AN ADDRESS ON THE PHYSICAL TRAINING OF GIRLS.

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GENTLEMEN,—Allow me at this, the earliest opportunity, very genuinely to thank you for the compliment you have paid me. It would indeed show that I had failed entirely both to appreciate that compliment aright and to understand my own true position, did I attempt to-night to deal with any medical subject at all exhaustively; I shall therefore content myself with simply introducing the following question: What are the causes of, and the remedies for, the anæmia of young women? using the word “anæmia” as including all those cases of so-called anæmia, oligæmia, spanæmia, and chlorosis which are not associated with marked organic disease.

Most striking is the extreme commonness of this condition, not merely amongst those who are consciously unwell, but very largely too amongst those who are in regular daily work, and to themselves in apparently good health. To me it is almost saddening to note the colourless faces of so many of the young women who pass me in the streets, of the servants in our homes, of the nurses in our hospitals, of those in workshops and houses of business, and of others, too, who throughout their lives seem to have had around them nothing but healthy influences. A simple colour-test will tell much; for just as blue is the favoured colour of the self-conscious convalescent, so, too, is very marked the large proportion of those wearing strong varieties of red in bonnet or bow, who do so to bring warmth to a face utterly devoid of it; and also the number of those similarly wearing shades of green, in the vain hope of bringing out its complementary colour on the cheek, and reducing the general yellow tone of a chlorotic complexion.

The importance of this question cannot be overrated; it is unnecessary for me to touch upon the symptoms of this anæmia—the vascular disturbances, the caprices of digestive, blood-forming and reproductive organs, and the more serious revolt of the sensory and emotional, and even of the volitional and intellectual, centres—but it is needful to point out that this condition, once set up and long continued, tends to become the normal state; and that when thus established, it may undoubtedly be transmitted. If this be so, and if it be true also that the offspring largely and chiefly take their physical characteristics from the mother, then indeed a very serious responsibility is thrown upon our own profession.

There is a very natural tendency to consider sexual evolution and the reproductive organs as the cause and the seat of mischief in female anæmia; but, on fuller consideration, there are facts in these cases not to be thus explained, and probably it is more true to say that there is in many girls a condition of constitutional instability which, intensified at the youthful climacteric, renders them peculiarly sensitive to external influences, and the question, therefore, with which we are now concerned is, What has produced this mobility and unstableness? Of heredity as a cause there can be no doubt; constantly we find the girls in a family exhibiting that anæmic condition which has been a life-long characteristic of the mother, and that, even when the girls have been placed under varied surroundings; we find them also following her in the habit of early menstruation, one of the commonest precursors of chlorosis; and we see, too, the anæmic and neurotic consequences of inherited syphilis and gout.

The effect of climate, too, is clear. I need not dwell upon it, but would point out that in valley-anæmia we have a survival of a malarial condition; the “ague climate” of yesterday has become the “relaxing climate” of to-day. Let me read to you an extract from the letter of an intelligent salmon fisherman residing in one of the Severn side villages: “By what I know of my forefathers, ague prevailed here as late as sixty or seventy years ago. The name of ——— was a terror to strangers dreading the ague; even the poor hirelings at Gloucester Mop would shun the place, and, if heedlessly engaged, would refund their earnest money when acquainted with the direful consequences of living here. I remember the old inhabitants would hasten home at sunset to evade the chill evening, fearing the ague.

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Since the draining of the land it has gradually subsided.” True, ague itself has gone; in five-and-twenty years I have only seen one case contracted in the Severn vale; but it is only necessary to look at the nature of the grasses growing in the low-lying lands to recognise that the drainage and storage of water have not yet been carried out to their full and proper extent.

Before passing to that which, in my opinion, is the great predisposing cause of this constitutional instability, let me mention some of the exciting causes which might be brought under control. There are unhealthy occupations in ill-ventilated and crowded workrooms, and young women working for pay and for length of hours that no man could stand; there are wretched homes, with insufficient light and air and food; there are little children, themselves weak and still growing, taking charge of younger children, and carrying them about until the altered pelvis, and the yielding spine, and the flattening foot only too clearly tell of the injury that is being done; these and similar evils might certainly be remedied or lessened by wise legislation, and by increased powers to the medical officers of health. One tithe of the money now spent on human destruction, if devoted to the providing of healthful homes and health-giving recreations, would put an end to many a social question that now finds no solution.

But some of the causes named would affect both sexes equally, and hence we must look further for the cause of this instability of constitution in women. There is no difficulty in seeing it, for most evidently it is to be found in the one-sidedness of girls' education. There is the cultivation of the intellectual and emotional sides of their nature; but there is little, or at best no adequate, training and development of the physical. It is not, as some would say, that the mental training of girls is really too high, or the school-pressure too great; it is merely that they become so because there is not at the same time all that is needed to meet the physical requirements of the system. To me it seems that the education of girls to-day combines the double aim of education—mental training and knowledge-acquisition—far more perfectly than that given to boys; whilst I cannot, provided the individuality of each child is fully considered, cry down the examination system, the only one which can test the teacher's powers and the children's progress. The education and the examination are safe enough to the many, if there be also sufficient food and wise and full physical training. With proper physical health, the more educated the woman the better; for it is chiefly through the development of the intellectual, that the emotional and animal parts of the human nature are kept under control.

During the last five-and-twenty years an enormous change has taken place in girls' education. The old dame school has given place to the Board school, whilst high schools and ladies' colleges (which I shall now include in the one term “ladies' colleges”) are clearly soon to supply the needs of those amongst the upper classes who cannot be educated at home. But, whilst we find that the education has become more thorough, and recognise too that it is destined to become still more so as women enter more and more into business competition with men, we anxiously notice also that there is little or no corresponding change in the physical training. Compare for a single moment the bodily training of any public boys' school with that of the most wisely conducted ladies' college, and there ceases to be any surprise at enfeebled health and mental break-down; the only marvel is that the condition is not invariable.

The physical training of girls is clearly a far more difficult question than that of boys; for the majority of boys are boarders, and, as a matter of course, readily conform to the playing traditions of the school; and again, when they are day-boys, they are allowed, from a very early age, to go where they please out of school hours, and hence they easily find companions and recreation; and, lastly, social considerations do not with boys enter into the question. But with girls all this is different. If they are boarders, there are no playgrounds of adequate size; and if they are day-scholars, in very few instances are there either places to play in or companions to play with; whilst in most of the ladies' colleges there would be but few hours to spend in recreation, even were it otherwise possible. I grant at once that there has been a change for the better. Girls are allowed much more freedom than formerly; there is much more constant mixing of the sexes; whilst amusements are now sanctioned which would have scandalised the last generation.

But let us inquire what is really being done in the matter. I have by me letters from abroad, from our own Education Department, and from women who have gone through our ladies' colleges, and who have taken high University honours. I have purposely avoided making inquiries of the governing bodies or the heads of these colleges, for naturally they are prejudiced in favour of the form of management which therein prevails, and believe implicitly in the

system of education by which they have made their own very marked success. I shall mention no names, and shall not even pointedly allude to some very honourable exceptions, but shall merely state that which represents the almost invariable custom.

From the Education Department I received a letter, from which I quote all that is important: "My Lords are not aware of any evidence as to the physical training of girls having been taken by any authoritative committee.....No compulsory rules are laid down by the Department as to the nature or amount of the physical exercises in girls' schools, nor has any special report of this kind of training been issued by the Education Department."

We find, then, that throughout this country, in the girls' elementary schools, whilst the Government carefully tests the mental progress, not one word is said, and no official oversight of any kind is considered necessary, in the matter of the physical development of the children. The little that is done is due entirely to the wise action of a few School Boards; the children take the matter into their own hands, and their physical health depends upon the recreation of the streets.

America and the continent of Europe are not very much, if at all, in advance of ourselves. And in our ladies' colleges what do we find? I do not know of more than one which has such a thing as a proper playground; whilst a leading college, if not the first in the country, with abundant means and ample opportunities, makes no pretence of having any playground at all. A gymnasium exists in almost all; and there is seemingly compulsory drill in them for twenty minutes twice in the week; but whilst in some a suitable costume is the rule, I will ask you to imagine the value of twenty minutes callisthenic exercises to a girl with her skirts tied tightly round her knees by a string or elastic cord, as is the custom at one of our leading colleges. Moreover, even this small benefit is denied to the senior girls, who need it most, for those who are going in for the higher examinations can easily obtain exemption.

The drill twice or thrice a week, and the hour's walk, so insufferably dreary, and ranking neither as exercise nor recreation, is nearly all that is done to promote physical health in our college boarding-houses during the greater part of the year. In summer there may be tennis for the few, and at other times there may be also an evening game or dance in the unwholesome atmosphere of a gas-lit room.

To the girls themselves such a state of things must be both physically and morally harmful. What would be the physical and moral tone of our boys' schools were it not for the sports and games? But there is an injury, too, to the college itself, for it is in the playground and not in the class-room that the boy acquires that pride in his school and warm feeling of attachment to it which so largely form the reason of its continued success. Let a ladies' college remain as now, nothing but a teaching-place, with comparatively few pleasant memories gathering around it, and however successful it may be to-day, that success may at any time be ruined by the action of comparatively trivial causes.

Let us consider what physical training is really necessary; and I would here point out that such training needs to be scientifically considered and intelligently carried out, so that all groups of muscles and all parts of the frame may equally in turn be exercised; no one amusement or exercise will do everything; look at the contracted chest and the stoop of a mere cyclist, or notice even the build of a boating man or cricketer, and it will at once be seen that more than one form of exercise is needed for full and perfect development. Moreover, it must be understood that girls must be treated as individuals; there are exercises suitable to some which others cannot safely indulge in; whilst amongst the elder girls there will be times when all violent exercise is undesirable; these are matters easily arranged.

First, then, there must be drill and a gymnasium, with a lady-instructor, thoroughly trained in some scientific system, such as the Swedish; and this gymnasium-work must be compulsory for every girl in the college.

But, secondly, drill and callisthenic exercises are not enough; for—they are not practised in the fresh air or sunlight—they are mere exercise, not recreation, doing much to develop muscles and stimulate internal organs, but not influencing the mental faculties, or rousing the animal spirits; and they can do nothing towards the creation of a feeling of pride in the school itself, or towards the breaking down of cliques and social narrowness. For physical health there must be recreation as well as exercise; and at present, in our ladies' colleges, the exercise, with the exception of tennis, has little of the recreative element in it. I need not specify what athletic sports or games are to be indulged in: swimming, fencing, cricket, football, fives, tennis, games of speed and endurance, such as prisoners' base, cross-touch, and many others; but it would be well, and this could easily be

arranged, that some of these games should be played under "Ladies' Association rules."

But first there must be college playgrounds—not dreary places "closed in by narrowing nunnery walls"—but large spaces, open to the fresh air and sunlight, and surrounded only by a suitable iron railing; so that, under and together with their teachers, the girls may play perfectly freely, and girls and passers-by alike become accustomed to the playing-dress.

Secondly, all girls must be made to play in suitable "flannels," for there can be no proper play or full physical development in the ordinary dress; whilst the wearing of such "flannels" will ensure the necessary thorough change on the return home; the extra handkerchief round the neck, and, in the case of the elder girls, a longer skirt put on over the playing-dress at the close of the game, will be all that is needed for the walk home. I yield the latter in deference to public opinion; I attach no high moral value to it myself, for I have known some latitude of conduct even with the fullest length of petticoat.

Thirdly, subject to health conditions, every girl must be made to play; and two half-holidays a week at least should be given for that purpose.

Fourthly, the games must be varied; no one continues for long to do that which they are conscious of not doing well; every girl will soon find out her strong and weak points in play as well as in work; and if the game is to be a recreation, she must be allowed to choose her own form, the only obligation being that she is to play, and that no books or work are to be brought on the playground.

What are the objections to such a course? 1. That girls will cease to be "lady-like," and that the "figures" will be spoiled. As to the one point: there are no girls more pleasant in themselves, or making more genuine ladies, than those brought up in a family of brothers, and who have consequently shared in and enjoyed boyish sports and amusements; as to the other, this is merely a matter of opinion, for nothing is more certain than that high physical training will lead to good figures. There might be a trifling increase in the size of the waist, but this would soon be pardoned; young husbands will soon learn that a twenty-inch waist is a fleeting thing, and without "staying" power of any desirable kind; and older ones will feel that a slightly larger waist, and a crease here and there with the natural movements of an almost stayless body, are as nothing when compared with the mental energy, the moral brightness, and the muscular vigour that come with a healthy body. 2. There are social difficulties. These need not be greater in the playground than in the class-room; let it be the understood thing that in both places all are equal, and that in the playground all are perfectly free to play together, but that outside the college precincts they are not expected to take notice of one another. No parent will object to such a rule who realises the gain resulting from it.

Lastly, it will be said that there is no time, and this plea carries with it its own condemnation; what is true of "Jack," according to the rhyme, is equally true of girls; there cannot be the highest mental brightness without playtime and play.

Wisely regulated recreation will involve no real loss of time; far from it, there will be a real gain; for the quick bright spirit of the healthier child will carry her through her work with a thoroughness and an ease which will more than compensate. Let two half-holidays a week be the rule of the colleges; and, if necessary, let some of the educational subjects give way to allow of this. If one-half of the time now given by many girls to piano-learning were devoted to healthy recreation instead, both music and the world generally would alike benefit. On the one hand, there would no longer be "heard in the land" an immense amount of so-called music of purely mechanical value; and, on the other, there would largely be an end to the hysteria and neuroses which are the curse of the present day. We should daily hear less and less of young women condemned for months to lie upon the couch; whilst all the skill and ingenuity now expended in inventing new forms of pessaries would be diverted into other and healthier channels.

I have but imperfectly sketched out changes which, in my opinion, are absolutely demanded by reason of the alteration which has taken place in girls' education and woman's work;—no reform begins from below; private families and small schools cannot take this matter up; the initiative must come from the ladies' colleges. No reasonable reform, with common sense on its side, can long be resisted; and, if the colleges will but move, there will soon not be a private school in which high physical training is not invariably the rule. To bring this about is a duty thrown upon our own profession; the heads of colleges have not themselves felt its need or realised its advantages; they can scarcely, then, be expected to be very enthusiastic in its favour.

In this Branch, there are those who are officially connected with some of the finest educational establishments in the kingdom; and this must be my justification, if excuse at all is necessary, for my bringing this subject before the Association to-night.

OBSERVATIONS ON SUPRAPUBIC LITHOTOMY.

A Paper read before the Harveian Society of London, February, 1887.

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(Concluded from page 555.)

Indications for Suprapubic Lithotomy.—In pre-æsthetic days, an operation which could be quickly completed possessed enormous advantages, and the lateral operation is performed in favourable cases and by accomplished operators more rapidly, perhaps, than any other great operation in surgery. But in some respects it is a dive in the dark; important structures may be and have been wounded; and we do not see what we are cutting. In case of hæmorrhage, the bleeding is difficult to arrest, and in children the parts are so small that there is a considerable risk of pushing the neck of the bladder before the tip of the finger, in which case the viscus will not be reached, and the stone may never be found. The high method occupies more time, but everything is visible while being divided; there is no considerable hæmorrhage, and that which does occur can be promptly and readily checked. Dulles (*American Journal*, July, 1875, and April, 1878) speaks favourably of the high operation, and thinks it merits further trial; but he finds by statistical comparison that, in regard to mortality, the suprapubic is far less favourable than the lateral operation for stones below one ounce in weight. There is but little difference where the calculus is between one and two ounces; but for calculi above two ounces the high operation is much more favourable than the lateral. Sir Henry Thompson formulates a similar opinion when he says, "I believe in the hands of most surgeons the suprapubic proceeding is a safer and far easier method than lithotripsy for hard stones of an ounce and a half to two ounces in weight. A stone of two to three ounces cannot be extracted by the lateral method without much tearing and bruising of the neck of the bladder. No proceeding is comparable to the suprapubic for large stones." It is generally admitted that for large calculi the lateral operation is so dangerous as to be practically set aside in favour of the high method, and we have to consider its applicability to cases of smaller stones in adults, to women, and to children. But for adults lithotripsy is generally applicable for ordinary-sized stones. It is an operation very safe as regards risk to life, yet of difficulty in unpractised hands, while in all there is a liability to recurrence of the stone—according to statistics, about 1 in 7. It may be fairly assumed that the larger number of these cases of relapse are due to the fact that some fragment has been left behind.

After lithotomy recurrence is very rare; only 40 out of 1,030 individuals were operated on a second time. In Sir Henry Thompson's cases of lithotripsy there was recurrence in about 13 per cent., which constitutes a serious drawback to the operation. Up to an ounce and a half in weight, lithotripsy is superior to lithotomy, so far as mortality is concerned; above that weight, say from an ounce and a half to three ounces, lithotomy is probably more safe and successful.

Surgeon-Major Keegan has lately demonstrated (*Lancet*, 1886) that lithotripsy may be successfully employed in quite young children, and also for very much larger stones than have hitherto been dealt with in this manner. He has successfully removed a mulberry calculus of four ounces in weight, and a phosphatic one of eight ounces, by lithotripsy in a single sitting.

He found the urethra in boys larger than has hitherto been supposed, and that a No. 7 lithotrite will pass into a bladder of a boy of 2 years. A No. 6 catheter will even enter the bladder of a child 1 year old, through which a fair sized stone may be evacuated. He does think the lateral operation is frequently followed by emasculation, and while he admits the suprapubic to be the easier method in young children, he does not consider it so successful. Freyer, for instance, has cut 143 boys for stone in India by lateral lithotomy without a death, and Dr. Keegan does not think that in India the high opera-

tion will obtain much vogue as a substitute either for lateral lithotomy or lithotripsy.

The usual indications for the performance of the high operation are the presence of a large stone in a contracted bladder, a calculus projecting into the urethra, encapsulated and very hard calculi, cases of numerous stones, foreign bodies which cannot be broken up or otherwise extracted, ricketty deformity of the pelvis, and ankylosis of the hip-joint. Some would include amongst indications, considerable hypertrophy of the prostate, stricture of the urethra, irritable bladder, and cases of "bleeders." The high operation certainly affords the straightest, shortest, and broadest way to the bladder; each step is under the eye of the surgeon, and the operation throughout is capable of being done antiseptically. The stone can be easily removed, the whole interior of the bladder may be explored by the finger, or its surface examined by means of a suitable light. In cases of encysted calculus this method of operation affords obvious advantages. There is never subsequent incontinence of urine, and fistula is very rare, nor can sexual impotence happen. A hernial protrusion along the line of cicatrix may possibly take place, especially if any transverse division of tissue have been made. By a combined distension of the bladder and rectum the former is pushed forward and upward, the vesical wall closely approaches the abdominal, and an ample area of the bladder, where it is uncovered by peritoneum, is exposed for the purposes of safe incision.

One risk to life is the possibility of septic infection. It is scarcely possible to purify the bladder effectively when there is a stinking catarrh. In such cases the perineal incision is to be preferred to the high, as it affords better drainage. Good drainage is difficult to ensure after the suprapubic lithotomy, and unhealthy inflammation is then not unlikely to occur, for in no tissue does an infective process spread more readily than in the subserous areolar layer divided in the operation. After all, the question must mainly be decided by an estimate of the comparative mortality. Cadge states that in cases of stone weighing more than three ounces the deaths after lateral lithotomy in Norwich were 46 per cent. In such as these the suprapubic method would probably be much less dangerous. In children with fairly large stones the high operation possesses great advantages, and in adult women, when lithotripsy is inapplicable, it will probably supplant all other methods.

The collection of statistics by Dulles and others, which I here quote, shows that hitherto the suprapubic operation has proved more dangerous to life than lateral lithotomy.

Mortality Statistics of the Suprapubic Operation for Stone.

Authors.	All Ages.		Adults.		Children to 15 years old.	
	No. of Cases.	Mortality.	No. of Cases.	Mortality.	No. of Cases.	Mortality.
		percent.		percent.		percent.
Gunther, 1561-1851	257	23.7	54	44.4	59	20.3
Flury, 1851-1878	92	32.6	37	48.6	48	20.8
Garcin, 1879-1883	94	24.4	48	29.2	43	14.0
Tuffier, 1879-1883	120	27.0	—	—	—	—
Dulles, 1561-1875	364	28.2	231	32.4	133	21.0
Murray-Humphry	104	29.8	—	—	—	—
Recent Foreign Cases ..	101	21.4	46	19.6	55	23.6
Recent British Cases ..	90	31.0	37	31.0	33	0

Many have accomplished admirable results with the lateral operation. Zett, in 106 cases, had three deaths. Surgeon-Major Freyer, as before stated, performed the lateral lithotomy in boys in 143 cases with uniform success. Werewkin has given 147 cases of children operated on by the perineal method, with a mortality of 6 per cent., the last 72 being without a death. Heusinger records 222 cases, with a mortality of 6.7 per cent. The results of the high operation cannot be favourably compared with these.

Schmitz divides his series of high operations into two groups: 18 cases were in what he calls the pre-antiseptic period, from 1870 to 1877, attention being only paid to cleanliness, while the *technique* of the operation was not quite so perfect as now. Only 8 of these patients recovered, and 10 died, a mortality of more than 50 per cent. In consequence of this, Schmitz abandoned the operation for four years. In 1881 he began to operate again with every possible antiseptic precaution. Of 20 patients thus treated, 16 recovered and 4 died, a mortality of 20 per cent. which, although very greatly reduced, is still high. The figures, however, do not differ materially from those collected by previous observers, *vide table*. He has been able to trace the