

## IDENTIFYING PEOPLE BY FINGER-PRINTS.

### A Chat with Mr. Francis Galton, F.R.S.

It is conceivable that the time is not far distant when our criminal population will begin to wish that man was born without hands. Mr. Francis Galton, F.R.S., the distinguished scientist, is just now causing a good deal of worry to the burgling fraternity by perfecting a wonderful system of identifying people by their finger-prints; and he was kind enough to spare me an hour the other morning (writes a CASSELL'S SATURDAY JOURNAL representative) in which to explain his process of identification.

In order to avoid confusion, it may be as well to state here the best method of obtaining a clear finger-print. Upon a plate of glass, porcelain, or smooth metal spread a small quantity of ordinary printer's ink, very evenly, by means of a printer's roller. The fingers should then be pressed on the plate, and finally on a piece of paper or cardboard. The impression thus obtained is claimed to be the safest means of identification at present known.

"Is it really possible, Mr. Galton," I began, "to identify a man by his finger-print right through life? I should have thought it possible for two fingers in the world to be exactly alike."

"There are ample points in a finger-print to identify the owner through life, and the danger of making a mistake is so slight that it is not worth considering. I have never seen any two fingers alike; indeed, it is safe to say that there is not a single pair of fingers exactly similar."

"But supposing you had a print of a baby's fingers: would you be able to identify that baby when it had grown into manhood, or even reached the age of four-score?"

"There would be not the least difficulty. I possess numerous impressions repeated after intervals of many years that bridge the whole range between childhood and old age; all their characteristics remain unchanged. Latterly, I have obtained a valuable set referring to babyhood. For an American lady, having read my books, determined to take the finger-prints of her child continually, and literally began on the sixth day after its birth. As the child grew, there was absolutely no difficulty in recognising it by its finger-prints."

"A curious print in my possession is that of a man who cut off a slice of his thumb twenty years ago. The piece of flesh was immediately grafted on to the wound, but it was not observed at the time that it had been put on the wrong way. After a lapse of thirty years, the fact of the grafting is revealed in a finger-print by the different lineations made by the papillary ridges."

Mr. Galton has over 2,500 prints of people's fingers, all carefully taken on cardboard. In order to demonstrate the value of the system, he asked me to choose any print I liked. I did so and handed it to the scientist, who solved the problem of ownership in a minute. A glance at an index showed that the calculations corresponded with those against No. 2,148. Number 2,148 of course referred to a certain individual, and the identification was thus complete.

Mr. Galton now proceeded to explain his process of identification.

"I first take the three middle fingers of the right hand, and secondly, the three middle fingers of the left. Then I take the right thumb and little finger, and last of all the thumb and little finger of the left hand. There are three peculiarities which I look for at once—the ridges running in arches, the ridges running in loops, and the circuitous ridges running into what are termed whorls. A scar on the finger considerably assists identification."

"All these arches, loops, and whorls will be easily found by anyone examining his own and a few of his friends' fingers."

"There are about thirty characteristic points on an average in a finger-print," Mr. Galton continued. "As I have said, you will find no two pairs of fingers alike: it is like comparing the ground plans of two different cities."

"But supposing an old and hardened criminal, whose finger-print was in your possession, hacked his fingers about with a knife," I asked: "would that cause you confusion on his recapture?"

"Plenty of material for identification would still be left. He would never be able to obliterate all the ridges unless he cut off both his hands. But I don't want you to think that finger-prints are only of value for the identification of criminals. I want other people to take the finger-prints of their children for possible use in identification in after life."

"You remember what a stir there was when the rumour spread of a plot to kidnap the Duke of York's baby. Think of all the national difficulties that would have arisen had he been lost and then professed to be found, but his identity doubted. Many people urged me at the time to propose that his finger-print should be taken, but I hesitated to move seriously in the matter."

"Are the fingers an index to character?"

"Thinking that there might be something in this idea, I measured the fingers of many Englishmen, Welshmen, Basques, Negroes, Hindoos, members of some of the hill tribes of India, Jews, Quakers, philosophers, and idiots, but I failed to find any peculiarity. Dr. Féré, the



MR. FRANCIS GALTON, F.R.S.

great brain specialist of France, however, says he finds that epileptics and persons of weak mind have more arches. The hands of idiots are particularly cold, slobberly, and disagreeable to the touch."

"Isn't it possible to tell a man's trade by his hand?"

"That is part of M. Bertillon's system. When a criminal was brought before him he inquired his trade, and receiving so many false answers he resolved to check them. In the case of a boot-maker, for example, the knife leaves some permanent scars: there is a hard lump below the thumb, and a little hard place in the middle of the hand. There is also a black, hard place on the right knee, coming from the pressure of the tree within the boot."

"Do you consider that any feature is an index to character?"

"It is stated there is some relation between the ear and the character. At the present moment a lady is persuading her friends to let her black their ears and take impressions of them for purposes of study."

"A few facts, however, I can depend on. I find numbers of cases of families in which one child takes after one parent in feature, and after the other in character. There are also many instances of twins who, practically indistinguishable in feature, are totally dissimilar in character."

"I used to wonder whether there was truth in a common belief that the leaders of men in England have peculiarly shaped noses, but on studying the statues in Westminster Abbey and St. Paul's, it seemed not: the aquiline nose is certainly not a characteristic of our leading men."

"At one period, again, I endeavoured to find out whether light- or dark-haired men are the more

efficient. For one of the later Arctic expeditions a large number of men offered themselves and the selection was very strict. At the Admiralty, where a record was kept of the colour of the hair of these seamen, I found that light-coloured hair largely predominated. Here, however, we must allow for the presence of Danish blood."

"From pictures in the National Portrait Gallery, I once studied how far the features of Englishmen change from time to time. About Holbein's period, the high cheek-bones and thin lips appear to have been very common. After the Restoration, the faces were less marked than before and pug noses seemed to come in. I was dissatisfied with these results, however, as painters follow their own schools."

"The interval between the eyes is said to be an index to ability. As a national distinction I was told by an instrument maker when stereoscopes were used that he made three sizes—wide ones for Germans, the narrowest for Americans, and the intermediate size for Englishmen. I have examined a number of Greek statues, and found that the interval between the eyes was in numerous cases, but not in that of Socrates, exceedingly narrow."

"I have been trying lately to induce someone to take up the relationship between the shape of the hand and the disposition. This might be done easily at schools. My plan would be to select sets of boys at each school—one for artistic taste, another for mechanical capacity, a third for refinement, and a fourth for want of refinement, so as to have a few marked cases in each group. Photographs of the hands of these boys, in the form of silhouettes against a sort of window, would be easy to make, and would provide valuable data to work upon."

### Rather Too Much.

At a recent German Court ceremonial the Empress Frederick happened to be talking to the aged General Meerscheidt, with whom her Imperial son is constantly disagreeing about army matters.

The Emperor came up during the conversation, and slapping the General on the shoulder, cried, with an attempt at a joke, and at the same time alluding to their bickerings—

"Your Excellency should think of marrying. When one is married one is quieter."

"But, perhaps, your Majesty," retorted the Empress Frederick quickly, "the General thinks that a wife and a young Emperor would be rather too much for him."

### By a Thread.

How much may depend upon the merest trifle was well illustrated at a Welsh slate quarry not long ago. It was an adventure which the person concerned would not care to repeat.

He was working a large crane which stood on the brink of one of the great chasms from which the slate rock is hoisted. His duty was to catch hold of the big hook depending from the end of the chain as it swung over the bank and attach it to the crate to be sent back into the pit. Standing upon the very edge he reached out to catch the hook which dangled near him. It was cold weather and he wore thick buckskin gloves.

The hook slipped from him as he leaned out, but caught in the fastening of the glove. The next moment he was swung off his feet and carried out into giddy space, with his life depending on the glove's holding fast. His whole weight hung on that button, and there was a clear 175 feet of space between him and the floor of rock below.

The moments that passed before the chain could be swung back over the bank seemed like hours to him, but he got there at last safe and sound. He explained that he did not dare move his hand in the glove to attempt to catch the hook with his fingers for fear the change of position would loosen the button so that it would give way.

His presence of mind in keeping as still as possible may have helped not a little to keep the slender thread from breaking.

If people saw their blessings one-half as often as they saw their sorrows, there would be more good neighbours in this world.