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THE BERTILLON SYSTEM OF IDENTIFICATION

Signaletic Instructions, including the Theory and Practice of Anthropometrical Identification. By Alphonse Bertillon. Translated from the latest French edition. Edited under the supervision of Major R. W. McClaughry. Pp. xx + 260, and plates. (Chicago: The Werner Company. London: Kegan Paul and Co., Ltd., 1896.)

THERE is much that is both interesting and instructive in Major R. W. McClaughry's translation of Bertillon's last book of 1893; for it contains an account, revised up to date, by M. Bertillon himself, of the system as at present in work in Paris. Its contents may conveniently be divided into three parts: *first*, the anthropometric definition of individuals, whereby what may be called a *natural name* is given to each person measured, based upon five principal measures (but there is some want of definiteness about this), which can be classified and looked for, just as a real name is classified and can be looked for in an alphabetical directory. There are, of course, many persons who have the same "natural" names, just as there are many Smiths; still, the knowledge that the name of a person is Smith, is a very important help to further differentiation. The *second* portion is of a hybrid character, partly subserving the same purpose as the first, to an extent and in a way that is not clearly described, and partly as affording particulars whereby it may be positively affirmed whether any, and, if any, which, of all the "Smiths" is the right man. This second portion includes photographs and the verbal descriptions briefly worded or symbolised, of a great variety of personal characteristics, as of forehead, nose, chin, hair, eyes, ear, eye brows and lids, mouth, wrinkles, &c., and finally of cicatrices and body-marks. It is not clearly stated how much of all this is generally entered on a prisoner's card; but the total entries on the specimen signaletic card (Plate 78) contains, as well as I can count them, 12 measures, 58 separate details in a sort of shorthand, and 193 facts concerning marks and scars, also in shorthand, so that the whole of this extraordinarily complex description, containing some separate 263 notations, packs into small space. The *third* portion somewhat trenches on the second, as the second did upon the first. It endeavours to show how a verbal portrait may be built up out of specified materials. Let us say, for brevity—forehead No. 3, nose No. 4, lips No. 1, and so on, and there you have the picture. It is, at all events, an amusing game to try how far, with a box of specimens, like a kindergarten box, a recognisable face might be built up. I would suggest that toy manufacturers should study this part of the book, and bring out a box in time for the forthcoming Christmas parties.

As said already, it is difficult to gather how far this enormous amount of labour is bestowed upon each prisoner; in any case, the success of the Paris *bureau* is certainly very great. It has the peculiar advantage of being worked under special conditions, all prisoners being taken to the same measuring-place, where numerous clerks, under careful inspection, working day by day,

have acquired a remarkable degree of sureness and deftness in their work.

The modern French system of giving what is described above as "natural names," differs from the modern English in that it as yet attempts no *classification* by finger-prints. In the English plan a primary subdivision of the cards is made on the first of the above methods, using five measures, and these subdivisions are themselves to be subdivided by classifying the finger-prints. It is to be regretted that the volume under review takes but scant and imperfect notice of the now pretty widely-known method of finger-prints, which in my own, perhaps prejudiced, opinion is far more efficient for classification, and incomparably more so for final identification, than the whole of the second of the above portions, while the finger-prints are much more surely and quickly put upon paper than they are. They afford, moreover, the only means of surely identifying growing youths. It is true that the prints of the thumb and three fingers of the right-hand are at length introduced into M. Bertillon's cards, as shown in the specimen (Plate 79*a*), but there is a regrettable error in the date of the circular (p. 259) drawing attention to the innovation. The date is entered as 1884, and not as 1894, as it should have been (see note, p. 14), and conveys the idea that the use of finger-prints in Paris is much older than it really is, and previous, instead of subsequent, to its use in England.

The practical question arises as to how far the method of M. Bertillon is suitable for adoption in its entirety, or otherwise, in other countries than France. The publishers of this volume state, in a preface, that it is in use "to some extent" in about twenty prisons and seven police departments in the United States. Mr. Bertillon says: "The countries which at the present time have officially adopted the system of anthropological identification are the United States, Belgium, Switzerland, Prussia, most of the Republics of South America, Tunis, British India, Roumania," &c.

I fear the words "to some extent" must be emphatically applied to many of these, besides the United States. So far as I can hear, the only Presidency in British India that has officially taken up the system is Bengal, where it has "to some extent" been on trial for some years and with considerable success, under the condition of a more laborious system of inspection than can easily be maintained. I will quote what is doing there now from the latest circular of Mr. E. R. Henry, Inspector-General of Police, dated Calcutta, January 11, 1896.

"The weaknesses of the anthropometric system are well known. Notwithstanding the improvements introduced, the error due to the personal equation of the measurer cannot be wholly eliminated, and as hundreds of measurers have to be employed, it is inevitable that errors due to careless measuring and to incorrect reading and description of results should occasionally occur. A system based on finger impressions would be free from these inherent defects of the anthropometric system, and for its full and effective utilisation it would only be necessary to take the impressions with the amount of care needed to ensure that the prints are not blurred. It may be added that a considerable gain as regards time would result from the change of system, there being no difficulty in taking the impressions of the fingers of half-a-dozen persons in less than the time required to complete the measurements of one."

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"At present a duplicate Criminal Record is being kept, *i.e.*, a record based on anthropometric measurements *plus* thumb-marks, and also separately a record based solely on the impressions of the ten digits. A system of classifying the latter is being worked out, and if after being subjected to severe tests it is found to yield sufficient power of differentiation to enable search to be unerringly made, it seems probable that measurements will gradually be abandoned as data for fixing identity, dependence being placed exclusively upon finger impressions."

It seems, therefore, that the following phrase of M. Bertillon requires modification: "We may safely say, then, of this new edition, that it is final in its main outlines and in most of its details, and that any future edition, if such there should be, will differ from it very little." A perfect system is one that attains its end with the minimum of effort, and that certainly cannot be affirmed of the French system. In my own opinion, the present English system (which includes full-face and profile photographs) much more nearly fulfils that definition.

FRANCIS GALTON.

SCIENCE AND THEOLOGY.

A History of the Warfare of Science with Theology in Christendom. By Andrew Dickson White, LL.D., &c., late President and Professor of History at Cornell University. 2 vols. Pp. xxiv + 416, xiv + 474. (London: Macmillan and Co., 1896.)

TWENTY years ago Dr. White published a little volume, entitled the "Warfare of Science," to which the late Prof. Tyndall contributed a brief preface. Out of that volume has grown the present book, which, though very much more learned, has lost something of the freshness that characterised its predecessor. We should like to have said that the one had made the other needless, but, as ecclesiastical dignitaries still accept men like Dr. Kinns for authorities in science and champions of orthodoxy, we fear that Giant Pope—using the title in a wider sense than Bunyan did—is hardly dead yet. This book is melancholy reading, for it tells, again and again, of the miserable mistakes that have been made by good men with the very best intentions. Here and there, perhaps, Dr. White a little magnifies these mistakes and overlooks extenuating circumstances; is, perhaps, a little too ready to accept witnesses on his own side, as when he assumes it proved that man existed on the Pacific slope of America in the Pliocene age. The acute theologian also might sometimes have his chances of breaking the windows in the house of the man of science, for the latter occasionally talks wildly when he trespasses on the other's province. But we must sorrowfully admit, that Churchmen and Non-conformists alike—the most extreme Protestants as well as the most ardent Romanists—have distinguished themselves too often by their unwise and ignorant opposition to scientific facts and scientific progress. The former adversaries have not been less illiberal than the latter; indeed, of late years they have perhaps been more so. They have not persecuted so actively, simply because they have not so often had the power; as to the will, the less said the better.

Dr. White discusses the various branches of his subject in separate chapters. The first, entitled "From Creation to Evolution," is not the least interesting, though

we think that in these words he needlessly gives a point to an assailant; for to a theist evolution might appear only a mode of creation. But special creation is obviously meant, so that we may pass on. This chapter gives a very interesting summary of opinion, ancient and modern, ending with the story of the storm raised by the publication of Darwin's "Origin of Species." Here, as in several other places, Dr. White's book is of great though indirect value, because of its plain speaking. The spirit of saint worship lingers in most religious bodies. It is deemed almost profane to admit that good and well-meaning men could make great mistakes, and thus produce serious mischief; could use absurd arguments, utter intemperate language, and do unjust actions. But Dr. White is no believer in this policy. Bishop Wilberforce of Oxford, even Pusey and Liddon, with firebrands like Dean Burgon and Archdeacon Denison, are dealt with in a spirit of refreshing candour; and even Mr. Gladstone occasionally comes in for not unkindly criticism, though his courtesy to theological antagonists receives its due meed of praise.

Then the author passes on to geography, with the absurd figments of Cosmas Indicopleustes and that deadly heresy of the existence of the antipodes; to astronomy, with the denunciation of the heliocentric theory of the planetary system, and the story of Galileo. Next we come to the battles over geology, the antiquity of man, anthropology, and the discoveries in Egyptian and Chaldean history. Magic and demonology, with the development of chemistry and physics, follow next, together with the spread of scientific views on medicine and hygiene. Here theologians are charged with having opposed inoculation, vaccination, and the use of anaesthetics. As regards the second, they might now retort that its present opponents, as a body, are not specially distinguished either for orthodoxy or for religious zeal. Next come chapters on lunacy and demoniacal possession, a subject more difficult than appears on the surface, and concerning which, we may be sure, the last word has not yet been said. After chapters on the origin of language and the Dead Sea legends, the book concludes with a sketch of the development of modern ideas as to the function of inspiration and the duty of criticism.

Dr. White's book is a very exhaustive survey of this unreasonable conflict, which we may hope is coming to an end, and will be valuable as a work of reference. It should be carefully studied by all tutors in theological colleges, who would do well to give the substance of it in lectures to students preparing for the ministry, lest perchance they make the same mistakes as did their forefathers.

T. G. B.

OUR BOOK SHELF.

A Manual of Botany. By J. Reynolds Green, Sc.D., F.R.S., F.Z.S., Professor of Botany at the Pharmaceutical Society of Great Britain. Vol. ii. Classification and Physiology. (London: J. and A. Churchill, 1896.) The second volume of Prof. Green's "Manual of Botany" concludes a work, the usefulness of which will be recognised by students and teachers alike. The present part is devoted to the treatment of taxonomy and physiology, and opens with an account of the general principles of classification, and of the leading systems which have severally left their mark on the progress of the science.