

Combination Rooms—what of them and their old exuberant glory? The hilarious wine parties, and the bands of musicians which were hired on such occasions to help in making the college staircases resound and resound again—where are they? Those unquotable lampoons which Heads of Houses delighted to compose—where shall we hear these productions now? The Don, who, on being told by his servant that a pupil of his whom he was inviting to wine had died some three terms before, remarked in reproving, if not injured, tones, "You ought to tell me when my pupils die"—Cambridge knows him no more! And in their place new images arise. Princess Ida and her "sweet girl graduates" are knocking at the doors of the Senate House, and much that was undreamed of "sixty years since" is already *in fait accompli*. More, too, is at the threshold of existence, and but waiting its opportunity to become a part of the University life. Is this menacing to education? Is it a danger to the charm of Cambridge? We trow not. Let the Poet Laureate, an old Trinity man himself, allay our fears:

"The old order changeth, giving place to new,
And God fulfils Himself in many ways,
Lest one good custom should corrupt the world."

A PLEA FOR PHYSICAL EXAMINATION.

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[We have received a private letter on this subject from Mr. Galton, than whom none stands higher as an anthropologist, and who was recently awarded the gold medal of the Royal Society for his researches in anthropometry, the science of human measurement. With the letter he sends some notes and reports which he has written or drafted on the subject of physical examination. From these papers we have selected a few of the most salient passages in order to give our readers a fair idea of the main arguments used by the advocates of the system of physical examination. We should add that the report which Mr. Galton drafted for the British Association has been recently forwarded by that body to the War Office, Admiralty, Indian Civil Service, and Civil Service Commissioners, and we trust that something may at least be done to test, on a large scale, the advantages of a physical examination. It may be of some interest to the readers of EDUCATION to know that the recommendations of the Council of the British Association were:—

(1) That an inquiry should be held as to the best system of arranging matters for physical qualifications, on the double basis of inspection and anthropometry, with a view to its establishment as a temporary and tentative system.

(2) That the marks to be given under this temporary system should be small, so as to effect the success of those candidates only who would be ranked by the present examinations very near to the dividing line between success and failure, and whose intellectual performances would consequently be nearly on a par, though they would differ widely in their physical qualifications.

(3) That a determination should be expressed to reconsider the entire question after the experience of a few years.]

THE intellectual differences are usually small between the candidates who are placed, according to the present literary examinations, near to the dividing line between success and failure. But their physical differences are as great as among an equal number of the other candidates

taken at random. It seems, then, to be most reasonable, whenever two candidates are almost on a par intellectually, though one is far superior physically, that the latter should be preferred. This is practically all I propose. I advocate no more at present than the introduction of new marks on a very moderate scale, sufficient to save from failure a few very vigorous candidates for the Army, Navy, Indian Civil Service, and certain other Government appointments in which high bodily powers are of service. I would give the places to them that would be occupied, under the present system, by men who are far their inferiors physically and very little their superiors intellectually. I am sure that every successful employer of men would assign at least as much weight as this to bodily efficiency, even among the highest class of those whom he employs, and that Government appointments would be still better adjudged than they now are if considerations of high bodily efficiency were taken into some account.

It is scarcely necessary to press my own views in detail as to the particular tests most easily available, several of which I actually employ at my own laboratory at South Kensington. They would include the well-known measures of strength, breathing capacity, agility, or promptness, keenness of eyesight and of hearing. It is sufficient now to say that I have not the least doubt as to the feasibility of constructing off-hand a valuable system of examination for immediate use, though it would be open to great improvement through experience. The higher education of the country is now so pervaded by the spirit of athleticism, that it is not to be feared for a moment that any system of examination for bodily efficiency would become pedantic or fanciful. Many of the examiners in the present literary subjects are themselves past athletes. If the principle of considering physical merit in competitive examinations for Government appointments be once conceded, I am sure that we may safely trust the authorities to frame appropriate tests and methods. It is but reasonable to assume that they would proceed very cautiously at first, and gradually extend the system to its legitimate limit, whatever that may be, with increasing thoroughness.

Judging from the results of numerous private inquiries, I entertain no doubt that if the reasonableness and feasibility of the proposed reform were widely understood, a loud demand would arise from many sides, without arousing any opposition worth regarding, for the introduction of so salutary a measure. It would certainly be grateful to many parents who now lament the exclusively bookish character of the examinations, and are wont to protest against a system that gives no better chance to their own vigorous children of entering professions where bodily vigour is of high importance than if they had been physically only *just not unfit* to receive an appointment.

In the opinion of anthropologists, however, athletic performance is by no means the only basis upon which trustworthy marks for physical qualifications may be assigned.

This opinion is confirmed by some experiments made at Eton College, of which an account was submitted to the British Association. Thirty-two youths, most of whom were candidates for the Army, were inspected and marked by two medical men, sitting in separate rooms. The medical men had previously received the same general instructions, but otherwise acted independently. The marks they severally assigned to the youths were afterwards found to agree with considerable precision. Then, nineteen of these youths were set to write an English essay, and their performances in that respect were submitted to two examiners in turn, to

be marked independently by them. The marks given by these examiners agreed together only one half as closely as those given by the medical men. No one disputes the substantial trustworthiness of such literary examinations as these, however much they may be thought capable of improvement. But this experiment (so far as it goes) proves that the trustworthiness of physical examinations would be still greater.

An experiment made at Marlborough College shows how small may be the differences between the class places determined by these measures and those determined partly, in some cases, by the physical aspect, but principally by proficiency in the various school games, or, in other words, by athletic competition. Seventeen youths were measured by such apparatus as was then available at the College, and copies of their measures were distributed among the masters, to be marked by them on whatever principle they severally thought best. The individual results proved to be very discordant, but their averages, which express the result of the aggregate common sense of all the masters, ranked the boys in closely the same order as that independently assigned to them according to their proficiency in the various school games, and to their apparent physique. It will be observed that if the masters had previously conferred and come to a mutual understanding on the principle according to which the marks should be assigned, they must necessarily have arrived at identical results, as they had definite and identical data to work upon. There happened to be one case of failure, which was instructive. This was due to the absence of any test at the College for rapidity of muscular action or of promptness of response to a signal. The consequence was that an agile youth was rated too low.

The paucity of available data makes it scarcely possible, at the present moment, to elaborate as complete a system of assigning marks for physical qualifications as is desirable, and as would be otherwise feasible. It is, therefore, very important that suitable steps should be taken to obtain these data. For instance, if a temporary system of marks were tried, with the avowed determination of reconsidering the subject after some experience had been gained, the desired information would rapidly accumulate in the hands of the inspectors; the attention of schoolmasters would be strongly aroused, and it is probable that they would attempt a variety of experiments analogous to those alluded to at Eton and Marlborough, but on a much larger scale. In a very few years it might then become feasible to arrange a system that should be generally acceptable.

EDUCATIONAL GOSSIP.

THE results of the first examination for the Junior Commercial Certificate of the London Chamber of Commerce were published on April 2nd, a few days after we went to press. For the satisfaction of our readers, the list is appended, but we would mention that, if rumour is to be believed, the papers set were of an absurdly low standard. If so, this is just what we feared: "Much cry and little wool." The examination was held at the College of Preceptors, Bloomsbury-square. The number of candidates was 65, of whom the following obtained certificates: H. E. Blake, Bedford Grammar School; H. L. Brousson, Owen's School, Islington; K. M. Brousson, Owen's School, Islington; W. D. Campbell, Owen's School, Islington; A. E. Crabe rg, Owen's School, Islington; E. G. Fenner, Owen's School, Islington; M. C. Furtado, Owen's School, Islington;

A. G. Hodgson, Owen's School, Islington; H. G. Linstead, Owen's School, Islington; G. McFarlane, Owen's School, Islington; D. N. Nabarro, Owen's School, Islington; C. Nathan, City Middle Class Schools; F. S. S. Passmore, Owen's School, Islington; P. C. Plowman, Hillmartin College, Camden Town; C. H. Smith, Owen's School, Islington; S. Toyer, Norton College, Luton; A. W. Woolfe, City Middle Class Schools. Scholarships and prizes: Blake obtained the £5 prize for commercial history and geography; Brousson the £3 prize for drawing; Carsberg the £5 prize for mechanics and hydrostatics; Hodgson the Debenham and Freebody scholarship for proficiency in French and German, £30; Linstead the £10 prize for commercial history and geography; McFarlane the £3 prize for shorthand; Nabarro the Barclay's scholarship for general proficiency, £20; Nathan the £3 prize for chemistry; Passmore the £2 prize for drawing; Plowman the Marshall and Snelgrove scholarship for proficiency in book-keeping and handwriting, £35; Toyer the £10 prize for general proficiency; and Woolfe the £10 prize for general proficiency.

Now that the summer term is upon us, the all-important question of swimming will come on the *tapis* with its usual annual regularity. Swimming and swimming baths have fairly taken root in boys' schools, but we believe that, in spite of the precept and practice of some enthusiasts, swimming for girls is still considered unnecessary by a large number of principals of girls' schools. If we are wrong, we shall be delighted to be set right on this particular point. Swimming is an art to be most easily commenced in baths, and if entered upon now, further practice will be obtainable during summer holidays spent at the sea or river side. Fortunately, there is a strong inclination on the part of girls to acquire this most useful addition to their powers of self-preservation. Even should no occasion to employ it seriously arise, it is an exercise that always adds considerable pleasure to the physical value of bathing, while it is certainly not without use in imparting ease and confidence of motion. As in many other cases, the initial difficulty is the worst. Swimming baths are few and far between, even in London, and do not exist in many of the provincial towns, while many principals and parents have an insuperable, if unreasonable, objection to public baths. Still, swimming is so pleasant as well as practical, that it is worth taking some trouble to acquire the art. Indulged in with reason, it is the best possible exercise for a growing girl.

We have given our readers elsewhere a summary of Mr. Heppel's suggestions for an improved method of teaching Plane Trigonometry, in the last general report of the Association for the Improvement of Geometrical Teaching. The report, however, contains also much matter that will be of interest to the scholastic world. Dr. Taylor, in his "New Treatment of the Hyperbola," proposes to start by drawing the asymptotes and defining the curve, in effect, as the locus of a point satisfying the equation $xy = \text{constant}$. The positions of the focus and directrix are then determined, and a very simple construction given for the determination of points on the curve. The equivalent of the axial rectangular equation follows immediately, and hence the symmetry of the curve, the existence of another focus and directrix, and the constancy of the difference of the focal distances. Space prevents a more detailed account; but we may say that the plan effects, apparently, a great simplification in proofs, and therefore—which is a great consideration—in figures. Bearing