

*E. J. Gallou*  
*from Francis Gallou*  
IDENTIFICATION OF HABITUAL CRIMINALS.

*March 18/94*

REPORT

OF A

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*56 - 80*

COMMITTEE APPOINTED BY THE SECRETARY OF STATE

TO INQUIRE INTO THE

BEST MEANS AVAILABLE FOR IDENTIFYING

HABITUAL CRIMINALS;

WITH

MINUTES OF EVIDENCE AND  
APPENDICES.

Presented to both Houses of Parliament by Command of Her Majesty.



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1894.

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well to tell him first. I enclose a slip I have  
 printed here as an experiment. It contains all and much  
 more than is wanted to identify <sup>persons,</sup> who the unknown man  
 to whom it refers, is out of some hundred of thousands of  
 names, ever collected. Francis Galton  
 (Don't want it back, having a lot of them.)

2	2	3	3	2	70
184	157	470	108	276	130
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Lefevre,		1874.		105237	

WARRANT

**WARRANT APPOINTING THE COMMITTEE.**

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I HEREBY nominate and appoint—

CHARLES EDWARD TROUP, Esquire, of the Home Office ;

MAJOR ARTHUR GRIFFITHS, Inspector of Prisons ;

and

MELVILLE LESLIE MACNAGHTEN, Esquire, Chief Constable in the Metropolitan Police Force ;

as a Committee to inquire (a) into the method of registering and identifying habitual criminals now in use in England ; (b) into the " Anthropometric " system of classified registration and identification in use in France and other countries ; (c) into the suggested system of identification by means of a record of finger marks : to report to me whether the anthropometric system or the finger-mark system can with advantage be adopted in England either in substitution for or to supplement the existing methods, and if so, what arrangements should be adopted for putting them into practice, and what rules should be made under section 8 of the Penal Servitude Act, 1891, for the photographing and measuring of prisoners.

I further appoint the said Charles Edward Troup, Esquire, to be Chairman, and Harry Butler Simpson, Esquire, of the Home Office, to be Secretary of the said Committee.

Given at Whitehall, this twenty-first day of October, 1893.

H. H. ASQUITH.

# REPORT

TO THE

RIGHT HONOURABLE H. H. ASQUITH, Q.C., M.P., PRINCIPAL  
SECRETARY OF STATE, HOME DEPARTMENT.

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SIR,

In this Report, which we have the honour of laying before you in accordance with the Commission issued to us on 21st October last, we think it will be convenient to follow the order of the several heads given in the terms of reference. We shall, in the first instance, state the results of our inquiries into the methods of identifying Habitual Criminals now in use in England, into the Bertillon system as practised in France and into the method of identification by finger-prints suggested by Mr. Francis Galton. We shall then proceed to make a recommendation as to the system which may, we think, most advantageously be adopted in England—the system we propose to recommend being one which borrows M. Bertillon's admirable method of classification, and at the same time embodies the practical results of Mr. Galton's investigations—and we shall conclude in detail the arrangements to be followed and the rules to be made in the event of our recommendation being adopted by you.

## THE METHODS OF IDENTIFYING HABITUAL CRIMINALS NOW IN USE IN ENGLAND.

For the purpose of making ourselves thoroughly acquainted with the manner in which the different Police Forces of this country put in practice the means at present available for the identification of Habitual Criminals, we have issued two circulars, copies of which, with an abstract of the replies, are given in Appendix A., and we have conferred personally with the Chief Constables and the heads of the detective forces of various counties and boroughs, some of whom attended to give evidence at the Home Office, while others we met on our visits to Wakefield, Leeds, Bradford and Birmingham. We have also visited the Convict Supervision Branch at New Scotland Yard and the Habitual Criminals Registry in the Home Office, and have minutely examined the registers, records and volumes of photographs there in use. From the officers of these two departments, from the Prison Commissioners and from the Governors and officers of the Prisons of Holloway, Pentonville, Wakefield, Leeds and Birmingham, we have from time to time obtained much useful information. Most of the evidence we have obtained was taken informally, and a large part had immediate reference to books, forms, documents and photographs. Only a small portion, therefore, of the oral evidence has been put in writing, and will be found in the Minutes.

It may at the outset be stated in general terms that the practice of the English police, though the details differ widely in different forces, is always dependent on personal recognition by police or prison officers. This is the means by which identity is *proved* in criminal courts; and, though its scope is extended by photography, and it is in some cases aided by such devices as the registers of distinctive marks, it also remains universally the basis of the methods by which identity is *discovered*.

A personal knowledge of habitual offenders is obtained primarily in connexion with their arrest and trial for their earlier offences; but further facilities for acquiring it are supplied by the conditions which require licensed convicts and persons under sentence of police supervision to report to the police once every month, and also on every change of residence. The personal interviews thus rendered necessary afford the police excellent opportunities of acquiring a good knowledge of the more dangerous of the criminals with whom they have to deal; and the faculty of recognising and remembering faces, which is so useful in all departments of a police constable's work, is by this means encouraged and developed to a very high degree.

Generally speaking, therefore, when an habitual criminal resident in a particular district is arrested in that district on a criminal charge, his antecedent history will be within the knowledge of the local police; and it is rare for such a man, when once he finds himself known, to dispute the evidence of his identity or attempt to repudiate the record of his previous misdeeds. The greater part of the crime in this country is committed by criminals of this class—by men who are well known to the police of their district, whether it be a borough or a division of a county, and who have little chance, unless the circumstances be exceptional, of disguising their identity.

On the other hand, the offences committed by men travelling from county to county or conducting operations in one police district while habitually residing in another are not inconsiderable in number, and are often of a peculiarly serious and dangerous character. If a distinction be made between a "professional" criminal—the man who has deliberately adopted a career of dishonesty or violence as a means of obtaining a livelihood—and the man who only lapses into crime occasionally and, as it may be said, under stress of circumstance, it is clear that the travelling thief or burglar belongs almost always to the former rather than the latter category. To the former class also belong, as a rule, those criminals who, without being regular travellers, move from a district where they have become well known to the police to another in which they hope to be rid of their past history and to begin with a clean record a new career of crime. The answers received to our circular of 13th November (p. 70) illustrate the proportion between local crime and crime committed by "foreigners" in the different parts of the country; and, though no exact statistics can be given, we think it may be taken as certain that while in most districts the bulk of crime is local, a considerable proportion of the most serious offences are committed by those "foreign" criminals, whose antecedents it is at once most desirable and most difficult to trace.

Further, even with regard to local criminals, the difficulty of personal recognition becomes very great in the large centres of population. The number of criminals seen by each officer is so great that it is impossible after any considerable interval for any but a man endowed with a singularly good memory to remember more than a few of them; and unless the memory is aided by photographs and registers, mere personal recollection is insufficient to secure the identification of those persons who repeatedly come before the Courts. This is especially the case in London, where not only the criminal but the ordinary population is constantly moving from one district to another, and where an offender might be arrested in a dozen police divisions and convicted in a dozen different courts, without being seen twice by the same officer. Were it not for the assistance of the prison warders—all remand cases from London being concentrated in one large prison—and the special police arrangements to be described later, it would be impossible in London to secure the identification of more than a very small proportion of the local criminals.

The question, then, is what are the agencies by which "travelling" criminals throughout the country, and the local criminals of the Metropolis and of other large centres of population, can be so traced that, when arrested for a fresh crime, they may be confronted with the police officer or the prison warder, who is able to prove their identity and to establish their past record.

#### *The Habitual Criminals Registry.*

The Habitual Criminals Register is the only agency specially established by Parliament and intended for general use throughout the country in the work of identifying old offenders. It was first established under the Habitual Criminals Act, 1869, which was repealed and partially re-enacted by the Prevention of Crimes Act, 1871. The latter Act now provides (section 6) that "Registers of all persons convicted of crime . . . shall be kept in such form and containing such particulars as may from time to time be prescribed . . . by the Secretary of State . . . The register for England shall be kept in London, under the management of the Commissioner of Police of the Metropolis, or such other person as the Secretary of State shall appoint." At first the register included all persons *convicted of crime*: crime being defined by section 20 as including any felony and the following misdemeanours:—the uttering of false or counterfeit coin, the possession of counterfeit gold or silver coin, the obtaining of goods or money by false pretences, conspiracy to defraud and the offence of being found by night in possession of housebreaking instruments. It was soon found, however, that the registration of criminals was being carried out on far too large a scale, and that the results attained were altogether disproportionate to the labour involved—a large part of the persons registered not being habitual criminals in any ordinary sense of the term—many of them first offenders, and some children convicted of trivial thefts. The Prevention of Crimes Amendment Act, 1876, was therefore passed, and power given to the Secretary of State to determine what classes of prisoners should be registered; and by Lord Cross's regulations of 15th March 1877, the register was confined to "every person convicted on indictment of a *crime*, a previous conviction of a crime being proved against him." This is the class to which sections 7 and 8 of the Prevention of Crimes Act, 1871, are applicable; and it appears to us to be the best legal definition of "Habitual Criminal" which it is possible to obtain. The register, which had at first been established at Scotland Yard under the charge of the Commissioner of Metropolitan Police, was now transferred to the Home

Office, and Sir Edmund Du Cane, the Chairman of the Directors of Convict Prisons, was appointed Registrar.

At the present time the work of this Register is carried on, under the direction of Sir Edmund Du Cane, by Mr. Grace, who is also keeper of the register of convicts—a register maintained chiefly for the purposes of prison administration—and who has two assistants, one for each branch of his work. It is still controlled by the regulations of 15th March, 1877, except that, in addition to the habitual criminals, as above defined, the names of all convicts released under sentences of penal servitude are included. The register is prepared from a return which is made from convict and local prisons a few days before the discharge of every convict and of every habitual criminal. This return (commonly known as "Form R") contains a statement of the prisoner's convictions, his personal description, the full particulars of his distinctive bodily marks and his photograph. The total number of these returns received last year was 3,851; it has been annually decreasing since 1884, when the number was 5,210. From these returns two volumes are annually compiled:—

(I.) *The Habitual Criminals Register*, containing all the names in alphabetical order, and giving, in columns opposite to each name, the prisoner's full description at the time of his discharge including his distinctive marks, the particulars of his last conviction, his destination on discharge and the number of his previous convictions, with references to entries in previous registers. The register is published annually and contains all habitual criminals and convicts who have been liberated between 1st January and 31st December of the previous year.

(II.) *The Register of Distinctive Marks*, in which cases are classified by the position of the marks on the body. It falls into nine main divisions according as the marks are on (1) the head and face, (2) the throat and neck, (3), the chest, (4) the belly and groin, (5) the back and loins, (6) the arms, (7), the hands and fingers, (8) the thighs and legs, (9) the feet and ankles. These are again sub-divided: *e.g.*, under the head "arms" we have "loss of arms," "tattoo marks," "distortion from fracture or dislocation," "loss of power," "scars from wounds or burns." The purpose of this register is to enable a criminal to be traced by means of his distinctive marks. If, for example, a prisoner is found with a burn on the right upper arm, the register is searched in the division "arm, right," under the head "scars from burns." Under this head will be found a list of all convicts and habitual criminals discharged during the year having a burn on the upper arm, with further descriptions, such as "inside" or "large," or indications of other marks such as "burn on side," "burn above knee"; and by means of these indications it is supposed that the particular case can be identified, reference being made, in cases where more than one person is entered as having the same distinctive marks, to the fuller descriptions contained in the Alphabetical Register. The Register of Distinctive Marks is published annually at the same time with, or soon after, the alphabetical register, and the Registers of Distinctive Marks for each period of five preceding years are also tabulated in one volume and published.

Copies of both registers are distributed to all police forces. The evidence we have received as to their use conveys an impression that even those police forces who frequently consult them do not by this means make a large number of identifications. An abstract of the opinions we have obtained will be found in the Appendix, p. 68. The statement of the Chief Constable of Newcastle-on-Tyne that they are frequently examined, and occasionally with success, may be taken as typical of the verdict of the majority of the police authorities. In some districts, such as the North Riding of Yorkshire, the borough of Leeds and the Metropolitan Police District, they are very rarely or never referred to, and on the other hand Liverpool is the only force of those we have consulted that reports many identifications actually effected thereby.

The information we have obtained as to the number of inquiries received in the Registry from the police seems likewise to show that these volumes are not very extensively used. During the months of August, September and October last sixty-one inquiries were thus made; in twenty instances no information could be given; in forty-one the original returns from the prisons, with the photographs attached, were forwarded to aid in the identification of the suspected persons. In twenty-three of these cases the identification was correct, in eight incorrect, while in the remainder no intelligence had reached the Registrar of the result of the information supplied.

We think it a matter for regret that this Register has not been more generally used by the police. It was the first attempt made in England or elsewhere to form a classified register of criminals in which they could be traced by their personal description and independently of the names they might assume; and it has the advantage of being prepared in a form which can be circulated and used by each police force for



itself. The work of preparing the register has, we are satisfied, been carried out with great care and accuracy.

The drawbacks which have led to its comparative failure appear to us to be :—

(i.) That many persons have no bodily marks that are really *distinctive*. Some have no marks sufficiently permanent and definite for the purpose in view, as in a case mentioned by Mr. Grace where a minute red spot under the eye was the only "distinctive mark" given. A much larger number have marks which, though definite in themselves, are shared by a great number of other convicts. For instance, in the Register for 1892, in the division "Left Hand," under the head "tattoo marks," no fewer than twenty-eight persons are entered as having a ring on the second finger, and in only three of these cases is a second distinctive mark added; if therefore a person is arrested having a tattoo ring on the second finger of the left hand at least twenty-five cases in that volume alone would have to be examined, besides a much larger number of other cases with the same distinctive mark in previous volumes. It is true that this difficulty could to a large extent be overcome by more minute descriptions and by measuring the position and size of the marks, but this would involve a complexity of entries which would make an Index Register almost unmanageable.

(ii.) That the published registers are for one year only, and that no volume, therefore, contains a complete list of habitual criminals. The same case reappears in successive volumes only in the case of repeated convictions. If an habitual criminal has escaped detection for several years, his name will only be found in the year on which he was last released from custody. In the case of the Register of Distinctive Marks this difficulty is partly met by publishing quinquennially a volume covering a period of five years.

(iii.) That the registers for each year are not published until late in the following year. The Alphabetical Register of criminals discharged from prison in 1890 was not issued till 7th October 1891; that for 1891 not till 25th July 1892; and that for 1892 not till 9th of September of this year. The Distinctive Marks Register for 1890 was not issued till 9th December 1891; that for 1891 not till 23rd November 1892; and that for 1892 not till 9th September 1893.\* An habitual criminal's name is, therefore, not available for the police in the registers until a period of from 9 to 20 months after his release, though this is precisely the time during which he is most likely to be wanted. A large number of the persons whose names are contained in the register must, before the date of its publication, be again convicted, and either escape identification or be identified by some other means.

The fact that scarcely any of the police authorities whom we have consulted have complained of the lateness of publication is of some significance. If the police generally found the registers of essential value in their work, they would be anxious to have copies for use much earlier than at present.

It appears to us, therefore, that the comparative failure of these registers is due, not to any want of care in the way in which the work has been done, nor to the mode of classification, but rather to the inherent difficulty of devising any exhaustive classification of criminals on the basis of bodily marks alone, and also to the difficulty of using a register of criminals that is published at intervals and in a printed form. We do not, however, think that the police have made all the use of this register which they might have done; and had no other means of classifying criminals been available, we should have been ready to recommend that this register should be improved by (1) a reduction of the number of cases included, (2) by a more definite description of the bodily marks, and (3) by publication at shorter intervals, and possibly also by the introduction of a card index, which could always be kept up to date. As will appear, however, from the later part of our report, we consider that a better principle of classification may now be adopted, and in view of its introduction any extensive alteration in the Register of Habitual Criminals is, it appears to us, unnecessary. Even in its present form, however, it is of some use to the police, and, probably, of more use in prisons,—we had evidence, for instance, of its frequent use in Pentonville; and we are satisfied that it ought not to be discontinued until a better system is not merely decided on, but is in full working order.

#### *Identification by the Metropolitan Police.*

While the Habitual Criminals Registry is the only means provided by the central government for the identification of criminals, greater importance in practice attaches to the agencies which have been organised for this purpose by the police themselves. In an account of these agencies, the first place is to be given to the Metropolitan Police,

\* The issue of the registers in 1891 was delayed beyond the usual time by the transfer of the Prison printing establishment from Chatham to Parkhurst.

partly because they are an imperial as well as a local Police Force, having duties beyond the area under their immediate control, but chiefly because within that area the problem of identification is far more difficult and complex, and the means of solving it more highly organised than elsewhere. The local jurisdiction of the Metropolitan Police extends over an area that is more than twenty times as large, and over a population that is more than ten times as large, as that of any other urban police district. Moreover, as the seat of Government, the commercial and financial capital of the empire, and the centre of wealth and luxury, London presents peculiar attractions for the professional criminal. Not only is the local knowledge, on which all police forces must so largely rely, less easy to accumulate than either in a county where the population is comparatively sparse, or in a borough whose area is comparatively small; but the character of the criminal population is somewhat different from what is found elsewhere, and the police have to contend with difficulties which are unknown, or known only on exceptional occasions, to county and borough forces. As, for one week in the year, Doncaster Races, Hull Fair, and Birmingham Cattle Show afford to swindlers and pickpockets from all parts of the country a special opportunity for reaping a harvest, so at all times London offers to the able and energetic criminal an exceptionally favourable field for his operations. It is probable that all the most dangerous criminals in the country, who are not themselves Londoners, visit London for purposes of crime at some stage or other in their career, and London is the chief if not the only resort in England for the most bold and cunning criminals of foreign countries. It is also the residence and place of refuge of most of the travelling burglars and pickpockets who make excursions to the counties and country towns, and of some who extend their operations to the Continent. Its importance as a centre for the criminal classes is illustrated by the fact that the majority of convicts take their discharge in London: in 1891 out of 1,024 convicts 696 were discharged into the Metropolitan Police District, and in 1892 871 out of a total of 1353, although these figures must be taken with the qualification that the number of convicts who remove from London during the currency of their licences is greater than the number who report themselves to the police as coming from other districts to reside there.

The work of identifying criminals in the Metropolitan Police District is managed by the Convict Supervision Office, a department originally formed to deal with convicts and others under sentence of police supervision, but which has now far outgrown its original functions, and, under the direction of Chief Inspector Neame, deals with the whole of the records of crime and all habitual criminals. This Office receives from the Divisions a report of every conviction of crime in the Metropolis with a personal description of the offender, and in the case of convicts and of persons under sentence of police supervision ("8th section men") about to be discharged from prison, a much fuller description, accompanied by photographs, is forwarded to them by the Governor. Photographs are also obtained from the prisons of a large number of other criminals who are not under supervision—most, but not all of them, "7th section men." From these materials, which are carefully numbered and filed, various registers are formed:—

1. There are Alphabetical Registers of the names of convicted criminals.
2. There are albums of photographs of all convicts, and since 1887 of a large number of other habitual criminals. In the earlier volumes the photographs are arranged chronologically as they were received; but those of later date are sub-divided according to the age and stature of the persons, and according to the class of crime that each criminal affects.
3. A very elaborate Register of Distinctive Marks is now kept, and this being in manuscript can be kept constantly up to date, and is in a more convenient form for use than the printed Habitual Criminals Register, the use of which it entirely supercedes. The general division of the book is by the parts of the body, and is similar to that of the Habitual Criminals Register; but the sub-divisions are by parallel columns on the same page as in the example given in the footnote below.\* In this way

\* SPECIMEN of the FORM of the DISTINCTIVE MARKS REGISTER kept in the CONVICT SUPERVISION OFFICE.

## RIGHT ARM.

Name.	No.	Limb deficient, maimed, injured, or diseased.	Tattoo Marks.					Moles or Warts.	Other Marks.
			Anchor or Cross.	Man or Woman.	Ship or Flag.	Heart or Star.	Other Marks.		

entries of several marks can be made simultaneously, and in consulting the register, the eye running down the columns can very quickly pick out cases having the particular marks sought for. It was, however, strongly represented to us by Chief Inspector Neame and his officers that there should be greater precision in the taking of descriptive marks, and that their distance from fixed points in the body should be measured and recorded.

Supplementary to this volume there is an Alphabetical Register of Tattoo Initials and Names, and it is extraordinary how large a number of habitual criminals provide the police with an easy means of identifying them by names or initials tattooed on their bodies. There are also classified lists of criminals addicted to particular varieties of crimes, such as coining, stealing bicycles, larceny from lodgings, or swindling by means of an employment agency.

When any person is arrested in the Metropolis and charged with crime, whose antecedents are unknown, but who is suspected of being an old offender, an inquiry on what is called a "Search Form," with a description of the accused, is at once sent to the Convict Supervision Branch, and the officers of that branch endeavour, if possible, to trace the case by their registers. If the accused is brought before a magistrate and remanded, the officer in the case himself attends at the office to aid in the search and particularly to examine the volumes of photographs. When the previous convictions of a prisoner are known, the particulars are sent, with the search form, to the Convict Office, but the officer himself does not attend.

A large number of inquiries are received from County and Borough police forces, and some from abroad, in pursuance of which search is always made, not unfrequently with success. Details as to the mode in which the search is made will be found in Chief Inspector Neame's evidence, page 38, and a paper handed in by him, and printed on page 39, gives statistics of the amount of work and of the results.

In other ways the Convict Supervision Office aids in the general work of identifying criminals. The descriptions of persons in custody given in the daily "informations" issued to all Metropolitan Police Stations sometimes lead to recognitions, and the "Police Gazette," which is published twice a week, contains descriptions and occasionally portraits of persons in custody who are supposed to be concealing their identity or to be wanted, as well as of convicts on licence or under supervision who fail to report and whose arrest is required, and in the country as well as in London identifications are sometimes made by this means.

In the case of a considerable number of habitual criminals, photographs are not merely kept at Scotland Yard, but are also sent to the divisions, and albums of photographs are kept at the divisional stations. Three times a year the Office also issues to other police forces as well as to the divisions a circular with photographs of the more eminent criminals known by the Metropolitan Police to be at large. This circular appears to be of very great service to forces in the South of England. In the North, however, few of the forces subscribe to it, and it is said that the criminals included in it are not often to be found extending their operations to the northern counties. Several police forces have strongly urged that this circular should be issued more frequently.

The work of the Convict Supervision Office does not, however, exhaust the means by which the Metropolitan Police secure the identification of criminals. The most characteristic and, as it would appear, the most effective method is the inspection of remand prisoners in Holloway. To this prison are sent all persons committed for trial or remanded by magistrates within the Metropolitan Police District, and here, three times a week, come warders from the gaols at Wormwood Scrubs, Pentonville, Wandsworth and Chelmsford, and detective officers from the twenty-two Metropolitan Police Divisions, an inspector from New Scotland Yard, and six officers from the City of London Police, to view the unconvicted prisoners at the hour of exercise. In this way a prisoner, whose identity is unknown to the constable by whom he has been arrested, will often be recognised either by a warder who has known him in prison, or by a police constable who has had him in custody on some previous charge. The following figures will show of what value this practice is for the purpose of identifying old offenders.

PRISONERS IDENTIFIED in HOLLOWAY by CRIMINAL INVESTIGATION OFFICERS and WARDERS as having been previously CONVICTED.

Year.	Identifications.	By Warders.	By Police.
1883	1,826	1,427	399
1884	1,986	1,730	256
1885	2,081	1,834	247
1886	1,913	1,727	186
1887	1,594	1,367	227
1888	1,711	1,495	216
1889	1,462	1,188	274
1890	1,797	1,553	244
1891	1,671	1,485	186
1892	1,964	1,765	199
1893	1,949	1,759	190

It should be explained with reference to these figures that the warders see the prisoners before the police officers and that all the identifications which are made both by warders and by police officers are put down to the credit of the former.

It will be clear that this method is merely a specially organized form of the personal recognition which is the basis of the whole of the English system, but so much importance is attached to it by the Metropolitan Police that it seems to deserve very special consideration.

*Identification by County and Borough Police.*

Turning now to the local police forces, we find that most, if not all of them, endeavour to aid the work of personal recognition by keeping registers and photographs of the prisoners who pass through their hands, and in some of the larger and better organized forces special registers of other kinds are also kept. At Birmingham there is a register which shows, by means of coloured drawings, the tattoo marks with which so many criminals ornament their bodies, and some very remarkable though isolated instances have occurred of recognition by this means. Again, at Liverpool special registers are kept of the maiden names of the wives and mothers of criminals, as it is found that in a large proportion of cases an offender, when he changes his name, takes either his wife's or his mother's. In no case, however, of which we are aware, does any force attempt to maintain such an elaborately classified register of descriptions as that kept at Scotland Yard, and where offenders are traced by an index of personal descriptions, it is, as at Liverpool, the Habitual Criminals Register that is used for the purpose.

Nor is there among provincial police anything corresponding to the regular inspection of remand prisoners at Holloway. In some cases where two or three prisons are near one another (like Wakefield and Leeds), warders from one prison will visit the others, for the purpose of making identifications; and it is stated that at Liverpool prisoners from the county and from neighbouring boroughs are brought to the city Bridewell if it is thought that the Liverpool Police might be able to recognise them. We think, however, that great advantage would ensue if the prison at every large centre of population were regularly visited by detectives from the neighbouring police forces, so that there might be an opportunity of prisoners arrested in one district being identified by officers from the adjacent districts. Thus at Birmingham it would probably lead to a good many identifications not otherwise obtainable, if detective officers from Birmingham, Staffordshire and Warwickshire were to make periodical visits to the prison, and we understand that the Prison Commissioners have always been anxious to afford facilities for this purpose.

There seems, however, to be an almost complete agreement in the opinion that the method most generally used by the county and borough police, and used with the best

results, is the "route form." The route form (of which a specimen will be found in the Appendix, page 73) gives the photograph, if it can be obtained, and a written description of a prisoner charged with some criminal offence, concerning whose antecedents it is desired to obtain information; while below the description are noted the names of five or six police or prison authorities that are considered most likely to have had the man in custody. This is the "route," and the paper passes from one authority to another, being examined at each place by as many as possible of the detective officers or warders, and each authority notes on the paper any information they possess, as to the previous convictions of the accused, or the words "not known" if they possess no information. The last authority named in the route then returns it to the place whence it was issued, the route being as a rule so arranged as to secure its return within a week, the usual time for a remand.

These forms are very commonly issued by the police during the interval of a remand, or, if the prisoner be committed for trial, during the time he is awaiting trial, and are addressed to the police of districts from which he may be suspected to come, and more especially to the police of the Metropolis, to the governors of prisons and to the Habitual Criminals Registry. Sometimes only one route is issued, sometimes several are sent out simultaneously, occasionally in an important case route forms are spread broadcast to almost every police force in the country. Routes are also issued by prison governors in the case of prisoners committed to their custody to await trial, and even sometimes in the case of convicted persons whom there is reason to suspect of being old offenders unknown to the police by whom they were charged. They are, of course, used only for the purpose of *tracing*, never for the purpose of *proving* identity, and to verify an identification suggested by this means, the attendance of a constable or warder is always necessary. But they afford the most remarkable instance of the way in which the facilities for personal recognition are increased by the use of photography.

The improvement in the present system which has been most urged on us by all the police witnesses whose evidence we have taken, has been that greater facilities should be given for obtaining photographs of untried prisoners with a view to issuing more route forms. At one time such photographs were regularly taken in many county prisons, but the practice was discontinued in consequence of doubts as to the power to compel remand prisoners to be photographed; they are now taken only in exceptional cases, and a prisoner who refuses to be photographed is not subjected to restraint or punishment. Many police forces, however, are able, either with their consent, or without their knowledge, to obtain photographs of all prisoners strongly suspected of being old offenders; and it is these photographs circulated in the route forms that in the great majority of instances lead to the identifications, the route form without a photograph being rarely or never of any use. Under the Penal Servitude Act, 1891, the Secretary of State has power to provide by rule for the photographing of untried prisoners, and we are strongly of opinion that a rule for this purpose should be made under safeguards which we shall suggest hereafter. It will, indeed, be necessary for the carrying out of the system of identification which we propose to recommend, and apart from that it would be of immense use in making the existing methods of identification more efficient.

In recommending an increase of the number of photographs taken, we must not be understood as recommending an indiscriminate increase in the number of route forms, and indeed we are confident that the system we are about to recommend will, when fully established, lead to a great reduction. It is to be remembered that each route issued involves a large total amount of labour though it is spread over many persons, and their indefinite multiplication would be a great evil. They are hardly used at all by the Metropolitan Police; only in one or two special instances, where a judge has ordered a case to stand over to an ensuing sessions for the purpose, have untried prisoners been photographed and "routed." If the Metropolitan Police were to issue them as some borough forces do, police officers and prisons would be overwhelmed with the number which they would receive. Even as it is we have received complaints, particularly from Liverpool, of the great waste of time involved in examining route forms indiscriminately sent them by certain forces.

#### INADEQUACY OF THE EXISTING METHODS OF IDENTIFICATION.

We are next to consider whether any necessity exists for a radical change in the methods of identification of which we have given a brief account above.

The necessity for such a change, if the necessity exists, might be assignable to three causes: that is to say, good ground for change would be established if it were

shown either (i.) that under the present system it is possible for a prisoner to suffer undeservedly through a mistake of identification; or (ii.) that a considerable proportion of old offenders are successful in concealing their identity when arrested for a fresh breach of the law; or (iii.) that, even if they are identified, the process of identification is more slow and cumbersome than necessary.

(i.) *Mistakes in Identification.*

If the first contingency were found to be probable, it would, as Sir Richard Webster has urged in his evidence, supply by far the strongest argument for a change of system. On this point it is not easy to obtain positive evidence. In any system which depends, as the English system does, on personal recognition, there must be some possibility of error arising from defective or confused memory on the part of the warder or constable who undertakes to say that a prisoner is the same man whom he had in custody for another offence some months or some years before; but, on a careful consideration of the evidence available, the safeguards in the existing system appear to us to have been sufficient either to prevent such errors or to secure their correction in time. With one possible exception (Callan's case mentioned below), no instance of any prisoner having actually undergone additional imprisonment through a previous conviction being erroneously imputed to him has been brought to our notice. In the Home Office records which we have carefully examined, we have found a certain number of cases in which prisoners have, in the first instance, been credited with offences of which they had never been convicted. These mistakes, however, seem to be rare; they are due to a faulty memory on the part of some constable or warder or to some want of proper care, and in every case they have been corrected before the prisoner suffered actual prejudice. In none of them has there been any serious difficulty in ascertaining the truth on inquiry through the means afforded by the existing system, and we do not think there is any ground for fearing that there are at present any persons suffering in consequence of a mistake of this kind. If there were, it is certain that they would complain both in petitions to the Secretary of State and by word of mouth to the Inspectors in their visits to the prisons, but it is the fact that among the thousands of petitions which are received from persons who profess to consider themselves unjustly convicted or too severely punished, it is rare to receive any representation that a previous conviction has been wrongly attributed to the prisoner, and equally rare for an Inspector to have such complaint made to him. When any such complaint is made, conclusive evidence to settle the question of identity can usually be obtained without much difficulty. On this point Mr. Murdoch's evidence (page 63) only confirms the opinion to which our own inquiries have led us.

It may make this matter clearer, however, if we give particulars of the most striking cases of mistaken identity that we have been able to discover; but to prevent misapprehension we should first point out that nine-tenths of the cases of "mistaken identity," commonly so-called, fall altogether outside the scope of our inquiry. We are merely concerned with the machinery by which habitual criminals, when charged with a fresh offence, may be recognized. If a witness is mistaken in believing that a prisoner is the individual who was seen on a certain day to do a certain act, such a mistake is not one that can be prevented by the French method or by any other imaginable method of identification. The cases we are about to mention are all of recent date: older ones could be found but they are of less importance for the present purpose because they occurred before the existing safeguards against mis-identification were established. We also omit certain cases where a prisoner has acquiesced in an erroneous identification, knowing his own previous record to be worse than that of the man for whom he was mistaken.

The first case we have noted as bearing on our inquiry is that of a man named James Coyle, who was convicted at the Clerkenwell Sessions on the 4th June 1889, of larceny from the person. A warder from Millbank swore to his having been previously convicted under the name of Hart in 1879. The prisoner denied this in court; and, though the jury after having seen Hart's photograph and description gave a verdict in accordance with the warder's evidence, sentence was postponed and further inquiry made. It was then found that the distinctive marks ascribed to Hart did not tally in all respects with the prisoner's, and that Coyle had been, as he alleged, serving a short sentence at Lewes at the time when Hart was in penal servitude.

Coyle, when brought before the police magistrate as Hart, had not denied the identification, reserving his defence till the trial. There can be no doubt that if it had not been supposed that on being charged he admitted the identification a sufficient

number of warders and others who were well acquainted with Hart would have been confronted with the prisoner before the trial, and there is no reason to think that they would have made the mistake that was made by the one warder called as a witness.

The second case is that of a woman giving the name of Eliza Witchurch, who was convicted at Gloucester on the 23rd November 1891, of burglary. She had been arrested by the County Police six days before, and as she was not known, descriptions of her had been sent to the Police Gazette, the Metropolitan Police, and other forces. From information received from the police at Ilminster it was thought that she was a woman who had been convicted of stealing at Southampton in December 1889, under the name of Elizabeth Smith, and of burglary at Poole in October 1890, under the name of Elizabeth Clode. She repudiated neither of these convictions, and the latter was formally proved in court by a police officer from Poole. But from other information received from Scotland Yard, Gloucester and Newport, she was thought to be also one Eliza Rolfe, against whom no less than eight previous convictions for larceny and other similar offences were recorded. The photographs and descriptions of the two women corresponded pretty closely, especially in the particular that both had lost the left breast; and, though the shortness of the interval between arrest and trial left no time for the identification to be verified by witnesses personally acquainted with Rolfe, the prisoner was credited with Rolfe's convictions and they were entered in the list which the judge had before him when he passed sentence. After she was lodged in prison, while admitting the convictions in the names of Smith and Clode, she protested in a petition against the identification with Rolfe, and inquiry being made, it became clear that in fact she was not Rolfe. As the list of previous convictions had affected the amount of punishment awarded, the sentence was reduced at the request of the judge from seven years' penal servitude to six months' imprisonment.

In February 1892, a man giving the name of Henry Hodgson was charged before the Liverpool magistrates with "frequenting." The clothes that he was wearing showed that he had recently come out of a convict prison, and he was believed to have come from London. The police on searching the list of discharged convicts identified him with one Thomas Franklin, a licence-holder, whose photograph and description were found to correspond with the prisoner's. After his conviction and committal to Liverpool Prison, when the question of revoking his licence arose, the prisoner strongly denied being Franklin. The police, being so informed by the Governor, made further search, and seeing in the Police Gazette notice of one Peter Connor a licence-holder, obtained Connor's descriptive form from the Salford Police. On being confronted with this evidence, Hodgson admitted being Connor, who is an experienced and dangerous criminal, and who had been discharged on licence on the 19th January into the Metropolitan Police district and had notified his intention of going to Manchester. The prisoner therefore gained nothing by the correction of the mistake; in either case he was an habitual criminal and in either case a licence-holder whose licence was liable to revocation on account of his recent conviction.

Another case of mistaken identification has been referred to by Mr. Spearman in his evidence—that of David Callan or Callaghan, charged at Westminster Police Court on 6th May 1889, with begging from house to house in Wilton Crescent. A police constable positively identified him as one William Minson, who was convicted two years before of being drunk and disorderly and who had 11 convictions of begging and similar offences. At the police court an officer of the Mendicity Society proved these convictions, and a warder from Chelmsford Prison is also said to have attended to prove his identity but was not called. The prisoner was convicted under the Vagrancy Act as an incorrigible rogue—a conviction which depends on evidence of previous convictions—and was sent to the North London Sessions where he was sentenced to six months hard labour. In a petition to the Home Office he protested that at the time of the convictions attributed to him he was an inmate of St. George's Workhouse, Westminster. Inquiry at the workhouse showed the truth of his statement, and he was at once discharged from prison. In this case the mistaken identification led to a conviction which could not otherwise have taken place; but it is proper to add that Callaghan was subsequently convicted as an incorrigible rogue, and there is good reason for believing that in May 1889 the mistake was not the conviction itself, but the conviction under a wrong name.

The last case we shall cite is also in our opinion the one that might most naturally excite doubt as to the sufficiency of the existing safeguards against an erroneous identification. In the early morning of 4th May 1893, one Percy Albert Blake was found in a pawnbroker's shop in the Strand in circumstances which pointed strongly to a deliberately planned burglary; the prisoner gave a rambling and incoherent

account of himself, and it became evident that he was either a lunatic or a clever and dangerous burglar. The police constable who arrested him, on searching the collection of photographs at the Convict Supervision Office, believed that he could be identified with one Henry Steed, alias John Blake, who had been convicted of attempted burglary in July 1881, had failed to comply with the conditions of a sentence of police supervision then passed on him and had not since been heard of. Inquiry was made of persons who had known Steed, and they agreed that the present prisoner was the same man; and evidence to this effect was given at Bow Street by the police constable who had charge of the case against Steed in 1881, by another constable who was present at Steed's conviction, by a retired police constable who had also had to do with the case, and by a retired prison-warder who had seen Steed daily at Pentonville while he was serving the sentence of 18 months' imprisonment passed on him in consequence of the conviction in 1881. On the other hand, the description in the Convict Office of Steed stated that Steed's right leg showed signs of a fracture. At Bow Street a surgeon gave evidence that there were no signs of a fracture on either of P. A. Blake's legs, expressing the opinion however that all signs of a fracture may disappear in the course of time. There was also evidence given on the prisoner's behalf showing that he could not be the man who was convicted under the name of Steed in 1881. Blake was committed for trial on 25th May: the prosecution was undertaken by the Treasury and careful inquiries were at once made in various directions to test the truth of the statements made in his defence. As the result of these inquiries, evidence was obtained of Blake's having been at liberty at the time when Steed was undergoing the sentence passed on him in 1881; and at the trial on 29th June no evidence being offered for the prosecution, Blake was acquitted and he was afterwards sent to a lunatic asylum. Subsequent investigations left no doubt that Blake was entirely innocent of the previous convictions at first ascribed to him.

In this case the personal description of Steed was too vague to establish an identification even had there been no discrepancies, and too uncertain to prevent a mis-identification when discrepancies occurred. The mistake arose either from a very strong resemblance between P. A. Blake and Steed, or from a very defective recollection on the part of no less than four persons, and it was only corrected by what may be described as evidence of an alibi—evidence which might not be available if a similar mistake were to occur in another case.

All these cases, and especially the last one, although in each of them the mistake was corrected in time, do undoubtedly suggest the possibility that another case of mistaken recognition might occur which the record of distinctive marks or the evidence of an alibi might be insufficient to correct. We cannot say that we have found any case in which the existing safeguards have failed to prevent a convicted prisoner suffering unmerited punishment; but we think it must be admitted that if a new method can be devised which would afford an absolute safeguard against such mistakes in the future, it would be a great gain to the administration of justice.

(ii.) *Failures to identify old Offenders.*

The second ground on which the existing system may be deemed insufficient is its failure to secure in every case, or in the majority of cases, the identification of old offenders; in other words, a new system may be required to afford a more perfect means of acquiring knowledge of each offender's antecedents.

And here we feel bound to mention an objection which we have heard several times in the course of our inquiry:—"Of what use is it," we have been asked by chief constables and others, "to elaborate a system whereby the previous convictions of a prisoner charged by the police may be accurately recorded and brought to the notice of his judge, if they are to be altogether overlooked by him in passing sentence? It is vain for us to exert ourselves to discover the history of offenders, if no difference is to be made between a hardened criminal and a first offender, or at any rate none between the man who has deliberately set himself to gain a living by crime, and one whose lapses are not the outcome of a settled design, but are merely occasional and due perhaps to momentary impulse." We have heard this objection repeatedly, but we confess it has not influenced our judgment as to the importance of securing accurate identifications. We are satisfied that most judges, recorders and chairmen of quarter sessions not only distinguish between first offenders and old criminals but are ready to make allowance even for a man who has more than once relapsed into crime, if his record does not show that he has adopted crime as a regular means of livelihood. If no record, or a defective record, were kept of a prisoner's previous convictions it would become impossible to make these distinctions—the average sentence might be



less, but the distinction in favour of the first offender or the occasional criminal could not be maintained. We are certain that the majority of judges and chairmen of quarter sessions would object, and rightly object, if the police made the occasional leniency shown to old offenders an excuse for relaxing their efforts to supply the court before sentence is passed with an accurate history of each prisoner's judicial antecedents, and that a failure on their part to carry out this duty would be detrimental to the fair administration of justice. On the other hand if any improvement can be made by which the antecedents of prisoners can be more easily and more accurately ascertained, it will be easier and safer for judges to discriminate in favour of the less criminal portion of the offenders on whom they have to pass sentence.

Indeed, we ourselves would venture to go further than this, and to look forward to a time when an even more marked distinction may be made between different classes of criminals. When experience has at last shown that on a certain class of criminals long sentences and short sentences fail equally to produce any reformatory or deterrent effect, we believe that the country and Parliament will be ready to make provision by which the incurably criminal may be treated in the same way as the incurably insane, and subjected, alike in their own interest and in that of the public, to some form of more or less permanent detention. As there are some criminals who ought never to be sent to prison, there are others who ought never to be released; and when this distinction is established, and provided for by legislation, it will be of even greater importance than at present to have an exact record of each criminal's offences.

Returning to the question of the sufficiency for this purpose of the present system, it appears to us that all the evidence which we have collected leads directly to the conclusion that, though it gives good results in a large number of cases, there remains a considerable number in which it fails. From the nature of the case positive evidence as to the number of habitual criminals who escape identification cannot be obtained, but the different police authorities whom we have consulted, though their bias would naturally be to minimise the proportion who escape, are fairly unanimous in thinking that an appreciable proportion of habitual criminals when arrested for new offences are not recognized.

At Liverpool it is thought that not more than 15 per cent. escape; at Nottingham, 10 or 15 per cent.; at Bristol, not more than 30 in a year; in the North Riding there are said to be "very few" prisoners whose antecedents are not made out. On the other hand the chief constable of Doncaster does not consider that the existing agencies are sufficient to ensure the majority of old offenders being identified, and believes that a large number of pickpockets arrested and dealt with summarily during race meetings are really old offenders who escape identification. The chief constables of Worcestershire, Newcastle-on-Tyne, Herts, Portsmouth, and Manchester are also agreed in thinking the existing means insufficient. These may be taken as fairly typical examples of such opinions as we have elicited on this subject, but we have little doubt that in small boroughs the proportion of habitual criminals whom the police fail to identify is considerably larger than in the more important forces from which we have mostly derived our information.

More interesting, perhaps, are the figures collected in Appendix A. 2, page 70, with regard to route-forms, and the results obtained by them. Thus at Doncaster during the year 1892 out of 407 persons who were arrested for all classes of offences, and of whom 272 are said to have been strangers to the borough, 46 were "routed"—28 before conviction and 18 after—30 were recognised as having been previously convicted, and 16 were not recognised. In Manchester out of 41 route-forms issued with photographs attached, during the twelve months ended 31st October 1893, 22 led to the suspected persons being identified as old offenders. In Newcastle-on-Tyne, during the same period, of 500 adults proceeded against for serious offences, 395 resided in the city, 80 belonged to the adjoining counties, and 25 came from further off; 23 prisoners were "routed," and of these 12 were traced. At Nottingham, during 1892, out of 58 prisoners "routed" 43 were identified by other police forces. Of 474 persons arrested at Scarborough during the last five years, 361 belonged to the district; and of 70 prisoners "routed," 34 were identified.

In Somerset, during the year ended 30th September last, of 515 persons arrested for offences involving dishonesty, 303 were natives of the county or permanently resident in it. Of 12 persons "routed," 6 were identified. The remark of the chief constable that these figures showed a higher per-centage of "foreign" crime than he had anticipated, is, we think, of some significance. It appears to us probable that police authorities are somewhat inclined to underrate rather than to overrate the number of "travelling thieves" who are to be found in different parts of the country; and, though this is only a matter of conjecture, we should not be surprised to find a

perfected system of identification demonstrating that the number of the criminal classes is smaller than is commonly supposed, but showing at the same time that increased facilities of communication have led to an increased activity in the operation of the "travellers."

In forming any inference from these figures it must be remembered that, in general, route-forms would only be sent out in the case of prisoners whom, from their general demeanour or their mode of procedure, there is good reason to suspect of being old offenders. Though, no doubt, some of the prisoners "routed," but not identified, had not in fact been previously convicted, it can scarcely be questioned that a certain proportion of the prisoners not "routed" were old offenders who were either not suspected of previous convictions, or were, in consequence of the triviality of their offence, dealt with summarily without any investigation of their antecedents.

A further indication of the inadequacy of the present system is afforded by a list supplied to us by the Prison Department in answer to our inquiry as to how many persons were recognised only after reception in convict prisons as being old penal servitude men. The list gives five instances of this occurring in the year ended 31st October last, and, in addition, two instances of persons summarily convicted being recognised after conviction as licence-holders. Though too much importance must not be given to individual cases, we think that, in view of the plain impossibility of ascertaining, even approximately, the total number that escape, it may be of interest to state briefly the particulars of these seven cases.

The first convict in the list was sentenced at Derby in April 1892, to seven years penal servitude for larceny from a dwelling-house. He was then known to have been twice previously convicted of larceny in Ireland in 1887, but of his history previous to that date nothing appears to have been known. In January 1893, on removal to Portland Convict Prison, he was recognised as a man who had been convicted of theft at Durham in 1879, and Glasgow in 1880, when he had received a sentence of seven years penal servitude. From the statements he has since made, he appears to be an old and experienced housebreaker.

No. 2 was convicted summarily, and had a sentence of three months at Southwark Police Court in December, 1892, for attempting to pick pockets. He was not at that time known to the Metropolitan Police, but in the January following, from information received, he was discovered to be an old offender several times convicted of theft at Birmingham, Norwich and elsewhere and given a life sentence at Leicester in 1877 for a murderous attack on a policeman. He had been released on licence in November 1892, and had gone to Manchester, but he left that place the same month, and coming to London failed to report himself to the police in pursuance of the conditions of his licence.

No. 3 was sentenced to three years penal servitude at Stafford for several burglaries. No previous convictions were recorded against him, but at Lewes Prison the Governor found some reason to suspect him of being an old offender. By means of a route-form he was ascertained to be a man who had previously received as many as three sentences of penal servitude—at Knutsford, Stafford and Wakefield—besides other minor sentences for burglary and similar crimes.

No. 4, after being 13 times convicted summarily during 1890, 1891 and 1892, was sentenced at Kendal Quarter Sessions, in October, 1892, to three years penal servitude. In August 1893, on his removal to Parkhurst Prison, he was recognised as a thief who had been sentenced to 12 months imprisonment at Northallerton in 1882, and five years penal servitude at Newcastle-on-Tyne in 1885.

No. 5 was a London thief who had been discharged on licence in July 1893 from his second sentence of penal servitude. The same month he was found attempting to pick pockets at Goodwood Races and was sentenced to six weeks imprisonment. It was only after his conviction that he was identified.

No. 6 was known to have been convicted at different times during 1888-92 at Maidstone, the Central Criminal Court, Leicester and Newington Sessions of housebreaking and kindred offences. When at Wormwood Scrubs, in September 1893, he admitted being a man who was sentenced at Exeter in 1880 to five years penal servitude for burglary.

No. 7 was given five years penal servitude at the Central Criminal Court in January 1893. It was known he had been twice previously convicted there in 1891 and 1892, but it was only after he was removed to a convict prison that, in order to repudiate another conviction of a much less serious character which had been attributed to him, he disclosed his identity with a burglar who had been frequently convicted in London prior to 1891. At the time of his conviction at the Central Criminal Court in 1891 he was wanted by the London police for having failed to conform to the conditions of the ticket-of-leave granted under a sentence passed on him in 1886.

The two cases in this list (2 and 5) of men convicted summarily, and afterwards found to be convicts under sentence of penal servitude, and at the time of their conviction at large on licence, are typical instances of a class of cases constantly coming to the notice of the Criminal Department of the Home Office, as in every such case the question of the revocation of the convict's licence is dependent on the decision of the Secretary of State. Several cases of this sort are quoted in Mr. Murdoch's evidence (page 64), and one of them is so remarkable that it seems to deserve special mention here. A convict under sentence of five years penal servitude, passed at the Middlesex Sessions, was released on licence in London in August 1892; in October he was brought up at the Mansion House Police Court for stealing a watch, and not being recognized was convicted summarily and sentenced to six weeks imprisonment. On reception into Pentonville his identity was discovered, and the Secretary of State thereupon revoked his licence. In ordinary course he was released on a new licence in August last. In

November he was again charged at the Mansion House Police Court, again treated as a first offender, and sentenced on this occasion to a term of three months imprisonment. Only on reception into Pentonville were his real name and antecedents again brought to light.

This case seems strikingly to confirm the evidence given by Mr. Douglas, Justices' Clerk at the Mansion House, as to the difficulty of obtaining identifications in London. It also supports an opinion expressed by Mr. Grace that it is in London that the largest number of failures to identify old convicts occur. In order to elucidate this point further, Mr. Farrant, of the Statistical Department of the Home Office, has at our request prepared a comparative table of the number of cases in which persons tried on indictment in London and in one or two groups of counties and boroughs, had previous convictions recorded against them in the prison calendars. For comparison with London we selected three populous counties, three large industrial towns, and two groups of counties where the population is mainly agricultural. The table, printed on page 72, shows that during the first three months of the present year in Lancashire, the West Riding of Yorkshire and Staffordshire about 70 per cent. of the prisoners tried were known to have been previously convicted; in Liverpool, Birmingham and Bradford, 79 per cent.; and in Norfolk and Suffolk, 61 per cent.; while in London the proportion was only 47 per cent.\* It is impossible to suppose that the proportion of habitual criminals in London is smaller than in the other districts just mentioned; and the figures appear therefore to point irresistibly to the conclusion that in London the proportion who either escape arrest or when arrested escape identification is larger than in other districts. But, if this is the case, it cannot be stated too clearly that the reason is not any want of energy or ability on the part of the London police, but solely the incomparably more difficult problem with which they have to deal. In other places there is, speaking generally, no difficulty in dealing with the local criminal; it is only "travelling thieves" and the immigrants from other districts that are likely to escape identification, and these are not very numerous: in London local criminals have the same advantages for concealment that "foreigners" have in other places, while the proportion of "foreigners" is reasonably believed to be much larger. On the causes of this, the immense population within the area, its shifting character and the impossibility of any officer acquiring personal knowledge of more than a few criminals, we have already dwelt sufficiently; and it is only to be expected that in a system which depends so much on personal recognition the results obtained in London should be less complete than elsewhere.

(iii.) *Labour involved in the present System of Identification.*

But if the existing system leaves something to be desired in the completeness of the results obtained, there is, it appears to us, not less room for improvement in the working of its machinery. No one, however favourable the view he may take of the present system on the somewhat uncertain question of the proportion of old offenders recognized, would venture to say that the recognitions are obtained easily and without the expenditure of much labour. Thus, in using the Habitual Criminals' Register, when a prisoner has some special and unique mark, his identity may perhaps be discovered easily; but according to all the evidence we have received, the use of this register in ordinary cases is extremely laborious and it appears to be mainly on account of the time and labour which the searches involve, that it is generally so little used by the police. In Scotland Yard the process of identification is somewhat more easy as regards the searching of the Mark Registers, but an enormous amount of time is spent in examining the books of photographs. It will be seen from the figures furnished by Chief Inspector Neame that on the 1st March last 21 officers searched for 27 prisoners—the total time spent being 57½ hours—and made 7 identifications. This was on average of more than two hours for each prisoner sought for, and more than eight hours for each identification.

The inspection of unconvicted prisoners at Holloway no doubt serves other uses and will have to be continued whatever new system may be introduced; but, viewed merely as a process of identification, it involves a large amount of labour for each recognition effected by the police. Thirty police officers attend there three days in each week, and in each week they obtain on the average about four identifications, not including those that are also made by warders; allowing four hours for the time spent by each officer at Holloway and in going and returning to his division, this means that the amount of detectives' time spent on each identification is about 90 hours.

\* In the group of counties consisting of Dorset, Devon, and Cornwall, the percentage, as might be expected, is smaller than elsewhere.

In the case of route forms, which are looked on with so much favour by the country police, the work is distributed among a great number of officers of different forces, but it appears to us that if the whole amount of labour involved in each case could be summed up, this method would not show any economy of time and trouble as compared with the other methods and with the results achieved. It is plain that if a "travelling thief" contrives to conceal all indications of his place of origin, and does not carry on his person any very distinctive and indelible marks, the only way to trace his identity is to disseminate route forms broadcast among police and prison authorities. The shorter the interval between a criminal's arrest and his trial, the greater the difficulty of identification becomes, and the greater the necessity for multiplying the forms sent out. Inspector Reeve, of the Doncaster Police, mentioned to us a case in which route forms were issued by him to more than eighty places. One of these was recognised as far away as Swansea; the remainder merely served to give fruitless trouble at the places where they were received. This, perhaps, was an exceptional instance; but in any case where a zealous and industrious police force have a prisoner in custody, whom there is good reason to suspect of being a practised criminal, and whom there are no other means of identifying, the labour expended on the issue of route forms may be increased to an almost indefinite extent. Zeal and industry turned in this direction call for a corresponding amount of zeal and industry on the part of the people to whom the inquiries are addressed, and as we have already mentioned complaints on this score have reached us especially from Liverpool. When it is considered that in order to identify what he considers a "good" criminal, a police officer will often spend hours and sometimes days in searching the photographic albums at Scotland Yard, the labour involved by the route form method of procedure becomes apparent.

Nor do the suggestions made to us by different police forces tend for the most part towards the simplification of the machinery or the saving of labour. The point most generally urged is that regulations should be made for the photographing of unconvicted prisoners. This, as we have already intimated, we believe to be a very important amendment in the prison rules; but we cannot disguise from ourselves that its object is to increase the issue of route forms, and consequently to multiply the amount of time and labour devoted to their examination and circulation; and, as we have already said, we can recommend the increased use of photography only in connexion with a much more extensive change of method. Again, it has been urged repeatedly that it is highly desirable that distinctive marks should be registered more precisely, and in more detail, with measurements showing their size and position. Clearly this will give extra trouble to the warders to whom this duty falls, and, as will be seen hereafter, we can only recommend it if it be limited to such marks as are really clear and distinctive, and if the labour-saving devices adopted in France in the way of arrangement and abbreviations be adopted. We think an official list of abbreviations to be used in this service should be made out, such as *r* for "right," *l* for "left," *sc* for "scar," *f* for "finger" and so on. Each finger and each joint should be indicated by a number; conventional signs might be used to represent the forms and directions of scars or other marks, and a small rule should be employed to ascertain readily, for the purpose of registration, the distance of such marks as are recorded, from well-defined points of the body. With clear instructions no difficulty in reading the personal description of a prisoner should be experienced by warders, police officers and others occupied in the work of identification.

But even with more photographs and more exact descriptions we are agreed that the present system will leave much to be desired. What is wanted is a means of classifying the records of habitual criminals such that, as soon as the particulars of the personality of any prisoner (whether description, measurements, marks or photographs) are received, it may be possible to ascertain readily and with certainty whether his case is already in the register, and, if so, who he is. Such a system is not, we believe, attainable merely as a development of the existing English methods; if it is to be found at all, it must be found in the application of some such scientific method as those on which we have next to report.

#### THE BERTILLON SYSTEM OF IDENTIFICATION.

We deal first with the system of identification invented and carried into practice by M. Alphonse Bertillon. In order to study this system we visited Paris and saw the process in operation at the Prefecture of Police. We wish to take this opportunity of tendering our thanks to M. Lépine, the Prefect of Police, and M. Goron, the head of the

Service de Sûreté, for the courtesy with which they received us, and especially to M. Bertillon for the care with which he explained to us the details of the practical working of his system. Mr. E. R. Spearman, J.P., who has studied the Bertillon system during several years' residence in Paris, and who by his writings has done more than anyone to make it known in England, has, while we were in Paris and during all our inquiry, rendered us every assistance in his power, and we feel that to him also our thanks are due. Besides studying the system in Paris, we visited the prison at Pontoise in order to see the manner in which the measurements are taken in provincial prisons. We have further consulted eminent experts in anthropology in England on the scientific aspects of the system, and on this point would refer particularly to the evidence of Dr. Garson and Professor Thomson.

The principles and arrangements of the Bertillon system, or "Bertillonage" as it is conveniently called, are so well known that it will be sufficient for us to deal with them very briefly. They are most fully stated in the introduction to M. Bertillon's "Instructions Signalétiques" (Melun, Imprimerie Administrative, 1893); and an interesting account of the organisation of the Service d'Identification will be found in a pamphlet published as one of the Bibliothèque d'Anthropologie Criminelle et des Sciences Pénales bearing the title "L'Anthropométrie Judiciaire à Paris en 1889." (Paris: G. Steinheil, 1890.) In England the most complete accounts of the system of which we are aware are articles by Mr. Spearman in the "Fortnightly Review" of March 1890, and in the "New Review" of July 1893.

The principle of the system may be stated in a very few words. A record of each prisoner has first to be taken consisting of certain measurements which depend mainly on the length of bony structures in the body and may therefore be treated for practical purposes as invariable in adults; the cards on which these particulars are recorded are so classified that each can be found by means of the measurements and without the name of the person; and then by taking the measurements of any person who is arrested, it is possible to ascertain his identity if he is already included among the records under any name whatever. The special features of this system are the choice of the measurements to be taken and the mode of classification.

The measurements taken by M. Bertillon are the following:—

Height,  
Span of arms,  
Height of trunk (sitting height),  
  
Length of head,  
Width of head,  
Length of right ear,  
Width of right ear,  
  
Length of left foot,  
Length of left middle finger,  
Length of left little finger, and  
Length of left forearm.

In addition to these measurements the colour of the eye is noted. The measurements of each person on the first occasion when he passes through M. Bertillon's office are noted in duplicate on two cards, one of which is placed in an alphabetic register and the other in the "Anthropometric" or classified register.

The five most important measurements which form the basis of the classification in the Anthropometric register are the length and width of the head, the length of the left middle finger, the length of the left foot, and the length of the left forearm: these being selected as the most constant in each individual, the most varied in different persons, the least correlated to one another and the easiest to take accurately. The mode of classification, which is the most admirable part of M. Bertillon's system, is described by him as follows. He assumes that he has to classify in one cabinet the cards on which are recorded the measurements of 90,000 adult male prisoners. These he first divides into three classes according as the heads are "long," "of medium length," or "short." The measurements distinguishing long from medium and medium from short are selected so as to give approximately equal divisions of 30,000 cards each; the medium length is from 185 to 190 millimetres, heads of 191 or upwards are long, those of 184 or under are short. Each class of 30,000 is then subdivided into three classes of 10,000, according to the width of the head, the numbers distinguishing broad,

medium and narrow being again so selected as to give equal classes.\* Proceeding in the same way, by the length of the middle finger each class of 10,000 is subdivided into three classes of 3,300; by the length of the left foot each class of 3,300 is subdivided into three classes of 1,100; and by means of the cubit or forearm we reach a subdivision in which each class is less than 400. This is a primary classification; we start with the cards of 90,000 criminals, and using each of the five measurements for the purpose of tripartite division we obtain 243 classes approximately equal and each containing on an average less than 400 individuals.

This classification is carried out in M. Bertillon's office in a cabinet which is first divided vertically into three divisions for long, medium and short heads; each of these divisions being divided horizontally into three sections for broad, medium and narrow heads, and again vertically for long, medium and short fingers. We thus have a cabinet divided into 27 sections as shown below:—

	Long Heads.			Medium Length Heads.			Short Heads.		
	Long Fingers.	Medium.	Short.	Long Fingers.	Medium.	Short.	Long Fingers.	Medium.	Short.
Broad Heads.									
Medium Width Heads.		(a)							
Narrow Heads.									

Each of the twenty-seven sections is then—as shown by dotted lines at (a)—divided into three shelves, in which the cards are arranged according to the length of the foot, the upper shelf containing the “longs,” the middle the “mediums,” and the lower the “shorts.” Finally, in each shelf there are three drawers containing respectively the cards in which the forearm is long, medium and short. There are thus 243 drawers, each containing one class of cards numbering about 400; and, when the five measurements of any prisoner are ascertained, the drawer in which his card will be found can at once be determined.

A further subdivision of the cards in each drawer is next required, and this is given by the height, the length of the little finger, and the colour of the eye. By the height the cards in each drawer are divided into three divisions of about 140 each; by the measurement of the little finger each division of 140 is divided into three groups, which are not quite equal—the length of the little finger being too closely related to that of the middle finger to allow of the three divisions being made equal. Finally each of these groups, the largest of which contains about 60 cards, is divided by the colour of the eye—seven different colours being recognised—into parcels, containing on the average seven cards each, but varying in actual number from 3 or 4 to 15 or 20.

Let us see how this classified cabinet is used. All the prisoners arrested in Paris and the Department of the Seine on any criminal charge are brought every morning to the dépôt of the Prefecture of Police, and are there passed to M. Bertillon's bureau for measurement. A prisoner is first asked whether he has previously been measured, and if he admits that he has and gives his name, the card containing his measurements is obtained from the alphabetical register, and a few of the measurements taken in order to check the identification and prevent the exchange of names which is sometimes attempted. If he denies having been previously measured, his measurements and description are taken in full, that is to say, the 11 measurements given above are taken, the colour of the eye is noted, the shape of the ear and nose are also noted

\* Owing to a slight correlation between the measurements, the numbers selected are different in different divisions. Thus in the division for long heads, the limits of the medium width are 155 and 159 millimetres; in the division for heads of medium length they are 154 and 158, and in the division for short heads, 153 and 157. The same is true of the other measurements and the difference is more marked, but the figures arrived at by M. Bertillon are too complicated to be given here. They will be found in Mr. Spearman's article in the “New Review” of July 1893, and show that M. Bertillon's measurements, though not closely correlated, are by no means altogether independent of one another.

(unless a photograph is taken), and the distinctive marks in different parts of the body are recorded with great exactness, the precise position and direction being stated, and their distance from certain fixed points measured. Search is then made in the classified cabinet to ascertain if there is a card containing his measurements taken on the occasion of a previous arrest. By means of the five primary measurements mentioned above the drawer in which his card will be found, if he has been previously measured, is first fixed; then by the height, length of the little finger and colour of the eye, the particular group of ten or a dozen cards in which his card will be placed, is determined. This group of cards is searched one by one, and by comparing the measurements just taken with those on each card in succession, his former card, if it exists, is picked out without difficulty. If it be found, the identification is verified, first, by means of the distinctive marks noted in both cases, and, secondly, by means of the description of the features or by the photograph. In this way an identification can be established which leaves no room for doubt, the correspondences being too close and too minute to be the result of chance.

The process would be extremely simple if all the measurements were absolutely invariable and could be made with absolute accuracy, but allowance has of course to be made both for slight variations in the parts measured and for slight errors on the part of the operators. The amount of the possible errors has been carefully tabulated by M. Bertillon, and the allowance to be made in each case definitely fixed. In the case of the length of the head, for instance, an allowance of one millimetre has to be made as regards measurements taken in Paris, but somewhat greater allowance for measurements taken in prisons elsewhere. If the prisoner's head is measured as 184 centimetres long, search for his card may have to be made both among the short heads (184 and under), and among the medium-length heads (185 to 190), and similarly in the other cases. If a case should happen to be near the margin in each of the five primary measurements, search may have to be made in 32 drawers before it is ascertained for certain that the prisoner's card is not in the collection. Similarly if the height and the measurement of the little finger should be near the margin, or if the colour of the eye is transitional between two classes, duplicate searches may have to be made in each drawer. These duplicate searches necessarily occur in a large proportion of cases and add materially to the labour of using the register, as it is of course impossible to say that the card is not in the register until all the drawers and groups of cards in which the card sought for may possibly be found, have been exhausted. When the searches are numerous they are made in fixed order which secures that they are complete, and though they add to the labour of using the bureau, they are essential to secure accuracy in the results.\*

There is a separate cabinet for women prisoners, arranged in the same way, but as the number is much smaller the classification is not carried quite so far, and distinctive marks on the face and hands only are noted.

There is also a separate cabinet for lads under 20, in whom the parts that are measured are still subject to growth, and the measurements therefore not final. The lads included in this cabinet are all photographed, and more reliance has to be placed on the photograph and marks than on the measurements in making identifications. It has also to be noted that, in dealing with adult male prisoners, M. Bertillon has now adopted a preliminary classification according to age, persons born in successive periods of 15 years being placed in separate cabinets. This of course often makes a double, sometimes a triple search necessary, as prisoners who give false names are ready to falsify their ages and often do so by many years; on the other hand it will in future greatly facilitate the weeding out of the cards of dead criminals and prevent such an accumulation of useless records as would become in time inevitable if all the cases were placed in the same collection.

It seems clear that in theory this system is perfect. If all the measurements were absolutely invariable and were taken with absolute accuracy, then, after measuring a prisoner, the card containing his previous record if it existed would be found at once and with certainty, and if not found in a particular set of cards in a

\* "Ces explorations *limites* allongent considérablement les recherches lorsqu'elles portent à la fois sur plusieurs mesures. Elles demandent alors à être dirigées dans un ordre constant et en suivant une loi mécanique de combinaisons qui a reçu des employés spéciaux qui en sont chargés le nom caractéristique de *recherches doubles*. C'est en elles que réside la seule difficulté de l'identification anthropométrique. Elles incombent d'ailleurs uniquement au personnel du service central. Les résultats obtenus en dix ans de pratique ont démontré que l'obstacle était aisément surmontable."—(*Instructions Signalétiques*, ed. 1893, p. xxiv.)

particular drawer it would be known that the case was not in the register. Further, for a certain margin of error arising either from variation in the parts measured or from a failure on the part of the operator, provision can be made by process of double or multiple searches. There still remains, however, the practical question whether the efficacy of the system is vitiated either by not allowing sufficient margin for necessary errors and variations, or by carelessness on the part of employees in making gross errors of measurement, in misplacing cards in the register or in making insufficient searches. We satisfied ourselves that in all these particulars precautions had been taken by M. Bertillon, the margins of variation which he gives are the results of many years' experience,\* and checks are provided to secure the accurate putting away of cards and the thoroughness of the searches. And so far as we can form an opinion of the statistical results of his system, we find reason to think that the precautions are sufficient.

We take first the figures of the number of measurements and of identifications made in Paris:—

(1.) Year.	(2.) Total Measurements taken.	(3.) Identifications of Persons giving false Names.	(4.) Re-measurements of Persons admitting their Identity with Persons on Register.	(5.) New Measurements.
1885	14,965	424	4,040	10,501
1886	15,708	352	4,694	10,657
1887	19,150	472	6,347	12,331
1888	31,289	527	14,465	16,297
1889	34,515	622	17,585	16,308
1890	34,328	614	19,517	14,197
1891	36,204	600	21,167	14,437
1892	40,312	674	25,448	14,184

At first sight the number of identifications seems small, but on reference to Column (4) it will be seen how large a proportion of persons previously measured admit their identity, and can be traced by their names. This is said to be due in a great measure to the efficiency of the Bertillon system—old offenders knowing that it is useless to attempt concealment—and this view is borne out by the fact that a considerable number, about 500 a year on the average of five years, have given false names on arrest but have confessed their identity on being brought to be measured in the Bertillon Bureau. However this may be, these figures give no basis of comparison with the numbers of identifications said to be made by the English police, as it is clear that for whatever reason a much larger proportion of re-arrested criminals give their true names in France than in England. In France only one "recidivist" in 15 gives a false name; in England the exact proportion cannot be given, but it is certainly much larger than this, probably a majority. Further, in England a prisoner cannot be questioned as to his criminal antecedents; so that even if he has given his true name, it still remains to identify him,—to show that he is the same person who was convicted under that name on some previous occasion. This is often a matter of considerable difficulty, and such identifications are included in the figures furnished by the English police. Clearly then there is in England a larger proportion of prisoners requiring to be identified; and if the English system makes any approach to efficiency, it must show a much larger proportion of identifications than in France.

The true test, however, of the efficiency of a system of identification is not the number of identifications made, but the number of mis-identifications or of failures to identify.

\* With regard to the amount of the possible variation in the Bertillon measurements, reference should be made to the evidence of Professor Thomson (pp. 64-67), and to that of Mr. Galton (Q. 240-245, p. 59). It seems desirable that account should be taken, in dealing with the head measurements, of a somewhat greater range of variations than is admitted by M. Bertillon. This point is not, however, discussed in detail in the report, because the Committee are satisfied that it does not affect the principle of the system, nor interfere with its practical efficiency. The number of cases for which the margins allowed by M. Bertillon would not provide, must in any case be small, and if the system should be adopted in England, it will be easy with scientific advice to adjust the margins so as to provide even for exceptional cases.



As regards mis-identification, in England the most that can be claimed is that mistakes are very few, and that those which have occurred have been corrected either when the evidence of identification came to be examined in court or when special inquiries were made on the appeal of the convicted prisoner to the Home Secretary. In France, on the other hand, M. Bertillon claims that of all the identifications made in his office during the past 11 years not one has proved wrong. It is certain that though the opportunities of appeal which a prisoner enjoys in France are at least as ample as in England, every one of M. Bertillon's identifications has been confirmed by the final judicial decisions; and looking at the enormous safeguards which his system affords in the numerous measurements each of which must correspond within certain limits in order that an identification may be established, in the photographs or descriptions substituted therefor, and in the precision with which all distinctive marks are catalogued, we feel no difficulty in believing that under his system a mis-identification is practically impossible.

The other test is the number of cases in which failure to identify occurs. Of this we can only judge by the number not identified *before* conviction whose identity is *afterwards* discovered. In England we have no exact statistics on this subject; but some figures and examples have been given in an earlier part of our report which show, we think, conclusively that the number is considerable. In France the matter is put to a very severe test. In 1887, when it was decided to abolish the granting of rewards for identification, a "gratification" of 4,800 francs a year was granted to the assistants in M. Bertillon's bureau subject to a deduction of 10 francs to be paid as a reward to any prison warder who might identify an old offender who had escaped recognition in M. Bertillon's office. The result of this exacting test was that in 1889 of 31,000 persons measured in the bureau only 14 were afterwards recognised as old offenders, and of these 10 had never before been measured, and could not therefore have been identified by M. Bertillon's staff. There remained, therefore, only *four* failures to be set against M. Bertillon. In 1890 the number of failures was *four*, in 1891 *six*, and in 1892 *none*. These results, which we see no reason to question, appear to be eminently satisfactory.

So far we have dealt only with the results of the system as applied in Paris where it has been in operation for 11 years. Its application to France as a whole is yet in too early a stage to allow of our speaking of it in the same way. M. Bertillon freely admitted that in some of the prisons there were not yet any warders trained to perform the measurements with the requisite accuracy; and that a much greater margin for error is allowed for measurements taken outside Paris than for those taken at his own office. The country magistrates do not appear to have yet recognised fully the value of the system; and though he receives from the prisons the measurements of nearly 70,000 prisoners in each year; the number of cases in which M. Bertillon is asked to make identifications is comparatively small. It seems to us, however, that the results obtained in Paris, where the system has so long been in operation, are amply sufficient to show its practical efficiency, and the chief point of interest to us in its application to this country was to ascertain whether men of the class of prison warders can be trained to take the measurements with sufficient accuracy. M. Bertillon's reply to this question is that while he finds a certain proportion of those sent to his office for training to have no aptitude for the work, a large number can in a comparatively short time be trained to take the measurements with the necessary accuracy and that in time he would be able to provide an efficient staff at all the prisons. When we visited Pontoise, we formed a very favourable opinion of the work done by the warder employed in taking measurements in that prison.

It remains only to add that we find the opinions of all persons qualified to judge of the efficiency of the system by practical acquaintance with its working unanimous in recommending it. M. Goron, the head of the Paris detective police, and himself an officer of the greatest skill and experience, spoke to us in the strongest terms of its practical utility. Colonel Talbot, the military attaché to the British Embassy in Paris, reported in 1890 that he had studied M. Bertillon's system, and arrived at the conclusion that its adoption by military authorities in this country would "put an end to fraudulent enlistment." We may refer also to the evidence of Sir Richard Webster (p. 48), who has made several visits to the office of M. Bertillon and who recommends the adoption of his method mainly because it would, in his opinion, afford a complete protection to an innocent man against any possibility of a wrong identification.

In Appendix D. will be found an account of the introduction of the Bertillon system in France and other countries.

## THE FINGER PRINT SYSTEM.

The second system on which we are specially directed to report is that now associated with the name of Mr. Francis Galton, F.R.S., though first suggested and to some extent applied practically by Sir William Herschel. In Mr. Galton's "Finger Prints," published by Messrs. Macmillan & Co. in 1892, a very full account of this system is given; but, as the author investigated the subject originally from the anthropological point of view, and was chiefly interested in its bearings on questions of heredity and racial distinctions, the book is likely to give a somewhat exaggerated impression of the complexity and difficulty of the method as applied to purposes of criminal investigation. A visit to Mr. Galton's laboratory is indispensable in order to appreciate the accuracy and clearness with which the finger prints can be taken and the real simplicity of the method. We have during this inquiry paid several visits to Mr. Galton's laboratory; he has given us every possible assistance in discussing the details of the method and in further investigating certain points which seemed to us to require elucidation. He also accompanied us with his assistant to Pentonville Prison, and superintended the taking of the finger prints of more than a hundred prisoners.

The materials on which Mr. Galton works are impressions taken from the bulbs immediately below the tips of the fingers and thumbs. The papillary ridges which cover the palms of the hands form at this point patterns of well-marked form and of a curious variety and shape; of these patterns impressions or "imprints" can be taken on paper or cardboard by means of printers' ink, so as to show the directions, terminations, and junctions of the ridges with much greater clearness than can be seen on the hand itself; and these imprints can be examined through a lens or microscope, or can be enlarged to any size by means of photography. The patterns and the ridges of which they are composed possess two qualities which adapt them in a singular way for use in deciding questions of identity. In each individual they retain their peculiarities, as it would appear, absolutely unchangeable throughout life, and in different individuals they show an infinite variety of forms and peculiarities.

Both these qualities have formed the subject of special investigation by Mr. Galton; and having carefully examined his data, we think his conclusions may be entirely accepted. The persistence of the ridges and patterns has been proved by the examination of imprints taken from the fingers of various persons after intervals of years and minutely compared in every detail. The cases taken extend over the whole of life, from infancy to extreme old age, not of course in one individual, as no records are available of older date than 30 years, but the different cases taken together cover the whole period. In all the cases examined there was only one instance in which a minute detail was found to vary—a case where a ridge which bifurcated in an impression taken at the age of 2½ was found to have united at the age of 15. In all the cases where the finger prints of adults taken at different ages have been compared the correspondence has been found to be exact.

In studying the variety in the finger prints of different individuals, account has to be taken not only of the general form of the pattern and of the number of ridges between fixed points, but also of all the *minutiae* appearing in each finger print—breaks, junctions, bifurcations, &c.—which are equally persistent with the general form of the pattern. We cannot here set out the details of Mr. Galton's reasoning as to the number of possible variations in a single finger print, but it is sufficient to state that the conclusion at which he arrives is that the chance of two finger prints being identical is less than one in sixty-four thousand millions, that is to say, if the number of the human race is reckoned at sixteen hundred millions, there is a smaller chance than one to four that the print of one finger of any person should be exactly like that of any finger of any other person. If, therefore, two finger prints are compared and are found to coincide exactly, it is practically certain that they are prints of the same finger of the same person; if they differ, the inference is equally certain that they are made by different fingers. The prints of one finger, if clearly taken, are therefore enough to decide the question of identity or non-identity, and if the prints of three or more fingers be taken and compared, all possibility of error is absolutely eliminated. We are clearly of opinion that for the purpose of *proving* identity the finger prints examined and compared by an expert furnish a method far more certain than any other. They are incomparably more certain than personal recognition or identification by photograph. Under the Bertillon system it is conceivable, though most improbable, that two persons might have measurements coinciding within the limits which have

to be allowed for error, and that they might also have the same distinctive marks; but it is wholly inconceivable that two persons should show an exact coincidence in the prints of two or three, not to speak of ten, fingers.

There is, however, the further question how far the finger prints can be used for the purpose of *tracing* identity, that is to say, how far they can be classified. Mr. Galton finds his classification on three forms or types of pattern, to one or other of which every finger print may be assigned, viz., "arches," "loops" and "whorls." In all digits the ridges immediately adjoining the third joint run across the finger, while those towards the tip follow the form of the nail in a rounded arch, but in the space left at the centre of the bulb the ridges have various curvatures forming the pattern of the finger print. The pattern is an "arch" when the ridges in the centre run from one side to the other of the bulb without making any backward turn or twist; a loop, when there is a single backward turn but no twist; and a whorl, when there is a turn through



ARCH.



LOOP.



WHORL.

at least one circle, or a double turn in the form of a duplex spiral. (Galton's "Finger prints," page 78.) Typical specimens of these three forms of patterns are given in the illustration above. The general form of the patterns only is shown, as the precision and delicacy with which the minutiae appear in imprints taken direct from the finger, cannot adequately be reproduced here.

In reading off the patterns and translating them into symbols Mr. Galton takes the prints of the ten fingers in the following order: the first, second and third finger of the right hand, the first, second and third finger of the left hand, the thumb and little finger of the right hand, the thumb and little finger of the left hand; and marking an arch as "a," a loop as "l," and a whorl as "w," he obtains a formula for each person in some such form as *alw, all; wl, ll*.

In order, however, to give greater variety in the formulæ, he distinguishes on the fore-fingers between loops coming from the radial or thumb-side of the hand, and loops from the ulnar or little finger side, the former being marked "r," and the latter "u." In the other fingers so large a proportion of the loops come from the ulnar side, that nothing would be gained by carrying this distinction further. As examples of the formulæ thus obtained, we give those of Mr. Galton himself, and of the members and Secretary of the Committee.

- (1.) *wll, wll; wl, wl.*
- (2.) *wll, ull; ll, ll.*
- (3.) *rl, ul; wl, ll.*
- (4.) *rw, rl; wl, wl.*
- (5.) *rlw, ulw; ll, ll.*

Each person thus possesses a formula which is, as it were, a personal name, that may be read from his finger prints, and for the purpose of an index these formulæ are arranged in alphabetical order, like the names in the alphabetical list in a directory.

A difficulty is caused in some of the formulæ by transitional forms of patterns, but this Mr. Galton meets by adding to the letter that best represents the pattern a second letter representing the alternative interpretation. Thus, in the second formula given above, *l<sub>u</sub>* represents a pattern which he considers to be a loop, but which might possibly be read as a whorl. With this precaution a form transitional between one pattern and another presents no more difficulty than a name which is spelt different ways; and just as in an alphabetical list of names we should look under "Thomson" for a name we had failed to find under "Thompson," so the formula in question would be treated as though there were some doubt as to the right way of spelling it.\*

The number of possible formulæ, if the arches, whorls and loops occurred quite indiscriminately, would be 104,976, and if that were so there would be no difficulty in

\* For the further use of subordinate symbols to mark special features in the form of patterns, see Appendix G.

classifying in this way 100,000 imprints, or even a much greater number. Unfortunately for the purpose in view the different patterns do not occur indiscriminately. The arches are much less frequent than the other patterns; there is a tendency for particular patterns to occur more frequently in particular fingers; and there is also apparently a tendency in certain hands to repeat the same pattern on all the fingers. The result is that in the collection of 2,645 cards examined by Mr. Galton, while a considerable number of formulæ occurred only once, there were no less than 12 particular formulæ which occurred oftener than 26 times, that is in more than 1 per cent. of the cases, while one formula (*ull, ull; ll, ll*) occurred 164 times or in 6 per cent. of the imprints. It is therefore clear that while this mode of classification is useful for a small collection it would be insufficient to index a large collection consisting of many thousand cards. To carry further the comparison with the alphabetical list of names already suggested, it is as if, in a list of proper names, the name "Smith" made 6 per cent., and "Jones" and "Thomson" 3 per cent. of the whole, and it was therefore necessary to find further names for indexing the persons bearing the same surname. At our suggestion, Mr. Galton carried further an investigation which he had already begun as to how far a sub-classification of the commoner formulæ is possible. He has devised for this purpose an ingenious system, depending partly on the number of ridges in each loop and partly on minutæ in the core of the pattern. Some account of this is given in Appendix G.\*; here it must suffice to say that, on testing him with duplicates of finger-prints of the *ull, ull; ll, ll* type, we found that he was able without difficulty to select the proper card; that is to say, he readily picked out by means of one set of imprints the card containing the imprints of the same person from among the 164 cards of the *ull, ull; ll, ll* type. He showed himself able, in fact, by finger-prints alone, to discover at once the identity of any one of the 164 persons whose formulæ were of that type which presents by far the greatest difficulty in classification.

The conclusion at which we have arrived is that for a small collection of cards, say, under 1,000, Mr. Galton's system is admirable. Even if no sub-classification be adopted, it is always found that on some one or other of the fingers the pattern contains some well-marked peculiarity, and there is no difficulty in running through 50 or 60 cards (to take the most numerous type) and ascertaining at a glance whether on any of them this particular feature presents itself. If however Mr. Galton's system of classification is to be applied to a larger collection than 1,000 cards, it becomes necessary to introduce the sub-classification. This could certainly only be carried out by a thoroughly trained expert, and, though the results of our trials in Mr. Galton's collection of 2,500 cards were eminently satisfactory, it is still a question how far the same method could deal effectively with a much larger collection.

It remains to mention one or two practical points on which we had to satisfy ourselves before deciding that Mr. Galton's system could be used for the purpose of proving or of tracing identity.

(i.) It has been suggested that the finger-prints could easily be altered or removed, and if this were so it would be a fatal objection to their use. We thoroughly satisfied ourselves that they could not be altered so as to cause any possibility of mis-identification; they can of course be altogether destroyed, but this would be a difficult and painful operation and would at once afford a new personal mark of a most distinctive character. Cuts and ulcers destroy a portion of the ridges, but generally leave the pattern perfectly distinguishable; in any case they could not possibly cause such a change as might lead to a mis-identification. In the classification of imprints a finger in which the pattern is destroyed assists the classification; it is represented by the symbol *x*, and gives a further set of formulæ in which the constantly recurring *a*'s and *l*'s are varied by an occasional *x*.

(ii.) It may also be objected that this mode of identification would be rendered futile by the liability of the ridges to become obscured in the hands of persons engaged in manual labour. It is true that this is in some degree the case as regards persons employed in hard manual labour, but it does not affect the majority of habitual criminals, who when at liberty are not distinguished for their application to manual labour and who are not employed in prison in forms of labour which produce this result. We took at Pentonville the finger-prints of 100 prisoners, most of whom were engaged in oakum picking, some were stokers, and some bakers and tailors. In every case we obtained perfectly clear and complete finger-prints, the only two exceptions being a prisoner who had lost a hand and another who had lost one of his fingers.

\* Reference may also be made to Mr. Galton's evidence, Q. 222-232, p. 58.

(iii.) It has further been suggested that the finger-prints are too complicated and difficult to be understood and used by warders or policemen. This is true as regards identification and classification, and would be a serious objection if this part of the work had to be done in prisons or police stations; but it is obvious that the classification and comparison of the imprints would be carried out entirely at head-quarters and by an expert. All that the warders would have to do would be to take the finger-prints—a simple mechanical process which any warder could learn without difficulty. At Pentonville a warder with no previous practice whatever took in an hour 35 sets of impressions of three fingers, each in duplicate, and every one of these was easily decipherable.

(iv.) One more objection which has been made to the use of finger-prints is that they could not be used for purposes of proof in courts of law. We are not by any means sure that this is the case. If enlarged photographs of finger-prints were produced, and were explained by counsel to a jury, we believe that at the cost of some time and trouble proof of identity could be established; but for the purpose now in view this is not necessary. What is required is in the first place assistance in tracing the criminal, and secondly a check to prevent the occurrence of mistakes in the ordinary process of identification by means of personal recognition. In tracing a criminal the finger-prints would be of much assistance. For verifying identifications they would give a test, which in the hands of a skilled person would be unimpeachable.

It seems impossible to insist too strongly on the absolute certainty of the criterion of identity afforded by the finger-prints. Considered merely as a test of identity and not as a detective agency—there being no longer any question of classification—their use becomes at once extremely simple, and in the hands of an expert free from any danger of error. Apart altogether, therefore, from their use in tracing habitual criminals, it would be a very easy matter to use them much more extensively as a check to all identifications. If the prints of three fingers only of every criminal prisoner were taken before his discharge, and kept with his papers in the prison, it would be impossible afterwards wrongly to attribute the conviction to any other person. This would cover, for instance, the case of Callaghan mentioned on page 14, a case which would not come within the scope of the system we propose to recommend for the identification of habitual criminals. So if the finger-prints of pensioners were taken and kept with their papers, an absolute test would be available if any question of fraudulent drawing of the pension (*e.g.*, after the death of the pensioner) should ever arise.

These last suggestions, however, go somewhat beyond the main point which we have still to deal with in our report. We have completed our account of the three systems of identification mentioned in the first part of the reference, and we shall now proceed to answer in explicit terms the questions put in the latter part of your Commission.

#### I. WHETHER THE ANTHROPOMETRIC SYSTEM OR THE FINGER PRINT SYSTEM CAN WITH ADVANTAGE BE ADOPTED IN ENGLAND.

The conclusion at which we have arrived with regard to the English methods is that they are on the whole fairly effective; that the majority of old offenders who are arrested for new offences are in the long run identified, and that cases of misidentification are extremely rare. On the other hand, some of the methods in use involve the expenditure of much labour and time, and in spite of the best that can be done, it is clear that a certain proportion of old offenders, small in some districts, considerable in others, escape identification altogether. If a system can be adopted which will secure the prompt and easy recognition of every old offender the ends of justice will be furthered, a great administrative improvement will be effected, and much expense will ultimately be saved.

Before considering the question further, it may be well to say at once that in no circumstances can the system of M. Bertillon be adopted in its entirety on account of the fundamental differences between French and English judicial procedure. In Paris every person arrested for any offence is at once subjected to the process of measurement and is sometimes photographed before being brought before any magistrate. It would not be consistent with English ideas to entrust to the police an arbitrary power of measuring or photographing every person arrested without authority from a magistrate and without regard to the necessity for the purposes of justice of discovering his antecedents and character. Nor do we think that, if the Bertillon system is adopted in principle, its indiscriminate application will be necessary for the purpose in view. The enormous number of measurements taken appears to us to be likely even in France to cause ultimate difficulty, and in England so extensive an application of the system would certainly hamper its first introduction.

In deciding what system should be adopted, three main conditions may be laid down:—

1. The descriptions, measurements or marks, which are the basis of the system, must be such as can be taken readily and with sufficient accuracy by prison warders or police officers of ordinary intelligence.
2. The classification of the descriptions must be such that on the arrest of an old offender who gives a false name his record may be found readily and with certainty.
3. When the case has been found among the classified descriptions, it is desirable that convincing evidence of identity should be afforded.

The 1st and 3rd of these conditions are met completely by Mr. Galton's finger print method. The taking of finger prints is an easy mechanical process which with very short instruction could be performed by any prison warder. While in M. Bertillon's system a margin greater or less has always to be allowed for errors on the part of the operator, no such allowance has to be made in Mr. Galton's. Finger prints are an absolute impression taken direct from the body itself; if a print be taken at all it must necessarily be correct. While the working of this system would require a person of special skill and training at headquarters, it would have the enormous advantage of requiring no special skill or knowledge on the part of the operators in the prison, who would merely forward to headquarters an actual impression taken mechanically from the hand of the prisoner. With regard to the third condition again, as we have already pointed out, Mr. Galton's system affords ample materials for conclusive proof of identity: the imprints of the ten finger tips give such enormous scope for variation that if two sets are found to correspond exactly within the portions common to the two impressions, it becomes impossible to doubt the identity of the persons. It is true that this evidence can only be deciphered in detail by an expert, and that it could not at present be substituted in legal procedure for the ordinary evidence of identity from personal recognition; but this would not affect its value as a complete check on the accuracy of the ordinary evidence.

The Committee were so much impressed by the excellence of Mr. Galton's system in completely answering these conditions that they would have been glad if, going beyond Mr. Galton's own suggestion, they could have adopted his system as the sole basis of identification.

When, however, the second condition is approached, serious difficulties arise. The method of classifying finger marks proposed by Mr. Galton affords, as we have seen, an admirable means of indexing a comparatively small collection, and the difficulty which arises from the transitional forms is not insuperable; but when the method is applied to a large collection amounting to many thousands, as would be the case in a Criminal Register, the difficulty arising from the inequality of the classes becomes serious. One class alone includes 6 per cent. of the whole number of imprints, and several other classes include 2 or 3 per cent. each. In a collection of, say, 25,000 imprints (and it is probable that the number will be greater than this) it would be found that 1,500 imprints would fall into one class, while there would be several other classes each containing between 500 and 1,000 imprints. The sub-classification of the largest class, which Mr. Galton at our suggestion carefully worked out, is very elaborate, and in the matter of the counting of the number of the ridges in the loops, it seems to us open to some uncertainty; and we believe we are only following Mr. Galton's own opinion in saying that it would not be desirable to adopt it for a very large collection if any better system is available.

On the other hand, the strongest point in favour of M. Bertillon's system is the method of classification. If absolutely invariable and accurate measurements could be obtained, then from the measurements of any person the card giving his name and antecedents could be found in M. Bertillon's cabinet as certainly and almost as quickly as an accurately spelt word could be found in the dictionary. Absolute perfection is of course not obtainable, all measurements being subject to error arising from actual variations in the body and from want of skill in the operator; but these causes affect some measurements in a much slighter degree than others, and by selecting five measurements which are least subject to variation in adults and which can be taken with the greatest accuracy by ordinary operators, M. Bertillon has obtained a primary basis of classification as nearly perfect as possible. By means of these five measurements, each divided into "long," "medium" and "short," M. Bertillon obtains 243 classes, represented by the 243 drawers in his cabinet,

and these classes are approximately equal. Where a measurement lies near the margin of two classes it may be necessary to search for the case in two of the drawers; if two measurements be on the margin it may be necessary to search in four of the drawers, but even in the extreme case where each of the five measurements lies on the doubtful margin between two classes it would be necessary to search in only 32 out of the 243 drawers. It seems impossible to us to improve on M. Bertillon's system so far as this primary classification is concerned. Other measurements were suggested to us by Mr. Galton and Dr. Garson, which have special points of superiority to those of the middle finger and the foot,\* but on the whole the balance of advantage appears to be in favour of the five chosen by M. Bertillon, even apart from the fact that it is desirable for international purposes to have the same basis of classification in England as in France. The taking of measurements, though it requires some training, does not require any high degree of skill, and we are thoroughly satisfied after seeing the process in operation in France that there would be no difficulty in training English warders of ordinary intelligence to take them with the required accuracy. On this point we would refer also to the evidence of Dr. Garson, who has practical experience in training assistants in anthropometry.

The case is different, however, when we come to the further sub-divisions of the Bertillon classification, those by the height, the length of the little finger and the colour of the eye. The length of the little finger is closely correlated with the length of the middle finger; in most cases where the one is long, the other is long also. The height again is a very unsatisfactory measurement; it is subject to variations in the same person, and it may be altered by trickery on the part of the person measured. By the Metropolitan Police a margin for error of two inches in each direction is allowed in classifying cases by height. Even with the greater accuracy of the French measurement a considerable margin has to be given. The accurate description of the colour of the eye is still more difficult. The seven colours taken by M. Bertillon can be discriminated only by persons having much practical experience, and even then many doubtful and transitional cases must occur.

In adapting M. Bertillon's system to English use we think it would be desirable to abandon these criteria and make the final classification dependent on the finger-prints.

Our recommendation, therefore, is that the prisoners who are to be included in the register should be measured as regards the length and breadth of the head, the length of the left middle finger, the length of the left forearm and the length of the left foot; that these should form the primary classification, giving 243 nearly equal classes; that the finger-prints of each prisoner should be taken and that the sub-divisions should be by means of Mr. Galton's method of classifying the finger-prints. The measurements and finger-prints should be taken in prison by prison warders, and should be afterwards classified and used for identification in a central registry for the whole of England.

We think that this system should not in the first instance be applied to all persons convicted of crime, but only to all convicts and to habitual criminals, that is, persons coming within section 7 of the Prevention of Crimes Act, 1871. The Registrar might also have a discretion, on application by the police, to add to the Register a limited number of other prisoners who, though only once convicted, are reasonably believed to belong to the class of travelling thieves.

We further recommend that in all cases photographs should be taken; they are of much use in making the search in the Register, and, when the case is found, they afford in most cases a ready and obvious evidence of identity. The finger-prints will, however, afford in most cases the scientific proof of identity, and, wherever the system is applied, will render a wrong identification practically impossible.

## II. WHETHER THE PROPOSED NEW METHOD SHOULD BE IN SUBSTITUTION FOR OR SUPPLEMENTARY TO THE EXISTING METHODS.

Our answer to this question is that, in the first instance, it should be supplementary to the existing methods and not in substitution for them. It must take several years before the new system is in full operation, and until then it will be necessary to continue all the existing devices for identifying old offenders. Even when the new system is introduced, as it is proposed to confine it almost entirely to convicts and habitual criminals, it will be necessary that, except in the case of convicts, at least one

\* If it were found desirable to add a sixth measurement, the measurement of the breadth of the face, suggested by Dr. Garson, has great advantages. (See the evidence given by him, Q. 38-43, p. 50, by Mr. Galton, Q. 247, and by Professor Thomson, Q. 422-424, p. 66.)

previous conviction should be proved against the prisoner before he is placed on the Register.

We think, therefore, that the practice of metropolitan police officers visiting prisoners at Holloway must be permanently continued and that a similar system might with great advantage be introduced in other prisons out of London.

The Habitual Criminals Register, which is used with some success by a large number of police forces, should certainly be continued in its present form with any improvements that may be possible, until experience shows that the need for it no longer exists. The same may be said of the various registers kept in Scotland Yard and by the chief provincial police forces; they should be continued until gradually and naturally superseded by the new system.

The issuing of route forms should also be continued in the same way, and in a limited number of cases the practice will have to be continued permanently unless a wider range should hereafter be given to the system of measurements and of finger-prints which we have now recommended.

### III. WHAT MEANS SHOULD BE ADOPTED FOR PUTTING INTO PRACTICE THE METHOD OF IDENTIFICATION RECOMMENDED.

We now propose to describe in detail the arrangements which we think should be followed if the preceding recommendation is adopted. No doubt some of our proposals will have to be modified as practical experience suggests improvements, and it will be important that the possibility of improvement should be kept steadily in view.

In the first place, it will be necessary before their discharge to measure, &c. those convicted prisoners whom it is proposed to put on the Register. The process will be—

(1.) *To photograph them as at present.*—It has been strongly represented that the photograph of the side face should not be taken, as now, by means of a mirror, but should be, as in France, a second distinct photograph on the same plate. This has the advantage, first, of giving a clearer portrait and showing very distinctly the forms of the ear and nose, which are the most important features for purposes of identification, and, secondly, of not reversing the sides of the face, a change which sometimes causes confusion. It would, however, involve some additional expense; and the photographs which have been sent us by the Austrian Government as well as many taken in English prisons, show that very good results are obtainable by means of the mirror. The important point is that there should be a perfectly clear side photograph showing distinctly the profile and the form of the ear.

(2.) *To take the five measurements required for purposes of classification, viz., the length of the head, the width of the head, the length of the left middle finger, the length of the left forearm, the length of the left foot.*

This should be done in accordance with the instructions printed in Appendix E., which have been adapted from those issued by M. Bertillon.

The measurements should be taken with the same instruments as in France, and should be stated in millimetres. The millimetre gives exactly the degree of accuracy that is required, and its use will much facilitate identification in international cases. It would of course be possible to take the measurements in inches, and in twentieth parts of an inch, but this would give awkward and complex figures; while if millimetres are taken, a single number represents each result. It requires no knowledge of the metric system on the part of the operator, who has merely to read off the figures from the instrument. The evidence of Dr. Garson, who has had large practical experience in training Englishmen to take measurements in millimetres, is convincing on this point.

(3.) *To take the finger prints* by Mr. Galton's method. This should be done in accordance with the instructions in Appendix F.

(4.) *A description* should also be taken as at present, but somewhat briefer, including the height in feet and inches, colour of hair, eye and complexion, and the distinctive marks. This is not required for the purpose of classification; but it is necessary (a) in case the arrest of the criminal should be required while he is at large, and his description has to be published for this purpose; (b) in case his identity should be disputed, when the distinctive marks often supply the evidence which can most easily and most satisfactorily be put before a jury.

The marks noted should, however, be those only which are definite and distinctive their position, size, and direction should be given accurately and abbreviations should be used according to the suggestions we have made above, page 19. They should be



arranged in a fixed order, beginning with the head, then the hands and arms, then the body, and last the legs and feet. Instructions on this point are contained in Appendix E.

These measurements, &c. should be recorded on a card of the size now used by Mr. Galton (12 inches by 5). On the back of this card will be the finger prints, on the face the other particulars arranged as follows :—<sup>\*</sup>

Head, length _____	Name _____	Finger Print Formula _____
" width _____	No. _____	
Left middle finger _____	Date of birth _____	
Left forearm _____	Place of " _____	
Left foot _____	Particulars of convictions—	
	_____	
Height _____	_____	
Eyes _____	_____	
Hair _____	_____	
Complexion _____	_____	(Photograph.)
Distinctive marks—	_____	
I. _____	_____	
II. _____	_____	
III. _____	_____	
IV. _____	_____	
V. _____	_____	
VI. _____	_____	

This card will be prepared in duplicate and forwarded to the Central Registry. One card will be placed in an alphabetical register for use when the prisoner's name and antecedents are known. The other will be arranged in the classified Index Register.

The arrangement of this Index Register will be the same as M. Bertillon's, a cabinet of drawers first divided vertically into three divisions according to length of head, and horizontally according to width of head. The nine sections thus formed will be divided vertically according to length of finger and horizontally according to length of forearm, and again vertically according to length of foot. There will thus be 243 drawers each containing one class of cards. The figures which are to determine the "long," "medium" and "short" of the several classes might be borrowed in the first instance from M. Bertillon, but in that case on account of racial differences they would have ultimately to be altered in order to keep the classes equal in size. It would be best therefore that the measurements taken in this country by Mr. Galton and by the Anthropological Institute should be utilized, and correct figures for England fixed from the outset. See the evidence given by Dr. Garson, page 53.

At the outset, while the number of cards is few, it may suffice to use only four measurements for classification, omitting the foot, and thus making only 81 classes. In any case, however, the measurement of the foot should be recorded, so that it may be available afterwards if required for further classification.

Before each card is put away in its proper drawer the finger print formula will be determined according to Mr. Galton's method. This will be noted conspicuously on the face of the card in the right-hand top corner above the photograph. The cards in each drawer will then be arranged in accordance with Mr. Galton's method, that is, following the alphabetical order of the formulæ. Instructions for determining the formulæ and for arranging the cards will be found in Appendix G.

At first there will be only one cabinet for all adult male criminals, but it will soon become necessary to form a separate one for older men, say for persons born before the year 1830. The age of criminals is often wrongly given, and it would be necessary at first to search this cabinet in all cases of persons apparently above 50 who may not be found in the ordinary cabinet, but such searches would become gradually rarer as the older convicts die out, and ultimately all the older cases would be eliminated.

The separate cabinet for older criminals will be required, even if the deaths of all habitual criminals, so far as known to the police and prison authorities, are reported from time to time to the registrar, and their cards withdrawn from the registers. We strongly recommend that the police should be called on to report all such deaths known to them, and that in other ways efforts should be made to reduce the bulk of

\* The margin at the bottom of the card is part of a contrivance designed by Mr. Galton to check mechanically the sorting of the cards and described in Appendix H.

the records; but, even when the utmost has been done in this direction, there will remain so many cases where old offenders disappear or die unrecognised, that unless there is a separate classification for the older cases, the registers would, in the course of years, become seriously encumbered with a mass of obsolete and useless records.

There will be a separate cabinet for women, but as the numbers are smaller the arrangement would be simpler and the fifth measurement may be omitted so far as the classification is concerned.

As regards boys and lads whose bones have not attained their full growth, it may be best to measure and classify them separately as is done by M. Bertillon, and to allow for growth in the search for the card. We are disposed, however, to recommend as an experiment that for this class, which is small compared with the number of adults, a separate index based entirely on Mr. Galton's method might be formed.

The Register having thus been constituted, it will be necessary, before it can be used to discover the antecedents of unknown offenders charged with crime, that rules to authorise the measuring and photographing of untried prisoners should be made by the Secretary of State under section 8 of the Penal Servitude Act, 1891. On this subject a recommendation is made below in accordance with the reference to the Committee. Assuming the rules to be made, the steps in each case will be as follows: When the antecedents of a prisoner charged with crime are unknown and it is suspected that he is an old offender, the police will apply to the magistrate at the first hearing of the case to make an order for the accused to be measured and photographed, and the magistrate, if satisfied that it is a proper case, will, on remanding the prisoner or committing him for trial, make an order for that purpose. On reception in prison the prison authorities, acting on the magistrate's order, will take the measurements, finger prints, description and photograph of the accused in the same way as in the case of habitual criminals about to be discharged, and they will be noted on an inquiry card similar to that already described but distinguished from it by a difference of colour. This will be forwarded to the registrar. On its receipt search will first be made in the alphabetical register under the name given by the prisoner, and if he should have given the name of a person previously convicted, the identity can at once be proved or disproved by the measurements, finger prints and photograph. If he is not found by means of his name, search will be made in the Index Register. If the case is found, information will be given to the police who have charge of the case, of the prisoner's previous convictions, and of the means by which his identity can be established. If the case is not found after adequate search—a sufficient margin for errors in the measurements being allowed—it will be practically certain that he is not an habitual criminal within the class included in the register, and information to this effect may be given to the police.

We do not anticipate that the adoption of this system will increase materially the number of prisoners detained in prison on remand. It is already the practice to remand prisoners suspected of being old offenders for at least one week, often for several successive weeks, for purposes of inquiry. Under the new system the number remanded for one week might be somewhat increased, but this would probably be more than counter-balanced by the smaller number who would be remanded more than once, as the search in the register would in every case be completed within the first week.

Nor do we anticipate that any serious difficulty would arise from resistance on the part of prisoners to measurement or any other process which may lead to identification. It has been stated in evidence that prisoners have in some cases resisted being photographed, but the number who do so is not large, and they usually base their resistance on the ground that they cannot legally be required to submit. If it is once made clear to them that the rules are enforced under statutory powers, the cases of resistance would, we believe, become extremely rare. This is the view of all the Governors and other persons experienced in the management of prisoners whom we have consulted. In the last resort the measurements and finger prints could, we are satisfied, be taken even when active resistance is offered by the prisoner. Resistance to measurement would interfere less with the process and could be more easily overcome than resistance to photography; and, as regards the finger prints, an ingenious mechanical contrivance has been suggested by Mr. Galton for taking the finger-prints of a recalcitrant prisoner, though we do not think it will be necessary to have recourse to this.

A point of some importance is whether the proposed Anthropometric Registry is to be connected with the Habitual Criminals Register in the Home Office or with the Convict Office at New Scotland Yard. In many respects it connects itself naturally with the Habitual Criminals Register; but it appears to us that there are great practical advantages in favour of the work being done at Scotland Yard. If

placed in Scotland Yard, it would be in the hands of officers actually engaged in the work of detecting offenders, experienced in all branches of police work and having a keen interest in securing the utmost possible efficiency in the working of the Register. At Scotland Yard the assistants to be employed in the work would be selected from a force of 15,000 men, and any assistant found on trial not to have the special aptitude for this particular work could be withdrawn to other duties. The identification of offenders is primarily police work, and though the measurements and finger marks should be taken in prison and by prison officers, their use in the work of identification will be best in the hands of the police. The peculiar character of the Metropolitan Police, who are at once a local police force for London, and an imperial police under the control of the Government, particularly fits them for undertaking a work which will be specially useful in London, but whose main feature is that it will enable traveling criminals to be traced and identified in whatever part of the country they may attempt to begin a new course of crime. Ultimately it may be found convenient to transfer the existing Habitual Criminals Register to New Scotland Yard, but we do not think this should be done until the new Register is in full working order.

A word must also be said as to the cost of the new system. At its first introduction it must inevitably involve some expense, but this, as we shall show, will be much smaller than might be supposed, and we confidently anticipate that it will gradually supersede the existing method of identification and in the long run effect a considerable economy. In the meantime the additional cost will fall under two heads, the cost of taking the measurements in the prisons and the cost of keeping the Register at New Scotland Yard.

As regards the former, the number of convicts and habitual criminals to be measured, &c. before discharge will, judging from the numbers entered in the Habitual Criminals Register in recent years, be about 4,000, or say for safety, 4,500. It is impossible to say how many unconvicted prisoners will have to be measured, &c. while on remand or waiting trial, but if we take the same number, 4,500, it will, we think, be a liberal allowance. We may assume therefore 9,000 prisoners, convicted or unconvicted, to be measured and to have their finger prints taken in the year. In M. Bertillon's office, the measuring, taking of marks, &c., occupies two clerks on the average rather less than 10 minutes. As it is proposed not to take so many measurements in England, we may perhaps safely assume that the time spent will not be more, and if we may add five minutes for the finger prints—a skilled operator can take the complete finger prints in duplicate in two minutes—we have then 9,000 measurements to take, each occupying two warders for 15 minutes,—that is, occupying two warders for 2,250 hours, or for 281 days of eight hours in the year. If therefore all the prisoners were concentrated in one prison the whole work could be done by two additional warders. The work will, of course, be distributed over 63 prisons, and the arrangements to be made for its performance will be a matter of prison administration not more difficult than those involved in any slight increase of prison work. It will be for the prison authorities to decide whether it can all be done by the existing staff,—it is proposed that the measurements, &c. should be taken in the morning when the reception officers have usually comparatively little to do—or whether in one or two central prisons an addition to the staff will be necessary. In the end, it may fairly be anticipated that the work of measurement and of taking finger prints will occupy even less time than the present laborious method of taking distinctive marks which occupies from seven to ten minutes and sometimes longer.

There will, it should be added, be one or two minor items of expenditure in introducing the new system in the prisons, particularly the cost of instruments for use in each prison, that of taking some additional photographs of untried prisoners, and the expense of bringing warders for a few weeks to London to learn the methods of measurement, &c. For the latter purpose it will probably be well to establish for a time at Pentonville, where the larger number of convicts and habitual criminals are discharged, a sort of school where selected warders from country prisons may be given the necessary training.

As regards the Central Registry, we can best estimate the cost by a comparison with M. Bertillon's office. He employs eight assistants, who in the morning take measurements and in the afternoon attend to the registers and make searches. The work of the registry therefore (as distinguished from the measuring) only occupies the time of four men, or of five if M. Bertillon himself be included. But M. Bertillon now receives and classifies in each year about 15,000 measurements from Paris and about 70,000 from the departments. In the English registry it is proposed to limit the cases to be entered on the registry to about 4,000 or 4,500 in the year. It seems, therefore,

safe to say that for some time at least one or two men will be able to do all the work of the Central Registry. This increase will appear very small when it is borne in mind that, since the Convict Office undertook in 1889 the extra work of registering the habitual criminals discharged in the Metropolis, the staff has been increased by six officers, four men having been added for this purpose in 1889 and two in 1892; and it is understood that in order to maintain this work, a further increase of staff is now considered necessary.\*

In addition to this we are strongly of opinion that it is essential to the complete success of the registry to secure, at all events at the outset, the services of an expert practised in the methods of scientific anthropometry, and if possible one who has had practice in training other persons in making scientific measurements. We have the utmost confidence in the skill and ability of the officers in the Convict Supervision Office, and we think it might be possible, by sending two or three intelligent officers to learn the system at Paris in M. Bertillon's office, to secure the necessary knowledge and training to start the new system, if we are content to follow strictly on his lines. But we feel sure that it would be better that the Convict Office should have from the first the assistance and guidance of a scientific adviser in England. He would be able from the outset to settle such questions as the limits to be adopted in England for the classes of large, medium and small (as already mentioned, the Anthropological Institute have data available for this purpose), he would be able to superintend the training of warders in taking measurements, and he would instruct the officer in charge of the registry in the decipherment and classification of finger prints.† Moreover, when practical experience had been obtained of the use of the finger prints, he would be able to revise the suggestions which we have made as to the respective place of the Bertillon and the Galton methods in the system, and might possibly find it advantageous to extend the Galton method of classification further than, with the limited experience we possess of its practical application, we have ventured to propose. On every ground therefore we think it desirable that the English Anthropometric Office should from the first have the advantage of scientific guidance not inferior to that which the French Service d'Identification enjoys in having M. Bertillon at its head.

#### IV. WHAT RULES SHOULD BE MADE UNDER SECTION 8 OF THE PENAL SERVITUDE ACT, 1891, FOR PHOTOGRAPHING AND MEASURING PRISONERS.

Our recommendations under this head have to some extent been anticipated. The section in question was introduced into the Act of 1891 to remove doubts as to the power to photograph and measure *untried* prisoners; but a promise was given that the rules, which have to be laid before Parliament, would contain safeguards against the indiscriminate photographing of untried prisoners whose antecedents might be well known. The safeguards we suggest are (1) that an untried prisoner should be measured and photographed only on the order of a magistrate; (2) that this order should be made on reasonable ground being shown for suspecting that the prisoner is an old offender. We therefore make the following recommendations:—

1. *As regards convicted prisoners.*—We recommend that the Rules should provide that—

(1.) all convicts and all persons coming within section 7 of the Prevention of Crime Act, 1871, should before release be *photographed*, the photograph to show both the full face and the side face, but not the hands;

(2.) That in each case the following measurements should be taken:—Length of head, width of head, length of left middle finger, length of left forearm, length of left foot and the height; the first five measurements to be taken in millimetres, the height in feet and inches;

(3.) That in each case impressions should be taken of the tips of the ten fingers giving the measurements of the papillary ridges;

(4.) That the position and size of distinctive marks on the head, limbs, and body should be ascertained by measurement in the following order:—I. Left arm and hand; II. Right arm and hand; III. Face and throat; IV. Chest; V. Back; VI. The rest of the body (prominent features only).

\* In a memorandum on the work of the Convict Supervision Branch, recently submitted to the Secretary of State, Mr. Anderson says:—"The scheme imposes a large amount of extra work in my Department, and the time has now arrived when we must go forward with a stronger staff, or else draw back."

† Another question on which scientific advice as well as practical experience is required is that raised by Professor Thomson and alluded to in the note on page 23, namely, the amount of variation to be allowed for in dealing with each measurement.

Only clearly distinctive marks should be taken. If sufficient marks are found in I. II. and III., the others should not be taken.

2. *As regards prisoners received on remand or for trial.*—The Rules would be similar but restricted to persons accused of crime or charged under the Vagrancy Act, for whose measurement an order is given either by the magistrate by whom they are remanded or committed, by a member of the Visiting Committee of the Prison, or by a Prison Commissioner, such order to be made on an application by the prosecutor or by the police, on the ground that prisoner's history is unknown, or that he has no permanent abode, and that from the character of the offence with which he is charged or from any other cause there is reasonable ground for suspecting that he may have been previously convicted or may be habitually engaged in crime.

In the case of untried prisoners the photograph, measurement, &c., should be taken not later than noon on the day after reception; and the card with the measurements and photograph should be forwarded the same or at latest the following day to the Central Registry.

The rules should also provide (in accordance with a pledge given in Committee on the Penal Servitude Bill) that photographs taken before trial should be destroyed if the prisoner is afterwards acquitted.

In conclusion, we have only to say that the method of identification which we have recommended, or any other scientific method that may be adopted, must not be expected to produce its full results until after a considerable time. When it has been several years in operation, when the warders employed to make the measurements have acquired experience and skill, and when a large mass of records has accumulated, then, and not till then, is it likely to work as smoothly and to produce results at least as satisfactory as those obtained by M. Bertillon in France. Even in France, though Bertillonage is now in full operation in Paris, its application to the country as a whole is still, as we have said, incomplete. The success of a similar system in England can come only with time, and by means of the hearty co-operation of all concerned in its working. We may confidently anticipate that, if fairly tried, it will show very satisfactory results within a few years in the Metropolis, but the success of its application to the country generally will depend on the voluntary co-operation of the independent county and borough police forces. This we feel sure will not be withheld; when the principles of the system are understood and its usefulness appreciated, we believe it will not only save much time and labour to the police in the performance of an important duty, but will give them material assistance in tracing and detecting the antecedents of the guilty, and will afford, so far as its scope extends, an absolute safeguard to the innocent.

We trust that when the system is to some extent established in England, it may speedily be extended to Scotland and to Ireland.

We have the honour to be,

Sir,

Your obedient Servants,

C. E. TROUP.

ARTHUR GRIFFITHS.

MELVILLE L. MACNAGHTEN.

H. B. SIMPSON,  
12th February 1894.

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## MINUTES OF EVIDENCE.

THE following Minutes represent only a very small part of the Evidence taken by the Committee. They consist of brief notes taken by the Chairman and Secretary of statements made during the visits of the Committee to police offices and prisons outside London, and of a shorthand report of the evidence heard at the Home Office. The report of the evidence heard on the 11th, 17th, and 18th November is much condensed. In the greater part of the inquiry, consisting of informal conversation, examination of books and photographs, and inspection of the process of measurement, photography, &c. in actual operation, it was impossible to take any formal record of the evidence.

### Home Office, 11th November 1893.

Chief Inspector NEAME, Metropolitan Police.

(Chairman.) The Committee wish to ask you some questions to supplement the information you gave us when we visited your office last Thursday. You have looked up the cases mentioned in Mr. Simpson's memorandum?—Yes.

Take first the case of George Twohigg, who was sentenced to imprisonment at the Middlesex Sessions in 1882; he was afterwards convicted summarily at Worship Street Police Court in the name of George Smith. Was his previous conviction then known?—On reference to the papers I find that his previous conviction was reported to the magistrate, who preferred, however, to deal with the case summarily. The previous convictions did not come before him in evidence.

Then there is the case of Henry Austin who was discharged as a licence-holder, in October 1891, under a sentence of penal servitude. Shortly afterwards he was convicted summarily at Clerkenwell Police Court for stealing a watch. Was his previous conviction known?—No; he appears to have escaped identification.

Will you now state, in order, the steps taken to trace an unknown offender in your office. Assume that you have under arrest a person strongly suspected to be an habitual criminal, but not identified. What steps would you take?—After receiving his description and photograph, the first step would be to search for his name in the alphabetical registers.

That search would not take long?—Not very long, perhaps 10 minutes.

It is not likely that you would identify him by the name; what, then, would be the next search?—The next search would be in the register of distinctive marks. That register is classified according to the different parts of the body on which the marks occur, the marks of each part being arranged in columns. If the person searched for has distinctive marks on six parts of his body, it might be necessary to make searches in six different divisions of the volume.

That would occupy some time?—Yes; it might be a long search. We have also a register of tattoo initials and names; that is indexed alphabetically, and if one of the marks was a tattoo name, the search would not occupy long.

Supposing this failed, where would you search next?—The third step would be to search the register of names classified according to crime. Certain special crimes are selected, and persons who habitually commit them are classified accordingly.

And if this failed what would be the next step?—Then we should try the albums of photographs.

How many of them have you?—14 albums containing on the average 5,000 photographs each and a library of 90 volumes, dating from 1864, each containing 500 photographs and complete descriptions.

You would first search the more recent volumes which are classified, I understand, according to the height of the persons?—Yes.

Suppose your man was 5 ft. 6 in. high. You would first search for him in that division?—A margin would be allowed for error.

You would search also, I suppose, among 5 ft. 7 in. and 5 ft. 5 in.?—Yes, and we should search also among those 5 ft. 8 in. and 5 ft. 4 in.; there might be an error in either direction of 2 inches.

If he were not found in the classified albums, you would next have recourse to the older volumes where the photographs are arranged merely in chronological order?—Yes. We should have to search right through these.

And would you use Sir Edmund Du Cane's Registers of Habitual Criminals?—We might do so, but they are seldom used. They are somewhat too complicated for Metropolitan police officers.

So that to find one man, you might have to make five or six distinct searches?—Yes.

And that would occupy some time?—Yes.

Would an hour be too long for a search?—No. An hour would not be an unusual time to spend in searching for a "good" criminal; we have much longer searches than that. Our men would search for days rather than lose a "good" man.

So that if some other system were added to those you now use, either the Bertillon method or the fingerprint method or some other method, even if it did not lessen the process, it would not imply a very great addition to your labour. It would only be a seventh search added to the six others?—Yes. That is so, but there would be the labour of collecting and classifying the cards.

That is not what we are at now. We are speaking only of the searches. A seventh search added to the sixth now made would not be a disproportionate increase?—No, I think not; but I do not know the Bertillon system sufficiently to be able to offer an opinion.

Now, I want to ask you about some improvements in the existing system that have been suggested. First, about the photographs. Do you have all the photographs you want?—When convicts are discharged we receive three or four photographs, but we can always obtain as many more as we want by paying at the rate of 2d. each.

When prisoners are discharged from local prison?—Then we have to pay for the photographs at a higher rate, varying at different prisons. When we wish to have a large number of these, we have them copied by the London Stereoscopic Company; they do it better, and more cheaply than it is done at the local prisons.

Are the prison photographs not good ones?—There has been a great improvement in the photographs of

convict prisons, those from Portland and Dartmoor being especially good.

Do you require more photographs than you now have for route-inquiry forms while prisoners are under remand?—We very rarely issue route-inquiry forms, only perhaps four or five times in a year. When we do so, we usually can obtain photographs without difficulty.

Then what improvements would you suggest?—I would suggest that the photographs should be printed without the hands. I think it is the experience of all officers much engaged in searching the albums that the hands distract the attention, and make the recognition of faces slower and more liable to error.

But are not the hands sometimes useful?—If a finger or thumb has been lost or injured, it may be the means of identifying him, but that is always included among the distinctive marks. The photographs of the hands are not required.

Then as to the forms supplied to the police when convicts are discharged. There are several different forms which seem to contain the same particulars and photographs but differently arranged. Do you require these?—No. We do not know the reason for it. So far as the police are concerned, it would be better that the arrangement should be the same in all cases. It would be best to have the photograph always at the top. Placed below on the right-hand side it is often folded, and then it is more difficult to use.

NOTE.—Mr. Neame, since giving oral evidence, has supplied the Committee with the following statement:—

The number of persons registered in this office who have been charged with fresh offences in the Metropolitan Police District during the year 1893 is 2,149, made up as follows:—

License holders, supervisees, and ex-pirees	£60
Other registered criminals	1,289
	<u>2,149</u>

The "other registered criminals" are mostly habitual criminals within the 7th section, but not all. A good many other cases are registered of persons believed to be habitual criminals but who have not yet come technically within the section.

It may be useful to state what is done by my officers to obtain personal knowledge of convicts and others. As regards convicts who are about to be liberated from prison on license or supervision or on expiration of sentence, a certain number of trained officers (three or four) from this office visit Pentonville Prison every Wednesday to inspect them prior to release for the purpose of getting a knowledge of their features and marks, &c., so as to be able to recognise them again if they should be taken into custody for fresh offences.

The convicts' marks are compared with the descriptive forms furnished by Prison Governors, and corrected where necessary, and the men are told to report at the Convict Supervision Office on liberation.

When they come to the Convict Supervision Office they are required to give an address and directed where to report in future.

The same officers, if possible who saw them at Pentonville see them at the Convict Supervision Office and again visit them very quietly at their registered addresses for the purpose of verification.

Thus these officers have three good opportunities of observing the features of the men, and this system has proved most useful as regards identifications.

It has operated so beneficially that I have suggested its application to the persons who have been sentenced to police supervision under the 8th section and who are subject to the same regulations as to reporting as license holders, so that the officers might be allowed to see these supervisees at a local prison prior to their discharge in the same manner as the convicts at Pentonville.

One or more of these officers attend the remand prison three times a week with divisional officers.

Then with regard to distinctive marks, have you any improvement to suggest in the mode of registration?—I think it would be better if the position were more definitely fixed. Such an entry as "Scars on back and shoulders" is of no use; but it would help to establish the identity if the distance of the marks from particular points were definitely fixed. The body should be divided into sections, and the marks in the different sections measured from particular points.

But would not these increase very much the size of the list?—It would be better to have fewer marks and these marks more definitely fixed. A few distinct marks are better than a large number of vague ones—the marks on the face, hands, and arms are the most useful and the most easily seen.

But are not some of the marks on the hands common to many persons. Look at Sir E. Du Cane's Distinctive Marks Register, "Left hand, tattoo marks, ring on second finger." In the volume for 1892 there are 28 persons who have this mark, and only three of them have any other noted. If you had a prisoner with this mark you would have to search the records of these 25 and probably as many others in previous volumes?—Yes. In our register we should probably have other marks arranged in parallel columns.

You don't use this register much?—No. We do not use the Register of Distinctive Marks often.

MEMORANDUM OF WORK done at the CONVICT SUPERVISION OFFICE, NEW SCOTLAND YARD.

Search forms received from divisions during March 1893.	1,251	Daily average (27 days), 50.
Identified	175	Daily average (27 days), 6.
Route-inquiry forms received from provincial police during March 1893.	55	Daily average (27 days), 2.
Identified	12	(Proportion 1 in 5.)

On the 1st day of March, 1893, 21 officers attended to search for 27 prisoners, taking in all 57½ hours to search: resulting in 7 identifications.

Number of photographic albums in use, 14.

P. NEAME,  
Chief Inspector.

COMPARATIVE TABLE, showing work performed in the 7th Section Branch of the Convict Supervision Office for the years 1890-1-2-3.

Nature of Work.	Year.			
	1893.	1892.	1891.	1890.
No. of license holders and supervisees registered.	1,495	1,840	1,626	1,838
No. of other criminals registered.	1,286	1,938	2,144	1,226
No. of persons photographed	*1,086	1,221	†1,800	1,332
No. of attendances at C.S.O. to search records.	4,853	4,001	2,617	1,044
No. of search forms received from divisions.	13,140	5,582	2,665	—
No. of identifications from records.	‡2,124	‡1,265	533	176
No. of route-forms received and dealt with.	722	539	462	—

P. NEAME,  
Chief Inspector.

\* This number is now believed to be normal, and it is not anticipated that there will be any considerable annual increase in future.

† As it was thought that too many photographs were being applied for in 1892 the number was limited to "7th Sec." cases, and to any other cases considered of special or extraordinary interest.—M. L. M. 13/11/93.

‡ Includes identifications for Provincial Police Forces from route-inquiry forms; for 1893, 99; for 1892, 61.



## Wakefield, 14th November 1893.

Mr. EMMETT, Commitment Clerk, Wakefield Prison.

Remand prisoners are rarely photographed. If this could be done it would be a great help in identification. They would submit quietly if they knew it to be the rule.

Most prisoners admit previous convictions.

Route-forms with photographs are sent out by county police. They ceased to be sent from prison when the order forbidding the use of force in photographing was issued.

Lists of previous convictions are sent in by police along with prisoners if they know them.

The prisoners for trial are mostly local. There are a few "foreigners," travelling pickpockets, and burglars. Of trial prisoners I should say about 10 or 15 per

cent. are travellers, and, perhaps, 2 or 3 per cent., or 20 in the year escape identification. If route-forms could be sent out, these would probably be traced. Route-forms are only sent out to ascertain whether suspected previous convictions can be verified. They are mostly north-country men; there are few Londoners, except at the races.

Some are traced by means of their letters.

Measurements are not of much use in tracing old offenders; marks are very useful *if prominent*. If you bring forward clear evidence of who a man is, he will almost always admit it.

The Register of Habitual Criminals is used if there are prominent marks.

Mr. BENJAMIN JOHNSON, Warder, Wakefield Prison.

I am reception warder at Wakefield Prison. I have held that office for four years. I am employed until 6 p.m. three nights in the week, until 8 p.m. one night, and until 10 p.m. two nights.

I see, practically, all the prisoners received. I know many by sight. There are some strangers; more this year than before.

There are more colliers in prison this year owing to the strike.

The average time occupied with each prisoner is eight or ten minutes; it usually requires about five

minutes to take the marks; but sometimes if they are numerous it takes much longer.

The "foreigners" are not very numerous; they are brought chiefly from Doncaster. I can sometimes distinguish them as "foreigners" by accent.

In this prison we have many cripples—men injured in mines or by machinery; these are easily known.

Tattoo marks are sometimes defaced; usually they are scorched in order to obliterate them.

## PAPER handed in by the CHIEF WARDER IN CHARGE, WAKEFIELD PRISON.

RETURN of PRISONERS committed to Her Majesty's Prison, Wakefield, for Trial at the Leeds Summer Assizes, 1893, and the West Riding, Sheffield City, and Doncaster Borough Michaelmas General Quarter Sessions, 1893.

1. Local prisoners and fully known as such	-	-	-	-	-	-	-	-	-	55
2. Number of prisoners sentenced as first offenders	-	-	-	-	-	-	-	-	-	18
3. Number of prisoners who are strangers and travelling criminals	-	-	-	-	-	-	-	-	-	16
Total number of prisoners committed										89
4. Number of class (3) against whom nothing had been found at the time of trial	-	-	-	-	-	-	-	-	-	1

JNO. HARRISON,  
Chief Warder in Charge.

Her Majesty's Prison, Wakefield,  
15th November 1893.

Dr. CLARKE, Medical Officer, Wakefield Prison.

Some years ago I made a study of cranial measurements.

Head measurements increase up to 50 years of age.

In a paper on cranial measurements contributed in 1876 to the West Riding Lunatic Asylum Medical Reports I gave the following figures as a result of the measurement of 500 prisoners:—

Ages.	Diameters of Head.		Circumferences.	
	Anterior- Posterior.	Transverse.	Whole.	Frontal.
Under 20	7.397	6.127	21.700	10.477
20 to 30	7.589	6.316	21.992	10.791
30 to 40	7.651	6.150	22.132	10.764
40 to 50	7.674	6.263	22.172	10.797
50 to 60	7.541	6.105	21.822	10.661
60 to 70	7.531	6.237	22.137	10.787

The number of prisoners of the later ages was small compared with those of middle life, and it would, therefore, not be safe to draw a conclusion from the figures relating to prisoners above 50.

The measurement of height is very uncertain. I have just compared the heights of 32 convicts transferred from other prisons as they were recorded in the prison they came from and as taken here. In 15 cases the heights were the same. In 17 they differed.

The difference was:—

$\frac{1}{4}$ inch	in 10 cases.
$\frac{1}{2}$ "	4 "
$\frac{3}{4}$ "	1 case.
1 "	1 "
$1\frac{1}{2}$ "	1 "

Prisoners could alter their finger-marks only by making a scar, which would itself be a distinguishing mark.

Inspector HARRY REEVE, Doncaster Borough Police.

We have in Doncaster a considerable number of criminals who come from other districts. These we endeavour to identify by issuing route-forms.

In 1892 we had 46 foreigners, including 14 in the race week. All these we "routed." There were other trivial cases not routed. Of the 46 the majority were identified; mostly by officers of other police forces.

In one case (January 1893) routes were sent to between 80 and 100 towns. In one only was the criminal known, viz., in Swansea, where he had had convictions of obtaining by false pretences. He was not in the Register of Habitual Criminals.

Photographs are taken at Doncaster in the Police Office yard.

Old thieves sometimes object to be photographed.

They would not, in my opinion, object if a rule were made requiring untried prisoners to be photographed. We have 300 or 400 prisoners in custody in the year.

Magistrates are always ready to remand for inquiry. If it were in their discretion to order photographs to be taken, they would make no difficulty.

This year, in the race week 16 persons were summarily convicted no previous convictions being known, but are now believed to be old offenders. The Governor of Wakefield Prison has been asked to supply photographs. One of the 16 has been already traced.

Distinctive marks are not of use for identification unless prominent. In one case an old offender traced by a scar on each hip. He was traced in Habitual Criminals Register. It required several hours' search before he was found.

The Habitual Criminals Register is useful.

The last quinquennial volume is most used, and after that the annual volumes.

I suggest that there should be district registries because the information supplied by the Habitual Criminals Registry is often defective. In a recent case while prisoner was awaiting trial we obtained form R. from Habitual Criminals Registry, but several more recent convictions were not given. This was the case of Thomas Howard or Holt, sentenced to 15 months at last Doncaster Borough Sessions.

The omitted convictions were summary cases.

I could, if required, report to Habitual Criminals Registry deaths of local habitual criminals out of gaol, as the police would usually know of them through inquests or otherwise.

Habitual Criminals Register arrives very late; it would be much more useful if received in March. I think monthly or quarterly publication would be useful.

A year or two ago a man (Pearman, *alias* Thomas) was arrested at the races; he could not be identified.

After conviction a photograph was sent to Scotland Yard but was not recognised. It was afterwards recognised in London by a warder. The man was a London thief, and was at the time on licence and wanted at Scotland Yard for failing to report himself.

If prisoners were photographed in prison on remand, we should wish photographs taken in prisoners' own clothing. It is easier to recognise them in their own clothes than in prison dress.

If suggested district registries were established, recognition would be from one photograph to another. We often recognise photographs sent us from photographs in our books.

At Doncaster a register is kept of men arrested by police, with their marks, &c.; but after an interval of five years a man would probably escape recognition unless well known.

### Leeds, 15th November 1893.

Mr. F. T. WEBB, Chief Constable, Leeds Borough Police.

The Criminal Register is seldom referred to. I frequently send descriptions to Criminal Registry Office, but they rarely find the man.

In one case, where the chief mark was a scar on the forehead they sent us two photographs to compare, but neither was right. He was afterwards recognised by a detective from Manchester. His name was in Dis-

tinctive Marks Register 1884. Several pages are covered by names of persons with scar on forehead; it is not really a distinctive mark. Photographs are of immense use. We photograph every one charged with serious crime, both local persons and strangers. Descriptions without photographs are useless.

Major LANE, Governor of Leeds Prison.

The bulk of old offenders are identified by route-forms, but route-forms are useless without photographs.

Photographing of all remand prisoners, more particularly those committed for trial, would be most useful.

In a case last week, a route-form came from Wakefield Prison giving description of young fellow for trial who stated he had been in Leeds Gaol lately, but gave a false name. It was returned marked "not known in that name." Photograph was sent next day and was recognised at once.

Habitual Criminals' Register is used; three copies are in use in prison. Not many identifications are got by means of it.

Leeds and Bradford prisoners usually photographed by the police. County cases are not often. Prisoners under remand sometimes object to be photographed, but when they do, snap shots can often be taken.

All habitual criminals are photographed before discharge, some in their own clothes, others in prison dress. The photographs are taken by an outside photographer. They are very good photographs.

Mr. W. POPPLETON, Assistant Warder, Leeds Prison.

I was reception warder at Wakefield for several years. I took distinctive marks of prisoners on reception. In *felony* cases the marks are taken on reception on remand; the marks revised before Form R. is sent to Habitual Criminal Registry at expiration of sentence.

Of our prisoners, nine out of ten are local men and known to me.

The taking of particulars, marks, &c., occupies about seven minutes. I can take about eight an hour. In some cases the time is much longer, when there are many tattoo marks.

Since circular of distinctive marks not taken in minor cases, such as persons committed for drunkenness or begging, &c., or on bastardy orders.

Tattoo marks are sometimes defaced. I know one case where a prisoner had letter D on left breast; it is now made into mermaid. This is sometimes done to prevent recognition in prison. Sometimes the tattoo is removed, but a flesh mark of same shape left.

I suggest that an experienced warder should go round other prisons in the district to detect old offenders on remand. A warder goes to Wakefield, but not elsewhere.

Mr. TAYLOR, Chief Warder, Leeds Prison.

I have been warder at Wakefield, Scarborough, Southwell, Northallerton, and Leeds. Good many old offenders escape. More since the photographing of remand prisoners in prison was discontinued. I think about one-third of trial prisoners are strangers—pick-pockets, burglars, travelling thieves. They are routed both by prison and police, but the prison routes are without photographs, and we do not get many results. The distinctive marks are not sufficient.

The Habitual Criminals' Register used, but rarely gives results. There are too many names. The marks are not sufficiently distinctive. "Scar on forehead" would be no guide whatever.

Warders from Wakefield come here before assizes and sessions, and two warders from here similarly visit Wakefield. Visits from warders from Manchester, &c., would be useful.

## Bradford, 15th November 1893.

Mr. WITHERS, Chief Constable, Bradford Borough Police.

We take photographs in all cases. The Convict Prisons' photographs very bad. They should be better, and there should be two of each convict, one with beard and one without. The head ought to be bigger. Magistrates would order photographs to be taken if they had the power.

About one-half of our trial prisoners are strangers—travelling thieves, &c. There are very few from London. They are mostly north-country men.

## Birmingham, 16th November 1893.

Hon. CAPTAIN ANSON, Chief Constable of Staffordshire.

Photographs of untried prisoners would be of much use. It would be better to take them in prison than in police cells. They would be much better done in prison than by the police of county districts.

Generally speaking, Scotland Yard not so successful in giving help as might be expected. They sometimes fail to recognise London men.

Warders do not recognise so many prisoners as formerly. They are less interested in the work.

More identifications of strangers are required in cases of obtaining by false pretences than in any other class of crime in proportion to the number of cases of each class.

Thomas Tattersall was three times sentenced to five years' penal servitude for larceny and for obtaining by false pretences, the last of the three convictions being in October 1889. Within four years of his last sentence, viz., in October 1893, he was again convicted of the same offence for which his unexpired sentence of five years was awarded, and got only 12 months from the same chairman who passed last sentence of five years. There was no distinction as to the offence in each case—several charges of obtaining by false pretences.

[Two other similar cases specially mentioned to show the comparative uselessness of proving previous convictions.]

Short sentences are much more frequent. It is now necessary to convict several times in a year where formerly if convicted once the man was sent to prison for a long period.

The Habitual Criminals' Register is useful only in Head Office, not in divisions. It is too complicated.

We receive very few route-forms.

Criminals are either wanderers over all the country or live in settled home in the place where their crimes are committed. Cases of men who have fixed place of abode, but make excursions for purposes of crime into neighbouring districts, are rare except in the neighbourhood of Birmingham. There are very few travelling burglars of the first class.

The death of habitual criminals could be reported in some cases by the police, but many must die where they are not known, and therefore deaths could not be reported with sufficient certainty to be of much use.

The "Police Gazette" would be much more useful for apprehension and identification purposes if published oftener. At present many days are often lost in publishing particulars of cases in "Police Gazette."

Mr. G. VAN HELDEN, Chief Inspector, Birmingham City Police.

The criminals we have to deal with are mostly local, but there is a considerable number of "foreign" thieves. We have pickpockets from London and elsewhere. In one recent case of a notorious burglar released to Bristol on licence under a 10 years' sentence was arrested in Birmingham for failure to report. Thieves on the way from London to Manchester, Liverpool, &c., frequently make a stop at Birmingham. On the other hand, we have Birmingham thieves who carry on their work in the adjoining counties, and only bring their goods for disposal in Birmingham.

So far as Birmingham criminals are concerned, we have little difficulty. They are known personally and we have carefully-kept records. The special feature of our books are the carefully-made drawings of tattoo marks. When a person is arrested for crime who is unknown, but who is suspected to be an old offender from some other district, our first step is to search the groups of photographs from Scotland Yard. These are most useful. I should strongly urge that more should be issued, and at more frequent intervals. Failing them, we have recourse to the Habitual Criminals Register, with the Register of Distinctive Marks. These are often useful. The average time of a search

would be about three-quarters of an hour. If this fails, we would issue a route-form. These should have photographs attached. We get photographs as often as we can, but some prisoners refuse to sit. We cannot, as a rule, get photographs from the prison—the consent of the Commissioners has to be obtained and that takes too long. A prisoner was recently remanded for seven days, on the fifth the consent of the Commissioners was received and the photograph was then taken, but too late to be of any use. In that case the magistrates would not give more than one remand. I would strongly urge that prisoners on remand should be photographed on a magistrate's order. We do not get so much help from the prisons as we should have. If they do anything, they do it as a favour to us. In some cases the marks are useful; in one case, where a photograph had not been recognised by anyone, a copy was circulated of a tattoo mark which prisoner had on his arm. This was at once recognised by a Liverpool officer who had had the man in custody more than 10 years before. But as a rule, photographs are the main thing. My strongest recommendation is for greater facilities in photographing.

## Home Office, 17th November 1893.

Mr. J. G. GRACE.

(Chairman.) You are the officer in charge of the Habitual Criminals Registry?—Yes.

How long have you held that position?—Since February 1884.

You also keep the General Register of Convicts, and are Home Office agent for discharged convicts?—Yes.

The Committee wish to ask you some questions to supplement the information as to the working of the Habitual Criminals Registry which you gave us when we visited your office last week. In the first place, we

asked you, I think, to find from the Convict Register for 1892 how many cases occurred in that year of convicts who had escaped identification at their trial being recognised after registration as men who had already been in penal servitude. Have you looked this out?

—Yes. I have sent the list through the Prison Registry to Sir E. Ducane, who will send it to the Committee. The number of cases in the year ended 31st October last was seven, five of them cases of persons recognised when received under sentence of penal servitude, and two cases of persons summarily convicted and found to be license-holders.

Then have you ascertained how many inquiries you had from the police during the last three months, and what were the results?—Yes, I hand in a paper with the figures. In the three months there were 61 inquiries, and in 41 cases Form R was sent. In 23 of these cases identifications were reported.

Does the identification mean identifications by the distinctive marks?—Not in all cases. Sometimes the police send the name and ask for the photograph in order to see if they have the right man. Cases traced in this office by distinctive marks are not numerous. It is to be remembered that usually the police apply to us only when other sources of information fail. When they have searched the register themselves unsuccessfully, or have issued route-forms unsuccessfully, then they apply to us.

Now, as to the dates when the registers are issued, do you issue the copies to the police and to prisons?—No, that is done from Parkhurst Prison where they are printed. I cannot give the dates.

We have got them from the Prison Department; they are, 1891, Alphabetical Register, October 7th; Distinctive Marks, December 9th; 1892, July 25th and November 23rd; 1893, both Registers, September 9th to 15th. Are not these dates very late? If a prisoner was released in January 1892, his name did not appear in the published Register till September 1893?—Yes, after one year and eight months; that is the longest.

And if he was released in December 1892, there would still be an interval of about nine months?—Yes.

So the interval varies from 20 months to nine months?—Yes.

And in this interval a great many of them will be re-convicted?—A large number will be re-convicted before the register comes out.

Some will be identified by other means, some not identified at all; but the register gives no help in these cases?—That is so.

Can you suggest any way to meet this?—I think the registers should be published monthly.

But if that were done you could no longer have the alphabetical arrangement?—Yes, the monthly issue could be alphabetical, but I would suggest that there should also be an annual issue to supersede the monthly.

(Major Griffiths.) It could no longer be printed in the prison. It would take too much time—Yes, but I think, if issued monthly, it would be more useful to the police.

In the interval, before publication, some of the habitual criminals die, are their names omitted?—If they die in prison, their names are omitted. If out of prison, we do not know of the death. It would be an advantage if the police would report deaths to us. We cannot know of them.

(Chairman.) Now can you suggest any improvement in the arrangement of the Register of Distinctive Marks? Some of the marks are very indefinite—"scar on forehead," for instance? That is not much of a distinctive mark?—No, but the register divides the forehead into sub-sections—"above right eyebrow," "right temple," &c., and it distinguishes cuts from burns, &c., and sometimes adds a side note as an additional guide.

Even so it is still very vague. At Leeds they told us of a case where the only mark was one scar on the forehead. They sent the description to you, and you sent down two photographs, but neither was right. Can you say how you selected these cases?—There are many pages in the Quinquennial Register under the heading "Head and face," "Scar—forehead"—I cannot tell. As there was little to help us in the way of marks, we might perhaps have been guided by similarity of name.

(Major Griffiths.) Would it be better, if instead of dividing the Register by Head, Hands, &c., you took all the scars together, then all the birthmarks, and so on?—I think not so; it would only be one classification instead of another, and the present is better because the body is divided into sections and sub-sections, and you would only have to look at these

whatever the marks might be. Under each sub-section the marks themselves are also classified.

Are all scars entered in the Distinctive Marks Register?—No, the book would be useless if we did that. I would not enter a scar unless further defined—"large scar," "abscess," "burn," &c.

(Chairman.) But would it not be better to limit the number further and make them more distinctive?—Yes, I do this as far as I can. If it were a scar on the thigh, I would add "back" or "front," "inside" or "outside," as the case might be, and if this were not shown in Form R. when received from the prison, I would send it back with a query.

Do you think there should be more marks?—I believe not; they have the full record in the Alphabetical Register.

But would you not give greater detail—the direction of the scar or mark, and its distance from a fixed point?—It would be of greater assistance to have the direction and size or extent of the mark given.

How often are you successful in tracing cases by means of scars?—Not often; not one case in ten.

In the table you have given us, what does "no report" mean?—It means that we could send no information.

That is when you cannot identify the man?—Yes, cannot identify nor send a case for inspection.

Do you know when the information you supply leads to the identification of the man?—We are usually informed.

When route-forms are sent you, are they usually accompanied by photograph?—Yes, usually, but not always. Sometimes the prisoner refuses to be photographed, but that is quite exceptional.

Does the photograph help much?—It does not help us much in tracing the case as our photographs are not arranged in albums but affixed to the Forms R. When the case is traced, it confirms the identification. But the case has to be found by the marks.

Have you any other suggestions to make?—I would suggest that there should be two additional columns in Distinctive Marks Register, one giving date of birth, the other the height. It would be easier to find the right case, and would save looking up each case in the Alphabetical Register.

But can you get the age and height accurately?—Not accurately, but approximately. The additional column would eliminate cases obviously wrong and save much labour. If your man's age was given as 60, you would not look up cases under 45.

I may mention a case which occurred some time ago where I believe the prisoner could have been identified if his mark, a scar on the back of the left hand, had been closely defined. It was described on his discharge from Woking merely as a scar on back of left hand, and so was not entered in Distinctive Marks Register. If it had been closely described, in size and extent, it would have been used as a distinctive mark. When this man was afterwards in Wandsworth Prison his photograph was sent all round London, but not recognised, and this happened again 18 months later when he was in prison at Lewes, yet he had had a career of crime in London from his boyhood. He was at last recognised by a warder in Woking, and all his convictions were brought together. This was the case of Joseph Smith, alias Edmund Robinson. When in Wandsworth he was a ticket-of-leave man, and was no doubt on the books at Scotland Yard, and in the "Police Gazette," as wanted for failing to report.

(Mr. Macnaghten.) Was that case referred to the Convict Office?—Yes, it must have been; it went everywhere all round London.

(Chairman.) What do you wish to show by bringing forward this case?—That it would be better to define the marks very closely where permanent scars are concerned. If the exact size and exact location had been given, the scar in this case would have been a good distinctive mark, and probably have led to identification.

Do many escapes occur in London?—I think more old convicts escape recognition till after trial in London than elsewhere.

## MEMORANDA as to POLICE ENQUIRIES made of the HABITUAL CRIMINAL REGISTRY during the months of August, September, and October, 1893.

Month.	Number of Enquiries.	Number of cases in which Forms R. were forwarded.	Number of cases in which Forms R. were NOT forwarded.	Number of identifications reported.	Number of cases in which Prisoners were not identified by the Forms R.	Number of cases not yet reported as settled.	Number of cases in which no report as to identification was made.
1893.							
August - - -	18	10	8	4	2	—	4
September - - -	22	16	7	9	5	2	—
October - - -	20	15	5	10	1	—	4

Mr. J. B. MANNING, Governor of Pentonville Prison.

(*Chairman.*) What is your experience as a Governor?—I have been Governor and Deputy Governor since 1859. I was Governor at Chester Castle in 1865, at Wakefield in 1882, and at Pentonville since 1890. I have also been connected with the police, and had charge of a section of the Cheshire Constabulary. Previously I was in the army.

What is your idea of the number of old criminals who escape identification?—I do not think that a large number escape recognition. Of course in Pentonville I have only convicted prisoners, not prisoners awaiting trial.

Do you think that any considerable number of persons who are convicted as new offenders are really old criminals?—Only a few. They sometimes escape, seldom more than once, but criminals generally hover round a certain district and are well known to the police.

But do you notice cases of London thieves going down to the country?—Generally to race meetings and large gatherings. The local police generally get assistance from the London police, and men who are caught are, as a rule, identified. They are remanded for inquiry, and information is obtained.

Do you receive many route-forms from the country?—A good many. Seldom a day passes but we get two or three. They are put in the Central Hall, and every officer looks at the photographs.

And are a considerable number identified?—A considerable number. We have a large collection of photographs. The men look at those and refresh their memories, and the confirmed criminals are likely to be found.

The route-forms come from country and not from the Metropolitan Police?—No, not from the Metropolitan Police. The Metropolitan Police attend at Holloway to make identifications. An officer from Pentonville also attends at Holloway three days a week.

Do you sometimes receive route-forms without photographs?—Frequently. These lead to identification very rarely; we look, if we have time, at marks given in Criminal Register, but we are not often successful.

Speaking generally, the photograph is the chief thing?—Yes, the chief thing; all the officers look at photographs.

Do not you find the Habitual Marks Register of very much use?—Yes, but it is a large volume, and it is published much in arrears.

Many are convicted before you get it?—Yes; the sooner you get it out, the better it would be.

Do you make much use of the "Police Gazette"?—Yes.

Do not you at Pentonville receive "lodgers" for discharge?—Yes; that is, convicts from other prisons to be discharged in London.

Are their distinctive marks taken?—No; not by us. The police come and see them and serve them with certain notices.

You take photographs of convicted men?—Yes, of people whose photographs are required by the police, and those against whom a previous conviction has been proved.

Are they taken by a clerk?—By a clerk who also photographs for Wormwood Scrubs.

Do they ever resist?—Not often. Refusal to have a photograph taken would be considered a suspicious sign and would be likely to lead to more inquiries. Some men when turned out into the yard are recognised by the others and this puts the officers on the track.

Do you think there would be much difficulty in photographing remand prisoners?—Not if there is an authority for it. In making rules for Chester Castle while it was a county prison a rule was inserted that any person convicted of, or charged with a crime might be photographed. We had a remand man in who wholly refused to be photographed; he was punished and the case was reported to the Secretary of State, who decided that the rule was *ultra vires* and should not have been made. This was the same Secretary of State who had previously approved of it.

If a prisoner resisted it would be possible to take a photograph by stratagem. Have you ever done this?—I have never done it. They are not very successful.

If it were known to be the rule, do you think the remand prisoner would object to be taken?—No, if they knew the rule and could be punished for disobedience. One man who was convicted of frequenting objected, but he was punished and he then consented.

(*Major Griffiths.*) In your experience how do men with previous convictions fare at the quarter sessions. Do the chairmen trouble about previous convictions?—Formerly if a man had two or three previous sentences he would be likely to get a long sentence, but that is not so now.

It is the custom of judges to ignore previous convictions to a very large extent?—To a very large extent.

(*Chairman.*) Would there be any difficulty in getting the finger-prints of prisoners by Mr. Galton's method?—Not much difficulty, I think.

That would be an advantage of his suggested system as opposed to measurement?—Measurements are very difficult to take. I have tried the employing two men to take the measurements, but they were found not to agree.

But this was on first trial?—Yes, on first trial. The men had no training or instructions.

If persons resist photography, would not they resist measurements?—Yes, they would do so.

Finger-prints would be much easier?—Yes, and measurements would be difficult.

Is the Distinctive Marks Register used in London?—I did not use it much in Wakefield, but find it now a great help in answering some of the questions that come to us. It is useful for prison purposes.

Mr. EDWIN COATHUPE, Chief Constable, Bristol City Police.

(Chairman.) You are the Chief Constable of the city of Bristol?—Yes.

For how long have you held that office?—For 18 years.

And had you any previous police experience?—I had been eight years Deputy Chief Constable at Manchester, and for three years before that I was attached to Scotland Yard.

Can you give us some general idea. (1st.) As to the proportion of local crime in Bristol; and (2nd.) Of crime by "foreign" criminals, or criminals coming from other districts?—What proportion of offenders would be local men, and what proportion foreigners?—Fully three fourths would be our own people—would be local.

Have you any difficulty in identifying them?—The difficulty is with regard to the other fourth.

What are the means you usually adopt?—The police strip the man and examine his body for marks.

And having got the marks?—They then search the register, and endeavour by this means to identify the man.

Do you identify many?—Yes; the method is extremely useful. We trace them constantly.

Can you suggest any improvements that should be made in the form of register?—I do not think so; I have not given special attention to that point.

Nothing occurs to you?—No.

Failing the Habitual Criminal Register, do you get some cases from the Police Gazette and Illustrated Circular?—Yes; from the circulars.

The police would like to have the circulars more often, or larger photographs.

Failing to get at a prisoner's identity in any other way, would you use route-forms?—Very seldom; we have no time for that. Our magistrates would not often remand for purposes of inquiry. We have no stipendiary magistrate in Bristol. It is the largest town in England which has no stipendiary, and no solicitor to prosecute on behalf of the police.

Then you have a difficulty in getting photographs for use in the routes?—Yes.

Do you photograph prisoners yourselves?—No; we want to be able to do so.

Would it not serve your purpose if you could have a photograph from the prison after the prisoner is remanded?—Yes; that would be the better plan if magistrates would remand for this purpose.

But as a matter of fact you do not photograph yourselves?—No, we have no power to do so; we cannot hold prisoners over for a number of hours for that purpose.

Do you ever send out forms without photographs?—Very seldom; that is of no use.

Have you any idea of the proportion of persons arrested who have come from other districts, and who have previous convictions?—I think there are many old travelling thieves; a good number come to Bristol.

Mr. CECIL DOUGLAS, Chief Clerk to the Lord Mayor.

(Chairman.) What office do you hold?—Chief Clerk to the Lord Mayor.

Have you held that office long? I have been there six years, and a magistrate's clerk for 18 years.

I suppose a good many of the criminals who come before your court are habitual offenders?—Certainly, a large number.

Do you consider it the duty of the police to find out previous convictions?—I do not know whether it is the duty of the police; we remand prisoners for that purpose. It is, I think, partly the duty of the police, and partly of prison warders.

Is there, in your opinion, any considerable number of the prisoners you remand for that purpose who are not identified?—I could not give an accurate percentage; a good number whom I believe to be old offenders are not reported as known.

You remand to Holloway for eight days?—Yes, for a week, sometimes for eight days.

It is a convenient place for Wales, and the West of England, and for Ireland. They can get away at short notice. It thus becomes a sort of centre for travelling thieves.

What character. Mostly pickpockets?—Mostly pickpockets and housebreakers. We are infested with pickpockets. Many come from London. The quarterly circular issued by the Metropolitan Police comes in useful, but we have the greatest trouble to get men to take an interest in the cases. They take less interest in detective work altogether than they used to do.

You do not send out many routes, but if you got photographs you would send out a large number?—Yes.

When your offenders have been convicted, do you get photographs and keep books?—Yes.

Do you have many inquiries from London and other counties and boroughs?—Yes. Our only difficulty has been with Liverpool. They would not render any assistance to enable us to prove the identity of a man charged with burglary; they refused to give the name of the officer who could identify him. The case occurred at the assizes. It was brought before the notice of the judge, and I believe it is all to be reported to the Home Secretary. We got information from the warder and it made a difference in the sentence. Some of the judges do not care about previous convictions and are extremely lenient to old offenders. We have got a good Recorder.

Have you many thieves or burglars in Bristol who carry on business in neighbouring counties?—No, very few, I think.

Do the police visit prisons in order to see if there are old offenders among the remands?—No. We would like to inspect remands. It would be a great help to go to the prison to see offenders. It would also be a good thing for county officers to inspect city prisoners. They are all in the same prison.

Do you keep any register of local criminals?—Yes. We keep a book with descriptions of all prisoners we have dealt with. It is indexed well, so that cases are easy to find.

Then do you think many previous convictions escape notice?—A good many do, I fear. Our men often know a man to be an old offender but cannot remember his name and previous history. Such cases are often dealt with summarily by magistrates as first offenders.

Do you send route-form when you issue them to the adjoining police forces first, before you send to London?—We send forms to local forces and to London in duplicate. In the case of an important prisoner we send to other places simultaneously. I do not recollect a single case of identification by route-form without photograph.

Have you any further suggestions to make?—No, all the points I had in mind have been touched on. Bristol, with a population of a quarter of a million inhabitants, has no stipendiary magistrate and no solicitor to assist in police prosecutions.

And the police, or the police and the prison warders, are supposed to make enquiries?—Yes.

And in a considerable number of cases they fail to make recognition?—Yes; I should like to enlarge that statement. I know a very large proportion of the habitually criminal class. I know some of them by face, I can tell others by the way they stand in the dock, and the part they take in the proceedings. I am surprised in a great number of instances that men whom I feel sure are old offenders are not recognised.

If they are not recognised are they usually dealt with summarily?—That depends on the nature of the case. In many cases they are dealt with summarily, where, if known to be previously convicted of felony, they must be sent for trial. For other offences we must of course commit for trial, even when there are no previous convictions.

Of those committed for trial, is any considerable number recognised after committal?—Unquestionably.

Would you hear of this officially?—Not officially, but I should see it from the prison calendar.

Does that occur in a considerable number of cases?—In about 20 per cent. I think.

And you think a good many prisoners of that class are not recognised?—Yes, I think so. I am often surprised that old offenders are not recognised.

What steps do the police take in the city besides inspection at Holloway?—I do not know exactly. An illustrated circular is issued by the Metropolitan Police, which is used.

If a prisoner is recognised in Holloway, how are you informed?—In the City if a prisoner is remanded and recognised by a warder, or by a constable, we get a form from Holloway telling us of his previous convictions, and the name of the warder who can prove them; where the magistrates will require to know of the previous conviction, we give notice to the warder to be in attendance on the day of trial. In other cases we do not require his attendance.

How do you do, at Mansion House, in the case of prisoners charged with larceny who have been previously convicted?—We are told that in some courts such cases are often dealt with summarily. In such cases we invariably send for trial. We have no option. If a prisoner has been previously convicted of felony on indictment we cannot legally deal with the case summarily under the Summary Jurisdiction Act, 1879. It is prohibited by section 14.

Have you anything to suggest in the way of improvement of system?—I believe your Committee has had a report from Mr. Williams. With regard to paragraph 4 of that letter, I would like to say this to the Committee. I have been in communication with Detective Inspector Downes, who is in charge of the arrangements for the identification of prisoners, and he states that under the old system, before the issue of the circular preventing the warders and police consulting together, they conferred together before they decided whether A or B had been previously convicted. This is now stopped, and that makes identification more difficult. Another thing, Inspector Downes tells me, and I can easily understand it, that the wearing of prison clothing by the prisoners makes the work of identification much more difficult. An experienced old thief will get into a suit much too large for him and will attempt to disguise his figure. Another reason why I think old offenders escape recognition is this: that a great number of old warders have retired.

It has been suggested to us by a good many police officers that more photography of prisoners on remand

would be a useful thing for identification purposes?—Yes, certainly.

The Secretary of State has power to make rules for this purpose?—Yes.

Supposing a rule were made in this shape—that photographs be taken by order of the magistrate who remands prisoners, would that work well?—I think my own bench would make the order in all proper cases. My bench would give all necessary facilities for identification if the Home Office asked for it.

As a matter of fact you now always remand if a man's previous character is suspected to be bad, and inquiry is desired?—Yes, I have no reason to believe that any man charged with picking pockets who has been convicted before is dealt with without the remand necessary for inquiries. In a case of false pretences we should be more likely to commit for trial at once, and let them find out his previous convictions between committal and trial. We do not make a hard-and-fast rule. The great percentage of prisoners charged with crime are remanded.

A good many you think still escape in remand cases?—Yes, I have not worked out any calculation. My impression is that under the old system before 1888 more were recognized than now.

(Major Griffiths.) Have you a large amount of local crime?—The City is a happy hunting ground for pick-pockets from all parts of London. We see a great number of old friends, but few of them are resident in the City.

Are there any "foreigners" from the country?—Yes, a fairly large number. I believe also, a good number of foreigners from abroad—German and Polish Jews, and a few Russians.

Have you anything to suggest?—I think that all prisoners on remand should be photographed. I have had in my experience many instances which shows its value. A prisoner has been remanded and no report received from the Governor of the gaol; but an officer from Scotland Yard has sent word to the police officer in charge of the case, that he had been recognised from photographs in their books. In a case where the magistrate would deal summarily with the man, I would say to the prisoner, "You have been convicted at Wolverhampton, do you admit it or will you be remanded?" Prisoner says, "I deny it." I then say, "Is that your photograph?" The man says, "It is no use denying." Further than that, I do not think I have anything to add to the report Colonel Smith has sent in on the subject.

### Home Office, 18th November 1893.

Captain SHOWERS, Chief Constable of Essex.

(Chairman.) You are Chief Constable of Essex?—Yes.

How long have you been Chief Constable?—Six years.

Had you any police experience previous to your appointment as Chief Constable of Essex?—Yes, at Exeter, and Superintendent in the Devon County Constabulary.

How many years in all?—Since 1883—10 years.

The first question on which we wish information is as to the methods used by your police for the identification of old offenders?—We depend mainly on photographs. When a person brought before the magistrates is supposed to be an old offender, we apply for a remand. Then he is photographed, and route-forms with the photograph are circulated. In this way we obtain identification in most cases.

You get prisoners remanded for the purpose of being photographed?—Yes. In most cases we get photographs without difficulty, but power should be given to the police to compel suspected persons to be photographed.

Do many refuse?—A good many; particularly old offenders.

And in that case do you get them by stratagem or by force?—By stratagem usually. We do not use force.

Do you get good photographs?—Very good. They are taken by local photographers. Some are taken in gaol, but this is exceptional.

Do you use the Distinctive Marks Register and Habitual Criminals Register?—Yes, very much indeed; we find them very useful.

Do you have a good many London prisoners?—Yes. All our worst criminals come from London, the burglars and horse stealers. They go back to London to dispose of their booty. The crimes of local people are usually poaching and larceny.

Does each of your superintendents use the Habitual Criminals Register?—Yes.

Does it require a very long search to find a prisoner in the Distinctive Marks Register?—Not, I think, very long.

Something would depend on the nature of the marks?—Yes. Some are easily found. In other cases the marks are not very distinctive. I think it is a pity that old offenders are not branded. That would be the most effective way of securing recognition.

What about the Police Gazette?—It is not of much use in tracing the antecedents of prisoners. The route-form is the best when there is a photograph. Without the photograph we hardly ever obtain any result.

Do you use the Illustrated Circular issued by the Metropolitan Police?—Yes. It helps us a great deal, and is of great use in Essex. It would be more useful if issued oftener than three times a year.

Where do you send out the route-forms?—We send to the different prisons and different counties. To the

Metropolitan Police pretty early, being so close to Essex. Route-forms are not much use without photographs; with photographs they are of immense use.

You want additional means of taking photographs?—Not only power to take them, but to punish for refusing to be taken. Magistrates are quite ready to remand in all proper cases. They are always ready to help us.

You think it would be well if the Secretary of State made rules under the Penal Servitude Act, 1891, to compel remand prisoners to be photographed?—It would be better if compulsory power to take photographs were given to the police rather than prison authorities. When the photographs are taken at the police cells we have copies ready to send out the same day. If they are taken in prison we cannot have them before the third day at earliest. When the remand is only for seven days, the loss of two days in making inquiries is serious.

Do you think that many escape?—Very few escape identification in Essex.

Do many of your criminals come from other districts?—All the bad criminals come from outside Essex, burglars and horse-stealers especially. We hope soon to have telephonic communication with the Metropolitan Police,

and this will probably be of much use. Taking all kinds of crime, 75 out of 100 are Essex local men, and of the remaining 25, the greater number are identified before trial.

(Major Griffiths.) Do you find that the previous convictions make much difference in the sentences?—Yes. Most judges and chairmen of quarter sessions are very much influenced by previous convictions. Some of the judges do not pay much attention to previous convictions, but that is exceptional.

Supposing power to photograph in all cases were given to the police, what proportion would have to be photographed?—About 20 in the 100. The other 80 do not require to be photographed; they are known. The photographs are done by an outside photographer, to whom the police pay 1s. for the first photograph, and 4d. each afterwards.

Would prisoners object to being photographed if they knew that it was the law that they should be photographed?—I think not, if they knew that the police had power to compel them. If a prisoner even knew that he had to be photographed in prison, he would probably not object as he does now to being taken by the police.

Inspector JOHN ROBERTSON, Liverpool City Police.

(Chairman.) What position do you hold in the Liverpool Police Force?—Detective-Inspector.

Are you head of the detective branch?—No, the assistant head constable is head of the detective department. I have charge of the convict branch. In addition to other duty, I have to deal with all routes received, and routes sent out, and all correspondence relating to prisoners in custody. I have the assistance of a sergeant, and the partial services of a constable.

What is your procedure in identifying criminals?—All our prisoners are sent to the main Bridewell, and each morning, either I, or the sergeant, or constable, often all of us, visit the Bridewell, and see all the prisoners charged with felony. All prisoners arrested the previous evening are then in the Bridewell; but they are not detained there more than one day. One-day remands are kept in the Bridewell; Saturday to Monday remands, and all remands for more than one day are sent to prison. Three-day sentences are kept in the Bridewell.

In the morning, from 7 o'clock to 10, the description clerk of the main Bridewell takes the description of all prisoners before they are brought before the magistrates, and many local men are at once recognised. The father's Christian name and occupation, mother's maiden name, and (if prisoner be a married man) wife's maiden name are taken. All prisoners are indexed under their own names, their mother's maiden name, and their wife's maiden name, and these indexes are of considerable assistance, as if a man alters his name, he frequently take his wife's maiden name, or mother's maiden name, or gives one or both as before, and many are traced in this way. All this work is done between 7 o'clock and 10 in the morning. There is one description clerk for felony cases, another for "disorderly" males, and another for females. Three description clerks are employed, and they have the assistance of four or five other men. When they have done their work, I and my assistants visit the prisoners, and identify those we know. We often call in outside detectives who may be likely to know them, and the books are referred to. No prisoner runs more than three years in one ledger. The ledger is only for three years; each ledger has a separate index, so that if convictions extend over a longer period they may be traced through several books; the preceding folio is quoted in the latest ledger and *vice versa*. The felons ledgers have been preserved since 1856.

We have the advantage in Liverpool of the prison being a receiving prison for a very large area, from Birkenhead, from the adjoining districts of Lancashire and Cheshire, and from the neighbouring boroughs. I am glad to acknowledge the assistance rendered by the prison officials.

Do you visit the prison to identify prisoners from other districts?—No. No periodical visits are paid to the prison by the police.

Then in the case of a prisoner belonging to Liverpool being arrested at Birkenhead, the Liverpool police would not have any chance of recognising him in prison?—Not in prison, but the Birkenhead police would bring him over during the remand for the purpose of being seen. They bring prisoners to the Bridewell for this purpose from Birkenhead and other boroughs and from Lancashire.

But to return to what is done before a prisoner appears in court?—If neither the description clerk nor any of my branch nor the detectives recognise the person we apply for a remand and obtain the photograph of the prisoner at the Bridewell, before he is removed to prison. Some object to being photographed, but we have arranged a room where the objectors can be photographed without knowing it (witness here gave a description of the room). Some of the photographs taken in this way are good, others are not so satisfactory. There are some offenders who have been told of this room and they refuse to go upstairs. When this is the case we do not use force, we apply to the prison for photographs. Persons who refuse to be photographed by the police will submit in prison. The prison authorities are always ready to assist us in this matter. Probably 20 or 30 photographs are taken in the prison for the police in the course of a year.

Our albums contain photographs representing about 2,300 persons.

And when you have got the photographs do you issue the route-forms?—Yes, that is a matter requiring much discrimination. I feel it a tax upon the time of other police forces to route a man broadcast; we only route a prisoner when it is really necessary to do so, and then we exercise great care as to where we send the routes. Frequently we are able to obtain information from friends of prisoners as to who he is, or we may obtain information as to where he comes from or where he is likely to be known. Some forces seem to route everybody they get. We receive an immense number of routes issued quite indiscriminately and the labour of examining them is very great. From September 29th, 1892, to 29th September last we sent out routes for 74 persons, sending each to perhaps 20 places on the average, and we received about 1,200. Preston borough appears to route every person arrested; Salford send a great number, but they keep a good register and classify their album very well, and never fail to send a result of the case, a thing many forces neglect to do. The majority of the routes received would be from Salford, Leeds, Stafford, Nottingham, and Leicester; Belfast are now routing a good many, Glasgow and Edinburgh if they suspect the person has been our way. Newcastle-on-Tyne also sends a good many.

Do you use the Habitual Criminals Register?—We find that the register sent from the Home Office is invaluable. It is helpful to us not only for travelling



thieves but many of our local thieves. The only suggestion I would make would be its issue at an earlier date.

The Habitual Criminals Register is useful not only for identification but also for obtaining the accurate particulars of the previous conviction. The weekly list from Scotland Yard also helps us. The Illustrated Circular is a very good thing in the Metropolis but not helpful to us except for reference.

Where do you send your route-forms?—The great centres to which we send route-forms and the places from which we receive the greatest assistance are the Metropolitan Police (the Convict Supervision Office, Scotland Yard, help us very much), Glasgow, Edinburgh; and with regard to Edinburgh the police do pretty much the same as they do in the metropolis, viz., inquire at Prison and Registry, Salford, Leeds, Stafford, and both local and convict prisons.

Do you think many prisoners escape identification?—Very few. It is very seldom a prisoner gets through

the police and the prison without being recognized. After he has undergone examination by the police he has got the same to go through with the reception officer of the prison, and if not identified by either he is routed. Of 74 persons routed 64 were identified, only 10 failed.

Do you keep a record?—We have a route-book in which a man would be entered, with the date and place where his route came from.

Do you suggest any alteration in the rule as regards the photographing of prisoners?—We get very nearly all the photographs we want. We either get them ourselves or by applying to the Governor of the prison. I understand that it is the rule that remand prisoners may be photographed. I think under the Standing Order the Governor of the prison photographs prisoners without applying to the Commissioners of Prisons.

When do you get the photographs from the prison?—As a rule on the third day.

### Home Office, Friday, 8th December 1893.

#### PRESENT:

MR. C. E. TROUP (Chairman).  
Major A. GRIFFITHS.  
Mr. M. L. MACNAGHTEN.  
Mr. H. B. SIMPSON (Secretary).

SIR RICHARD E. WEBSTER, Q.C., M.P.

1. (*Chairman.*) We have been in Paris, and seen M. Bertillon's system in operation. As we understand that you have also seen it, perhaps you will give us your opinion?—I mentioned to the Home Secretary that when I was in Paris I saw it on two or three occasions and I went into it very thoroughly, and it seemed to me, for reasons that I will state, if you wish it in that way, to be by far the best system that I had ever seen or heard of and to possess many remarkable safeguards against the possible identification of innocent people for those previously convicted. I do not care so much (although of course it is very important) that previously convicted people should be identified. Its great importance or one of its principal features, to my mind at all events, was the practical impossibility, in my opinion, if it is properly worked, of the confusion of any person charged with one previously convicted or previously charged. That was the first, perhaps the leading, idea that I gathered or formed about it. And the next is the great facility for registration and classification and tracing out particular cases, assuming identity. Those are the two points which I should like to refer to subject to anything that you might wish to ask me.

2. Yes, that is what we would like from you?—I think I had better take the second first, because the reasons for the first depend on the correctness of my judgment, in regard to the second, I will tell you the practical result in regard to classification. On the first occasion when I was there, a man who had distinctly given a false name and said that he had never been charged before was measured in our presence, we asking our own questions as to the method of measurement, merely being taught as to the order of measurement, and only asking sufficient questions to understand what was being done. After five or six measurements—eight actually taken, I think—one card with the five or six measurements was given to the Attorney-General who accompanied me and myself, and without any assistance in less than five minutes we found the card, which according to the measurements, would be the man, assuming the measurements to be accurate. On that occasion the card bore a different name, the man having been identified, and we ourselves having picked out the card without the slightest assistance. There was a photograph on the first card. I should not have identified the man by the photograph; but I do not lay any stress upon that, because I do not pretend to be a judge of that class of photograph, and I am bound to say that the Attorney-General said that he should have identified the man by the photograph. However, the impression on my mind was distinct that I should not have identified him by the photograph. I may mention that in that case the previous photograph had a moustache and

beard, and the prisoner, when presented before us, had no moustache or beard. I mention that because I do not want to overstate the matter, and possibly better judges would have been able to have identified the photograph at once. I should not. Having identified the man, M. Bertillon handed to us the first card, and said, "Look at the private marks."—you are aware, of course, that after measurement private marks are taken,—and the first mark was, that if this was the man whose name was on the previous card, there was a scar on the second or third finger of his left hand, an approximate measurement in a certain direction. Prisoner's hand was held up, and there was the scar. I then looked at the first card again. It stated that if this was the same man, he had a tattoo mark of an anchor, about an inch long, on his left arm, the posterior side of his left arm, rather faint. The prisoner had got a bandage round his arm. It was pulled off, and there was the anchor. It was not that we had got a man very like him, but it was unquestionable that we had picked out that man, and I only refer to that for the purpose of showing that, assuming it to be correctly taken, the mode of classification is singularly easy to find your way about. The whole operation would not take us more than four minutes.

3. This would be a case where the whole measurements came within one class, not a case on the margin?—Your mind is entirely following the same groove as mine. I merely mentioned that with reference to the first point of registration. I then put questions upon the very point you have referred to, viz., that the leading measurement might be a misleading one. You remember the first measurement of classification is the length of the head beginning from a point above the nose to the back. I investigated myself as to how far the leading measurements were likely to be defective or misleading. I satisfied myself, as far as my judgment was worth anything, that the probability of error of measurement is very small.

4. I think 185 to 190 millimetres is the middle class: suppose you had a case where the measurement is 184 or 185?—I satisfied myself that supposing the dividing line should indicate 185, or whatever it is, the margin would not be more than, at the outside, 183 or 187; so that anything near the line could only mean double the time for the purpose of search, and further than that, that the only result in case of failure would be non-identification, not identification of an erroneous person.

5. Supposing you missed the case altogether?—The only result would be that you would miss the case altogether, not that you would identify an erroneous

person. I was further satisfied in my own mind, and I went into it as thoroughly as I could, that the measurements which are taken as leading measurements cannot be altered at the will of the person measured. There must be possibility of mistake in the act of taking the measurement. Although I myself trying subsequently, inexperienced as I was in the taking of measurements, found that in taking this measurement from back to front of the head, that the calipers, appeared to fall into position almost automatically. I do not pretend to say whether there is a possibility of large error, but if there be the possibility of error, it would only have the effect which I have already indicated. In my opinion, with regard to all the other measurements, the leading measurements seem to me to a large extent to be measurement of bones, and they use the height only to a very limited extent, for obviously the height is one in which a man can appear shorter or longer by the movement of his knee-joints and in other ways. Therefore, from the points of view of failure of measurement, it seemed to me, from an examination of—well, perhaps, altogether some three or four cases, that I do not think it was likely that with ordinary experience a man would get into the wrong class. If he got in, assuming him to be there, it was only a question of investigating two sets according to the first leading measurements, and if he were missed it would be a case of not being found, and not the wrong person identified. Then with regard to the actual measurements taken; as to whether they are the wisest or not I am not in the least competent to express an opinion beyond this, that there seems to be such a margin of variety in the various measurements taken—for instance, this one, 185, it was not a question of everybody being close to 185, but it reached up to 200 on the one side, and the next class down to 180 or 179, or something of that kind. Therefore, the allowance for error with regard to the matter was so remarkable that I do not think there was much probability of error. I have no doubt you have been informed by M. Bertillon of what he informed me—I have no reason to doubt his statement—that his system has been in operation for ten years, and they have never known a case of an innocent person being mistaken for a guilty one. I think they do miss some cases, but they have never known a case of mistaken identity in that sense. I should like to say that, from the little experience I have had, I do not value the photograph identification very much. I have no personal experience of its working to enable me to give an opinion worth anything, from what I may call practical experience, but I looked for a very large number of cards that were admittedly identical, the same prisoners, men who had not given a false name, but men who had been in more than once; certainly the changes in the photographs were very remarkable, such as the cut of the hair, the condition of the man in health, and, of course, beard and moustache, and all those things. But the condition of the man in health appeared to make the photograph very different, although they were undoubtedly the same. I think that is all that occurs to me, unless you would like to ask me a question upon the first part of the matter.

6. I do not think we have any more questions to ask on that part. And now with regard to the second part—With regard to the second point, which is the impossibility or the improbability of a person being mistaken for the same criminal as a man supposed to have been there before, I think, having regard to the numbers of definite measurements that are taken and assuming men to be impartial and fair, that the improbability of the same combinations is so great that the system checks it. And I cannot help feeling in my own mind certain that, from that point of view, the ultimate examination made of the previous prisoner for secret marks is a great safeguard, because, although it may be an extremely useful, and in my opinion is an extremely useful method of getting at the prisoner and classifying him, so as to identify him, a man might have been imprisoned at Marseilles and then appear at Paris; a prisoner could have been imprisoned at Toulon and then appear at Havre, if there were greater identity in measurements and at the same time not absolute identity. I think the marks that were subsequently taken, assuming them to exist, would in a very large number of cases prevent an erroneous identification.

7. (*Major Griffiths.*) Have you seen Mr. Galton's finger-print system?—I have not seen the enlargement of it. What I say in regard to that, if I may express

an opinion without having seen it, is that it seems extremely difficult to classify.

8. (*Chairman.*) The classification is the difficulty; but from the point of view we are talking of now—proving identity—it seems to be absolutely safe?—I do not see any reason why it should not be supplementary, why it should not be added on. I have no practical knowledge of it, and from the point of view of classification, it struck me as extremely difficult. It would be, in fact, what I might call a supplemental test at the end of the others. I do not know whether or not it was possible to get much difference due to the degree of pressure put upon the hand.

9. The degree of pressure makes no difference—But with regard to the Bertillon system, I have talked it over with Colonel Talbot, the Military Attaché at Paris; he is a most able man. He told me that he had formed the strongest opinion; that in a few years it would be an absolute preventive of double enlistment, and it would enormously facilitate the work of the Department. I only mention that because it is an entirely different point of view, except in this respect, that there again you want only to be doubly careful that you do not charge a man with having enlisted before. It is not a matter that you fail to charge a man who has enlisted before, but you do not want to charge a man who has not enlisted at all.

10. Have you ever thought at all of the application of it to England?—I have thought a good deal about it. Do you mean from a practical point of view?

11. From a practical point of view?—I think there would be very great difficulty at present in applying it to persons who are only charged, and I do not see the necessity of it myself. I am speaking first of persons who are charged as distinguished from persons who are convicted. Practically speaking, all you want to do is to measure the convicted, not an innocent person.

12. (*Major Griffiths.*) Surely the object of the whole thing is to bring out the previous convictions?—Yes, the second time. Your first measurement need only be in the case of a convicted prisoner. The only people who could wish it to be done in the case of first charges would be innocent people, that they may not be mistaken for the person who had been originally charged; but from the point of view of public sentiment, although I personally should not have any objection, there is a reason why a man charged should not be measured. It would be in all probability wiser if you were proposing to apply it that it should be in the first instance solely applied to the case of convicted prisoners, or, if you like, prisoners charged with certain offences. With regard to the practical application of it I made some inquiries about expense, but I do not think my opinion is worth very much in regard to that.

13. But in every case the jury would not be satisfied with a few measurements for identification; they would require personal identification as well?—I do not know enough about the system to answer that question.

14. Any identification of that sort would have to be followed by a personal identification by some individual who knew the man, no jury or court would accept those measurements and finger prints or measurements alone as a proof of identification?—Of course, from the point of view of evidence, they undoubtedly would not at the present time. I do not think I should suggest any attempt to establish that such measurements should be identification at present. But I am by no means certain of what might happen 15 or 20 years hence.

15. In the first instance it really is an index to find the faces of individuals?—In the first instance it really is an index to find the individuals in order to ascertain for yourselves whether or not the person has been previously convicted.

16. Exactly?—And as I say again, to prevent a person whom a jailor thinks is very like a man whom he saw 10 years ago, being charged for the same offence.

17. That is the most important point no doubt, and must of course receive proper attention?—I do not think you can bring it out too prominently. I do not think there is anybody who takes an interest in this matter who does not believe that it is infinitely more for the protection of the innocent man who is charged than it is for the punishment of person who is charged with having been previously charged. It is, in my opinion, an absolute safeguard if properly worked—fairly, honestly worked—against an innocent person

being charged, or it even being alleged against an innocent person that he has been previously charged or previously convicted. I should think it would be a good thing if, at any rate for some years, the measurements were taken quite independently by two different people. I asked M. Bertillon about that, as to whether he found that they often made a mistake, but he told me that they really had become so experienced, that they had not found a mistake in some hundreds of times. From a public point of view—at any rate tentatively—I think it would be as well that the measurements should be taken quite independently by two different people.

18. It might be taken by the police and the warders?—I do not suggest who should do it, but there might be two independent measurements.

19. When the system is fully established, we propose that all prisoners on remand should be measured?—Well, before you can make any practical use of the system that must come. If a man is not committed for

trial, you do not care whether he has been convicted before or not.

20. (*Chairman.*) It is rather an important point in deciding whether he is to be committed for trial or tried summarily?—Yes. That, I thought, was a detail in the criminal law that did not affect my investigation of the system.

21. (*Major Griffiths.*) The curious thing with our prisoners is that the moment they know, or think we know, who they are, they give in and admit their identity?—That is what they also told me in France.

22. Is there anything else you would wish to add?—There is one other point which I think should be noted, that in three minutes we picked out that man out of 138,000 cards; it took us, certainly, not quite four minutes to get the right card out of 138,000, and that the information given by the measurements once recorded is available for and can be sent to every prison in the country.

Dr. JOHN GEORGE GARSON.

23. (*Chairman.*) You are one of the vice-presidents of the Anthropological Institute, are you not?—I am one of the vice-presidents.

24. And you have done special work for the Anthropological Institute?—I have been working not for the Anthropological Institute alone, but I was for 10 years assistant in the Anthropological Department of the Royal College of Surgeons Museum, and I have also done a very considerable number of examinations of the living subject.

25. By measurements?—Measurements of the living.

26. Then you have a good deal of experience yourself in taking anthropometric measurements?—Very great I should say.

27. And also in training other people in it?—Yes, I have had considerable experience in training other people also.

28. Have you gone into M. Bertillon's system of measurements?—Yes, I am thoroughly acquainted with the system.

29. The first point on which I think we should like to examine you is the question of what measurements, if we were to take some part of M. Bertillon's measurements, what measurements are best to take for the classification of criminals?—Bertillon's measurements include the height, the span of the arms, length, and breadth of the head, length and breadth of the ear, the foot, the middle and little fingers, the fore arm, the cubit; these are all his measurements, I think. There is the colour of the eye, the hair, and beard, and also any marks on the body.

30. Yes, but then the point is this, I think. For the purposes of classification we want, do we not, to have the measurements which are most permanent in the individual, have the widest range of variations in different persons, are most convenient to take, and also have the least correlation to one another?—These are the different points for which one has to look. The most important measurements are those that can be taken between absolutely fixed points of bone. Of those of M. Bertillon, which I have just mentioned, I consider the length and breadth of the head, the cubit and the middle finger, the best and most important.

31. Those four?—Those four. The length of the foot is a very good measurement too, but care has to be taken in making it. The criminal, or whoever is being examined, has to stand on one foot in rather an awkward position. Of M. Bertillon's measurements, these five are the best, I think.

32. Then you think the fifth one, the foot, is not so good as the others?—Not quite so good.

33. On the ground of the awkwardness of taking it?—Yes, and also there is an arch in the foot—in the central part of the foot—which is liable to vary somewhat.

34. (*Major Griffiths.*) Unless the foot is absolutely flat?—Yes.

35. The toe-nail causes some difficulty too—the length of toe-nail?—Yes, and another thing is in wearing boots, the large toe gets twisted round, very often a bunion forms on the great toe joint, consequently you have a reduction in the length of the foot produced as age advances.

36. (*Chairman.*) What do you think would be the danger of error in the foot; how much variation might there be?—From half to nearly a centimetre.

37. Nearly a centimetre?—That would be an extreme variation, certainly. I would consider about half a centimetre—five millimetres—would not be a very great difference in the measurement of the foot of a young man and when he is old. But for its liability to vary during life I think the length of the foot a better measurement for purposes of classification than the finger, because it is longer and has a greater range of variation in different persons.

38. (*Major Griffiths.*) I was going to ask what do you think the next best measurement after the foot or equal with the foot. (*Chairman.*) Or instead of the foot?—Instead of the foot I strongly recommend the breadth of the face, across here (*showing*), the bizygomatic breadth. I have got some statistics of it. Every year for the last seven or eight years I have superintended an anthropometrical laboratory at the British Association meetings; during that time I have measured something like 1,000 people, and I have got out the statistics of the breadth of the face, which perhaps would give you some idea of its merits. The table shows you that though there is correlation between the breadth of head and breadth of face, yet that correlation is not very close. You see that there is a certain correlation, because the figures run somewhat obliquely; but take any breadth of head that you like—this is the breadth of head down this column, the horizontal row of figures is the breadth of face—you see there is a very great range in the breadth of face correlated with it. That is to say, that a man with a head of, say, 154 millimetres in breadth may have a face breadth of from 112 to 144 millimetres.

39. There is certainly a great variation?—There is a great variation.

40. (*Major Griffiths.*) Would you hand this in?—I shall be very pleased, or I will make you a copy more suitable for printing.

41. (*Chairman.*) Perhaps you can make some summary of it?—I can make a table of it by putting in the numbers in the little squares. (*See Table, printed p. 55.*)

42. (*Major Griffiths.*) So that you would really recommend the breadth of the face, or substitute it for the foot?—Well, I think it fulfils the conditions I have indicated as being essential for a good measurement. It is easily and accurately measured, not liable to vary during life, and not closely correlated, as we have seen, to the head breadth.

43. (*Chairman.*) How is it taken, and how far would it be affected by emaciation or stoutness?—It is best taken with sliding callipers such as are used for measuring the head. Being measured between two subcutaneous surfaces of bone, it is little affected by emaciation or stoutness, certainly not more than the breadth of the head is affected.

44. Of course you would allow there was some advantage in measuring the foot simply on the ground, that to have the same thing that they have in France counts for something?—Oh, of course, that is so decidedly, and probably when you come to speak about the method of making measurements I would have something to say in regard to that also.

45. (*Major Griffiths.*) I think it was Mr. Galton yesterday or Sir William Flower who said something about the hip bones?—There was another measurement I was going to suggest, which would be a very good one, that is the breadth of the pelvis or haunch bones, not the hip bones. The only difficulty I have regarding the pelvis is this, that you require to strip a person; at least the trousers must be down.

46. That is not a difficulty with us, because our prisoners are always stripped?—Very well, then that would be a most excellent measurement. I had in a table of pelvic measurements of skeletons, which shows considerable range of variation.

TABLE OF MAXIMUM BREADTH OF PELVIS (Skeleton).

Measurement of Pelvic Breadth.	Number of Cases.	Total.
315-319 - - -	x =	1 65
310-314 - - -	x x =	2 64
305-309 - - -	x =	1 62
300-304 - - -	x =	1 61
295-299 - - -	x x =	2 60
290-294 - - -	x x x x =	4 58
285-289 - - -	x x x x x x x x =	9 54
280-284 - - -	x x x x x x =	6 45
275-279 - - -	x x x x x x =	7 39
270-274 - - -	x x x x x x x x =	8 32
265-269 - - -	x x x x x x x x x x =	9 24
260-264 - - -	x x x x x x x =	7 15
255-259 - - -	x x x x x =	5 8
250-254 - - -	x x =	2 3
245-249 - - -	x =	1 1

47. And the measurement itself is very unvarying in each person, is it not?—Yes, very invariable; you can feel it, how very firm it is; at this point there is hard bone on each haunch which is just below the skin, so that you can get an exact measurement from point to point with a sliding rule.

48. (*Chairman.*) If a man got very stout, would that affect the measurement?—No, not particularly; the stoutness would be above or below. Another very good measurement is the height of the knee, but it requires to be done very carefully. I am not quite so certain about recommending that, considering that you would not have highly educated men to make the measurements probably. Mr. Galton did take the height of the knee at one time, but what would require to be done if it were taken would be to seat the person on a stool of perhaps not more than 12 inches high, and have some arrangement against which the leg would rest, so as to insure it being in a vertical position when measured. If you feel on the top and outside of your knee at this point, when you hold your knee in a flexed position, you will feel that there is hard bone, showing that you have got the end of the bone there perfectly subcutaneous.

49. (*Major Griffiths.*) Then as to the breadth of span of arms that M. Bertillon takes?—The span if taken as he does it, against a wall, is a very fairly good measurement; if taken in any other way, I do not give much for it, because so much depends upon the will of the person, exactly in the same way as the height.

50. (*Mr. Macnaghten.*) But I should have thought as to the height of the leg up to the knee, that a man could contract it a little?—Not if he is put into the particular position I have indicated.

51. We should have some rather dubious kind of gentlemen to measure?—Yes.

52. I thought you could contract the calf of your leg?—That would not affect the length of the leg if the foot is flat on the ground.

53. (*Chairman.*) Would not these knee measurements be more or less correlated with the cubit?—To a certain extent, but I do not know that they would be very closely correlated, but I have no statistics showing whether it is so or not.

54. (*Major Griffiths.*) What do you think of the ear measurement, which is one of M. Bertillon's measurements?—The ear may be taken, though it is somewhat delicate to measure properly, and its lower end varies in form. The Saxon ear is said always to have a distinct lobe, but in other races the lobe is wanting, so that you get a considerable amount of variation, and I think it would be rather difficult perhaps for an uneducated

person—when I say that I mean persons of such education and training as you are likely to have as measurers—to take its dimensions with sufficient accuracy to use it as a measurement for classifying; besides its length is so short that an error of even one millimetre would be considerable per cent. of its length.

56. The shape of the ear comes under "distinctive marks"?—That is so.

57. You were going to tell us something about the method of taking the measurements, were you not?—With regard to the length of the head, M. Bertillon takes it from the root of the nose, but it is somewhat troublesome to get an instrument to lie upon that point.

58. In India, Mr. Gayer has invented a modification, or rather an addition to M. Bertillon's instrument, in the form of a split tube which slips on to one arm of the callipers with a transverse rest for the nose.

59. Which fastens over the bridge of the nose?—So that the point rests upon it.

60. (*Chairman.*) You have got a specimen?—I have tried to get a copy of the illustration, but have not succeeded. I can give you the reference however; it is described and figured in a report to the Government of Bengal in 1892, last year.

61. (*Major Griffiths.*) They have introduced measurements then in Bengal?—Yes, I believe so.

62. (*Chairman.*) What was the subject of the report?—It was on this subject, the Anthropometric Identification of Criminals. Then, perhaps I may say, treating of that paper also, he has also introduced a rest—a handle—by which you can hold the callipers more steadily while using them, and has attached a small spring to the limbs so that they are drawn together with a regular pressure. And then in regard to that heavy instrument by which the cubit is taken, he found it was rather difficult to get the people who make the measurements to take them accurately, he introduced a coiled spring by which the sliding arm is drawn home with more or less constant pressure. He found it most important, for the foot especially.

63. To have a constant pressure?—To have the arms of the instrument pressed against the part of the body measured with a constant pressure. That is an instrument which I have used for measuring the head. (*Instrument produced.*)

64. That is almost the same as M. Bertillon's?—Very nearly.

65. It is rather lighter?—This is Broca's; M. Bertillon's is almost the same as Broca's, only much heavier. This is the original instrument which was invented by Broca for making measurements on the living.

66. (*Major Griffiths.*) I suppose, as a matter of material, it would be better to have them in metal than in wood?—Oh, they would need to be in metal.

67. (*Chairman.*) In India do they measure the head length from the same point on the nose as M. Bertillon does?—I think they have followed M. Bertillon entirely. In all our measurements for race characters, we take the glabella, as it is called; that is to say the most prominent point of the forehead. There is less danger decidedly of putting the point into the eye in that way, and it gives you a maximum length of head.

69. A little longer than the other?—A little longer than the other; all our statistics are made by this means.

70. Do you find it as easy to fix the exact point to take it from?—Quite as easy; the only difficulty that I could imagine regarding this point is that there is an air-space underneath the glabella which increases in size as you develop towards adult age; in a child it is much less than it is afterwards. That can be the only objection that I can see that could be advanced against taking the measurement from this point.

71. (*Major Griffiths.*) And the same variation would not occur if it were taken from the root of the nose?—No, not from the lowest part of the bridge of the nose; still the glabella is a much better point generally.

72. Easier to get at?—Yes, I think so, especially if it is taken with sliding callipers like those of Sir William Flower. We consider it is far the best point to take. The root of the nose used to be taken by Professor Virchow in taking the length of the head,

but I think he has now abandoned it and follows every other person in taking the glabella.

73. Why did M. Bertillon take the root of the nose?—Why he took it I cannot understand, unless for that reason I have just mentioned, which would only apply to young criminals of less than 25 years of age at the very outside.

74. (*Chairman.*) What age do you think we can take as the age after which the size of the skull would practically not vary?—The skull, as a rule, has attained its full size from about 22 to 25; it certainly may increase after 20, but to a very small extent. I have put in my bag here an important paper by Mr. Venn, of Cambridge—The results of measurements made in the anthropometrical laboratory of Cambridge University on 1,095 students. These tables will show you the results.

75. Are those individual cases or average?—These are average cases, as far as I know there are no statistics on the same individual, showing the variations, or whether there are variations with the regular sequence of years after the age of 23.

76. There are very slight variations after 21?—Yes.

77. (*Mr. Macnaghten.*) I can understand the breadth and length increasing, but how does it happen that at 24 it goes back?—That must be the accident of chance.

78. (*Major Griffiths.*) Of the measurements?—Yes, in the series of men measured at 24 years, the number of students with small heads happened to be greater than in the preceding series.

79. (*Chairman.*) It is an average?—Yes. These anomalies are corrected in the plate which accompanies the paper, showing the curve of the increase in size of the head, of different grades of students.

80. Poll men increase most rapidly?—Yes, they do.

81. What do you think as to the adoption of the metric system of measurements?—I cannot too strongly recommend its adoption for all measurements, even for stature and span, but I consider it is absolutely necessary, if we desire accuracy, that the smaller measurements, such as those of the head, arm, leg, or other parts of the body, be made by the metric system.

82. It does not really involve any training in the metric system on the part of a man?—No, it does not.

83. They simply would tell off the instruments?—They simply would tell off the instruments.

84. They need not even know there are such things as millimetres?—Well, I strongly advocate training the men in everything, and showing them the reason why a thing is done in a certain way, as I like to get them to bring intelligence to bear upon the subject that they are doing. You get much more reliable results than if they are simply mere mechanics working by "rule of thumb."

85. But still, as a matter of fact, it is not absolutely necessary for them to understand the metric system?—Oh, no, it is not necessary; they simply know that the breadth of the head is 140 or 150, or whatever else it is.

86. What sort of men do you employ in making these measurements?—The most that I come across are all educated gentlemen, very often travellers.

87. Then what do you think about the possibility of getting prison warders to do it?—I think that anyone who is a good writer, or dexterous generally, will very probably turn out after some training a fairly good measurer.

88. You have had some experience, have you not, training police in ambulance work?—Yes. I have had very considerable experience in training and in examining police in ambulance work.

89. So that you know pretty well what the capacity of that class of men is?—Yes, I know very well what the capacity of those men is, and I have found that the older men who have got as it were into routine habits, mechanical sort of habits, are usually the worst to train; if you get an older man—

90. (*Major Griffiths.*) That is a question we have already arrived at, that those that we taught should be young men principally?—Yes, that is very essential.

91. (*Chairman.*) You do not think there would be any difficulty in getting young men taught sufficiently

to be able to do it?—None; there need be no difficulty whatever.

92. Have you made any table of the margins of error which occur in these head measurements?—No, I have not.

93. You do not want it for your purpose?—In general anthropometry on the living one gets few opportunities of obtaining such statistics, but I have had considerable experience of repeated measurements of skulls and limb bones on the skeleton. In the case of head and other measurements which are well defined, the margin of error is not great. Skulls measured independently by Sir William Flower and myself in the College of Surgeons Museum, or which I have repeatedly measured, would sometimes show a difference of 1 or rarely 2 millimetres, but in most cases the results would be the same, the skulls being under similar conditions when measured and re-measured. There are certain errors liable to occur in making each measurement, and it is necessary for the measurer ever to be on the watch to guard against making them. For example, the breadth of the head, which should be measured exactly transversely to the head length, while the ends of the callipers are held exactly level, is liable to error through the callipers being held more or less obliquely in one direction or the other.

94. But do you think, in practice, the error would be more than 1 millimetre or 2 millimetres?—I do not think it should be with fairly well trained men.

95. (*Major Griffiths.*) Could not that be counteracted mechanically in some way by having a third leg to the calliper to fix it to the upper part?—I am afraid not. I prefer the sliding callipers to those of Bertillon, because you have got the bar across, which enables you to see pretty well whether you are holding it horizontal or not.

96. (*Chairman.*) You prefer the sliding callipers?—Yes.

97. Professor Flower's?—Yes, callipers of that kind.

98. How long a training do you think it would require to teach a man?—I should think about three weeks or a month would be sufficient.

99. Giving an hour or two of measuring a day, I suppose?—Yes. I would recommend that first of all the measurements be explained systematically on the skeleton in the first instance, and the men shown exactly why everything is done; then proceed to exercise them for the practical work of measuring the living.

100. Do you think the best plan is to send one or two warders to Paris to learn it from M. Bertillon, or do you think they would learn it here?—I should think they could be taught it very well here.

101. (*Major Griffiths.*) And we might teach them our own way?—Yes, quite so. I think it would be much better to train them at home.

102. I suppose you have no doubt that there is no variation in these various measurements after 25?—Not appreciable.

103. Not appreciable?—The head measurements I consider are really stationary in the adult, although variations take place in the structure of bone in old age, but that is more particularly in regard to the proportions of the various constituents of the bone—the organic become less in proportion to the inorganic.

104. (*Chairman.*) Would you undertake to teach warders these measurements?—Yes, I should be very pleased to do so, very pleased indeed.

105. (*Major Griffiths.*) To teach a few to start, at any rate?—Yes, I should be very pleased to do so.

106. And then, if you had six or seven men well taught, they could teach other men?—I do not think that would be an advisable arrangement, but would strongly recommend that all the men needed for this work should be taught by an experienced teacher who has had a scientific training, otherwise errors in method and results will be increased at an inverse ratio.

107. (*Mr. Macnaghten.*) They would form a nucleus?—They would certainly form a nucleus. I think it would be a good plan in starting anything of this sort to make it a reward to be a measurer, and so to give some stimulus to a man to do the work well. In fact you might train a greater number than you actually

want and make a selection—make competition for the posts.

108. (*Major Griffiths.*) Make it promotion to become what we call a reception warder for the purpose of measurement?—Yes, and he should have passed competent examination before you allow a warder to take the measurements.

109. You see we should want about 60 warders?—Yes. There would be no difficulty in teaching that number.

110. We should probably have to take the material we could get; we should not be able to compete very much.

111. (*Mr. Macnaghten.*) Well, but 60 would only be one man for each prison; you ought to have a kind of understudy, I suppose?

112. (*Major Griffiths.*) And in the big prisons you would want two or three in the reception office; in the smaller prisons you would only want one; that is where the difficulty comes in.

113. (*Chairman.*) Yes, there would be a difficulty; the medical officer might sometimes superintend.

114. (*Major Griffiths.*) In a small prison he is an outsider, he merely comes in for his work?—But the medical officers would have to be instructed in it also; they are not by any means up in this work.

115. It is purely mechanical?—Yes, but the measurer requires to think what he is about.

116. (*Major Griffiths.*) Perhaps you can suggest improvements upon the French instruments, or do you consider them the best possible?—No, I do not think so; I think we should get equally good instruments made in this country.

117. (*Chairman.*) Should we have to start making new instruments, or are there instruments to be got?

118. (*Major Griffiths.*) We could make all the instruments; once get your plan, there is no difficulty in producing the thing by contract in any quantity?—Yes, it would depend on the measurements that were finally settled to be made.

119. (*Chairman.*) Do you know Mr. Galton's Finger Print System?—Yes, I have worked with him for over a year on these finger prints.

120. Our idea is to classify first by four or five measurements and then by the finger prints?—Oh! You mean to classify by finger prints also?

121. Classify by measurement and supplement by finger prints?—That is distinctly the value of them; they are quite as good as photographs.

122. (*Major Griffiths.*) We shall have the photographs too as a third means of identification?—Yes, that would be very good; in fact one could almost do without the photographs if we have the finger prints, I think.

123. You like the finger prints?—I like the finger prints very much indeed; I think they are very important.

124. (*Mr. Macnaghten.*) What we thought the weak point was the means of classification there; there is not really a mode of classification?—I do not think it is possible to classify, except very roughly, by finger prints.

125. You see, you have only the arches and the loops and the whorls?—These are the only three forms you have; if you want a case identified, the imprint would require to be sent up to some central office, where some expert would go into the question and examine all the different minutiae.

126. Of course, as a matter of classification, M. Bertillon's system is perfect?—I think it is as perfect as any system can be for purposes of classification.

127. It is an admirable system?—But the limits of the divisions or groups that are used in Paris would very probably not apply to this country.

128. (*Major Griffiths.*) No, the race characters would be different?—The race elements, of which the population of this country are composed, are blended in different proportions from those of France, indeed there are some race elements in this country which do not exist in France and *vice versa*; the measurements also of English people are different from those of French, consequently the limits which have been fixed for the middle groups of each measurement to give an equal division of cards in the different departments of

the cabinet at the central office in Paris, if adopted in this country, would produce a very unequal division of cards. For example, the limit fixed for medium heads, as regards breadth, is 154–158 millimetres inclusive. This it is calculated will divide, say, 90,000 cards into 30,000 narrow, 30,000 medium, and 30,000 broad heads. If the same limits of medium breadth were adopted in England, I calculate, from the table of measurements I have handed in, that instead of there being an equal number of cards in each group, there would be 52,368 narrow, 35,211 medium, and 22,421 broad heads. It is therefore evident that lower limits than those adopted by M. Bertillon for the medium group, as regards head breadth, will require to be taken in this country. Other measurements would vary in the same way, so that we will require to have our own divisions of the groups.

129. That is only a matter of cataloguing after all for the expert who has got his central office?—Yes.

130. You cannot settle that until you have got the measurements?—Yes, we could, as there exists sufficient materials for determining what should be the limits of the groups. We have several thousand measurements from all parts of the country now, and there should be no difficulty whatever in working out the limits.

131. So that you could give us the proportionate limits of each class, the long, medium, and short?—Yes, for almost all the measurements. The only one that there are no statistics of is the foot measurement.

132. (*Chairman.*) Suppose you had a collection (say) of 500 cards, and classified them roughly by the finger prints, could you find your cards out of that number?—Finger points alone?

133. Yes, after you had got the total number of cards reduced to classes of about 500 each?—That is rather a large number, I think, to classify by finger prints.

134. You think that is rather a large number?—Yes.

135. You think it would be better to have only about 100?—Very much better; 50 I would say.

136. Mr. Galton, you know, picks them out very quickly out of a very much larger number than that?—I know he does; but unless you are going to have experts to do it you will find difficulty.

137. It would only be done at the central office, of course, and by an expert. At the prisons, all that would be wanted is a merely mechanical process, and all the cards would be at one central office where they would be classified by an expert. Do you see any difficulty about that?—No, but I do not think it is desirable that at the central office such a system of classification should be adopted as requires minute examination of the finger prints, as with a lens, or counting ridges, before the cards could be marked and put into their proper pigeon-holes. The impressions are often not very distinct.

138. (*Major Griffiths.*) We went to Pentonville last week and we took 100 prisoners whose hands were in all conditions from picking oakum and so on, and we picked out the others?—Yes.

139. (*Chairman.*) There was not a single one of the 100 prints taken that was not easily decipherable?—Yes, but I think it would be very much better to trust in the main to measurements for classification, using the finger prints chiefly for identification.

140. Is there anything else you have got to say?—There is the subject of peculiar forms of any part of the face, like the ear.

141. Which ought to be used as a distinctive mark?—Well, of course, if you have a profile photograph, that takes in the ear, which is important. Then I was going to suggest that there might be some advantage in noting the outline of the nose. In the ethnographical survey that we have going on just now in this country we have the outlines of noses recorded. These are the various types of noses. (*A copy of "Notes and Queries on Anthropology" was here produced.*) The first five are well-known forms, and they are very easily distinguished. The measurer standing at the side simply notes, by a single numeral, which form of nose the man has, unknown to the criminal who is being measured. It might be useful.

142. (*Major Griffiths.*) I doubt if there is sufficient difference; you know we have to do with warders?—

Yes; if you have got a profile photograph it is not necessary.

143. The colour of the eyes?—The colour of the eyes is a very difficult question.

143. (*Major Griffiths.*) M. Bertillon has seven colours, has he not?—Yes.

145. (*Mr. Macnaghten.*) Do you think there cannot be more than three?—Well, the arrangement I came to in regard to this subject in "Notes and Queries for Anthropology," compiled for the use of travellers, who are usually pretty fairly educated people, was to divide the eyes into three primary groups—dark, medium, and light; we have figured four eyes to show the variations of the medium group. All these forms are included in the medium group, eyes at all darker would be called dark, and anything lighter would be called light.

146. (*Chairman.*) What is this?—That is hair colour, and the other is skin colour.

147. (*Major Griffiths.*) Skin colour is not much used, is it?—Not in this country.

148. And hair colour?—That we class in the same way as the eyes—the dark, the medium, and the light.

149. For the purposes of identification the hair colour would be useless, of course, as it changes?—After a time it changes colour.

150. (*Chairman.*) Have you anything else noted?—I think that is all that I have to say. I may add that I consider the adoption of the anthropometric method of identification in England is very desirable, and would mutually be of advantage both to ethnological science and to criminal anthropology.





LETTER to the SECRETARY from SIR WILLIAM FLOWER, K.C.B., with regard to Dr. Garson's Evidence.

British Museum (Natural History),  
Cromwell Road, London, S.W.

DEAR SIMPSON,

January 11, 1894.

I have now carefully read Dr. Garson's evidence given to your Committee, and it seems to me to be all quite satisfactory.

As I told you, I have not had the experience that he has in measuring the living, all my anthropometrical work having been confined to osteological specimens, and I have had no means of testing some of the points upon which he speaks with authority. I see, however, no reason to question any of his statements or opinions. We shall be in a better position to speak positively on the value of some of these measurements when fuller data have been collected relating to the same individual

at different periods of life and at various intervals of time. Changes in the length and breadth of the head, after the age of 25, must be very slight indeed, and if they occur would be all in the direction of increase. The same would be the case with the breadth of the face, as the zygomatic arches might possibly develop with great exercise of the masseter muscles. The measurements made at Mr. Galton's laboratory will I hope be the means of giving this, and still more, the greater number that will be obtained when what I trust will be the recommendations of your Committee are carried into effect.

Believe me,

Yours very sincerely,

W. H. FLOWER.

Home Office, Monday, 18th December 1893.

PRESENT :

Mr. C. E. TROUP.  
Major A. GRIFFITHS.

Mr. M. L. MACNAGHTEN.  
Mr. H. B. SIMPSON (*Secretary*).

Mr. FRANCIS GALTON, F.R.S.

151. (*Chairman*.) You have studied the subject of finger-prints for a good many years, have you not?—I have; I took up the subject in 1888.

152. You took it up originally chiefly from the point of view of heredity and racial distinctions?—Yes, subsequently I became interested in the matter of personal identity. I gave a lecture on personal identity before the Royal Institution in 1888, in which I described M. Bertillon's plan and added some views of my own.

153. The questions we are going to ask you now will be chiefly on one or two points upon which we want to have your evidence formally on the notes. They will be merely supplementary to the explanations you have given us already, when we visited your laboratory. The first thing we should like to hear you about is this—there are two qualities in the finger-marks which you think specially suit them for the purposes of establishing identity; the one is the persistence of the marks, and the other is the enormous variety in different individuals?—Quite so.

154. First, we should like you just to tell us in a word or two the evidence you have of the practically absolute persistence of the marks?—I hand you an album which contains all the evidence I possess, or nearly all, upon which those conclusions are based that are given in my book entitled "Finger Prints"; they are the prints of the fingers taken of the same persons at the beginning and end of different intervals of time. They refer to 10 different persons, the interval between the first and the second impressions varying in the different cases from 9 to 31 years. I have also this other packet of prints from eight different natives of India, which were taken at Hooghli in Bengal in 1878, and again in 1892.

155. That is an interval of 14 years?—Of 14 years—these are the originals—they have been photographically enlarged, and the enlargements are published in my book on "Decipherment of Blurred Finger Prints." Extracts from those in the album were published in a memoir read before the Royal Society in 1891, and part of them were reproduced on a still more enlarged scale in my book "Finger Prints."

156. And these examples go over the whole of life, do they not—I mean in periods?—They do, from childhood to past 80. Here is a case of a gentleman in advanced life who took his impression in sealing-wax in 1873, and again in 1890, he being then past 80. I show some of my earlier attempts, in proof of the carefulness of the way in which the prints have been worked out. These were enlarged, some by a camera lucida and the others by a pantagraph, from already enlarged photographs, and I have in each case marked the points of resemblance; the results have been published in my book on finger-prints. I especially draw attention to part of the palm of a hand of a child

in 1877 and afterwards as a youth in 1890. I have divided the numerous points of comparison into groups bounded by coloured outlines in order to distinguish them and placed numbers corresponding to each. There are no less than 111 coincidences in these two prints.

157. In every case there is a coincidence?—Not a single exception.

158. You have never found a single discrepancy?—But one; to which I have given much prominence in my book on "Finger Prints."

159. That was the case of a child 2½ years old?—Yes, two ridges had merged into one by the time he had reached the age of 15.

160. But with that exception you never found any single discrepancy?—No.

161. And there has been no discrepancy in adults?—Not the slightest.

162. It has only been in that case of a child?—That is the only case I have met with.

163. (*Mr. Macnaghten*.) And this was after an interval of 13 years; 1877 to 1890?—Yes.

164. (*Chairman*.) Then you think the evidence of persistence throughout life is practically complete?—I think so; indeed I am sure of it.

165. Then have you gone into the question of how far they are affected by accidental injuries?—Yes, by accident and by age. I have a great many cases here in which the deterioration by age alone are shown, and others by age and hard work combined, but you will see on looking them through—these are south-country labourers—that in every case the pattern can be made out though there has been much deterioration in the clearness of the ridges. Now I show a case of a burn, it occurred to my assistant Sergeant Randall; he burnt his finger badly and took impressions subsequently, first when the burn was recent, then when it was healing, and again when it was almost healed; the finger is perfectly healed now.

166. Do the original marks re-appear exactly as before?—Just as before; there is not the slightest alteration.

167. After being obscured for some time by the burn all the ridges re-appear exactly, with no variation whatever?—Exactly, not the slightest.

168. When there is an injury leaving a permanent mark, if it is a very bad one, it may possibly obscure the pattern altogether?—One kind of injury obscures, but others only distort. Of the kind that obscures I show you some instances here (*showing*).

169. (*Mr. Macnaghten*.) Is that one obscured?—Well, this barely obscures the pattern; I could make out the pattern.

170. You have marked that with a Z, with a whorl underneath it?—Yes.

171. You can see there is a whorl?—You can clearly see there is a whorl here, but I can show you more difficult cases to deal with than this. In my book on finger-prints I have given a case in which a tailor—

172. (Chairman.) But the point that we want to get at is this,—the injury may obscure the pattern or distort the pattern, but does it ever produce alterations in the ridges such as to cause any confusion?—Rarely so as to cause any confusion. A cut must be deep in order to leave a permanent mark; an injury, whether it is an ulcer or a burn, must go deep, because the glands, whose ducts are included in the ridges and which appear to be the cause of the ridges, lie deep. When a deep cut is healed the ridges are distorted, much as the strata of a geological section are distorted by a subsidence or by a fault, but they are quite easy to trace.

173. It is always perfectly easy to tell that that is the result of an injury?—Oh, quite so.

174. You can never mistake it for an alteration of the pattern?—Never, not only is it easy to tell that it is the result of an injury, but the very sign-manual of the injury is remarkably definite.

175. In fact, it becomes an additional mark; it even assists the classification, does it not?—Quite so.

176. Then supposing that it were applied to prisoners, would it be possible for a person to obliterate the marks altogether?—It would be possible for a person to obliterate the marks altogether; in that way declaring that his antecedents were more or less suspicious or dangerous. If they were obliterated only to the extent to which Randall's burn has obliterated them, I presume a week in the hospital would entirely restore them, proper precaution being taken.

177. In fact he could hardly destroy them altogether except by cutting off his finger tips?—Except by serious injury; an injury that would take away the sensitiveness of the finger.

178. Then practically there would be no probability of any considerable number of people doing this?—I cannot think so; it is a matter of judgment, but I do not think so.

179. (Mr. Macnaghten.) No, no, I quite agree with you?—Let me say that the indications on the inner surface of the hand are so numerous, that if out of the whole hand half an inch square were left intact, there would be enough in that to prove identity by comparison, but it would not do for indexing purposes.

180. (Chairman.) That brings us to the second question we wished to go into, the amount of variety in the finger-prints. I think you might tell us the results of your calculations on that point, we need not go into the details?—It is extremely difficult to answer the question in a few words, because some patterns are very common and others are very rare. I am now speaking of the patterns as distinguished only by the letters A, L, W, of which I submit various specimens.

181. Well, I rather wanted to go into the questions of how far the identity of two finger-prints established the identity of the person?—The probability of identity or the reverse that is given by comparing the details of finger-prints is enormous; I made a mistake in one paragraph (p. 110) in my book on finger-prints where by accident it was understated tenfold. It may be of interest to show the original experiments I made to determine the degree of trustworthiness of the evidence afforded by the details in finger-prints; their principle is described in that book.

182. The net result of your experiments was to show that the chances of two finger-prints being the same, within a limited area, was one in sixty-four thousand millions, is not that so?—Yes; that was the result of the calculation that I made upon a trustworthy basis. Still, I always fear these large numbers; I merely gave those figures as a perfectly reasonable result after very careful experiments; but I do not cling to them at all.

183. At any rate the probability is absolutely enormous?—Yes; it is enormously greater than what in popular language begins to rank as certainty.

184. And if one takes two or three fingers into account, it is so enormous that it can hardly be put down in figures?—It is like comparing the ground plans of towns, each of which consists of very many

streets, many bifurcations, and of totally independent architecture; it is impossible to mistake the plan of even one town for that of another; much less to do so in two or three consecutive cases.

185. It is something like the chance of two cities being constructed by accident on exactly the same plan; that is what it comes to?—Exactly.

186. But to make out evidence of identity from these minutiae it must be done by an expert; is not that so?—It must be done by an expert if it is to be done exhaustively. If it is to be done sufficiently to give a strong moral probability, a man with very little training could, without photographic enlargements, do it well enough to make it worth while to send it to an expert or otherwise to incur some expense to obtain fuller evidence.

187. Of course if it were to be actually used in a court of law as evidence, you would have to have it enlarged by photography and fully explained to the jury?—A finger-print should be very much enlarged by photography for easy explanation to a jury.

188. For ordinary purposes—supposing a warder states he can identify a particular man—in order to make sure that he is not making a mistake, it would be quite enough for any ordinary person to compare the two sets of finger-prints?—Quite so; supposing he had had some little experience in making these comparisons. A person who is quite raw does not know where to fix his attention; pointers of this kind (*showing*) greatly facilitate. Any person who examines minutiae, and on whom some responsibility is thrown to do it well, ought to possess himself of a watchmaker's lens, or its equivalent, and a few of these rude tripod pointers, one of whose feet is a pin to place on the particular point to which he wants to attend.

189. Well, coming to the question of cataloguing, that involves the settling of patterns, does it not?—If this simple A, L, and W principle is adopted, a set of patterns is wanted for reference such as those on the table. There should also be typical specimens of those patterns about which doubt may reasonably arise. Then, by putting below each specimen the letter that is intended to represent it, uniformity in treatment can be ensured.

190. What is the proportion of patterns in which doubt has actually occurred? In what number of finger-prints would you find an ambiguous case, would it be one case in 20?—Ambiguity has many grades. When my superintendent marks the prints and hands them over to me, I have to make a correction—but seldom a serious one—in about one in 15 sets of finger-prints.

191. That would be one in 150 finger-prints?—Yes.

192. How often would you have to refer to these specimens to settle a pattern; should you say once in a hundred sets?—Though I have prepared these specimens only lately, I do not think I should have to refer to them often now.

193. You know the work so well now?—I am very familiar with it, and find certain ambiguous cases to recur so frequently, that when you have determined how to name them, they cease to be ambiguous.

194. It is only a question of learning which of the classes these ambiguous patterns belong to?—Quite so. May I take this opportunity of making an explanation? I was at a little disadvantage when the Committee was appointed, as I had not then determined how to class many of these ambiguous cases. My plan had been to leave it to Randall to write the title to each card and for me afterwards to revise them. Then I noted the more or less ambiguous cases; where there was decidedly room for doubt we conferred together sometimes. Then the cases of doubt became fewer and fewer, and I had intended at the end to have leisurely accumulated and photographed a good set of the doubtful cases, and finally to fix how they should be classed. But when the Committee was appointed it was necessary for me to catalogue with haste my collection, although these ambiguous cases had not been so thoroughly worked out as I should have liked.

195. Then do you think there would be any difficulty, supposing these were used for identifying prisoners, in getting one or two persons who in a reasonably short time might learn to work at deciphering patterns?—My experience is this: seven persons have been more or less connected with me in various parts of this inquiry, and I found that after a few days they all

acquired very fair knowledge; it was the want of a good set of specimens of ambiguous cases that prevented them from making further advance in that brief time. As an example of what has been done for me by others, I submit a small portion of the voluminous work by Mr. Collins, in which not only the A, L, W method of indexing was taken into account, but the particular pattern in a series of 53 standard patterns, which is a far more difficult task, yet he acquired the art very quickly.

196. Is this outline necessary in working these finger-marks?—I think not, if the A, L, W method only is used.

197. A learner ought to practise it?—A learner ought to practise it a little. It must be recollected that I wrote my book on finger-prints, in which the importance of outlining was emphasised, a year and a half ago, at all events, it was out of my hands 18 months ago, and I have studied the subject a good deal since; some things are now superseded that were said in that book.

198. You would dispense with the outlines except by way of practice in getting the forms into a beginner's head?—Quite so.

199. Then your method of indexing is taking the 10 fingers and appending to them the letters A, L, or W, according to the pattern of each?—Yes.

200. But on the forefinger you use the letters R and U according as it comes, R from the radial or thumb side or from the ulnar side?—Yes.

201. And that would give you possible combinations amounting to over 100,000 if they occurred quite indiscriminately?—With 10 digits their number is  $4^2 \times 3^8 = 104,976$ , say 105,000, with six digits it is  $4^2 \times 3^4 = 1,290$ , but only a fraction of the possible combinations are actually met with.

202. That is if they occurred absolutely indiscriminately?—If they occurred absolutely indiscriminately the 105,000 possible titles would be equally frequent.

203. But as a matter of fact, they do not occur indiscriminately or anything like it?—No. One combination is very common.

204. That is all loops. It occurs in about 6 per cent.?—Yes, that is the per-centage for "all loops" of the U kind only.

205. What is the reason of your making a distinction between R and U in the forefinger and not in the other fingers?—Because R occurs very rarely in any digit except the forefinger.

206. Very rarely?—Very rarely, and from trying to pick out the instances and finding so few the mind becomes lulled, as it were, with a sense of security and overlooks them when they do occur; for that reason I have thought it better to avoid them hitherto in my particular way of working.

207. In fact it adds very much to the labour of getting correct formulæ without really assisting the classification very much?—Quite so; that is the reason why I have discarded it, but I am not at all clear that I should recommend the same plan as that which I have used, for your purpose. I think it might be better to do away with the letters R and U, and to substitute for them other letters that mean respectively sloping downwards from the upper right-hand corner of the paper to the left-hand lower corner, or vice versa. It would be much simpler to get rid of the R and U, which have opposite significations in the two hands, and therefore strain the attention. In the way I now propose you would only deal with one signification. You would not care for the difference between radial and ulnar, but only for the direction of the slope, whether it was downwards to the right or to the left. The disadvantage would be that it is not physiologically accurate, but this is so only in appearance, because the way in which the title is written carries on its face its physiological meaning, telling which is the right and which is the left hand; if you desired to translate the title into R and U language, it could be done very easily.

208. I suppose you think it is desirable that we should take all of the 10 fingers; it very much increases the extent of the classification to take the whole 10?—On that point I have a misgiving; the gain is not so very great of 10 over 6 as it appears at first sight. Here you will find a number of the observed occurrences in a classification by six fingers.

209. Which are the six you take; the three first fingers of both hands, omitting the thumb and little finger?—Yes, the thumb and little finger sub-divide the rarer cases, but you may not want that particular kind of sub-division. If only six are taken it does not largely increase the number of the commoner cases. The commonest case, which is that of *ull, ull—ll, ll*, is raised from 164 out of 2,644 cases to 243. In other words it is only made half as common again. That is the only case which creates much difficulty if you are dealing with drawers that each contain not more than, say, 300 specimens, and I doubt if it is worth while under those circumstances to take the trouble of recording four more fingers.

210. Then you think, for the purposes we have in view, a record of six fingers would practically be sufficient?—If I understand your purpose rightly, that it is to divide primarily by measurement into 243 different drawers, so that each drawer shall contain not more than a few hundred cards.

211. Do you think the six fingers would work up to a thousand?—A thousand is rather large. The six-finger system would work even then if in the commoner cases the ridges in any one finger were counted or measured. I am a little doubtful about the advantage of indexing the whole 10 if you desire to expedite matters and secure the greatest economy of time.

212. You mean that the time taken occupied in taking the six fingers would be very much less than the time taken in taking the 10?—Yes; and there is also the largeness of the card.

213. There can be very little more time taken in putting down the five fingers than in putting down the three?—You have to roll them all individually afterwards.

214. (*Major Griffiths.*) The whole thing does not take more than a minute, does it?—If you do not fear the little additional time it is so much gained.

215. (*Chairman.*) It is only on the ground of saving time that you would take the six rather than the 10?—Yes.

216. (*Major Griffiths.*) It might lead to confusion—they might take wrong fingers?—Yes, certainly—it is better to have one impression at all events of the little fingers.

217. There is no fear about the time, it is a question of a minute, more or less. In taking the distinctive marks they sometimes occupy ten minutes?—A print of 10 fingers also means a large card, as you are aware.

218. We are glad of the other side of the card for the measurements and for the photograph?—Yes.

219. (*Chairman.*) What is the reason for not taking the formula from left to right?—The practice of beginning as I do, has grown into use for more than one reason peculiar to myself. Thus, I wanted many thousand prints from persons of different races, and the only chance of getting them was to ask for what could very easily be given. This led me to ask for the first three fingers of the right hand only, and so the practice of beginning with these was started. It has been persevered in, because of the great variety of pattern in the forefinger; it is the only one that frequently has an R. If you begin with the little finger nearly all your formulæ would begin with an L of the U kind.

220. Except a few W's?—Yes, but only a very small proportion of them and hardly any A's. I may as well now put in evidence a number of prints of palms and of complete hands.

221. But the palms must be a good deal more difficult to take than simply the finger-tips?—There must be a pad with a somewhat rounded surface to press upon, and soft paper like this should be used; it does not take much trouble.

222. Is it long since you took up the question of sub-classification?—In one sense I took it up from the very beginning.

223. But the mode of classifying by counting the number of ridges in the loop?—It was only when you met and asked me about sub-classification that I took it up in that way; I have counted ridges before, but not for the purpose of sub-classification.

224. But you think now that this sub-classification by counting ridges is the most practically useful one?—If the number of ridges in the first finger alone is counted, it would sub-divide the common titles into manageable groups, if you are only dealing with about 500 cases.

225. Take the ring finger, about how many classes would it give?—In the ring finger the number of ridges between the two selected termini (namely, the summit of the core of the loop and the place where the surrounding ridges diverge to enclose it), varies from 2 to 26 or more; the classes are about equally numerous between 3 and 16; there are thus fully 14 available grades.

226. Fourteen nearly equal classes?—Yes; if you counted to the nearest ridge there would be 14 classes and more; if you allowed for an error of one or two ridges, there would be say five very well-marked classes.

227. But perhaps the best way would be simply to arrange the cards in order of the number of ridges?—Yes; in order of the number of ridges in some one specified finger.

228. Then you would find the card somewhere near the place?—Quite so.

229. Do you think it needs a good deal more practice and skill to do that than to do the primary classification of A, L, and W?—It is extremely simple. The chief difficulty lies in the prints being on so small a scale that you require a lens, which some people may not be capable of using.

230. And can it usually be done pretty accurately?—Yes, I have found in going through a set of 164 cases of *ull*, *ull-ll*, *ll*, on which Randall and myself worked independently, that there were no cases of a discrepancy between us of more than two ridges; there were four cases, I think, of an error of two and about 18 of an error of one.

231. Generally speaking, you came very close?—Yes, we came very close when we had gained a mutual understanding about the exact principle by which the two termini should be chosen.

232. I think I have gone over all the points I have noted. We have one or two questions about Bertillon's system still?—I shall be glad to reply to them.

233. Before we come to that, are there any other remarks about the finger-prints you would like to make?—No, I think I have said all that I wish to say.

234. You have an arrangement by which you think it would be possible to take the finger-prints of a prisoner who resisted altogether?—I have.

235. Not fully worked out yet?—Not worked out on a resisting person.

236. But still you think it might be used?—I think so. I do not, however, rightly understand the degree and the sort of resistance to be feared. In experiments I have made with two small rollers set in a handle, one to ink the fingers and the other with paper round it to receive the impression a print can be obtained in an instant.

237. So that probably by holding the hand of the prisoner you might get the print?—I should think so. Another way would be to cut out holes or slits in a brass plate and to press the fingers upon them; then their bulbs would show through the holes and could be printed fairly well in that position.

238. Then, I think, you wanted to tell us something about the search of the cards?—(*The witness here explained a model of a drawer and cards, so arranged as to make it impossible to put any card in a wrong drawer in a cabinet of 243 drawers [vide Appendix H.]*)

239. You have also something to say about the use of a mechanical sorter?—I should just like to say a word about the possibility of hereafter using a mechanical sorter. I described one in my original lecture at the Royal Institution in 1888, and I find now that in the United States and at Vienna they use mechanical sorters in the Census Office dealing with many millions of cases. The use of the mechanical sorter is that it gets rid of all difficulty about transitional cases, and that it allows for a margin of error in measurement, also for the total absence of any one or more of many measures. (*The witness here explained the working of the mechanical sorter.*)

240. Then you have a criticism to make or some account to give of the degree of precision required for the Bertillon measurements?—Yes. I have been studying this subject, because it was stated in a memoir read before the International Congress in 1891, by Lieut.-Colonel Greenleaf and Major Smart, of the United States Medical Department (Trans., vol. IV., p. 294), that the

Bertillon method had been carefully examined for the purpose of identifying deserters from the United States army, but was not found suitable owing to the inaccuracy of the measurers. It will be recollected that M. Bertillon lays much stress on extreme precision. My results are not yet quite ready for publication, but they show that if any set, whether of the objects to be measured or of errors of measurement, be divided into three equally numerous divisions of small, medium, and large, and if the distance between the lower and upper limits of the medium division be, for brevity, called the "medium range," then if the "medium range" of the errors is not greater than one tenth part of the medium range of the objects measured, not more than 5 or 6 per cent. of the sets of five measures will be assigned to the wrong division. If the error is two tenths, a search will fail as often as it succeeds. It therefore is very necessary to exert all the precision attainable. I conclude from experiments in my own laboratory that the precision of this ratio of one tenth would be practically attainable.

241. In all the Bertillon measurements?—In respect to the four elements that I have been able to measure, namely, the head breadth, the head length, the cubit, and the middle finger. I have not measured the foot, because it requires stripping, which would be unsuitable to the publicity of my laboratory. I conclude that Bertillonage would be feasible if the measures were made with as much accuracy as at my laboratory, but it would fail if the measures were somewhat less accurate on account of the repeated references that would then be needed to conduct an effectual search.

242. By failing you mean to say that you would have to search in another division of the collection?—You would commonly find that your first search was incorrect, and a repeated search, once, twice, or more would be necessary. Precision is essential to success in search, though not absolute precision.

243. But a high degree of precision?—Yes.

244. Do you think that that degree is attainable for the four measurements which you have referred to?—Yes.

245. By ordinary measurers?—The measurers must be somewhat trained, but a small amount of training will do if they are intelligent.

246. The next point is the correlation; the effect of correlation upon successful classification?—It is a very important subject. If correlation is close, the advantage of using the correlated elements becomes, considerably reduced. I have worked out the theory of correlation in a Memoir read before the Royal Society, in 1888, where I showed that there exists what may be called an index of correlation. This may be taken to range between 0, which signifies complete independence, and 10, which signifies the strictest interconnexion. Thus the index of correlation between head breadths and head lengths is as low as 4 or 5. Between the middle finger and the cubit, it is as high as 8 or 9. Now when it is as high as 8, the available variability is reduced to about six-tenths. The subject is so very technical that it does not admit of a brief and full explanation, except in technical language; but you may take it for certain that when one limb is correlated closely with another, the advantage of using that second limb is small.

247. There is an instance of that, is there not, in this, that M. Bertillon now says that the little finger is so closely correlated with the middle finger that, after having made three divisions by means of the middle finger, he could not make three equal divisions by the little finger?—I should not be at all surprised. I should have thought the result would be worse than that. But now to give a practical application to what I said. Dr. Garson tells me that he has submitted to you a number of measurements of distances between the zygomatic arches. I do not know from my own experience whether that is an easy measurement to take, and I give no opinion upon it, nor whether emaciation or obesity would affect the measurement much; but this is certain, that it is much less correlated with breadth of head, and, so far as I infer, with other dimensions than almost any other measurement. The index of correlation between it and the head breadth is between 4 and 5, and its own variability is great, so that it appears to be a valuable measurement.

248. How would that stand as compared with the middle finger, supposing we substituted it for that?

—Subject to the reservation I began by making, I think it would be a very good substitution for the middle finger, but it would be advisable to measure the middle finger as well, in order to bring the set of measures *en rapport* for international purposes with those of M. Bertillon.

249. But for cataloguing purposes you think it would be better?—I think so.

250. Assuming that the measurements could be taken accurately?—Yes.

Mr. ANGUS SCOTT LEWIS.

251. (*Chairman.*) You are in the office of the Director of Public Prosecutions?—Yes.

252. You undertake the prosecution of cases all over England, I think?—Yes.

253. But principally in the Metropolis?—Well, no, all over England.

254. Amongst others you take up all coining cases, do you not?—All Mint prosecutions.

255. I suppose you find that coiners, as a rule, are people who very often come back again on one charge or another?—Yes, very frequently; more so I should think than for any other class of offences.

256. Do you find that there are often cases where the police fail to identify a man when he comes back on a fresh charge?—Perhaps I had better say I have been through the cases for the present year. Since the 1st of January 156 persons have been convicted of coinage offences; of those about 50 have been proved to be old offenders.

257. Their previous conviction has been proved in court do you mean?—Yes, and charged in the indictment.

258. But have you reason to think that a larger number really are old convicts?—Out of 156 I think that possibly six who were not proved to be old convicts probably were.

259. What reason have you for thinking they were old convicts?—By the way in which they committed their offence; they showed that they knew how coins could be passed most successfully.

260. But do you find in any of those cases after the convictions it has come out that the man was an old convict, or would you hear of that if it did occur?—I do not think we should hear of that; I cannot say that in any of those cases we have actually ascertained that they were old convicts.

261. But you are very strongly under the impression that there are some cases?—Yes.

262. Are there cases where a man commits an offence first in London and then travels to some provincial town, or travels from one provincial town to another?—Yes, the second offence is frequently committed in a different place from the first.

263. So that he would not come into the hands of the same police force?—Yes.

264. Are there any special instances you could give us?—A man was convicted not very long ago—during the present year, I think—at the Hertford Sessions, and in that case we suspected that he was an old convict, from the way in which the coins were uttered.

265. Did you make any investigations about it?—We made every inquiry we could to try to identify him, but we could not find out any thing before his conviction.

266. Do you not keep an album of photographs?—Yes.

267. But you cannot afterwards trace them by the photographs?—No. I should like to refer presently to one or two instances that I have got. After conviction this man gave certain information which enabled us at once to see who he was. We could not say that he was an old convict, but he was known to the London police as an associate of coiners in London.

268. But while he was waiting trial you had not been able to get any information about him?—No; he refused all information, refused to be photographed, and nothing could be traced.

269. I suppose in cases of coining like that, the fact of previous offences makes a great difference to the sentence?—Yes, peculiarly so.

270. In fact, it sometimes actually affects the character of the offence itself?—Yes, the first offence of uttering is a misdemeanor punishable with one or

two years' imprisonment as the case may be; whereas the second offence is felony punishable with penal servitude for life.

271. Then, it would be a distinct advantage to you in your work if we could establish some system which would make identification more easy and more certain?—Certainly.

272. (*Major Griffiths.*) Are we to understand that out of these 156 cases this year, 50 you identified, and 6 you had reason to suppose were convicts; are we to suppose that the other 100 were first offenders?—I think so.

273. (*Chairman.*) In any other class of cases have you come across instances where identity has been missed?—Well, there was a case that you know of here, the case of Blake.

274. Yes, we know the case of Blake very well?—I need not say anything about that case.

275. In that case the mistake was put right before he went for trial?—Yes, I think so.

276. It really originated in that case, did it not, from a warder making a mistake, or a police officer making a mistake, in the recognition?—Yes, more than one officer. On the question of mistakes, I do not know whether you would care to hear of a very recent instance of a mistake in a coinage prosecution.

277. We should very much?—No real harm was done. A woman has just been convicted at the Stafford Assizes for a coinage offence. She pleaded guilty, and after conviction a police officer stated that nearly 20 years previously she had been convicted of a coinage offence, in the name of S—H—, and sentenced to 12 months' hard labour. She did not deny it, but within the last few days we have been looking at the old papers, and I have here the photograph of the woman who has just been convicted, and the photograph of the woman convicted at the Stafford Assizes in 1874.

278. Was this previous conviction attributed to her when she was convicted the other day?—Yes, but it was not charged in the indictment. It was stated to the court after she had pleaded guilty.

279. Then do you think they are not identical?—I think not.

280. Do you judge by the photographs?—I have something else that I judge by. At the Stafford Assizes in 1874 another woman who gave the name of A—J— was convicted of a coinage offence and sentenced to the same term of imprisonment—12 months. Now that is the photograph of A—J— (*photograph shown*).

281. (*Major Griffiths.*) These are the same women, no doubt?—I think these are the same.

282. (*Chairman.*) Then the mistake, if it was a mistake, did not do her any harm?—No; as it happened it did not.

283. It was only one name instead of another?—Yes. Of course, as it happens, it is not a serious mistake, but it might have been.

284. It shows at any rate that you have no materials for absolutely establishing identity in these descriptions?—No.

285. Is there any other case that you would like to mention?—No. I cannot think of any other case that would be of any service to you. I may say we did not charge that conviction in the indictment, because it was so long ago.

286. Are there any other cases?—I can say generally we have had cases in which it is thought that the person has been previously convicted.

287. Without your being able to establish it?—Yes, but that does not occur frequently in other charges with which we have to deal.

MR. EDMUND ROBERT SPEARMAN.

288. (*Chairman.*) You have made a special study of the Bertillon system of identification, have you not?—Yes, I began it in 1886, and I think it was in March 1887 that I made my first communication to the Home Office on the subject.

289. And since then you have occasionally worked in M. Bertillon's laboratory?—I should not have written to the Home Office if I had not thoroughly worked at it; I worked at it in 1886 for more than three weeks.

290. Just as if you had been one of the assistants?—I went through exactly the same course as an ordinary warder would. Since then the Ceylon Government sent over Dr. Thornhill to study it, and as he could not speak any French, I had another three weeks' experience there teaching him, and of course perfecting myself still more, so that I think I know the system certainly as well as any Englishman. Hardly a month passes that I am not in the Paris anthropometric bureau.

291. You have written on the subject a good deal?—I have written a good deal, both in the public press and in the different reviews.

292. There is one article of yours in "The Fortnightly"?—The first article is in "The Fortnightly" of March 1890; another one in the "English Illustrated" in October of the same year, which, by-the-by, was the only guide that they had in Ceylon to work from, and then another one in the "New Review" of July of this year.

293. You were the person who first brought it to the notice of the Home Office I think in 1887?—I was; very much to my surprise I found that neither Scotland Yard nor the Home Office had heard of it.

294. That was in 1887, when it was comparatively a new thing in Paris?—It had been in practice five years.

295. The first few years were spent chiefly in taking measurements?—Still I thought there would have been a general sort of knowledge of what other countries were doing.

296. At that time it was only used in Paris?—It was only used in Paris at that time.

297. Since then it has been extended?—In 1888 it was made compulsory in every prison in France and Algeria.

298. But as a matter of fact in M. Bertillon's office, very few identifications are made outside the cases measured in Paris?—Well, a good many are sent up. Unfortunately in their statistics they have not got the records of the country identifications.

299. In 1892, there were six identifications outside Paris?—There were, yes. That is all for legal purposes, because Marseilles and Lyons have got anthropometrical as well as alphabetical collections, so that anything done there would not want to come to Paris.

300. That is, local criminals in Marseilles or Lyons?—Yes.

301. But the great merit claimed for the system is that a criminal can be identified anywhere over the country by that means?—Yes.

302. In that respect it has not led to very great results?—It might appear so from the figures, but from conversation with M. Bertillon I fancy that they do identify a great number. They certainly identify men who come from the country to Paris, because I have seen them. When Sir Charles Russell was at the office there was a man from Marseilles, whom he identified, who swore he had no convictions at all, and seven or eight were found against him. When he was asked why he had sworn that he had no convictions at all he said, "I denied it because I never was convicted in Paris; how was I to know that you knew anything about the Marseilles convictions?" Belgium and Switzerland have sent measurements of criminals to Paris and M. Bertillon has been able to give information regarding the antecedents of their prisoners. Lyons and Marseilles, being near the frontiers, anthropometry has been found of much use in reference to expelled foreigners.

303. Still, I rather gathered from M. Bertillon that he only searches in a country case when a special application is made to him?—Yes, he only searches where the *juge d'instruction* in the country asks him to do so.

304. (*Major Griffiths.*) Which is not very frequent, he told us?—Not very frequent.

305. Because they do not understand yet?—Because they do not yet appreciate it.

306. (*Chairman.*) As a matter of fact, it is not really in full operation?—As far as the country is concerned, it is not. There is a feeling of prejudice; there was a great deal of trouble when he started it, even in Paris. One thing which must eventually have some effect on the country people is the fact that the alphabetical classification has red cards in all cases of expulsion, warrants out, &c. notified by the authorities. When any such person is arrested and his card is sent up from the country, the Identification Bureau at once notifies where he is custody to the proper parties.

307. As a matter of fact, the provincial people do not believe in it?—No.

308. (*Major Griffiths.*) As soon as they get a certain number of cases they will believe it thoroughly?—As soon as they do.

309. (*Chairman.*) In the meantime a great many duplicate returns are accumulating in his office?—The more you have, the better.

310. I mean a man may be convicted, say, at Lyons, and then convicted again at Havre, and both returns come up to M. Bertillon's office; but unless his special attention were called to the case, they would be two separate cases?—He would find the first when he puts the second in the alphabetical classification. In the anthropometric classification he would note the first conviction on the second card and destroy the former.

311. He makes a certain allowance for minor errors, and these errors might separate the cards: a good many of them would be separated, because a good many measurements are on the margin of two classes?—That may be, but it is exceptional.

312. But when you have eight measurements, the chances are that in one or other of the eight it will be pretty near the margin?—The original one, the one taken at Havre, would be on the margin too; therefore, it would go into exactly the same place. Whether at Havre, Lyons, or wherever it is, it would have to be put in the same place.

313. The point is, on what you may call the margin, a very slight error of measurement in one direction or the other will put the card in the one box or the other; if you measure a millimetre more at Havre than at Lyons it will go into another box?—Yes, provided it was exactly on the margin.

314. In every case there are eight chances of that happening, because you take eight measurements.

315. Well, we have had some criticisms upon M. Bertillon's measurements. The things that are aimed at in the measurements chosen are first to have a measurement that is invariable in the individual, but that has got a considerable range of variation in different persons, and next, to have measurements which are not correlated to one another, and which are easily taken. Well, I think the first two, at any rate—the head measurements—answer all those conditions, do they not?—Yes; there is one thing I want to say about it, the anthropologists generally want to take the head length from the glabella.

316. What is M. Bertillon's reason for using the root of the nose?—One warder may take it from one spot, and another from another, and they may go higher and higher; there is nothing to guide them. Under M. Bertillon's system it must always be taken from the same place.

317. (*Major Griffiths.*) There is no fixed starting point?—There is no fixed starting point; the anthropologists, in some of the places where the system has been adopted, have taken to measuring from the root. Why anthropologists want it taken from the glabella is because it will supply them at the expense of Government with plenty of additional data. They know that if you take to measuring criminals right and left they will have more data than they are likely to get at their own expense.

318. M. Bertillon began by measuring from the glabella?—He did, but the warders were uncertain about the spot. The least variation would make a serious difference.

319. (*Chairman.*) Does he find that the middle finger gives a considerable range of variation?—Yes; and it is easy to measure accurately, that is, to a millimetre.

320. Then the little finger varies a good deal along with the middle finger?—The middle finger is more easily measured than the little finger.

321. He also takes the little finger for classes?—Yes.

322. He only divides it into two classes instead of three?—He takes the little finger to have sufficient measurements in case the numbers increased, because, as I have already stated, you cannot add.

323. But is it not the case that the cards in the drawer are divided by means of the little finger?—No.

324. I certainly understood that?—Yes; but first, by the height.

325. Second the little finger, and then the third the eye?—Yes; and then stretch of arms.

326. In this book which you gave me M. Bertillon says that now, instead of dividing into three divisions by the little finger, he now divides it into two on account of its varying so with the middle finger?—In a note on page xxiii, he says he cannot divide the little finger into three approximately equal classes, the medium being the largest.

327. Then as to the eyes; he takes seven classes of eyes?—Seven classes of eyes. Well, the eye is a very important element, and at first sight it looks a very difficult thing to classify; but if you get the eyes in a good light it is a thing that is very easy to deal with. I have seen both foreigners and Frenchmen who have come to learn the system at first very much prejudiced against the eye classification, but after practice of four or five days they have quite seen the advantage of it. And if you are likely to send anyone over to Paris to study the system, before you give up anything, I should strongly advise you to see what the opinion of these warders may be after they have had experience there. Do nothing theoretically, but have the practical experience of two men who have been over there and learned. It is only the amount of yellow matter there is in the eye which is classed.

328. Does the amount of yellow matter make the seven classes?—Yes.

329. Then there are a good many cases transitional are there not; there are a good many cases where one warder would put it down as class number two, and another warder in class number three?—I do not think so. After all a mistake in that is not very important, as it is only the last division but one in the drawer.

330. It is not very far to go to the right one?—You have only to look through the seven, if you do not find the measurements come out in one class of eyes you go to the others.

331. Do you think it is necessary to retain the other measurements beyond those that are used for classification?—It is very easy to drop a measurement afterwards. The whole thing takes four to five minutes, the time you would save by dropping a measurement is not worth speaking of.

332. Why should we retain the measurements of the ear, for instance?—Well, you cannot add; when a man has once passed out of your hands, you cannot add anything to his description.

333. Yes, but what purpose does the measurement serve; it is not used now for the purpose of classification?—No, but you must look forward to having an enormous number.

334. We do not look forward to having nearly so many as M. Bertillon?—No, but you speak of years—eventually. Besides the ear is an additional test, it is one amongst the others on the card to show whether the cases agree.

335. If we take the finger-prints we shall not want that?—The finger-marks! I only say this, that during 11 years the Bertillon system has fulfilled all required of it. Why replace part of that system by something of which you practically know nothing, which at present is mere theory?

336. That would have been a reason at one time for not adopting the M. Bertillon system, would it not?—Perfectly; but now, at the expense of others, you are getting the benefit of their experience. May I just say, that in Berlin they have got a bastard Bertillon system? They had the prejudice that it was French. Their substitute has been a failure. In Italy they have tried the same thing; they tried additions and alterations. I saw a letter from the Italian Government the other day in which they said their system had failed signally, and that they are going to adopt Bertillonage *pure et simple*.

337. There is one thing I want to ask you about measuring in M. Bertillon's office. You have, say, 100 persons measured there in the morning. 50 of these perhaps at once admit that they have been measured before, and there is no difficulty about them; the other 50 are all measured, but is the search for former measurements made in every case?—Yes, the first thing is, if a man when he arrives gives a name under which he says he has been convicted, they look to the alphabetical list and they check him with a few measurements. Well, then with the others a search is made, because when they put the card away, they will find the other one in its place.

338. But do they make a search in every case to be sure that they have not the man measured previously do they make a complete search?—They measure him, and if he does not confess—

339. What I want to know is whether they make a complete search, supposing duplicate, or triplicate, or manifold search?—The search is practically made when the cards are put away.

340. I cannot admit that at all. I am perfectly clear that in a great many cases double, or treble, or multiple searches must be made. There are so many cases lying near the margin that it is perfectly clear that search must be made in two drawers, three drawers, or four drawers, so as to make sure they have no other man?—Yes.

341. I want to know whether there is such a search in every case, or whether they simply put away the card?—They simply put away the card.

342. They do not make a search in every case?—Not unless the police want to know who he is. You do not admit it, but I say that in putting the card into its place, the other will be found. I think you consider those on the margin are a good deal more than they are.

343. You mean they do not make these double searches unless they are asked to do it; they merely sort away their cards?—They merely sort away their cards.

344. (*Major Griffiths.*) They do not look to see whether they have got the card in another drawer?—They simply put that away. I should explain that of these 50 prisoners who do not admit a previous measurement, some 30 have generally been arrested in their homes, or been given into custody by employers or others, and their names are well known. The remaining 20 are always thoroughly searched for. In case of minors a thorough search is always made.

345. (*Chairman.*) Supposing a man were found to have been previously measured, I mean by a warder afterwards, does that count against the Bertillon system? If a man were identified by a warder, immediately the measuring officials are fined.

346. Are the measuring fellows fined in every case where they have a duplicate entry?—In every case where a man is identified after he has passed M. Bertillon they are fined 10 francs, five of which are paid by the man who has taken the measurements or made the search, if it is a case of search, and five are paid by the rest of the men in the room. But you will see the number in 1892, I think there were three cases.

347. Yes, but do they count it in every case where the card is in the registry at all, or only in cases where special search has been made?—In every case where a man is identified, the only way they can tell it is by his being identified afterwards. They cannot tell how many men have passed and not been identified; they have no means of finding that out, but the prison warders are all on the look-out to gain the 10 francs and so bring out any mistakes.

348. But in every case where a man is passed without being identified, and is afterwards identified in the prison?—Then they are fined.

349. I suppose you have been keeping a keen look-out have you not for any cases of mis-identification in this country?—Well, unfortunately living abroad I do not get much chance of seeing them, it is only in the public papers, and I may not have spotted some. I think I have one where a question was asked in the House of Commons. "In 1887 attention was called in the House of Commons to a case at the Middlesex Sessions, where a detective, although closely pressed by counsel, persisted in identifying a prisoner as having been previously convicted in the name of Reeves, until the real Reeves was produced in court, when he confessed "his error."

Then in 1888 Lord Coleridge called attention in the House of Lords to the case of a man convicted before him at Gloucester Assizes for some slight offence, when a Metropolitan constable swore to his identity with a man previously convicted who, it was afterwards ascertained, was not the prisoner. There was a difference of I do not know how many inches in his height. I have the full particulars of all these cases. I have got the newspaper cuttings; I can give you them. Well then there was a very good case, "In July last (1889) the case was mentioned in the House of Commons where a previous conviction of a prisoner in 1879 with a sentence of seven years' penal servitude and seven years' police supervision was proved to the satisfaction of a jury by a warder who had compared the prisoner with the official description of the man so convicted; it was subsequently proved by police and prison warder's evidence, that the prisoner was convicted in 1882 of a minor offence, and therefore could not be the man convicted in 1879, who would still be under police supervision." He was convicted at Brighton in 1882, and yet the warder swore that he had got seven years in 1879; I think he was a pretty clear case. Then there was "In May last (1889), David Callaghan, after having two remands of a week each was committed for trial and was sentenced to six months' hard labour as an incorrigible rogue and vagabond on the evidence of a mendicity officer and police constable, who swore to him in mistake for a man who had been frequently convicted. In prison he petitioned the Home Secretary, who after investigating the circumstances which led to his conviction liberated him," but he had suffered 12 weeks' hard labour. "The constable identified a prisoner as having been previously convicted, and the authorities on his evidence, were taking proceedings against the prisoner for having failed to report himself, but he proved that at the time the constable swore to his conviction in one town, he was in prison in another town miles away." That I think you will find in the Convict Supervision Department; they will give you all the particulars in that case. But they were actually proceeding against him for being on license and not having reported himself. That is all unfortunately I have been able to gather; these were all previous to 1890.

350. (*Chairman.*) There was one point I forgot to ask you about, namely, the arrangement of the cards. M. Bertillon now divides them into periods of 15 years, according to the date of birth, does he not?—Yes, but I spoke to him the other day and he strongly advises no attempt at that being made, because he says that is a thing you can always do later.

351. It involves as a matter of fact a great deal of additional labour?—Yes. It is very necessary when

you have a large quantity, but it is not necessary now. In sorting away the cards in France there is the *état civil*. You have nothing here to check a man's age with, but by the *état civil* in France; they can always check it.

352. (*Major Griffiths.*) That is supposing they can find out who he is?—Supposing they can find out who he is.

353. In France where they catalogue every birth it is easy enough to; here where the population increases by leaps and bounds, the test of age always is fallacious?—Oh, yes.

354. Does not this arrangement frequently lead to a card being put in the wrong cabinet if a false age has been given, and the age is on the border?—Yes. M. Bertillon is strongly against your attempting it at present.

355. (*Chairman.*) Supposing the years from 1830 to 1845 make one division?—It might be; I do not know what they are.

356. Supposing a man gives his age as born 1844, do they sort away his card in that cabinet without having looked to see whether he was born in that year or not?—M. Bertillon is now working his system in connexion with the *Sommiers Judiciaires*, of which he has made the head.

357. It may be useful for the purpose of weeding out the old cases over 50 and over 60?—Gradually to weed it out, when you get your numbers very large; but it would be years before you want that. It is only to weed out the old ones; it is not to look for them, merely to get rid of, to put away men who must be dead and gone. In the *Sommiers Judiciaires* they found records of men who were 110 years old.

358. (*Major Griffiths.*) He had been 110 years?—He would be 110.

359. They were not living?—Somewhat like annuitants one has heard of.

360. (*Chairman.*) I think those are all the questions which I have got specially to ask you; I do not know whether there is anything that you want to state?—No; having communicated so fully with the committee in Paris, and by letter, I will ascertain the exact number of identifications in cases measured outside Paris.

[*Mr. Spearman has since sent the following note:—* "The number of cases identified by measurements outside Paris in 1892 was 63, and not 6. By a clerical error in the figures furnished to me the 3 was dropped, thus reading 6 instead of 63."] ]

MR. CHARLES STEWART MURDOCH, C.B.

361. (*Chairman.*) You are head of the Criminal Department at the Home Office?—I am.

362. And all the petitions from all the prisoners in all the prisons of England go through your hands?—They do.

363. You see every one of them?—I see every one of them, I may say.

364. If any considerable number of prisoners complained of being wrongly identified as old offenders, you would necessarily see them in every case, would you not?—Certainly I should.

365. You have in the course of the year several thousand petitions?—Yes, that is so.

366. And do you find that there is any considerable number of them complain of being wrongly identified?—No; certainly as far as my official memory goes, it is quite the contrary. We have many petitions from persons who protest their innocence, but very few indeed who have ever protested that their previous convictions have been wrongly recorded against them. We have had a few cases, and some of them somewhat curious ones.

367. Generally there has not been much difficulty in settling the case one way or the other?—That is so. I have an instance here, a very curious instance of a certain man who protested against the previous convictions, recorded against him, one Thomas Williams. He was reported to the Home Office in February in 1885, as being identical with an old convict of the name of Walters or Evans. This man denied his previous

convictions. The Home Office in looking over the case found the convict was positively identified by officers at Pentonville and Portsmouth as Evans; nevertheless, as he protested so strongly, it was thought well to refer to the judge. The judge reported that he had examined the evidence of identity at the time of the trial, and he thought that Evans was not the same person as Williams. Well, the Home Office was still not satisfied that he was not the old convict—the question of forfeiture of license was involved—and I think it was your present chairman who suggested that a comparison of the handwriting of an old petition with the writing of the petition in which he protested against the injustice of his previous convictions should be compared. The extraordinary resemblance between the handwritings in the two petitions was such that by Sir William Harcourt's direction, we wrote to the judge pointing this out and sending him the petitions. The judge was convinced, and finally this convict was held to serve the unexpired portion of his former sentence, so that you may say that this case shows that the examination at the Home Office had successfully tested the correctness of the identification.

368. Speaking generally, you do not think there is reason to think that there are any prisoners undergoing long sentences on account of convictions being wrongly attributed to them?—So far as I know, certainly not, and I think that they are so very willing and ready to protest against any injustice, fancied or real, that we should certainly have had petitions from anyone in that position.



369. Well, then on the other question of identifications being missed; that would chiefly come before the Home Office, would it not, in the case of license-holders being re-convicted, but not identified at the time as being license-holders?—Yes, certainly.

370. Because every question of the forfeiture or revocation of their license goes through your Department?—Quite so.

371. Do you find there is any considerable number of cases where it turns out on conviction that the man had been a license-holder?—I could hardly say a considerable number of cases. I have got some figures—which, though not complete statistics, will give you some idea of the number. They have, prepared by Mr. Wheeler, and they all relate to cases that have occurred during the present year. He has examined 72 cases in which license-holders were convicted summarily either of indictable offences, or of frequenting with intent to commit felony. In 33 cases they were known to be license-holders at the time of conviction, in 9 cases they were not so known. In the remaining 30 cases we have no definite information as to whether the identification was made before or after the conviction, but it is to be presumed that in most of them it was after conviction, for in 29 of the 30 cases the clerk of the court did not report the conviction as he was bound by Act of Parliament to do if he knew the man to be a license-holder. Among license-holders convicted on indictment the proportion of identifications is larger. In 103 cases, 88 were recognized before conviction and 5 after. As regards the other 10 we have no information as to where they were identified. Of course these figures cannot take any account of those who escape identification altogether—are not recognized at all. They only refer to cases recognized—and show that in some cases the recognition is not made till *after* conviction. Curiously enough, one or two very striking cases of this sort—in fact, more than one or two—have happened quite lately; I do not know whether you would care to have the particulars.

372. I think we might have them. Those are cases under consideration in the Department at the present moment, are they?—Yes, going on in the Department now. Here is one, Charles Edwards or O'Brien, who was convicted at the Middlesex Sessions, August 1888, of larceny from the person, and sentenced to five years' penal servitude. That convict was released into the Metropolitan Police district by license dated 25th May 1892. He was convicted at the Middlesex Sessions in October 1892 of stealing 74l. from the person. That shows that it was a considerable offence, and he was sentenced to 12 months' imprisonment. He was not recognised as a license-holder at the time, and in consequence, the forfeiture of his license was not exacted, and he did not pay the penalty of such forfeiture.

373. You have just discovered it when it was too late?—Yes.

374. (*Major Griffiths.*) What sentence did he get?—He got 12 months for that other offence; he was under an alias of Clancy. That is one case.

375. When was it discovered that he was a license-holder?—Just the other day, after his release. He was charged with not reporting while on license, and then it was discovered that the reason why he did not report was that he had been in prison under another name.

376. Then here is John Clayton, another case. Original sentence five years for larceny, at the Middlesex Sessions, in 1888; released in August 1892, into the Metropolitan Police district. Convicted at the Mansion House, October 1892 for stealing a watch; sentenced to six weeks' imprisonment; he was only recognised after conviction but in time to secure the revocation of his license. His license was revoked and he served his remanet, but earned the usual remission of one fourth, and was again released on license.

377. Both these men would have gone to Holloway, sent to Holloway for trial and seen by the police and warders?—Yes.

378. (*Chairman.*) That man was again convicted?—He was again convicted in February 1893; he was again recognised only after conviction, and this time too late to revoke his license.

379. That is twice at the Mansion House within the year?—Yes, both times convicted without being identified. Then there is a third case much the same, George William Hammond, originally sentenced at the Central Criminal Court for forgery in 1888 to five years' penal servitude; released on license into the Metropolitan Police District in June 1892; convicted in November 1892 of uttering a forged request for goods, not recognised then; he was again convicted at the Central Criminal Court in September 1893 for forgery and had 12 months; not recognised before conviction. His case rather difficult to explain. He had incurred forfeiture of his license by his conviction in November 1892; but as it was not discovered that he was a license-holder the penalty of the forfeiture was not exacted at the time, and now it cannot be exacted on his second conviction in September 1893, because the forfeiture having been incurred at the previous conviction, there is now no license to forfeit. It is a very technical point, but the result is clear. In consequence of the failure to recognise him as a licence-holder he has escaped the penalty due.

380. Do you think of anything else?—No, I think you have everything I can tell you. I could only say generally that any addition of a new system to the old which would ensure the absolute certainty of identifying old offenders—I mean to say a more perfect registry which would enable the County or Metropolitan Police to identify at once by marks or measurements old convicts and license-holders would be cordially welcomed.

381. Especially to spot them all over the country wherever they go?—Yes; that of course is most important.

### Home Office, Thursday, 1st February 1894.

#### PRESENT:

MR. C. E. TROUP (*Chairman*).  
MR. M. L. MACNAGHTEN.  
MR. H. B. SIMPSON (*Secretary*).

PROFESSOR ARTHUR THOMSON.

382. (*Chairman.*) You are Professor of Human Anatomy in Oxford University?—Yes.

383. At the request of the Committee you have prepared a report on the anatomical aspects of the Bertillon measurements of the head?—Yes. I hand in that report.

384. The question I asked you to deal with in that report, was not so much the possibility of practically using Bertillon's measurements—we assumed that ex-

perience had proved that—as whether the margins he allows for error were sufficient?—Yes, it is the question of the sufficiency of the margins that I deal with.

(*Report handed in.*)

Department of Human Anatomy  
Museum, Oxford,

January 26, 1894.

SIR,

In compliance with your request, I have much pleasure in submitting the following statement.

In regard to the measurements of the length and breadth of the head as suggested by Bertillon, I consider that the limit of error (2 millimetres) is too small to apply with absolute certainty in all cases.

My reasons for holding this opinion are:—

- I. That even amongst experts, when measuring skulls, on which of course there are no soft parts present to further complicate matters, there is frequently a difference of from 1 to 2 millimetres between the measurements of different observers. Such being the case with macerated specimens, it seems to me the sources of error in measuring the living are likely to be much increased.
- II. Because on the living the accuracy of the measurements of different observers will much depend on the amount of pressure employed, thus leading to the compression of the soft tissues, and so interfering with the constancy of the results. This difficulty, however, might be overcome by the use of an instrument provided with a spring which would regulate the pressure, and so yield more or less constant results.
- III. Because of the tissues themselves, which are liable to undergo atrophy and thinning as a result, either of disease or advancing years. It is a matter of common knowledge that the scalp of an old person is much thinner than that of an adult. The wrinkling of the skin of the forehead in the aged is an indication of such changes, and is in part a result of this atrophy.
- IV. Because in addition to the ordinary tissues of the scalp (skin, fat, and fibrous tissue), there may be a source of error in the width measurement of the head due to the presence of the temporal muscle (one of the powerful muscles which raises the lower jaw).

I have made a number of measurements to ascertain the maximum width of the head in European skulls, and in the majority of cases, the greatest breadth of the bony walls of the cranial box, was found to fall within the limits of the temporal fossa, the area from which the muscle aforementioned takes its origin.

Thus the measurement of this diameter may be influenced in one or other of two ways:—

- (a.) Either by alterations in the development of this muscle at different periods of life;
- (b.) Or by the contraction of the muscle itself, which produces a thickening of its substance.

I have in this way (b.) been able to produce a difference of 2 millimetres in the measurement of this diameter in some individuals whom I examined.

- V. Because, since the introduction of Bertillon's system 10 years ago, there has been no opportunity of testing the changes which may be produced by age. In other words there is no proof that the measurements taken from an individual at the age of 25 may be relied upon as absolutely accurate as a direct test to the same person at the age, say, of 60 or 65; bearing in mind always that by this system the range of difference allowable in these measurements is only 2 millimetres.

With a view to obtain further information on these points I would venture to suggest two lines of inquiry:—

- (a.) That a series of measurements should be taken by competent observers from time to time in hospital from patients suffering from acute wasting diseases. This need not entail any inconvenience to the patients.
- (b.) That observations should be made in the post-mortem room as to the thickness of the tissues involved in these measurements, at different ages, and on the bodies of those who have died in different degrees of emaciation.

It is difficult to say what one may regard as the normal thickness of the scalp, that must vary with the individual; nor is it easy to say what may be the extremes of difference without some further facts to go on. Yet I can easily imagine that at different periods in the life of an individual we may get a greater difference than that covered by a limit of error of only 2 millimetres.

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There would doubtless be evidence of wasting and emaciation in other parts of the body, and no doubt an accurate observer would note these facts; but more reliance could be placed on the results if taken in association with the body weight at the time of observation, any marked variation in the body weight being taken as an indication of increase or decrease in the bulk of the tissues of the body.

The bi-zygomatic width is open to fewer objections than the breadth measurement of the head, because the tissues overlying the bone are less dense, and do not include muscular fibre, and thus the measurement dependent on the osseous form may be more accurately obtained. This measurement appears to me a good one, it is not correlated to the width of the cranial box, but depends on the form and development of the bones of the face.

The width of the bony pelvis is not likely to undergo much variation with advancing years, but here again the tissues overlying the bones may differ considerably in thickness according to the age and development of the individual, here, however, we have to deal with a greater diameter, and the range of error need not necessarily be so limited. Whatever the variation in man, it would probably be greater in woman, in whom the subcutaneous tissues are much more fully developed in this region, than in the male.

It seems to me that whilst those measurements (the bi-zygomatic and pelvic widths) may be useful as accessory measurements, it would be unwise to substitute them for the measurements recommended by Bertillon, as such a change would necessarily interfere with the international application of the system at present under consideration.

I have, &c.

ARTHUR THOMSON.

C. E. TROUP, Esq.,  
Home Office.

385. (*Chairman.*) Your main point then is that for head measurements Bertillon's limit of 2 millimetres is too small?—Yes, I think it is too small.

386. Bertillon gives a "theoretical margin" of 1 millimetre only. Your criticisms would apply more strongly to this—Yes. I think 2 millimetres is too narrow a margin. We have no evidence to prove that these measurements can be relied upon if applied to persons of advanced age or to persons suffering from wasting diseases.

387. Supposing we made it a 4-millimetre margin for old persons?—Probably that would sufficiently cover these cases.

388. And we might have it specially stated in the rules that when a person in an emaciated condition was measured, a note to this effect should be made on the card, so that if necessary the double search might be made within a wider margin than the ordinary one?—That might be done, but with regard to emaciation I think that it should be recorded by weight, because one may examine a criminal and may never have seen him before, and one does not know what his physical condition was at that time. His present weight might be compared with his former weight.

389. That assumes that you know your man, but the difficulty is to find him. For that the only course is, I think, to allow a wider margin when there is apparent emaciation?—No doubt that is so; but when the case was found the difference in weight would explain the discrepancy in the measurements.

390. I will now go through the points in your report. You first mention discrepancies in measurements of skull by experts. What experts do you mean—experts in anthropology or in measuring?—I mean both—anthropologists accustomed to and trained in measuring skulls.

391. Might not errors arise from taking measurements in different ways or with different instruments?—They might, but the rules for the scientific measurement of skulls are very definite.

392. Would they not be avoided if measurements were taken according to fixed rules like M. Bertillon's?—I do not think M. Bertillon's rules could be more precise or definite than those used in taking these scientific measurements.

393. What instruments were used, callipers with flexible legs, such as you showed me in Oxford?—Yes, these and Professor Flower's craniometer.

I

394. M. Bertillon's callipers (*showing them*) are much more rigid than those you showed me?—Yes, in that respect they are better.

395. Bertillon found considerable errors occurred in the measurements when he took the head length from the glabella, but not to the same extent when he altered the place and took them from the root of the nose?—Yes. I think for your purpose it is better to take them from the root of the nose. For scientific purposes I should be glad to have them from the glabella. But for your purpose the other point is more easily fixed, and therefore better.

396. You refer next to the amount of pressure employed. We found when we tried measurements in M. Bertillon's office that we could easily distinguish 1 millimetre too much and 1 millimetre too little. If the callipers were a millimetre too wide, it did not touch the skin; if it were a millimetre too close, it pressed hard. Does your experience contradict this?—Well, I have tried some medical students in making the measurements; they were intelligent men and accustomed to use their hands.

397. And you found errors?—I found variations exceeding 1 millimetre, *e.g.*, the measurements of one head were 198, 194, 194, 193. (198 would be an obvious blunder.) Another 193, 192, 194, 192, 193. In this case you see there is a variation of 2-millimetres.

398. Had they no sort of standard to go by as to the amount of pressure?—They had the rules laid down by Bertillon.

399. Were these men trained in head measuring?—No; it was their first attempt.

400. M. Bertillon thinks three weeks' regular training is necessary?—No doubt that would make a difference.

401. You suggest that a spring should be used to give a uniform pressure?—Yes.

402. Could you rely on a spring always acting uniformly, in different instruments and at different times?—I think so. It is used in India.

403. In neither of the classes of cases you mention does the variation exceed the 2-millimetre margin. We now come to the points which you think might lead to that margin being exceeded. The first that you mention is that the tissues of the scalp are liable to undergo atrophy?—Yes; I show these models (*models exhibited*). These are taken from actual heads. They were made for a quite different purpose, but they show clearly the thickness of the scalp. One is a young person, the other a person about 70. You see the great difference in the thickness of the scalp.

404. What is the cause of thinner scalp in old age?—It comes mainly from the absorption of the fatty tissue. There may also be wasting of other tissue. I show a specimen of scalp kept in spirits (*showing specimen*). There is first the skin, then fatty tissue mixed with fibrous tissue, then tissue connecting with the bone. You see there is a good deal of thickness of fatty and fibrous tissue. In disease or in old age the fat is absorbed and the scalp becomes thinner.

405. Could it not always be noted if prisoner had an emaciated appearance, and additional allowance might be made for this?—Yes; that might be done.

406. If the margin for error were 2 millimetres, but all cases where prisoner looked emaciated were noted, and an additional margin, say 3 or 4 millimetres were allowed for the searches in these cases and in all cases of old persons, would not that remove to a great extent your objection?—Yes, that would be a practical way of meeting the difficulty; my point is that scientifically a 2-millimetre margin is not sufficient for *all* cases.

407. We come next to the *muscle*. In the majority of cases you say that the point from which the head width is taken lies over the temporal muscle?—Yes; I have found by experiment that in the majority of cases the maximum width falls within the area of attachment of the temporal muscle. That might be a further cause of error if there were growth or reduction of the muscle. But I qualify this by saying that usually on the point where the measurement is taken the muscle is very thin.

408. So that usually it would not much affect the measurement?—Not very much.

409. Would the muscle *develop* much in persons over 21 years of age?—No, not much; only very rarely and

in very exceptional circumstances. What I should rather fear would be the effect of its reduction or atrophy.

410. In old age or from disease?—Yes, in those cases muscle would waste with the other tissues, and would increase the variation already spoken of.

411. But in a person in ordinary health, within a period say of five years, there would not be much change?—Not much, not any appreciable change I should think.

412. Then as to the alteration caused by voluntary contraction of the muscle: that would be in shutting the mouth?—Yes, shutting the mouth and clenching the teeth.

413. The prisoner might slightly alter the measurement in that way?—Yes.

414. But if this were tried it might be met in the same way as other attempts at trickery in other measurements?—Yes, but it might be difficult to observe, unless the attention of the warder was particularly directed to it. Asking the man to whistle would be a means of preventing him from clenching his teeth.

415. (*Mr. Macnaghten.*) Bertillon finds greatest width of skull *above* and slightly *behind* the ear; does the temporal muscle reach *above* the ear attachment?—Yes, but, as I said, usually on a point where the muscle is very thin.

416. (*Chairman.*) Do different races differ in this respect?—Yes, that is a point of difference.

417. Do you think there would be any alteration in the bone in adults or only alterations in the muscles suggested above?—It is impossible to speak with certainty of the bone. Scientific measurements extending over all periods of life have not been made, but certainly if there is any alteration, it is so small that for your purpose, it might safely be neglected. I do not think that the change is likely to interfere with the accuracy of the measurements. I think that you have proof of that already; the Bertillon system has worked very well. I cannot however accept this as sufficient proof of its applying in all cases.

418. And any question of alteration in the bone only affects a long term of years, whereas our prisoners are mostly to be re-identified within a short period?—Yes.

419. Have you measured the thickness of any scalps?—The specimens I show you vary from 3 to 8 millimetres. These are taken from various parts of the head. The thickness of the scalp varies in different parts. I hand in two tracings which will show in these cases the thickness at the points of measurement. (*Tracings handed in of sections of heads which showed thickness of scalp (skin and tissues) at the back of the head about 8 millimetres and at the root of the nose about 4 millimetres.*) I cannot say what the normal thickness would be. I have in my report suggested experiments which would show the extremes of possible variation.

420. Would not measurement of persons suffering from acute wasting diseases be misleading? Criminals are not usually in this state?—I only suggest them as showing the extremes of possible variation, not as fixing the rule for ordinary practice.

421. Generally would a margin of 2 millimetres cover the variation in ordinary cases where there is careful and uniform measurement, no long interval of years and no noticeable emaciation?—Yes, I think so. At any rate that would be a very different thing from saying that the variation can *never* exceed 2 millimetres.

422. You suggest the width of the face, the "bi-zygomatic width," as a good measurement. Do the tissues there really interfere less with the measurement than on the scalp?—Yes, the tissues are softer and the bone found more easily.

423. But that implies some pressure in making the measurement?—Yes, there would have to be some pressure not mere touching of the skin. In this case a spring should be used which would give an appreciable pressure uniform in all cases.

424. How is this measurement affected by the difficulty of finding the position for measurement?—It would not be difficult. You place the callipers in front of the ears and draw them forward till you reach the maximum.

425. On the whole are you in favour of anthropometry?—Yes, strongly. I think its principle is right,

and I think the particular measurements suggested are good ones. But I think the margin proposed to be allowed, if it is to be applied to all cases, is insufficient.

426. When M. Bertillon (Introduction, p. xxvi.), says that 2 millimetres is the limit of gross errors, beyond which one may infer *non-identity*, you object to that?—Yes, I object to that. I say that even with accurate measurements cases may occur of greater variation than 2 millimetres.

427. But these would be extreme cases, after long intervals of years, or in case of wasting disease such as consumption?—Yes.

428. Most identifications have to be made within a year or two of prisoner's release, many within a few months. An identification after ten years would rarely

be required. (*Mr. Macnaghten.*) We should never want to identify after 30 years. (*Chairman.*) Nor should we often have to deal with a man suffering from wasting disease. So that in practice we should be able in most cases to disregard the extreme variations?—Yes.

429. Your argument points merely to the rules as to margins being settled carefully on a scientific basis?—Yes.

430. And the Anthropometric Registry should have scientific advice as to the exceptional cases that might occur?—Yes, that would be required.

431. But with proper safeguards you think Bertillonage practicable?—Yes, certainly. I think it most desirable that it should be adopted in some form.

## APPENDICES.

## APPENDIX A. (1.)

CIRCULAR OF 31ST OCTOBER 1893.

Home Office,

October 31, 1893.

DEAR SIR,

A SMALL Committee, of which I am secretary, has been appointed by the Home Secretary to consider the present system of identifying old offenders when arrested by the police, and to report to him what practical measures can be adopted for improving it. For this purpose the Committee would be much obliged for any observations you may be able to offer on the subject, and especially with regard to the following points:—

1. What are the methods actually employed by members of your force for identifying persons in their custody who are not personally known to them but who are suspected of being old offenders.
2. What use is made of the printed registers of names and of distinctive marks issued by the Habitual Criminals Registry, and whether they are frequently the means of establishing the identity of offenders.
3. Whether more identifications are effected through the agency of the "Police Gazette," the Illustrated Circular issued to subscribers from the Criminal Investigation Department at Scotland Yard, or the "route forms" sent to prisons and to other police forces.
4. Whether you consider the means at present available are sufficient to ensure habitual criminals being identified in the majority of instances should they be apprehended within your district; and  
Whether you can form any estimate of the number not identified who, in the absence of information respecting their antecedents, are dealt with as if for a first offence.
5. Whether in the case of criminals charged by your police before the magistrates who are not identified but are suspected of being old offenders it is the usual practice to ask for remands, so as to obtain time to make inquiry by "route-form" or otherwise, or whether such inquiry is more commonly made only after a prisoner has actually been committed for trial.
6. Whether you have any definite suggestions to make for putting the police in a better position for keeping habitual criminals and those who make a living by dishonesty under their supervision.

My Committee would be very glad if you could let them have your views not only with regard to your own force, but with regard to any other forces, of which you can speak from experience.

Yours faithfully,

H. B. SIMPSON.

[This circular was issued to the Commissioner of Police of the City of London and the Chief Constables of the counties of Hereford, Somerset, Sussex (Eastern Division), Stafford and Worcester, the three Ridings of Yorkshire, and the boroughs of Birmingham, Bradford, Bristol, Doncaster, Leeds, Liverpool, Manchester, Newcastle-on-Tyne, Nottingham, Portsmouth, and Scarborough.]

## ABSTRACT OF ANSWERS RECEIVED.

1. Most forces attach the highest importance to route-forms as a means of identifying suspected persons, whose identity cannot be locally ascertained, if photographs of the suspected persons can be obtained for circulation.

The Chief Constable of Bristol and the Commissioner of the City of London Police, however, do not speak of issuing them, except in the latter case to the Metropolitan Police, and the Chief Constable of Hertfordshire does not consider them so useful as other agencies for identification.

The Chief Constable of Leeds says:—"The principal and almost only useful means of identifying prisoners

"are through the photographic route-forms sent to prisons and to other police forces."

The Head Constable of Liverpool says:—"The route-forms are found to be of the greatest value."

The Chief Constable of Somerset says:—"More criminals are identified through the route-forms than through either of the other means mentioned."

2. The opinions expressed as to the value of the volumes issued by the Habitual Criminals Registry are as follows:—

BIRMINGHAM	-	"Have on many occasions assisted us materially."
BRADFORD	-	"Is a matter of reference only when all other means have failed."
CITY OF LONDON	-	"Used for reference, but not considered of much value in its present form."
DONCASTER	-	"Have succeeded in a good many instances."
HERTS	-	"Is referred to," but does not frequently lead to identifications.
LEEDS	-	"Of little or no use," "sometimes (though rarely) referred to."
LIVERPOOL	-	"Frequent use is made," "identifications frequently" established thereby.
MANCHESTER	-	"A few cases have been traced by means of it."
NEWCASTLE-ON-TYNE	-	"Frequently examined . . . occasionally with success."
NOTTINGHAM	-	"Useful for reference, although not many persons are identified" thereby.
PORTSMOUTH	-	"Their use has not been very productive."
SCARBOROUGH	-	"Occasionally the means of identifying offenders."
SOMERSET	-	"Cannot say they are frequently the means of identifying offenders, though this is the case 'from time to time.'"
STAFFORDSHIRE	-	"Are valuable 'in practised hands,' 'in constant use' at headquarters, but not much used in divisions."
EAST SUSSEX	-	"Very little use;" "seldom the means of establishing identity."
WORCESTERSHIRE	-	"Do not think they are often the means."
YORKS, E. RIDING	-	"Sometimes the means,"
N. RIDING	-	"Have not as a rule had occasion 'to use' them."
W. RIDING	-	"Not found to be of much service."

3. Value of the "Police Gazette" and the Illustrated Circular issued by the Convict Supervision Office as means of identification:—

BIRMINGHAM	-	The Gazette "affords some assistance"; the Circular has "on many occasions assisted us materially."
BRADFORD	-	They "are of little or no use . . . in this part of the country."
BRISTOL	-	"All these means have proved of great service."
DONCASTER	-	"Have both answered the purpose [of establishing identity] on more than one occasion."
HERTS	-	"Most identifications are obtained through the Police Gazette, but the Habitual Criminals Register and the Illustrated Circular are found to be most useful and valuable."

LIVERPOOL -	-	"Very few identifications" effected thereby.
CITY OF LONDON -	-	"Most identifications are effected through the Illustrated Circular."
NEWCASTLE-ON-TYNE	-	"Hardly any are identified through Police Gazette. The Illustrated Circulars should be useful. . . . but they chiefly refer to south country thieves who but seldom visit us except during race meetings."
PORTSMOUTH	-	"Comparatively few" identifications through the Gazette. The Circular would be more valuable "were its scope extended and its issue more frequent."
STAFFORDSHIRE	-	Both are "in their way of considerable value, the Police Gazette especially so. The Police Gazette would be of much greater value if published more frequently."
WORCESTERSHIRE	-	"Both very useful." In the Circular the photographs of criminals of one class (e.g., burglars, horse-stealers, &c.) should be grouped together.

4. The answers given to the question whether the existing means of identification are sufficient, are mainly in the affirmative, but in quite general terms. On the other hand the Chief Constable of Doncaster says, "The means at present available are not in my opinion sufficient to ensure the majority [of old offenders] being identified. I cannot form any reliable estimate as to the number who escape identification here, but feel confident a large number of those arrested and dealt with summarily during the race meetings are old offenders from all parts of the country who give false names and refuse their addresses." The Chief Constable of Manchester says, "I do not consider the means at present available sufficient to ensure habitual criminals being identified in the majority of instances." Of the West Riding Constabulary the Superintendent of the Doncaster Division says, "They [habitual criminals] are not identified in the majority of instances." The Superintendent of the Selby Division says, "The means at present available are not sufficient;" and the Superintendent of the Tadcaster Division says, "The means at present available are not sufficient to ensure habitual criminals being identified in the majority of cases, in the absence of photographs."

The Chief Constable of Newcastle-upon-Tyne observes, "The means at present available should be in most instances sufficient, but I have reason to fear that too often this highly important duty is performed in a perfunctory manner. I find it difficult to teach the provincial police to appreciate these duties, the successful performance of which so much depends on strict attention to matters of minute detail."

The Chief Constable of Portsmouth says, "These agencies are not in my opinion either sufficient or complete, and I am inclined to believe that probably 50 per cent. of habitual criminals arrested in the provinces escape recognition"; and the Chief Constable of Worcestershire has no doubt that pickpockets and other criminals of a similar class escape identification in considerable numbers.

The Chief Constable of Herts again in answer to the question replies, "Yes, in the majority of instances, but some system is required whereby every habitual criminal should be certainly identified. A 'majority' is not sufficient. The 'minority' may include the worst criminals and those whose apprehension is most wanted and is most desirable."

5. The replies to the fifth question in the circular indicate that difficulty is rarely found in obtaining remands for the purpose of making inquiries into a prisoner's antecedents. The Liverpool Head Constable states that, "in every case where a prisoner brought before the magistrates is suspected of being an old offender, a remand is asked for for the purpose of making inquiries."

In the borough of Nottingham "as a general rule all strangers charged with larceny are remanded and routed before being committed."

In Staffordshire remands are always asked for, but the Chief Constable remarks that there are some benches of magistrates "who object to granting remands and failures to identify may arise from this cause."

At Doncaster it is usual to remand for inquiries prisoners who are suspected of being old offenders; but during the race meetings this is not always done and the Chief Constable has no doubt that a good many of the prisoners dealt with in a summary manner are old offenders.

6. In answer to the question put in the sixth paragraph of the circular most of the forces urge that a power to require unconvicted prisoners to be photographed would facilitate their identification.

BIRMINGHAM - Failure to comply with the provisions of section 3 of the Prevention of Crimes Act should involve an increase of police supervision. The Treasury should pay the expenses of the conveyance of prisoners and of the attendance of witnesses to prove identity. It is probable too that the smallness of the allowance made to witnesses at sessions and assizes deters police officers from giving information about criminals whose photographs they may recognise, in case they may be summoned to give evidence of identity.

BRISTOL - The Chief Constable writes, "I may suggest that from experience gained when attached to the Detective Department, Scotland Yard, the police derived most useful and valuable information by their weekly visits to the prisons."

DONCASTER - District registries should be established at different towns and returns made to them of all convictions of crime in each district; illustrated circulars to be issued monthly or quarterly therefrom with particulars of all registered criminals released from prison.

HERTS - "The common sense plan to ensure the identification in all instances of an habitual criminal is that no prisoner should be released from a convict prison on license or on the expiration of his term of imprisonment, without a letter, number, and the year of his discharge tattooed on some special spot on his arm, say, under the upper part of his left arm. . . . Even if a convict rendered this mark illegible by tattooing over it, the fact of his being tattooed in such an unusual place would show that he is an habitual criminal."

MANCHESTER - The allowance to police officers for attending to prove previous convictions should be increased from 3s. 6d. to 10s. 6d.

NEWCASTLE-ON-TYNE All important forces should issue quarterly circulars giving portraits of criminals supposed to be travelling the country. Chief officers of police should meet now and then in order to promote co-operation in the performance of their duties.

PORTSMOUTH - Greater uniformity of practice is required; for this purpose instructions for recording personal descriptions, &c. should be issued; lists of discharged convicts and the Illustrated Circular should be supplied to all

forces; the police should also be furnished with information with regard to all persons on the Habitual Criminals Register, when they fail to report, leave the country, die, or are re-convicted; police supervision of license-holders and others should be better enforced; more photographs of travelling criminals should be issued to local forces; the Treasury should pay the cost of detecting, identifying, and prosecuting criminals.

SUSSEX (Eastern Division). The photographs of old offenders to be supplied to every Chief Constable.

WORCESTERSHIRE - A reward of 5s. should be given to prison clerks or warders for information leading to an identification; evidence on affidavit to be made legal proof of a previous conviction in the case of a prisoner not disputing it, and arrangements made to prevent the waste of time involved in police officers' attendance as witnesses to previous convictions. Some restriction should be placed on the movements from one district to another of persons required to report to the police.

APPENDIX A. (2.)

CIRCULAR OF 13TH NOVEMBER 1893.

Identification of Criminals.

Home Office,  
13th November 1893.

DEAR SIR,

In connexion with the information already requested on the above subject, my Committee would be very glad if you could further give them figures, for any specified period, of the number of route-forms issued by your Force, and the number of instances in

which a prisoner's identity was thereby traced; and if at the same time you could estimate the proportion of route-forms issued to the total number of prisoners arrested, or give any other definite figures to show the proportion that the number of foreign criminals bears to the number of criminals belonging to your district.

Yours faithfully,  
H. B. SIMPSON.

ABSTRACT OF ANSWERS RECEIVED.

**BRADFORD :**

		No. of Prisoners charged with Felony, &c.	Photographed.	Previously Photographed.	Not Photographed, because well known to the Police.
1893.					
August	- - -	33	4	10	19
September	- - -	35	12	4	19
October	- - -	25	4	2	19
		93	20	16	57

**DONCASTER :**

In 1892 407 persons were arrested for all classes of offences. Of these 272 were strangers to the borough. Of these 46 were "routed," 28 before conviction, 18 after conviction. Of these 30 were recognised as having been previously convicted. Of the 46 prisoners "routed" 26 were arrested during the race meeting.

**LEEDS :**

From 1st May to 31st October 1893 there were 194 persons arrested for serious offences. Of these 190 were photographed, 114 were known to the police; 80 (including the four not photographed) were total strangers. 223 route forms were issued, and the majority of the strangers were thereby ascertained to have been previously convicted.

**LIVERPOOL :**

Of the persons convicted of offences involving dishonesty during the 12 months ended 29th September 1893, there were 2,681 who were resident in the neighbourhood, or whose antecedents were fairly well known; 83 who were strangers and suspected of previous dishonesty; 74 were routed, and of these 64 were identified.

**MANCHESTER :**

During the 12 months ended 31st October 1893, there were 41 route-forms issued with photographs after conviction, resulting in the identification of 22 habitual criminals.

A large number of routes were issued without photographs attached, but with little result.

**NEWCASTLE-UPON-TYNE :**

During the 12 months ended 31st October 1893, there were 23 prisoners routed, of whom 12 were traced. Of 500 adults proceeded against for serious offences, 395 resided in the city, 80 belonged to the adjoining counties of Northumberland and Durham, and 25 to other parts of the country.

**NOTTINGHAM :**

During 1892 217 thieves were photographed. Of these 58 were "routed," and of these 43 were identified by the police of other towns.

**PORTSMOUTH :**

In 1890 the number of route-forms issued in respect of persons arrested for indictable offences was 8, the number of prisoners thereby identified was 5. In 1891 the number of route-forms was 4; no identifications effected. In 1892 3 route-forms were issued and one identification effected.

The total number of persons arrested for indictable offences during the three years was 338; of these 72 were not resident in the borough.

During the same three years 50 "circulations" were issued from the borough in respect of persons wanted, which resulted in the apprehension of 21 of them.

**SCARBOROUGH:**

During the five years 1888-92 the number of prisoners arrested for indictable offences was 474; of these 113 were "foreigners"; 70 route-forms were issued, and 34 prisoners were thereby identified.

**SOMERSET:**

During the year ended 30th September 1893 there were 515 persons arrested for offences involving dishonesty; of these 303 were natives of Somerset, or permanently residing in the county 12 route-forms were issued, and six prisoners thereby identified.

**STAFFORDSHIRE:**

During three months ended 30th September 1893, there were 416 persons arrested for indictable

offences; of these 62 were unknown at the time of arrest; of these 53 were identified either by route-forms, or by personal inquiry. Of the remaining nine one was committed for trial, and eight were dealt with summarily.

The Chief Constable remarks that in the more thickly populated part of the county personal inquiries generally succeed in procuring information about a prisoner. In the rural parts route-forms have to be more commonly resorted to. A criminal from the north of the county would be more really "foreign" in the south than a Birmingham man would be.

**NORTH RIDING OF YORKSHIRE:**

During three years ended 30th September 1893, there were 65 route-forms issued, and 43 prisoners thereby identified.

**EAST RIDING OF YORKSHIRE:**

During 12 months ended 31st October 1893, there were 10 route-forms issued, and two prisoners thereby identified. In each case two route-forms on an average were issued.



## APPENDIX B.

*Vide p. 18.*

NUMBER OF PERSONS CONVICTED during the months of January, February and March 1893, in certain Jurisdictions, showing the Numbers and Proportions per cent. of Prisoners against whom previous Convictions were entered in the Calendars, and the Numbers and Per-centage of those against whom Previous Convictions were proved in Court:—

Jurisdiction.	Number of Persons Convicted.	Number of Persons Convicted.		Per-centage of Persons Convicted.	
		With previous Convictions recorded in Calendar.	Against whom previous Convictions were proved in Court.	With previous Convictions recorded in Calendar.	Against whom previous Convictions were proved in Court.
London :—					
Central Criminal Court (London cases)	224	72	63		
London Sessions (N. and S. of the Thames).	429	236	162		
	653	308	225	47·16	34·40
Lancashire Assizes - - -	114	72	30		
„ Quarter Sessions - - -	108	86	63		
Yorks (West Riding) Assizes - - -	41	28	15		
„ Quarter Sessions - - -	30	22	18		
Staffordshire Assizes - - -	15	9	1		
„ Quarter Sessions - - -	35	26	19		
	343	243	146	70·84	42·56
Liverpool City Sessions - - -	52	79	36		
Birmingham City Sessions - - -	50	37	26		
Warwick (Birmingham Division) Assizes (Birmingham City).	22	12	7		
Bradford Borough Sessions - - -	13	13	10		
	177	141	79	79·66	44·63
Norfolk Assizes - - -	5	4	2		
„ Quarter Sessions - - -	12	7	4		
Suffolk Assizes - - -	10	5	2		
„ Quarter Sessions - - -	9	6	6		
	36	22	14	61·11	38·88
Dorset Assizes - - -	19	5	4		
„ Quarter Sessions - - -	4	3	2		
Devon Assizes - - -	15	3	1		
„ Quarter Sessions - - -	7	1	1		
Cornwall Assizes - - -	5	—	—		
„ Quarter Sessions - - -	2	1	1		
	52	13	9	25·00	17·30

## APPENDIX C.

## SPECIMEN ROUTE FORM.

(NOTE.—The MS. portions of this form are here represented by italics.)

LEEDS CITY POLICE.				
Route of Prisoner in custody on remand to the 20th day of September 1893, charged with loitering in the streets with intent to commit a felony.				
DESCRIPTION.	MARKS.			
Name, <i>Alexander Wilson ?</i> Alias Age, <i>31 years.</i> Height, <i>5 ft. 4 ins.</i> Hair, <i>dark-brown, mingled with grey.</i> Eyes, <i>brown.</i> Complexion, <i>fresh.</i> Build, <i>prop.</i> Country, <i>Irish.</i> Where born, <i>Belfast.</i> Married, or single <i>widower.</i> Trade, <i>moulder.</i>	<div style="text-align: center;">[ Space for photograph. ]</div> <i>Scar near right elbow, scar centre of forehead, lost all single teeth in upper jaw.</i>			
SIR, I SHALL feel obliged if you will fill in what is known of the prisoner (if anything), and forward the document according to Route, as quickly as possible. <div style="text-align: right;">I am, Sir, &amp;c.,  <b>FRED T. WEBB,</b>            Chief Constable.</div> <div style="text-align: left;"><i>Leeds, 19th September 1893.</i></div>				
Route.	Date Received.	Result of Inquiry.	Date Forwarded.	Signature.
<i>City Police, London - -</i>	<i>20/9/93</i>	<i>Not known - - -</i>	<i>22/9/93</i>	<i>Jas. Mc William, Supt. Pro. R.C.</i>
<i>Metropolitan Police, London-</i>	<i>22/9/93</i>	<i>Not recognised - - -</i>	<i>23/9/93</i>	<i>John Shore, Supt.</i>
<i>Habitual Criminal Registry -</i>	<i>23/9/93</i>	{ <i>Forms R. of Alfred Bull            and Henry Bull herewith for            comparison.</i> }	<i>23/9/93</i>	<i>J. G. Grace, for Registrar.</i>
<i>Return to Leeds Police by morning of the 25th inst.</i>				

## APPENDIX D.

## BERTILLONAGE IN FOREIGN COUNTRIES.

M. Bertillon first brought his proposals to the notice of the Prefect of Police at Paris in 1879. Towards the end of 1882 the *Service d'Identification Anthropométrique* was established in the capital. In 1883 there were 49 *récidivistes* identified by this special means; in 1884, 241, and the number has since gone on increasing. In 1892 it was 680. In 1885 and 1887 instructions were given by the Minister of the Interior for taking measurements in prisons outside Paris, and since 1888 the measurements there taken have been sent up for record at M. Bertillon's bureau. In any case where it is thought that the prisoner is giving a false name and is an old offender, a note may be made on his card and search will then be instituted at Paris for the previous registration. The original cards are retained at the place where the measurements are taken, and arranged in an alphabetical register. At Lyons and Marseilles, however, there are also anthropometrical registers on the same plan as that in M. Bertillon's office, and it is proposed that similar registers should also be established at Lille, Nancy, Nice, Toulouse and Bordeaux.

In June 1887 a circular from the *procureur général* at Paris impressed on provincial magistrates the desirability of making use of anthropometry for identifying persons charged before them instead of the costly process of photographs and *commissions rogatoires*. It does not appear, however, that so large a number of inquiries as might naturally be expected are in point of fact addressed at present to M. Bertillon's bureau from courts outside Paris. In this respect, no doubt, the system is still far from having attained its full development even in the country of its birth.

Elsewhere in Europe where the Bertillon system has been adopted, it seems to have been adopted mainly with the view of identifying criminals from other countries. In Switzerland it was introduced during the year 1890 in the Canton of Geneva, where there is a large floating population of French and Italians. About five prisoners are measured by the police daily, resistance to the process being made, by a decree of 10th June 1891, tantamount to *rébellion*. The system is thought to have achieved a very signal success; the Canton of Vaud is stated to be going shortly to adopt it, and its ultimate extension to the whole of Switzerland is highly probable.

In Belgium the method is habitually employed in the case of persons suspected of having come from Paris or other parts of France, and important identifications are effected in this way through the co-operation of M. Bertillon's *service anthropométrique*. The use of the system for the ordinary purposes of criminal justice has also been urged on the Government, but in the case of native criminals identification appears to be neither so difficult nor so important a matter as it is in England. On the one hand they are kept far more systematically under the notice of the authorities than would be possible here, Notice of every conviction is sent by the convicting court—even by a *tribunal correctionnel*—to the burgomaster of the commune where the convicted prisoner is domiciled, and this notice follows him at every change of residence. On any fresh charge the information so accumulated is given to the *magistrat instructeur* for use in the *instruction*. Since 1888, moreover, similar notices are also sent by the courts to the Ministry of Justice, and there filed for future reference. When the criminal is a foreigner, he comes under the notice, not of the Ministry of Justice, but of the *administration de la société publique*. Thus a very complete record is kept in duplicate of the convictions of native criminals.

On the other hand the importance of proving previous convictions is much limited by the provisions of the Code, by which a severer penalty is involved only in those cases where a *crime* follows a previous conviction for a *crime*, or a *délit* follows a previous conviction for a *délit* punished by not less than a year's imprisonment. A Bill introduced in the Chamber of Representatives by the Government in 1890 in consequence, as it was stated, of the increase of *la récidive*, proposed to allow the penalties prescribed by the Code Pénal to be increased in every case where an offender is shown to have been previously convicted of an offence

of a similar nature. In many cases the *projet de loi* fixed a *minimum* as well as a *maximum* sentence for the *récidiviste*. These proposals, however, have not passed into law.

In Italy also the Government is considering the question of introducing the Bertillon system, and here again the motive appears largely to be the advantage likely to arise from international co-operation.

In Austria the police at present use the height and the span of the arms as means of identification. Some years ago the question of introducing the Bertillon system was mooted; but the opinion arrived at was that it did not offer sufficient advantages to counterbalance the difficulty and expense of putting it in practice. Only a few experiments, however, were made, and the police do not claim that their opinion on the matter is final.

Experiments in Bertillonage have also been made at the prison at Ploetzensee, Berlin, but the results obtained were not satisfactory, and the system has been abandoned.

In India the system is likely to have a wide extension.

It was introduced in Bengal by Mr. Henry, Inspector-General of Police, in 1892. The measurements used for classification are the length and width of the head, the length of the left middle-finger, the forearm and the left foot, and the height. A print of the left thumb is also taken, but no use is at present made of it for classification.

The instrument used for taking head-measurements has been modified by the addition of a spiral spring, connecting the two arms of the calipers and intended to equalise the pressure, a handle, a self-registering index, and a small appendage to be used when the head-length is taken, for preventing the left arm of the calipers slipping into the eye.

The kind of criminals to be measured has not been definitely prescribed, but instructions have been given to the police for the purpose of ensuring the registration of all professional and habitual criminals, as well as of those whose identity is not known, and who may therefore be specially dangerous. During the first two years that Bertillon measurements were taken over 6,000 cards were accumulated at the Central Bureau.

It is worth noticing that experience in Bengal has already shown that racial differences may necessitate a re-adjustment of the figures fixed by M. Bertillon as the basis of his tripartite division. While the classes based on the length of the head are found, when the measurements of French criminals only are concerned, to contain an approximately equal number of cards, if the limits of the medium class are fixed at 185 and 190 millimetres, in Bengal heads that are more than 185½ millimetres are classed as long, and those only that are less than 181 go into the short class: that is to say, that very nearly all the heads that in Paris are of medium length have to be treated as long in Bengal. Similar differences are found in the case of other measurements. The inferences involved are of considerable interest to the anthropologist; but for the purposes of criminal identification the fact is of importance merely as showing the necessity of caution in adapting Bertillonage to the requirements of another country.

The Bengal police strongly urged that the system they had adopted should be extended to the North-West Provinces and the Punjab, in order to enable them better to deal with the marauders from those parts who are accustomed to make repeated raids into the Presidency.

In view of the success achieved by the system in Bengal, the Government of India are pressing the system on the other local administrations: in the Central Provinces, Assam, and Madras the proposal has been already accepted, and by the last despatches it seems very probable that before long the whole of British India will be following the same method.

It was also introduced into Ceylon during 1892, and Mr. Ellis, the head of the Prisons' Administration, in his report for that year states that so far it had proved eminently satisfactory.

In North America an association was formed early in 1887 among the wardens and superintendents of prisons for securing the registration of criminals, with a view to the improvement of prison administration. The secretary, Major McClaughry, commenced practical experiments in Bertillonage at his own prison at Joliet, Illinois, and the Wardens' Association, at his instance, adopted the system at a meeting held at Toronto in September 1887. A school of instruction was instituted at Joliet Penitentiary. It has been attended by representatives from 10 or 12 important prisons, and some success in the system is said to have been already achieved at the Ohio Penitentiary at Columbus, the House of Correction at Detroit, the Western Penitentiary of Pennsylvania, the New Jersey State Prison at Wrenton, and elsewhere.

In the Central Prison at Toronto Bertillonage was established in 1889 for all criminals, as distinguished from tramps and drunkards; but from the Wardens' report for that year, it seems that there is no central office for keeping the records and photographs; and, from the absence of any mention of the system in subsequent reports, it may be inferred that it has not yet been carried beyond a purely experimental stage.

Lastly, careful attention has been given in the United States to the question of making use of Bertillonage as a preventive of fraudulent enlistment in the

United States Army, but the system was not considered suitable for this purpose. One of the main obstacles to its adoption was that hitherto it has been applied exclusively to the criminal classes, and it was deemed objectionable to subject recruits to a process which might be supposed to carry with it dishonourable and degrading associations. The method instituted in its stead for classifying the personal descriptions of newly enlisted soldiers is based partly on the height and the colour of the eyes—two colours only, namely, brown and blue or grey, being now recognised,—and partly on a careful record of bodily marks. Some account of it is given in a pamphlet by Lieut.-Colonel Greenleaf and Major Smart, of the United States Army, read at London in August 1891 before the Seventh International Congress of Hygiene and Demography, and published in the Transactions, vol. viii. p. 294.

H. B. S.

[NOTE.—The above account of the growth of Bertillonage is founded, as regards France, on M. Bertillon's published writings; as regards other European countries, on information obtained through the Foreign Office; as regards India, on official despatches communicated by the India Office; and as regards America, on the introduction to the English translation of M. Bertillon's Instructions, issued from Joliet Penitentiary for use in America.]

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## APPENDIX E.

## 1. INSTRUCTIONS FOR TAKING THE MEASUREMENTS OF PRISONERS.

The following instructions have been adapted, with the kind assistance of Mr. E. R. Spearman, from those given by M. Bertillon in his "Instructions Signalétiques," Ed. 1893. Their object is to secure an exact uniformity in the mode of taking the measurements. If used for the guidance of learners, they must be accompanied by diagrams, and in most cases personal instruction will be required.

## I.—Length of Head.

This measurement is taken from the root of the nose to the point at the back of the head, which is furthest distant from it.

This and the following measurement are taken with a callipers or compass specially constructed for the purpose with legs that are arched below and move above on a graduated scale.

1. Let the prisoner sit on a stool, with his face turned towards the light and slightly inclined downwards. Stand at his left side and with your left hand hold the point of the left leg of the compass in the hollow at the root of his nose. The end should be held between the finger and thumb, and to keep it from slipping, they should project a little beyond it, and rest on the nose. Meanwhile hold the other leg of the compass with your right hand between your finger and thumb, about half an inch from the end, and let the other fingers of both hands support the compass in such a way that the scale between the two legs may catch the light and be easily read.

2. You have now by means of the scale to find the point at the back of the prisoner's head which is furthest from the root of his nose. To do this, hold the point of the left leg of the compass steady, while you move the other point slowly from the top of the head downwards, keeping it as nearly as you can in the middle. Keep your eyes fixed on the scale, and note the highest figure shown by the index. This figure represents the maximum length of the head. To make sure you have got it correctly, pass the end of the compass once or twice up and down near the spot. Then take the compass away, and fix it by means of the screw at the figure you have noted. To do this easily, you should let the fingers of the left hand support the compass underneath, with the thumb across the left leg above. Your right hand is thus left free to bring the right leg of the compass to the proper point on the scale, and to turn the screw.

3. Now test the accuracy of your measurement with the compass fixed; holding the left end as before, and moving the other end to and fro and up and down at the back of the prisoner's head. If there is any part of the head over which the end of the compass will not easily pass, or if, on the other hand, the end passes over the head without touching it anywhere or scarcely touching it, the compass must be re-adjusted. When it is set rightly, you will find that it will pass without pressure over any part of the back of the head, and that at one point—that from which the measurement is taken—it will perceptibly touch the skin of the head.

4. To ensure accuracy it is essential that the measurement first taken should be verified, as indicated above, with the compass fixed, and in some cases it may be necessary to repeat the operation more than once. The true measurement is found when the compass touches at one point only, and passes over that point without pressure. If it touches nowhere, it is too long; if there is a point where it needs pressure to make it pass, it is too short.

5. Care must be taken against error being caused by the prisoner frowning or twitching his eyebrows.

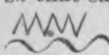
## II.—Breadth of Head.

This measurement is taken between the two points on the two sides of the head which are furthest apart on the same level and exactly opposite one another.

1. Let the prisoner sit on a stool in the same position as before, and stand exactly behind him, your heels together and your body straight so that your elbows may move freely and evenly.

2. Take one leg of the compass in each hand near the end and put the ends just above the place where the ear joins the head. Then move them slowly upwards, taking great care that they move quite evenly, that is to say, on the same level and exactly opposite one another. If now you fix your eyes on the scale

you will find that in most instances the figure shown by the index increases for a time and then, as you get nearer the top of the head, begins to diminish. When by moving the compass up and down again, you reach the level at which the figure is highest, you must move the ends of the compass slowly to and from you, making sure that they still keep exactly even. In this way you will find the greatest breadth of the head. This is usually, though by no means invariably, a little above and behind the ears.

3. Then, in the same way as before, fix the compass with the screw at the point you have noted and test the accuracy of your measurement. To do this properly you must move the compass evenly up and down, beginning behind the ear and at each up and down movement pushing the compass rather further from you, so that each of its points describes a course like this.  If they describe a course like this you are very likely to miss the place where the head is broadest.

Note that the movement of the compass in checking the width is not the same as in ascertaining it. To ascertain the width the compass is first moved up, and then at the widest point is moved backwards and forwards. To check the width the compass is moved forward, describing as it moves a series of close zig-zag lines, about an inch long.

4. It is of great importance that all the time the measurement is being taken the prisoner should sit evenly and that you should stand quite straight and square. Otherwise you will be apt not to move the points of the compass exactly together and your measurement will consequently be wrong.

If the compass is tilted up at one side, so that one leg is on a higher level than the other, or if it is twisted round, so that one leg is further forward than the other, the measurement will be wrong. These are the two errors specially to be guarded against. The points of the compass must be kept on the same level and exactly opposite one another.

In verifying your measurement, as in taking the length of the head, both points of the compass must perceptibly touch the skin at the spot where the head is broadest, but must be able to pass over that spot easily and without pressure.

NOTE.—In the case of both the above measurements you should specially note a head that is very irregularly shaped or not symmetrical.

If a wound or other injury prevents the measurement being taken or affects its accuracy, a note must be made of this.

## III.—Left Middle Finger.

This and the two following measurements are taken with a graduated sliding rule. This rule has two fixed arms projecting on opposite sides about 4 inches and about 1 inch, and a slide consisting of two arms which also project about 4 inches and 1 inch respectively.

The middle finger is measured with the smaller arms. The finger while being measured must be held at right angles to the back of the hand, and the measurement is taken from the finger-tip to the knuckle.

1. Stand facing the prisoner, holding the sliding rule with your right hand and resting the longer arms of the rule obliquely against your chest. Take the prisoner's left middle finger with your left hand and place it along the rule with the tip against the small fixed arm. The other fingers should not be bent like the middle finger, but should pass freely on each side of the rule.

2. With your left thumb on the third joint (*i.e.*, the joint next the finger tip) press the prisoner's finger against the rule so as to keep it straight, and with three fingers press gently on the back of his wrist so as to keep the middle finger at right angles with the back of his hand, and its point against the small arm of the rule. Your little finger meantime presses against the under side of the prisoner's wrist.

3. Now turn half-way round so as to have your left side towards the prisoner, raising your elbow as you do so. Do not allow the prisoner to move, but carry his left hand round with you, bringing the arm forward and bending it at the wrist. This is the best position in which to get the finger to be measured perfectly straight.

4. Standing in this position, see that the tip of the finger touches the fixed arm of the rule, and that the finger is at right angles to the back of the hand and lies close to the rule all its length and particularly at the knuckle. If necessary raise or lower the rule or turn it round a little. It is absolutely essential to have the finger in the right position on the rule. When this is secured, push up the slide with your right hand till it touches the knuckle lightly and read off the measurement.

## NOTES.

The *nail*, if projecting beyond the finger tip, should be cut before measuring. If this cannot be done, an estimated correction of one or two millimetres may have to be made in the measurement.

*Stiff Joints*—If there is a stiff joint which entirely prevents the finger being placed in the proper position for measurement, mark "stiff joint" on the card (specifying which joint), and take the measurement of the *right* middle finger. If there is merely a slight stiffness in the joints which prevents the fingers lying quite straight on the rule (this is common in blacksmiths, navvies, &c., and usually affects both hands), measure the length as well as you can, and in noting the measurement mark the case as one of "stiff joint," and add a figure (+2, +3, or +4), which represents, as nearly as you can estimate it, the addition necessary to show the true length of the finger. This will indicate in the Registry the limits within which a double search may have to be made.

*Amputation*.—If the finger is amputated, note this on the card, giving the measurement of the part left if any, and measure the corresponding finger on the right hand.

## IV.—Left Forearm.

The left forearm is measured from the extremity of the elbow bent at a sharp angle to the tip of the middle finger. In taking the measurement, the arm is laid on a specially constructed table about 3½ feet high, and the length is then taken with the longer arms of the sliding rule.

1. Direct the prisoner to stand with his left side to the table and to lay his left arm flat—the palm of the hand downwards—on the place marked for that purpose. Standing on the opposite side of the table, adjust his arm so as to make it lie perfectly straight and parallel with the edge of the table, the elbow and the forefinger close to the edge, and the thumb projecting over the edge. Be careful to see that the middle finger, the middle of the wrist and the extremity of the elbow lie in a line.

2. Put your left hand on prisoner's wrist to prevent its moving, and then tell him to advance his shoulder by leaning forward till the upper arm comes so far forward as to make a sharp angle, *about half a right angle*, at the elbow. If necessary, direct his movements with your right hand.

This movement usually disturbs the position of the arm. If so, adjust it again, and see particularly that the part next the elbow lies on the table.

3. Now bring forward the sliding rule (which should have been previously placed on the table) keeping it parallel to the edge, and place it with the fixed arm touching the extremity of the elbow. Then with the left hand push the slide till it touches the tip of the finger.

4. The rule now gives the length of the forearm if there is no trickery on the prisoner's part—but before reading the measurement, in order to make sure that the prisoner is not altering the measurement by slightly arching his hand or fingers, press the back of

his hand and middle finger and his wrist firmly on the table with your right hand; but while so doing use your left hand to keep the rule in position and with its fixed arm touching the elbow. If there has been any attempt at trickery, the pressure of your hand will flatten out the prisoner's hand and finger and move the slide slightly. Now read off the measurement.

5. If you still suspect that the prisoner by contracting his hand has slightly altered the measurement, raise his hand from the table, bend his wrist firmly, then bring the hand down flat sharply and take the measurement instantaneously. The alteration which a prisoner can make is very slight, and the attempt is easily detected; but if any such attempt is suspected, this should be indicated on the card by writing after the measurement the letters TR ("trickery").

Stiff joints, the loss of a finger, &c., are dealt with in the same manner as in the case of the middle finger. If any signs of a fracture in the forearm is noticed, the card should be marked "*fracture*" and the measurement of the right arm added.

## V.—Left Foot.

The measurement of the foot is taken from the point of the longest toe to the heel. It is taken with the longer arms of the sliding rule.

1. Place the stool in front of the table at a distance of about 2 feet. Make the prisoner stand on the stool on his left foot, leaning forward and resting his right hand on the handle of the table provided for this purpose.

2. See that the foot rests flat on the stool, and particularly that the weight is not thrown on the inside edge of the great toe and that the toe is not bent.

3. In taking this measurement attention must be given to the possibility of the prisoner's reducing the measurement by bending the great toe and slightly arching the foot. This trick is easy to detect and the position of standing on one foot with the toe bent is difficult to maintain for more than a minute; the attempt can generally be checked by making the prisoner bend his knee slightly so as to throw forward his weight and spread out the toes.

4. When the body, foot and great toe are in position, lay the sliding rule on the stool along the inner side of the foot, touching the inside of the heel and the joint of the great toe, and with the fixed arm pressing gently on the back of the heel. In cases where the middle part of the foot projects so as to prevent the rule touching both the inside of the heel and the joint of the great toe, place it as nearly as possible parallel to the usual position.

5. Move the slide till it touches the great toe; then, if you still suspect any bending of the great toe, press down the joints with your thumb (taking care, however, not to press on the nail), and allow the slide to move back. See that the position of the rule and fixed arm has not been disturbed, and read off the measurement.

## NOTES.

If the great toe is turned *inwards* towards the other toes, this should be noted after the measurement and a figure added to show the estimated diminution of the length of foot from this cause.

If the great toe is *drawn in* by a permanent contraction of the tendons, usually caused by wearing too short boots, this should be noted in the same way.

If the second toe is longer than the great toe, the measurement should be taken to the tip of the second toe and should be marked on the card with the sign > followed by a figure representing the estimated length of the second toe beyond the great toe.

If the left foot is amputated, note this and measure the right foot.

If the toes or part of the foot is amputated, measure what remains and, after this measurement, add also the measurement of the right foot. If the wound is still fresh, no measurement of the left foot should be taken.

## 2. INSTRUCTIONS FOR TAKING DISTINCTIVE MARKS.

The following instructions merely give the main points to be followed in taking the description and measured position of the bodily marks that can be used for identification. For use by warders, they should be amplified and illustrated by diagrams, and there should be a complete table of the abbreviations to be used.

1. Make the prisoner stand facing you, his arms straight down by his side, *the palms of the hand turned forward*. All marks on the limbs should be described with reference to this position, although you will have to lift and turn round the arms and hands, in order to find and measure the marks.

When therefore you speak of the *front* of the arm, you include the palm of the hand and all the side of the arm turned forwards in the position just described; similarly the *back* of the arm includes the back of the hand and the point of the elbow. The *inner side* is the side of the arm, which in the position given is turned towards the body;\* the *outer side* is the side turned away from the body.

So the "inner side" of the hand and of each finger is that towards the little finger; the "outer side," that towards the thumb.

2. In describing the marks, state first the *nature* of each mark, then its *shape*, its *size*, its *direction*, and finally its *position*.

3. For measuring sizes and distances a small millimetre rule is used. The measurements are given in millimetres, but they do not require to be taken with the same accuracy as the measurement of the head, &c. Above 50, round numbers (60, 70, &c.) suffice.

#### Nature of Mark.

4. Say whether the mark is a scar ("sc"), tattoo ("TAT"), birth-mark, &c.

5. In dealing with scars it is important only to give those that are permanent. If there is any doubt, note them thus (? *not permanent*), or (? *recent*). State, if possible, whether the scar arises from a cut, a burn, an ulcer, &c.

6. In dealing with tattoo marks state the object represented "anchor," "heart," &c. If the tattoo mark consists of words or letters, copy them carefully.

Special care should be taken to detect and note any case where a tattoo mark has been removed or altered. The attempt to remove a mark can generally be detected, and the partially obliterated mark can often be deciphered.

#### Shape of Mark.

7. The shape of scars should be noted. Where the scar is a straight line, *e.g.*, where it is made by a sharp cut, it may be described as *rectilinear* ("RECT."). A scar may also be in a "curved line," "waved line," broken line, V. shape, Z. shape, X. shape, cross (+), &c.

Scars that are not linear, may be described as *oval*, *oblong*, *circular*, *triangular*, &c.

The shape of birth-marks should be given in the same way, and the colour should be stated. The shape of a tattoo mark is usually given in stating the object represented (paragraph 6).

#### Size.

8. When a scar or other mark is a line, give the length in millimetres. If it is circular, give the diameter. If oval or oblong, give both length and breadth. Give length and breadth of tattoo-marks.

#### Direction.

9. The direction of lines is to be given as *vertical* (VERT), *horizontal* (HOR) or *slanting* (SL). A line is *vertical* if, while the prisoner stands in the position already described, it runs up and down or nearly so—*horizontal* if it runs across on the same level or nearly so—*slanting* if it slopes from one side to another.

10. In the case of slanting marks you must give the direction the slope takes *downwards*, *i.e.*, say whether it slopes "inwards" (towards the body, or the middle line of the body), "outwards," "forwards" or "backwards."

11. In describing curved scars, say in which direction the *hollow* of the curve turns—hollow side *up* or *down*, to *front*, to *back*, &c.

#### Position.

12. The marks are taken in the following order:—

- I. Left arm and hand.
- II. Right arm and hand.
- III. Face and throat.
- IV. Chest (down to navel).
- V. Back (including back of neck).
- VI. The rest of the body.

13. In taking the marks work generally from left to right and from above downwards.

\* Note especially that the *inner side* of the arm does not include the inside of the *elbow* which in the position given forms part of the *front* of the arm.

### I. and II.—Arms and Hands.

14. In the upper arm, say whether the mark is on the front, back, inner side or outer side, and give the distance from elbow or shoulder.

Example:—

*Scar rect., 25 m. long, vert.: 50 m. above elbow, back of right upper arm.*

15. In the forearm, state in the same way whether the mark is on the front or back, inner side or outer side, and give the distance from the elbow or wrist.

16. On the hand indicate the position of the mark on back or front (*e.g.* "at base of thumb," "between forefinger and middle finger, &c.').

17. Each finger has three joints, and the sections of the finger between the joints are called phalanges. You can, therefore, besides saying that a mark is on front, back, &c. of a finger, give its position on first joint, second joint, third joint—or on first phal., second phal., third phal. The numbers begin from the joint next the back of the hand, the joint nearest the finger tip being the third joint.

Similarly with the thumb except that there are only two joints and two phalanges.

### III.—Face and throat.

18. The chief points in the face and throat used for indicating positions and distances of marks are:—

The line of the hair.

The root of the nose.

The eyebrows (inner end, outer end, middle).

The eyes (inner angle, outer angle).

The point of the nose and the outer corners of the nostrils (right and left).

The ear (highest point and lowest point).

The corners of the mouth.

The larynx or "Adam's apple."

The cheek, chin, temple, &c., are used to assist in describing the position of marks, but the distances from *points* should always be given.

Examples:—

*Scar rect., 20 m. long, hor.: 25 m. below outer angle of right eye.*

*Birth-mark, circ. 3 m. diam. on left cheek 30 m. in front of lowest part of ear.*

### IV.—Chest.

19. The measurements are taken from:

The fork of the breast-bone.

The nipples (right and left),

The navel,

The "middle line."

The latter is an imaginary line dividing the body down the middle (*i.e.*, passing through the centre of nose and chin, the larynx, and the navel).

Example:—

*Scar, oval, 2 by 5; 60 below larynx, 35 to left of middle line.*

*Tattoo mark, anchor, 5 by 6; 40 above navel, 25 to right of middle line.*

### V.—Back.

20. The measurements are taken from the "middle line," which here follows the centre of the backbone, and the seventh vertebra. The seventh vertebra is the most prominent section of the backbone, and lies a little above the line of the shoulders. Its position is sometimes not easy to determine with exactness, and some allowances must be made for errors. When the prisoner is stout, the point becomes more prominent if he is made to bend forward his head.

Example:—

*Scar, curve, hollow upwards, 50 long; 150 below seventh vertebra, 80 to right of middle line.*

### VI.—

21. Only very prominent marks, *e.g.*, loss of limb or toe, &c., are to be given.

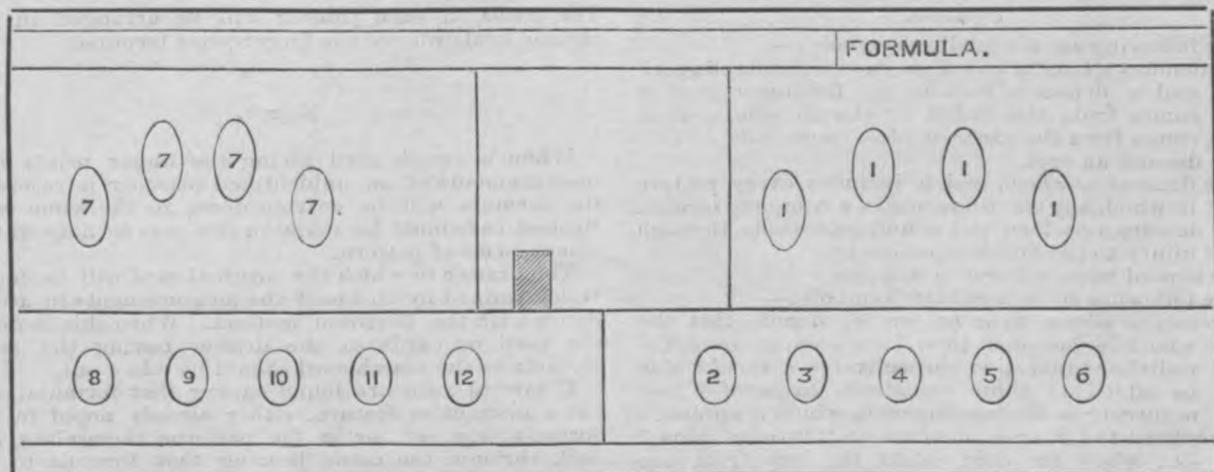
22. If there are several clearly distinctive marks on I., II., and III., no marks need be noted on IV., V., and VI., except such as are specially prominent or characteristic.

(The descriptions are much shortened by the use of abbreviations similar to those employed by M. Bertillon, and recommended in the report, page 19. Only a few examples of these abbreviations are given above. The m. for millimetre may always be omitted, as all the measurements are in millimetres.)

## APPENDIX F.

## INSTRUCTIONS FOR TAKING FINGER-PRINTS.

Every prison where finger-prints are to be taken will be supplied with a plate of copper,  $10\frac{1}{2}$  ins. by 7 or of such other size as experience may show to be most convenient, screwed by its corners and down both ends to a board 1 inch thick, an ordinary printer's roller, 9 inches in length and 3 in diameter, two tubes of ordinary printer's ink, some benzole and a stock of cards 12 inches by 5 as indicated in the report.



1. Squeeze less than a drop of ink on the copper plate and work it with the roller till it forms an even layer over the surface. The layer of ink must be so thin as to allow the copper colour of the plate to show through it.

2. Take the prisoner's right hand and lay the bulbs of the four fingers flat on the inked plate pressing them gently but firmly with your own hand. Then lay the inked fingers flat on the upper right hand division of the card pressing them as before with your own hand, so that imprints of the four finger bulbs may be taken at the places marked 1 in the above woodcut.

3. Then take the thumb of the right hand, roll the bulb slightly on the inked slab and roll it again on the lower part of the card at the part marked 2. Do the same with each of the fingers in succession, so that imprints of them may be taken at 3, 4, 5 and 6. These

imprints will be more extended than those taken at 1, but are sometimes not so sharp.

4. Repeat the process with the prisoner's left hand, except that it will probably be found more convenient in taking the *separate* imprints of the fingers to begin with the little finger at 8. In any case, however, the left hand thumb must be printed on the card at 12.

5. Care should be taken in the lower range of imprints that the whole of the finger bulbs should be laid on the card well above the line that cuts off a margin at the bottom.

6. Both the roller and the slab must be thoroughly cleaned with benzole, dried with a rag, and put out of the way of dust when done with.

7. The fingers may also be readily cleaned with benzole or turpentine after the imprints have been taken.



## APPENDIX G.

## MEMORANDUM AS TO THE READING OF FINGER PRINT FORMULÆ.

(Revised by Mr. Galton.)

The following memorandum is intended as the basis of the instructions for the assistants in the Central Registry who have to deal with finger prints. It is not to be regarded as final, but merely as a brief statement of Mr. Galton's method in its present stage. Alterations in details will be made as the process is developed in practice.

*Symbols.*

The following are the leading symbols:—

- l* denotes a loop in any digit except the forefinger.
- r* and *u* denote a loop in the forefinger, *r* if it comes from the radial or thumb side, *u* if it comes from the ulnar or little finger side.
- a* denotes an arch.
- w* denotes a whorl, which includes every pattern in which any one ridge makes a complete circuit.
- x* denotes a pattern that is undecipherable, through injury to the finger or otherwise.
- z* is used when a finger is wanting.

The following are subordinate symbols:—

- r* and *u* affixed to *w* (*w<sub>r</sub>* or *w<sub>u</sub>*) denote that the whorl is enclosed in a loop coming from the radial or ulnar side respectively; *r* should also be added to those occasional cases of *l* (not occurring in the forefinger) to which it applies.
- v* affixed to *l*, *r*, or *u*, denotes an "invaded loop," *i.e.*, when the core enters the loop from one side.
- y* affixed to *l*, *r*, *u*, or *w*, denotes a pattern that suggests an eyelet hole; it is often transitional between a loop and a whorl.
- k* affixed to *l*, *r*, or *u*, denotes a form of loop in which the core is distinctly hooked.

*Reading Patterns.*

The assistant must acquire knowledge of the types of pattern mentioned above by examination of a large number of actual finger prints. He should fix his attention first on the outline of the pattern, and then on its core, and never allow it to dwell on non-essentials however conspicuous they may be, such as differences due to the impressions having been taken from slightly different parts of the finger, or being blacker in some parts than others. He should also practice tracing patterns in the manner described in "Finger Prints," page 69. He will be supplied with a book containing photographic reproductions of the forms of pattern which are transitional between the types mentioned above, showing in each case to which type the form is to be assigned. When a knowledge of these forms is acquired in this way, few cases will occur which cannot be assigned with certainty to one or other of the main types.

In reading off imprints, first determine to which type the pattern belongs and write down the symbol *a*, *l*, *r*, *u*, or *w*, as the case may be.

In the case of a transitional form, note below the line the other possible interpretation, *e.g.*, *l<sub>r</sub>*, *w<sub>u</sub>*. These symbols should be added even in cases where there is no doubt as to the type to which the print belongs, but where they may aid the searches in the register by indicating a well-marked feature.

*Writing Formulæ.*

In writing the formula for the set of 10 finger prints the symbols will be written in the following order: the first, second, and third finger of right hand; the first, second, and third finger of left hand; the thumb and little finger of right hand; the thumb and little finger of left hand. They will thus fall into four groups, divided as in the following example, *ull, alw; wl, wl*.

The formula will be noted at the right hand top corner of the card.

*Arrangement of Cards.*

The drawer in which each card is placed is determined by the measurements on the Bertillon method.

The cards in each drawer will be arranged in the alphabetical order of the finger-print formulæ.

*Search.*

When a search card giving the finger prints and measurements of an unidentified prisoner is received, the formula will be written down in the same way. Special care must be taken in this case to note transitional forms of pattern.

The drawer in which the original card will be found is determined by means of the measurements in accordance with the Bertillon method. When this is done, the card or cards in the drawer having the same formula as the search card should be taken out.

If several cards are found having that formula, seek some distinctive feature, either already noted in the formula, (*e.g.*, *w<sub>r</sub>*), or in the patterns themselves, and look through the cards bearing that formula to see whether any of them has this feature.

When one card has been selected, compare carefully the prints of several of the fingers with those on the search card, to ascertain whether they are imprints of the same hands.

A minute comparison of the details in the prints requires the use of a lens (a watchmaker's lens is convenient); also of two or more pairs of "pointers" to mark down corresponding points in the two imprints, from which, as from starting points, others may be successively laid down. A pointer consists of a wooden arm a little thicker than a pencil, from 6 to 10 inches long, having a common pin inserted firmly into its pointed end and then bent downwards. The arm is fixed to a short cross-bar (3 or 4 inches long), which rests on two nails with smooth heads. Thus the pointer is a tripod. The arms of the two pointers in each pair should be of different lengths to prevent their cross-bars from interference when they are both in use on the same print.

If the card is not found under the same formula, and if there are any transitional forms in the prints on the search card, search should be made under the other formula or formulæ indicated by transitional symbols.

If the card is not found there, it is not in the drawer.

*Subdivision.*

When the cards in one drawer bearing the same formula become very numerous, a subdivision will be necessary.

This will occur first with the formula *ull, ull; ll, ll*.

The principle of subdivision is to select one finger—the same in all cases (say the right forefinger), and having with the aid of the pointers determined (1) the central ridge of the loop, (2) the corner where the ridges, passing over the loop, diverge from those passing below it, to count the number of intervening ridges. The cards having this formula are then arranged according to number of ridges.

When there is no central ridge, but a narrow loop or "staple," the counting is to begin from the further shoulder of the staple.

In searching, count the ridges in the same finger in the same way, and search those of the cards of the *ull, ull; ll, ll* formula having the same number of ridges. Allowance must be made for a possible error of two in counting the ridges. Thus, if the number counted is 7, it is necessary first to look through the cards having 7, then those having 6 and 8, then those having 5 and 9.

Fig. I. CARD.

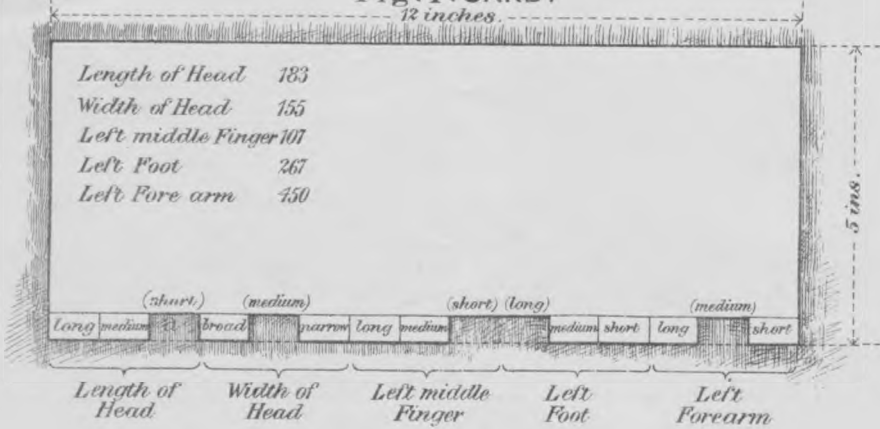


Fig 2. PLAN OF DRAWER.

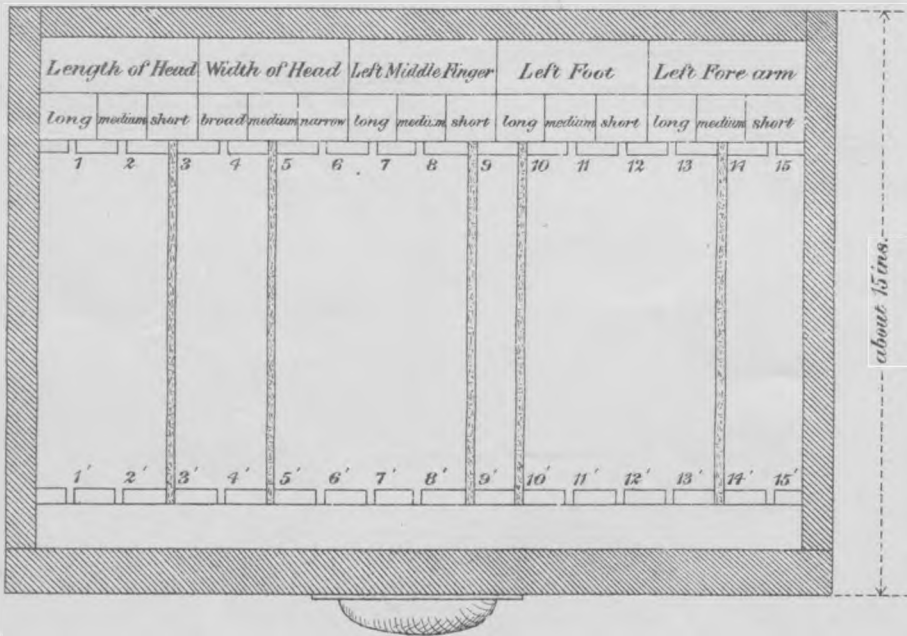
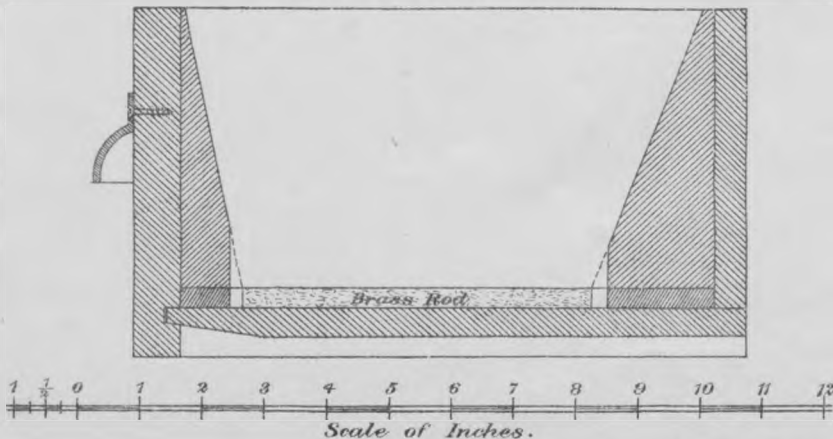


Fig 3. SECTION OF DRAWER.



## APPENDIX H.

## MECHANICAL CONTRIVANCE TO CHECK THE SORTING OF THE CARDS IN THE BERTILLON CABINET.

The accompanying diagrams explain the mechanical arrangement devised by Mr. Galton to secure that each card in the Bertillon cabinet should be placed in the proper drawer. Fig. 1 represents one of the cards described on page 32 of the report with the measurements noted on the left-hand corner, the other particulars having been omitted as not essential for the present purpose. Fig. 2 is a plan of one of the drawers in the Bertillon cabinet; and Fig. 3 a section of the drawer from front to back.\*

Each drawer is made  $12\frac{1}{4}$  inches broad by 5 inches deep, so that the the cards, which measure 12 inches by 5, placed edgewise, may fit in with  $\frac{1}{8}$  inch play to either side from their mean position. The length from front to back of the drawer will be sufficient to allow about 500 cards standing edgewise to be placed in it. At the lower edge of each card 15 equal spaces (arranged in groups of three) are marked off, and any one or more of these spaces can be notched out. At the front and back of the drawer, in which the cards are to stand, there are 15 grooves, between which narrow rods of brass or wood can be placed edge upwards. Suppose now we have the card of a prisoner whose head length is 183. This ranks as a Short Head, consequently a

notch is cut in the card at the third space ( $a$  in Fig. 1). In each of the drawers in the section of the cabinet for Short Heads a rod is placed at the bottom of the drawer between the third groove ( $3$  and  $3^1$  in Fig. 2). If the card in question is placed in any one of the drawers for Short Heads, the notch will stride over the rod, and the card will therefore fit the drawer; but if the card is placed in a drawer for Long Head (in which the rod extends from  $1$  to  $1^1$ ), or for Medium Length Heads (where the rod extends from  $2$  to  $2^1$ ), there will be no notch to admit the rod, and the card will be tilted up so that its upper edge is not level with those of the other cards, and will prevent the drawer shutting. Similarly with the other five measurements. Each drawer will thus have five rods running from back to front along the bottom, and each card will have five notches cut in the lower edge; and assuming the notches to be properly cut, each card will fit into its proper drawer, but will not fit into any of the 242 other drawers in the cabinet.\*

\* The width of the notches so much exceeds the width of the rods that the lateral play of the cards in their box does not at all interfere with the action of the apparatus. Each notch is 8 tenths of an inch in width, the lateral play is  $2\frac{1}{2}$  tenths, which reduces the available width of the notch to  $5\frac{1}{2}$  tenths. Consequently the rod might theoretically be a full half-inch in width, but it would be proper that to allow for defects in straightness it should not exceed a quarter of an inch.

\* The diagrams have been drawn for the Committee by Mr. F. W. Troup, Architect.

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IDENTIFICATION OF HABITUAL CRIMINALS.

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REPORT

OF A

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TO INQUIRE INTO THE

BEST MEANS AVAILABLE FOR IDENTIFYING

HABITUAL CRIMINALS;

WITH

MINUTES OF EVIDENCE AND  
APPENDICES.

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