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Composite portraiture

A communication from Francis Galton.

Those who believe that the hope of producing real and true portraits by photography rests in Galton's method of composite portraiture, will welcome the subjoined communication from that investigator - a communication which is important as distinctly formulating a defect in the older method of working, where undue emphasis was placed on uniformity in a single respect. In scientific matters, to distinctly formulate a need is often to find a means, and let us hope it will be so in the present instance.

In the following communication we have a distinct statement of what it is needed to do, and a suggestion towards the doing. Will our readers exercise their minds as to the problem?

Here is the text of Mr. Galton's communication: -

"I receive from time to time beautiful composite photographs made in America, and have not unfrequently received letters asking about possible or actual improvements in the process. In reply, I should like to be permitted the use of your columns to make a few remarks on the subject.

"A composite portrait is not the *means* of its components, but an *aggregate* of it, which is reduced in intensity of tint to that of one of the components. If it were a mean, its outlines would be sharp, but being an aggregate; they are not, only those shades or lines that are common to all the components are as intense, or as well defined, as they would be in an ordinary portrait, while ghosts and shades of other lines are distributed variously about. These ghosts are often too conspicuous. Those that affect the [natures?] are especially due either to differences in the relative breadth and width of the component faces, or to a want of symmetry in some of them which causes the straight line that passes as nearly as maybe along the eyebrows to be inclined to that which passes between the lips in the composites I have thus far made, I have merely attended to keeping the vertical distance between the eyes and the parting of the lips at exactly the same length in all cases, and to making the best fit of the remainder that each case severally admitted. It strikes me now that it would be well worth while to vary the whole procedure by attempting to approximate to a mean result, and in the following way. First, find by measuring the portraits about to be combined, the proportion that the distance between the pupils bears *on the average of all of them* to the vertical distance between the pupils of the eyes and the parting of the lips; then optically transform every component portrait into that same average proportion. Secondly, straighten every face that asymmetrical in the way above described, into a symmetrical one. Lastly, make the composite from the transformed portraits.

"I suspect that a pinhole camera would be found perfectly suitable for effecting these transformations, if the component portraits were not too small. A portrait of sufficient size could, by a single operation, be reduced by its means to any desired scale, both in breadth and in width, independently of each other, namely, by the ingenious device I saw lately in your columns, but cannot specify where, of replacing the pinhole by a vertical slit in one movable diaphragm, and an horizontal slit in another. The asymmetry could at the same time be remedied by so inclining the portrait to the optical axis of the camera as to foreshorten the side that was too long. Foreshortening is accompanied by no blur or image in a pinhole camera.

["]The sliding adjustments of the camera would have to be graduated, and each portrait measured carefully by laying a glass scale upon it, and using a low power lens. After this had been done, a table calculated once for all for the camera would tell at what graduations of distance and of inclination the portrait should be set, in order to obtain the desired result.

"The transformations I propose are small in amount. They are always made, and we unconsciously witness them, whenever the person at whom we are looking holds his face a little inclined from full-face view. But, small as they are, I think they are worth making. I have not now got my photographic things in working order, and am busied in other ways, so I speak for the most part theoretically; but not wholly so, as I have made some optical experiments which corroborate, so far as they go, the feasibility and advantage of what has just been said."

We will forward any letter intended for Mr. Galton.

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MORE FROM DR. PIFFARD ON THE MAGNESIUM LIGHT.

The flash light in the form introduced by Dr. Piffard has, in the course of a few months, become almost a recognised thing in the studio of every portrait photographer who makes a point of keeping well up to the times, and hundreds of workers have devised new arrangements in connection with the flash light; hence a further communication from Dr. Piffard carries with it considerable interest.

The following is from *Anthony's Bulletin* :—

The past six months have witnessed a remarkable development in the use of artificial illumination for photographic purposes. The Gädicke powder and its various modifications and imitations, the writer's gun-cotton method, and the photogenic pistol cartridge, are the principal methods, that have been employed. Recently, Mr. Armstrong, in England, proposed to blow pure magnesium through an alcohol flame, and carried out his plan by using an ordinary powder blower with a rubber bulb attachment. By quickly compressing the bulb a fine jet of magnesium