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Composite Portraiture
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COMPOSITE PORTRAITURE. As a means of getting over the difficulty of procuring really representative faces, I contrived the method of composite portraiture, which has been explained of late on many occasions, and of which a full account will be found in Appendix A. The principle on which the composites are made will best be understood by a description of my earlier and now discarded method; it was this – (1) I collected photographic portraits of different persons, all of whom had been photographed in the same aspect (say full face), and under the same conditions of light and shade (day with the light coming from the right side). (2) I reduced their portraits photographically to the same size, being guided as to scale by the distance between any two convenient points of reference in the features; for example, by the vertical distance between two parallel lines, one of which passed through the middle of the pupils of the eyes and the other between the lips. (3) I superimposed the portraits like the successive leaves of a book, so that the features of each portrait lay as exactly as the case admitted, in front of those of the one behind it, eye in front of eye and mouth in front of mouth. This I did by holding them successively to the light and adjusting them, then by fastening each to the preceding one with a strip of gummed paper along one of the edges. Thus I obtained a book, each page of which contained a separate portrait, and all the portraits lay exactly in front of one another. (4) I fastened the book against the wall in such a way that I could turn over the pages in succession, leaving in turn each portrait flat and fully exposed. (5) I focused my camera on the book fixed it firmly, and put a sensitive plate inside it. (6) I began photographing, taking one page after the other in succession without moving the camera, but putting on the cap whilst I was turning over the pages, so that an image of each of the portraits in succession was thrown on the same part of the sensitised plate. Only a fraction of the exposure required to make a good picture was allowed to each portrait. Suppose that period was twenty seconds, and that there were ten portraits, then

an exposure of two seconds would be allowed for each portrait, making twenty seconds in all. This is the principle of the process, the details of that which I now use are different and complex. They are fully explained in the Appendix for the use of those who may care to know about them. The effect of composite portraiture is to bring into evidence all the traits in which there is an agreement, and to leave but a ghost of a trace of individual peculiarities. There are so many traits in common in all faces that the composite picture when made from components is far from being a blur; it has altogether the look of an ideal composition. It may be worth mentioning that when I take any small bundle of portraits, selected at hazard, I have generally found it easy to sort them into about five groups, four of which have enough resemblance among themselves to make as many fairly clear composites, while the fifth consists of faces that are too incongruous to be

grouped in a single class. In dealing with portraits of brothers and sister, I can generally throw most of them into a single group, with success. In the small collection of composites given in the Plate, facing p. 8, I have purposely selected many of those that I have previously published, and whose originals, on a larger scale, I have at various times exhibited, together with their components, in order to put the genuineness of the results beyond doubt. Those who see them for the first time can hardly believe but that one dominant face has overpowered the rest, and that they are composites only in name. When, however, the details are examined, this objection disappears. It is true that with careless photography one face may be allowed to dominate, but with the care that ought to be taken, and with the precautions describes in the Appendix, that does not occur. I have often been amused when showing composites and their components to friends, to hear a strong expression of opinion that the predominance of one face was evident, and then on asking which face it was, to discover that they disagreed. I have even known a composite in which one portrait seemed unduly to prevail, to be remade without the component in

question, and the result to be much the same as before, showing that the reason of the resemblance was that the rejected portrait had a close approximation to the ideal average picture of the rest. These small composites give a better notion of the utmost capacity of the process than the larger ones, from which they are reduced. In the latter, the ghosts of individual peculiarities are more visible, and usually the equal traces left by every member of a moderately-sized group can be made out by careful inspection; but it is hardly possible to do this in the pictures in the Plate, except in a good light and in a very few of the cases. On the other hand, the larger pictures do not contain more detail of value than the smaller ones.

DESCRIPTION OF THE COMPOSITES. The medallion of Alexander the Great was made by combining the images of six different medals, with a view of obtaining the type of features that the makers of those medals concurred in desiring to ascribe to him. The originals were kindly selected for me by Mr. R. Stuart Pole from the collection in the British Museum. This composite was one of the first I ever made, and its printed together with its six components in the *Journal of the Royal Institution*, in illustration of a lecture I gave there in April 1879. It seems to me that it is possible on this principle to obtain a truer likeness of a man than in any other way. Every artist makes mistakes; but by combining the conscientious works of many artists, their separate mistakes disappear, and what is common to all of their works remains. So as regards different photographs of the same person, those accidental momentary expressions are got rid of, which an ordinary photograph made by a brief exposure cannot help recording. On the other hand, any happy sudden trait of expression is lost. The composite gives the features in repose. The next pair of composites (full face and profile) on the Plate has not been published before. The interest of the pair lies chiefly in their having been made from only two components, and they show how curiously even two

[Abb. Specimens of Composite Portraiture. Personal and Family. To face page 8]

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faces that have a moderate family likeness will blend into a single one. That neither of these predominated in the present case will be learned from the following letter by the father of the ladies, who is himself a photographer:—“I am exceedingly obliged for the very curious and interesting

composite portraiture of my two children. Knowing the faces so well, it caused me quite a surprise when I opened your letter. I put one of the full faces on the table for the mother to pick up casually. She said, 'When did you do this portrait of A? how *like* she is to B! Or *is* it B? I never thought they were so like before.' It has puzzled several people to say whether the profile was intended for A or B. Then I tried one of them on a friend who has not seen the girls for years. He said, 'Well, it is one of the family for certain, but I do't know which.'"

I have made several other family portraits, which to my eye seem great successes, but must candidly own that the persons whose portraits are blended together, seldom seem to care much for the result, except as a curiosity. We are all inclined to assert our individuality, and to stand on our own basis, and to object to being mixed up indiscriminately with others. The same feeling finds expression when the resident in a suburban street insists on calling his house a villa with some fantastic name, and refuses, so long as he can, to call it simply Number so and so in the street. The last picture in the upper row shows the easy way in which young and old, male and female, combine to form an effective picture. The components consist in this case of the father and mother, two sons, and two daughters. I exhibited the original of this, together with the portraits from which it was taken, at the Loan Photographic Exhibition at the Society of Arts in February 1882. I also sent copies of the original of this same composite to several amateur photographers, with a circular letter asking them to get from me family groups for the purpose of experiments, to see how far the process was suitable for family portraiture. The middle row of portraits illustrates health, disease, and criminality. For health, I have combined the portraits of twelve officers of the Royal Engineers with about an equal number of privates, which were taken for me by

Lieutenant Darwin, R.E. The individuals from whom this composite was made, which has not come out as clearly as I should have liked, differed considerably in feature, and they came from various parts of England. The points they had in common were the bodily and mental qualifications required for admission into their selected corps, and their generally British decent. The result is a composite having an expression of considerable vigour, resolution, intelligence, and frankness. I have exhibited both this and others that were made respectively from the officers, from the whole collection of privates – thirty-six in number – and from that selected portion of them that is utilised in the present instance. This face and the qualities it connotes probably give a clue to the direction in which the stock of English race might most easily be improved. It is the essential notion of a race that there should be some ideal typical form from which the individuals may deviate in all directions, but about which they chiefly cluster, and towards which their descendants will continue to cluster. The easiest direction in which a race can be improved is towards that central type, because nothing new has to be sought out. It is only necessary to encourage as far as practicable the breed of those who conform most nearly to the central type, and to restrain as far as may be the breed of those who deviate widely from it. Now there can hardly be a more appropriate method of discovering the central physiognomical type of any race or group than that of composite portraiture. As a contrast to the composite of the Royal Engineers, I give those of two of the coarse and low types of face found among the criminal classes. The photographs from which they were made are taken from two large groups. One are those of men undergoing severe sentences for murder and other crimes connected with violence; the other of thieves. They were reprints from those taken by order of the prison authorities for purposes of identification. I was allowed to obtain copies for use in my inquiries by the kind

permission of Sir Edmund Du Cane, H.M. Director of Prisons. The originals of these and their components have frequently been exhibited. It is unhappily a fact that fairly distinct types of criminals breeding

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true to their kind have become established, and are one of the saddest disfigurements of modern civilisation. To this subject I shall recur. I have made numerous composites of various groups of convicts, which are interesting negatively rather than positively. They produce faces of a mean description, with no villainy written on them. The individual faces are villainous enough, but they are villainous in different ways, and when they are combined, the individual peculiarities disappear, and the common humanity of a low type is all that is left. The remaining portraits are illustrations of the application of the process to the study of the process to the study of the physiognomy of disease. They were published a year ago with many others, together with several of the portraits from which they were derived, in a joint memoir by Dr. Mahomed and myself, in vol. xxv. of the *Guy's Hospital Reports*. The originals and all the components have been exhibited on several occasions. In the lower division of the Plate will be found three composites, each made from a large number of faces, unselected, except on the ground of the disease under which they were suffering. When only few portraits are used, there must be some moderate resemblance between them, or the result would be blurred; but here, dealing with as many as 56, 100, and 50 cases respectively, the combination of any medley group results in an ideal expression. It will be observed that the composite of 56 female faces is made by the blending of two other composites, both of which are given. The history was this – I took 56 portraits and sorted them into two groups; in the first of these were 20 portraits that showed a tendency to thin features, in the other group there were 36 that showed a tendency to thickened features. I made composites of each of them as shown in the Plate. Now it will be remarked that, notwithstanding the attempt to make two contrasted groups, the number of mediocre cases was so great that the composites of the two groups are much alike. If I had divided the 56 into two haphazard groups, the results would have been closely alike, as I know from abundant experience of the kind. The co-composite of the

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two will be observed to have an intermediate expression. The test and measure of statistical truth lies in the degree of accordance between results obtained from different batches of instances of the same generic class. It will be gathered from these instances that composite portraiture may attain statistical constancy, within limits not easily distinguished by the eye, after some 30 haphazard portraits of the same class have been combined. This at least has been my experience thus far. The two faces illustrative of the same type of tubercular disease are very striking; the uppermost is photographically interesting as a case of predominance of one peculiarity, happily of no harm to the effect of the ideal wan face. It is that one of the patients had a sharply-checked black and white scarf, whose pattern has asserted itself unduly in the composite. In such cases I ought to throw the too clearly defined picture a little out of focus. The way in which the varying brightness of different pictures is reduced to a uniform standard of illumination is described in the Appendix. It must be clearly understood that these portraits do not profess to give the whole story of the physiognomy of phthisis. I have not room to give illustrations of other types – namely, that

with coarse and blunted features, or the strumous one, nor any of the intermediates. These have been discussed chiefly by Dr. Mahomed in the memoir alluded to above. In the large experience I have had of sorting photographs, literally by the thousand, while making experiments with composites, I have been struck by certain general impressions. The consumptive patients consisted of many hundred cases, including a considerable proportion of very ignoble specimens of humanity. Some were scrofulous and misshapen, or suffered from various loathsome forms of inherited disease; most were ill nourished. Nevertheless, in studying their portraits the pathetic interest prevailed, and I returned day after day to my tedious work of classification, with a liking for my materials. It was quite otherwise with the criminals. I did not adequately appreciate the degradation of their expressions for some time; at last the sense of it took firm hold of me, and I cannot now handle the

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portraits without overcoming by an effort the aversion they suggest. I am sure that the method of composite portraiture opens a fertile field of research to ethnologists, but I find it very difficult to do much single-handed, on account of the difficulty of obtaining the necessary materials. As a rule, the individuals must be specially photographed. The portraits made by artists are taken in every conceivable aspect and variety of light and shade, but for the purpose in question the aspect and the shade must be the same throughout. Group portraits would do to work from, were it not for the strong out-of-door light under which they are necessarily taken, which gives an unwonted effect to the expression of the faces. Their scale also is too small to give a sufficiently clear picture when enlarged. I may say that the scale of the portraits need not be uniform, as my apparatus enlarges or reduces as required, at the same time that it superposes the images; but the portraits of the heads should never be less than twice the size of that of the Queen on a halfpenny piece. I heartily wish that amateur photographers would seriously take up the subject of composite portraiture as applied to different sub-types of the varying races of men. I have already given more time to perfecting the process and experimenting with it than I can well spare.