simple discovery which lies at the base of the art now so widely practised.

Who is to say what results may follow from the vast mass of physiognomic material which hundreds of cameras are constantly storing up? Who ventures to estimate the exact consequence of the curious familiarity which we now enjoy with the persons and peculiarities of anybody in any way "distinguished?" Who knows what comfort that simple bit of card, stamped with the sure veracity of the sunlight, has brought to the absent, the exile, the captive, the sailor, the mourner? And now we are discussing the experiments of Signor Negretti, made at the audacious height of miles in the air, and with the car of a balloon for the "dark room." If these succeed, what change may not come over the practice of war?—if, indeed, it is to outlive all the "aids" of science. How is a general to conceal his plan of attack, or mask his advance, when the photographer has him and his army under a Voigtländer lens, and can drop a "correct likeness" of the enemy into his employer's camp every quarter of an hour. Or what unknown land will keep sources of grand rivers and gorges of mysterious mountains any longer from our knowledge, if the Spekes and Grants of the future are to sail calmly over cannibals and cataracts, focussing everybody and everything at a height where the eagle would grow dizzy? These are speculations to-day, but not half so extravagant as it would have seemed thirty years ago to promise that, with a few chemicals and a square of coated paper, exquisite and absolutely truthful pictures could be produced, shaming the minuteness of the most painstaking miniature painter—still more that the artist would take his subtle palette into the skies, and, with the sun-beams for a paint-brush, limn "Mother Earth" as the stars and planets see her.

But descending to *terra firma*, photography has lately assumed a most curious function there—that, namely, of a religious reformer. If any idea could be pronounced *bizarre* beforehand, it would have been, we should think, that the invention of M. Daguerre could have any possible connection with the decline of Mahomedanism, much less conduce to it. There is a well-known song, the wit of which lies in bringing together the most unexpected people; making Æneas play whist with the "King of the Cannibal Islands," and Charlemagne—or somebody equally astonishing—dance a polka with Mrs. Fry. Hardly less grotesque must it seem to those who know the habits of the East to read that photography is just now the rage at "the Sweet Waters," and that all Constantinople is "agog" for a portrait of the Sultan. A sharp-witted Turk named Abdullah, who has imported the art into the East, has persuaded "the faithful" to petition His Majesty *en masse* for "cartes de visite" all round; and the Sultan, no ways loath, has consented, it would seem, to be made immortal "in this style." Considering that the windows of "the infidels" are full of the portraits of their charming princesses, and that everybody, thanks to the practice, knows the blood royal by sight as well as his own sisters, it might seem unnecessary for us to criticise the desire of Stamboul. But when it is recollected what Mahomet would have to say about such a thing, and how energetically the Koran, in its heat against idolatry, denounces "the picture of any created being," it must be decidedly a sensation to an orthodox Moslem to hear that the Viceroy of God, the Padishah of all believers, has "given a sitting." We get our word "Arabesques" from the geometrical or running adornment with which old Saracenic and Mussulman art, jealous of any imitative outline, ornamented its books and houses. Now, if the Ulemas don't quickly call the convocation of Islam together and write a number of pastoral letters in the papers, the awful heresy of Abdullah will prevail, and a good Turk will boggle no more at having his picture taken than at adultery or at cheating a Christian. Mahomet foresaw a good deal, but not the photographic camera, or there would have been a special chapter in the Koran against that "device of Eblis."

Thus silently the spirit of change is stealing over the fierce faith. It made its last wild struggle for Islam "unaltered and dominant," in the Indian mutiny. The outbreak at Jeddah, in Syria, at the Lebanon, were bursts of the same angry but fading flame; and in our day the Mahomedan Crescent is on the wane. It submits, with the patience of a tamed thing, to the hand of science; it wears the pantaloons, drinks the wine, apes the vices of civilization; and will soon come to believe that Allah has had other prophets beside the famous husband of Khadijah, "whose heart the angel Gabriel himself took out with a knife of adamant, and, washing it in the golden basin of faith and truth, replaced it sinless." Pending the inevitable revolution which is thus spreading from the centre of Islam to its boundaries—a revolution possibly tedious, and certainly slow—we must not expect too much from Turkey. It is something that she has a Sultan who, if he is a little extravagant in his fêtes at the "Sweet Waters," gives his *carte de visite* away instead of purses of gold; and presents stereoscopes, like those shown in the Exhibition, to the dark-eyed houris of his zenana. Science will certainly never run the bill up on this head to the figures quoted the other night by Mr. Baillie Cochrane. "For thirty-six wives," £70,000 per month; for 1,780 "other ladies," £18,000 a month; £7,000 per month for gentlemen of a peculiar description to attend upon this feminine family; with £24,000 beside for bon-bons, sweetmeats, kubobs, and pillaws; and £80,000 for attendants—the items were, it must be confessed, alarming. But all that was in 1659, and the friends of the empire must be allowed to be hopeful in 1863, when science has slipped into the harem, and the Commander of the Faithful submits his sublime visage to the pose desired by Abdullah the photographer.

#### THE GLASS-HOUSE.

THE first thing which claims the attention of the photographer, is to secure to himself suitable rooms. In many instances the artist has the privilege of superintending the construction of his glass-house or operating rooms; in this case he must not only know what is required in such a construction, but he must know what arrangements are the most appropriate. The success of many an artist depends upon the fortuitous advantages of his glass-house; but these fortuitous advantages depend upon fixed laws and principles which the photographer must learn, if he is still ignorant of them.

To be brief, contrast between light and shade is agreeable to the eye whether tutored or untutored; whereas uniformity of light or of shade is very displeasing. It is not known why this is so, any more than why harmonious combinations of notes are delightful to the ear, or why non-coincident vibrations produce discord.

By means of a *happily arranged* contrast of light and shade, a stereographic roundness is communicated to pictures, which, where this contrast is deficient or quite wanting, are flat and in no way satisfactory; and where the contrast is exaggerated, where the lights are very bright and the shades very deep, where the transition from one to the other is direct, and the line of demarcation between them is almost visible, the roundness becomes a complete distortion of solidity. This distortion, arising from a vulgar contrast, is sometimes so great as to cause the sitter to disclaim his own picture. The qualifications of an artist are very distinct from those of a mere operator; the former by reason of his qualifications, can associate with gentlemen and the intelligent; the latter can aspire to no higher companionship than with the ignorant and vulgar. But the qualifications in question are attributable in a great measure to a thorough knowledge of light in reference to his art whereby *nature becomes natural*.

If an object be placed so that the light in one direction, whether brilliant or dull, falls perpendicularly upon its surface, the picture will be flat and disagreeable, because there is no contrast; if the light falls obliquely the contrast will be displeasing according to its intensity, because the shadows will be elongated and distinctly marked from the lights. A single light, therefore, can scarcely be said to produce an artistic satisfaction.