

PERSONAL IDENTIFICATION AND DESCRIPTION.

At the Royal Institution last night Mr. FRANCIS GALTON lectured on personal identification and description. He said he greatly felt the inadequacy of language to express form, when he was dealing with hereditary likenesses, with grouping human features into classes, and with many other topics. The present lecture was the result of the considerable pains that he had taken to overcome this difficulty. There proved to be many alternative ways of doing it, but as he had not yet satisfied himself as to the best, he would avoid details and confine himself to general remarks. It was perfectly possible to define and to measure resemblance, taking the least discernible difference as the unit for each degree of unlikeness. This simple principle could be easily applied to outlines such as those of silhouettes. It was better at first to go even further in the direction of simplicity, and to consider only that part of the outline of the face which lay between the brow and the parting of the lips. The least discernible difference between two silhouettes might be taken as equal to the one-hundredth part of an inch. Though an exceedingly large number of profiles might be drawn that differed by this small amount in some part of their outline, the number that differed by ten times that amount would be comparatively very small. We might aim at producing a collection of standard portraits, drawn with coarse outlines of one-tenth of an inch in width and then reduced to a small scale, to serve as standards of reference. No profile that fell wholly within the two edges of the coarse outline could differ from its centre by more than five grades of unlikeness. This would be a useful and a first degree of approximation; it would not be a likeness in any other sense than that of excluding the very large proportion of profiles that were still more unlike than those that fell within the specified limits. A mechanical apparatus, described further on, afforded the means of rapidly finding the standard or standards to which any given profile conformed. Individuals differed in a measurable manner in so many respects that a person might be identified with considerable precision by a statement of his measures. The lecturer explained the measurements that were most useful for this purpose, and how registers of them could most easily be searched in order to find whether those of a particular person were contained in them or not. Differences that might be measured, or otherwise clearly defined, existed on a small as well as on a large scale. The curious variety of imprints made by the inked finger-tips admitted of being classed and catalogued. They seemed to be singularly persistent, judging from four specimens that were exhibited of the digit marks of Sir W. Herschel, made in the years 1860, 1874, 1885, and 1888 respectively. Though there was a difference of 28 years between the dates of the first and the last, no difference could be perceived between the impressions. The forms of the spirals remained the same, not only in general character, but in minute and measurable details, as in the distance from the centre of the spiral and in the direction at which each new ridge took its rise. Sir W. Herschel had made great use of digit marks for purposes of legal attestation among natives of India. Prisoners were now identified in France by measurements of their heads and limbs according to the ingenious method of M. Alphonse Bertillon. The measures of each prisoner were all entered on the same cards, and the cards were classified according to the successive measures they contained, just as words were arranged in a dictionary according to their successive letters. The classification did not take more note of the measures than by placing each in the category of large, medium, or small, as the case might be. Thus one measurement gave rise to three possible groups, two to nine, three to 27, and so on. The lecturer exhibited the rough working model of an apparatus he had contrived that could select by a single movement those cards out of many hundreds whose measures corresponded within any desired limits with those of any given person. It was free from the objections inherent in all methods of hard-and-fast classification such as that of M. Bertillon, and could act on a large scale and with great rapidity and simplicity. The apparatus consisted of a large number of strips of card, or of metal, pivotted through one of their ends by a common axis, while their other ends rested on a frame that turned about the same axis. When the frame was raised all the cards were lifted by it, when it was lowered the cards dropped each independently of the rest by its own weight. The lower edge of each card was variously notched to indicate the measures of the person to whom it referred. The key that made the selection was a board some 30 in. of clear length, with wires stretched lengthways and supported by several bridges. The positions of the wires were adjusted by the same scale as that by which the notches were cut, and the wires were set to represent the measures of the given person. When the board was set crossways under the cards, and these were allowed to fall, they all were checked in their descent by the wires, except those few whose notches corresponded with them. The notches were made wide enough not only to admit the wires but also to allow for some inaccuracy of measurement and misfit. A key of the above length would test 500 cards at once and might be used in quick succession with any number of sets of cards. The profile of a face, he continued, could be measured with much precision on the sharp outline of a photograph. The observed differences in feature were severally small, but they were numerous and more independent of one another than the lengths of the various limbs. The best base from which to measure horizontally seemed to be the tangent line that touched the convexity of the chin and the concavity between the brow and the nose. When the chin was bearded, the position of the concavity must be guessed. A good unit of horizontal scale was given by the distance between the line just mentioned and one drawn parallel to it that just touched the nose. It was better to keep the unit of vertical scale separate, and to use for it the distance between the pupil of the eye and the parting of the lips, measured parallel to the above lines. One of the objects the lecturer had in view in the present inquiry was to discover measurable and independent peculiarities that would assist in hereditary investigations. He had some hope that by noting many of these it might be possible to trace in every person clear evidence of his parentage and near kinship.