

ANTHROPOMETRY AT SCHOOLS.

BY

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ANTHROPOMETRY, or the art of measuring the physical and mental faculties of human beings, enables a shorthand description of any individual to be given by recording the measurements of a small sample of his dimensions and qualities. These will sufficiently define his bodily proportions, his massiveness, strength, agility, keenness of sense, energy, health, intellectual capacity, and mental character, and will substitute concise and exact numerical values for verbose and disputable estimates. Its methods necessarily differ for different faculties: some measurements are made by the foot-rule, others by scales, others by the watch; health is measured by the frequency and character of illness; the remainder by performances in the school or on the playground. Anthropometry furnishes the readiest method of ascertaining whether a boy is developing normally or otherwise, and how far the average conditions of pupils at one institution differ from those at others. Though partially practised at every school—for example, in all examinations—its powers are far from being generally understood, and its range is much too restricted. But as an interest in anthropometry has arisen and progressed during recent years, it is to be expected that the good sense of school authorities, assisted by the expert knowledge of medical men, anthropologists, and statisticians, will gradually introduce improvements in its methods and enlargements of its scope.

It is not, however, so much about this that I wish to speak, as on our present deplorable want of knowledge of the true worth of anthropometric warnings and forecasts. We do not possess enough material in the form of life-histories to enable us to frame answers in definite and appropriate figures to such elementary questions as these: How far does success or failure in youth foretell success or failure in later years? What is the prophetic value of anthropometry at school in respect to health, strength, and energy in after-life? How far are the observations, then, made useful in indicating the career to which a boy is naturally best fitted? What are his permanently weak and strong points? Is he, for instance, more or less likely than others to break down under a tropical climate? What becomes of the boys? In what

proportion do they rise above the level of the station in which they were born, and in what proportion do they fall below it? The late Sir James Paget published a brief but most suggestive memoir entitled, "What becomes of the Medical Students?" During his long tenure of a professorship at St. Bartholomew's, his lectures were attended by about a thousand medical pupils, and the subsequent history of each was traced by his zealous assistants. Their successes and failures were then classified by Sir J. Paget in an ingenious and instructive way. It makes one heartily wish that similar investigations could be carried out into the after-careers of all who were educated at our public schools. Most laudable attempts have been made at many of them to compile registers, which are very useful as clues for further search, but far too scanty—at least, in all cases that I know of—for statistical deductions. The question now to be considered is the best way of accumulating a sufficient store of material to serve the above purposes in the future.

The conditions differ so widely in different places of education that it is almost necessary to limit the reply to one class of them. For this purpose it will be convenient to consider what might be done at the public schools. The question how the same general principles might be adapted to others must stand over for the present.

The first conclusion to be emphasized is that no programme for anthropometry in any school can be considered complete unless it provides for the collection of data during the after-lives of their pupils.

The difficulties of continuing records are many, and for the most part obvious, but I believe they might be overcome in the great public schools, to which I now confine my remarks, by the process about to be described. It is one that would prompt all the parties concerned to stimulate one another; it would work automatically, and it might be carried on without sensible charge on the funds of the institution. Some one of the masters who had a disposition for the work could be selected to perform the function of registrar, and be partly, if not entirely, remunerated for his extra labour through fees, collected in the way hereafter to be described.

There are certain small preliminary expenses, which would be met by a charge of a few shillings on leaving school for the privilege of keeping the name on the books. A large envelope would then be provided for each boy, to contain his anthropometric record up to date, and subsequent documents, which would be stored in perpetuity and

become the property of the school. I reckon that the average thickness of each filled envelope would be less than $\frac{1}{2}$ inch, so the records of 100 boys could stand side by side, like thin books, on a shelf 4 feet long. Each boy would also have two opposite pages of a ledger allotted to him, for brief entries from time to time. Access to all these documents would be permitted under reasonable restrictions.

It should be carefully impressed on every boy that communications will be welcomed from him all his life through, but under strict limitations as to their form and frequency, in order to reduce to a minimum the trouble of dealing with them. As regards form, the experience of all statisticians is strongly in favour of communications of this character being written on printed schedules, in reply to a few well-considered questions, only so much space being allowed for each reply as is really needful. The schedules must also contain a moderate amount of extra space for additional remarks. Printed questions check prolixity, bring to mind points of importance that might otherwise have been neglected, and ensure uniformity of arrangement.

As to frequency, yearly returns would be far too troublesome, and they are quite unnecessary. A four-yearly interval seems as good as any other that can be suggested, while it has the unique advantage of possessing one exceptional day—February 29 in each leap-year—which has thus far been unappropriated to any special purpose. I urge in all seriousness that it would be an excellent novelty to observe February 29 as a day of reminiscence—a rarer kind of Saint's day—wider and differing in its objects to those of the traditional Yule-time, which refer chiefly to family gatherings. It might be a day for each person to recall with affection and gratitude the friends and benefactors who had influenced his life for good, a recognised opportunity for reviving the friendships of early years by visits and letters. The sentiment that I wish to underlie its observance is exactly expressed by Wordsworth's well-known lines :

"The child is father to the man,
And I would wish my days to be
Bound each to each by natural piety."

The celebration of the day in schools would be much concerned with the works of living men who were formerly pupils, but then engaged in the battle of life. Their doings would be spoken of, and hearty sympathies evoked. Affection and duty should co-operate

in maintaining the bands of fellowship between school and former scholars; in short, its maintenance should be considered a "pious" object.

If these ideas should haply take root and thrive, it would become a common question between men at the beginning of each leap-year: "Shall you send returns to your old school?" This would serve both as a reminder and as an opening to pleasant talks about past times—about the successes and failures of contemporaries, and what had become of them; would lead to the renewal of not a few dim friendships that might otherwise have lapsed, merely through want of opportunity for keeping them up.

Uniformity of date in receiving the returns is desirable on other grounds. It would arouse a wholesome competition among the registrars of the several schools to compile their respective four-yearly digests in the best way they could, both from a scientific and a literary point of view. The simultaneity of the appearance of these digests throughout the country would compel public attention. They would be subject, as a whole, to comparison and criticism, through which their quality would improve on each successive occasion. Statisticians would, of course, take them simultaneously in hand, as containing a large aggregation of fresh, well-ordered, and trustworthy material, eminently suitable for their purposes.

It is an essential feature of my proposal to vest the initiative of sending in the records with the former pupils, thereby relieving the school authorities of the burden of hunting out changed addresses and of writing imploring letters. Consequently, the date for making the returns should be such that no person is likely to forget it. It will now be understood that the suggestion of February 29 has solid advantages.

The customary proceeding to which I look forward is that early in each leap-year every old pupil would bethink himself, and be reminded by others, that it is time to prepare his returns. He would write to his former school, asking that a blank schedule be sent to the address given by him, and enclosing a statutory fee, calculated to cover the whole cost of trouble, materials, printing, and postage. The blank schedule would be forwarded, and the date of his application and his address would be entered in the ledger. When the filled-up return had reached the school, it would be noted in the ledger, slipped into the appropriate envelope, and be acknowledged by a few friendly words on a postcard. Finally, a copy of the four-yearly

digest, containing among other things a list of contributors, would be posted to the same address on its publication.

I do not propose to enter into the character of the questions to be printed on the schedule, which, as already remarked, require very careful consideration, and should be framed, as far as practicable, on a uniform plan for all schools. Suffice it to say that the questions would take cognisance of only a few simple physical facts, and would principally relate to health, profession, preferments, marriage, and children. The two sides of a quarto sheet of paper would afford more than ample space for all that need be recorded by a person concerning his history during the past four years. Therefore, if he lived forty years after leaving school, the contents of his envelope would be limited to (1) ten sheets of after-life history, (2) his anthropometric record while at school (written in a thin copy-book, with blank pages at the end), (3) one sheet of family history (asked for from his parents when he was about to leave school, and probably repeated later), and (4) a few photographs. It was on this basis that I reckoned the average thickness of each filled envelope to be less than $\frac{1}{2}$ inch.

Whenever an old pupil revisits his school after a long interval, the opportunity should be taken of repeating and recording a few simple measurements, such as his height, weight, eyesight, and strength, writing them on the blank pages at the end of the copy-book containing his anthropometric record; also of asking him to look over the pages in the ledger that are adjacent to his own, which contain the names of his former schoolfellows, and to give such information as he can to fill up any long-continued blanks—it may be by the notice of a death and its cause. Such information, written and signed on a separate slip, would be noted in the ledger, and put into the appropriate envelope.

The scheme thus outlined would interest all the parties concerned. The former pupil would acquire a much more vivid appreciation than at present of his continued relationship to his old school. Knowing that his earlier life-history was stored there, he would be the more disposed to continue it up to date and to pay his small share of the cost of the entire procedure. Moreover, he would shrink from acquiring the reputation of being indifferent to the wishes of the school, by abstaining from sending his returns. The school authorities would rejoice in the possession of the whole history of those over whose early development they exercised large control. Anthropologists would know where to lay hands on a mass of material suitable for comparing the

health, bodily qualities, and scholastic achievements in early life with the health, vigour, and achievements afterwards. Statisticians would possess a four-yearly census, out of which unexpected conclusions would probably be derived. Lastly, some few of the records would be invaluable to future biographers. There will, of course, be many omissions, but a very great deal would be secured that must otherwise have been lost, quite sufficient to warrant the experiment.

It is the behaviour of a brute beast, such as a dog or a cat, to lavish care on its puppies or kittens for a while and afterwards to cast them off entirely ; yet no more prolonged interest used in former times to be shown at most schools and colleges to their old pupils. A far more humane spirit has fortunately arisen of late years, and is apparently established. The effect of the present proposals would be to encourage it, and to prolong and intensify the kindly fellowship between past and present pupils and their school, and to make it serve more than sentimental purposes. The addition of a scientific motive could not fail to invest that relation with a more durable and business-like character, and to open a way to fields of research of no small importance that have hitherto been unduly neglected.