

Reprinted from « *The British Journal of Physical Medicine* »

The athletic status of women

an analysis of a social phenomenon

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THE PROBLEM

A horse sweats, a man perspires, but a lady only glows. This statement reflects the general attitude towards exercise and athletics for girls during the Victorian age. Since then, social attitudes have undergone a profound change. For the past 50 years, millions of girls have indulged in sports, gymnastics and games; competed in swimming, on track and field, and on horseback; have climbed many of the highest mountains and swam through a thousand rivers and lakes. They have derived therefrom some of the most valuable experiences of their lives.

All the evil ghosts of whom they had been warned remained conspicuous by their absence. The women did not develop 'a masculine appearance'; most of them married and had children; none has suffered moral or physical damage or 'overstrain' from indulging in muscular exertion; their hearts have not been 'weakened through athletics'; and most of them attain a ripe old age.

That the present generation of women grows stronger; that their physical maturation is better balanced; that the state of health of young mothers and of their children

today is superior; that women no longer look old at the age of 30 years; that many schoolgirls play and exercise on the same terms as their mothers; all this is, at least in part, the result of the intense interest now taken in the physical education of girls. Sports and games and athletics for women are significant elements of what is best in contemporary culture.

THE EQUALITY OF WOMEN

In Chapter XV of Plato's *Republic* entitled *The Equality of Women*, Socrates raised the question whether 'females should guard the flock and hunt with the males and take a share in all they do, or be kept within doors as fit for no more than bearing and feeding their children while all the hard work is left to the males'. Socrates' brother, Glaucon, agreed that 'women are expected to take their full share, except that we must treat them as not quite so strong'.

The two disputants concurred that both men and women ought to receive 'the same upbringing and education'. Such a system, Socrates remarked, would at first appear revolutionary. But he reminded his friend

that 'it is not so long the Greeks thought it ridiculous as well as shameful for men to be seen naked in the gymnasium. When gymnastic exercises were first introduced in Crete and later in Sparta, the cynics had their chance to make fun of them'. But, he observed, 'a new attitude was soon accepted and it will be the same once women are given equal access to physical education'.

However, Plato was concerned with the education of an elite, a selected group of leaders of proven excellence of character, of mind and of body. Thus, he argued logically that once the principle of selection is introduced and the wide scope of individual differences among men as well as among women accepted as a fact, a categorical distinction in the educational systems for boys and girls is no longer justified.

THE WORKS OF SIMONE DE BEAUVOIR AND
F.J.J. BUYTENDIJK

During the past decade, two remarkable books have been published on the subject under reference. The one is by the distinguished French existentialist philosopher, Mlle. Simone de Beauvoir of Paris, namely *The Second Sex* (1953); the other by one of the most eminent psychologists of our time, Professor F.J.J. Buytendijk of Utrecht, entitled *Die Frau* (1953).

The central thesis of de Beauvoir's book is 'that since patriarchal times women have, in general, been forced to occupy a secondary place in the world in relation to men, a position comparable in many respects with that of racial minorities, in spite of the fact that women constitute numerically at least half of the human race; and further, that this secondary standing is not imposed of necessity by natural feminine characteristics but rather by strong environmental forces of educational and social tradition under the purposive control of men. This, the author maintains, 'has resulted in the general failure of women to take a place of human dignity as free and independent existents, associated with men on a plane of intellectual and professional equality, a condition that not only has limited their achievement in many fields but also has given rise to pervasive social evils'.

A change of social and educational procedures would appear to de Beauvoir to suffice to produce a new and better kind of women.

Buytendijk takes a different position. 'The typical female pattern of existence', he writes, 'bestows upon woman a special potential of realizing the highest ethical values known to mankind'. He does not suggest that the actual situation, as it is encountered in society today necessarily, reflects the validity of this statement. But in contrast to de Beauvoir, Buytendijk does not accept anatomical or social or statistical or other scientific data derived from research studies

on women as sole criteria of evaluation. He prefers to adopt as a crucial measure of the phenomenological personality structure of women spiritual qualities such as are expressed in the quotation from Matthew 11, 29, with which he opens his book,

Discite a me, quia mitis sum et humilis corde.

PHYSICAL EDUCATION FOR GIRLS

In 1922 the *British Medical Journal* published a report on 'The Physical Education of Girls', compiled by a Joint Committee on which were represented the Royal College of Physicians of London, the Royal College of Surgeons of England, the British Medical Association, the Medical Women's Federation, the British Association for Physical Training, the Ling Association, the National Union of Women Teachers, the Association of Assistant Mistresses in Secondary Schools, the Private Schools Association and the College of Preceptors. Although the report in its entirety was favourably disposed toward physical education, two aspects are noteworthy. First, that it relied entirely on opinions; it contained no evidence. Secondly, that it made reference, without critical comment, to a variety of prejudicial views of a kind that had stood in the way of the introduction of an effective system of physical education for girls for generations.

A number of school mistresses and women students thought 'there was a tendency to magnify the relative importance of games to the detriment of character'; and that 'gymnastics conduced to muscular strength and development without gracefulness'. Hockey was regarded by some as 'suitable only for the older stronger girls'. Several school-mistresses and students believed that in swimming 'harm is often done by remaining too long in the water', and that 'swimming is an exercise entailing some strain on the heart'. The danger of 'heart strain' was emphasized with regard to competitive rowing, which was condemned by 27 out of 34 women medical students. Some school-mistresses thought that 'when girls have to cycle too long a distance to school the strain makes them unfit for mental work'. A few were even convinced that 'games and sports tended to foster a love of pleasure detrimental to home and other interests and to lessen womanly qualities', and that 'injurious effects may come from injudicious exercising on gymnastic apparatus'.

THE PHYSICAL PERFORMANCE POTENTIAL OF
WOMEN

Since the 1922 report was published, a second revolution has taken place in physical education for girls. As a result of the improvement of the health and social status of women during the time under review,

there has occurred a performance improvement beyond anything envisaged 25 years ago. A well-trained woman athlete today is superior to the average untrained young man in most branches of sports. The age-old concept of a physical inferiority of the female exercise potential is no longer tenable as a categorical assertion.

A comparison of results achieved in athletic competitions for men around the turn of the century with present-day women's performances is revealing.

At the 1896 Olympic Games, T.E. Burke came first in the 100 metre race for men in 12 seconds, while Miss Jackson won the 100 metre race in 1952 at Helsinki in 11.5 seconds with Miss Hasenjager second in 11.8 seconds. At Melbourne in 1956, Miss Cuthbert won in 11.5 seconds, followed by Mrs. Stubnick and Miss Mathews, both in 11.7 seconds. In 1960 in Rome Miss Rudolph won in 11". E.H. Clark won the long jump for men at Athens in 1896 with 6.35 metres as against the jump by Miss Y. Williams of 6.24 metres with which she won in 1952 in Helsinki and Miss Krzesinska's winning leap of 6.35 metres in Melbourne in 1956. The shot put of Garrett of 11.22 metres at Athens in 1896 cannot compare with the 15.28 metre performance of Miss Zybina of Russia at Helsinki in 1952 and the 16.59 metres by Miss Tichkyevich in Australia in 1956, even if it is taken into account that the women use somewhat lighter weights. In August, 1957 the world record in shot put for women has advanced to about 17 metres and for the discus to about 56 metres.

MENSTRUATION AND ATHLETIC PERFORMANCE

During the 1930 Track and Field World Championships for Women in Prague, Czechoslovakia, Kral and Markalous (1937) conducted a medical survey which revealed that 29 per cent of the competitors produced their best athletic performances during menstruation. A number of athletic records, for instance, in the high jump, the sprints, shot put and discus throw, had thus been established. In 63 per cent of the participants menstruation had no effect upon performances while in 8 per cent a slight drop of efficiency was in evidence.

At the Sports-Medical Congress during the Olympic Games in Finland in 1952, Ingman reported on the results of a similar study on a group of 107 female champions consisting of 9 swimmers, 13 gymnasts, 28 basketball and baseball players, 14 skiers and skaters and 43 track and field athletes, aged 15-25 years. With the exception of 4, all had taken part in competitive events during menstruation without experiencing disturbances of any kind; 20 reported that their performances during menstruation were better than usual and 5 had attained their record scores at this time. No effect of

menstruation on athletic efficiency was noted by 45, and poorer than normal results by 39.

At the 1956 Olympic Games in Melbourne several women medical officers attached to national teams with the largest representation of female participants collaborated with the author and his colleagues in a study on the issue under reference in which it was ascertained that at least six gold medals in track and swimming events were won during menstruation.

So far as could be determined, not a single female competitor abstained from a contest because of menstruation. Incidentally, 3 women athletes — 1 in the shot put, 1 in throwing the discus and 1 in 100 metre running (relay) — were pregnant, two, three and four months respectively.

Phillips (1957) points out how difficult he finds it to accept from clinical experience the view that conditions, such as many of the disorders of menstruation, commence in a localized disturbance in the gland concerned without preceding central disorder; and that it is his conviction that emotional disturbances are the main, if not for practical purposes, the sole origin of such central derangements. Experiences with athletes bear out the validity of his conclusion.

In a consecutive series of 543 female track and field athletes, hockey and tennis players, swimmers and gymnasts, not a single instance of serious menstrual disabilities was encountered. By contrast, of 702 girls aged 15-20 years who, during World War II, had to perform physical work under the mental strain of compulsion, 19.2 per cent reacted with major abnormalities of the menstrual cycle, 50 per cent of them with amenorrhoea. Even two years after regaining their freedom, Kaufmann and Muller (1948) found that 3-4 per cent of the young women had failed to recover their cycles. The magnitude of the physical stress imposed by the work demands with which these girls were confronted was negligible compared with the enormous neuromuscular effort displayed by the 543 women athletes. But a woman, who competes in sports, does so voluntarily. Freedom is not only a moral concept but it also represents a basic psycho-physical need of cultured and sensitive women.

Cessation of the menstrual cycle in young women is a common event in connexion with severe systemic disease or trauma, mental or physical; and its spontaneous reappearance frequently accompanies physical rehabilitation. In a woman, aged 33 years, who had been incapacitated with rheumatoid arthritis and whose menses had disappeared during the previous eight years, a substantial improvement in general fitness and gain in mobility was accompanied by a return of the menstruation. The same observation was made in 2 women patients, aged 22 and 18 years, with partial paraplegia due to a

spinal injury at level L.1, and spastic hemiplegia respectively, both caused by motor-car accidents. Normalization of the cycle during treatment established itself in these cases simultaneously with the return of control of bladder and bowels. A fourth case of return of normal menstruation is that of a hebephrenic girl, aged 18 years, in whom a general improvement in psychiatric as well as neuromotor status resulted from rehabilitative treatment, following a 'dead interval' of 2 years.

CHILDBIRTH

A large number of self-appointed medical prophets of obstetrical gloom have stated that intensive physical training and especially participation in competitive athletics is a potential source of difficulties in childbirth. Such assertions are devoid of truth.

The second book of Moses (Exodus: 1-19) contains a statement to the effect that because they were used to hard manual labour 'the Hebrew women are not as Egyptian women, for they are lively and are delivered before the midwives come into the house'.

Niemineva (1953) analysed the obstetrical records of 94 women who had competed for the Finnish national championships or had won prizes in major swimming contests during the years 1933-1945.

In respect of the duration of labour these women did better than others who had not participated in competitive sports; the mean total time for the former being 17 hours 27 minutes as against 21 hours 26 minutes for the latter. For the swimmers, the second stage of labour lasted 40.2 minutes and for the baseball players 55.4 minutes; as against 1 hour 1 minute for the controls. In the athletic group no disorders in uterine contractions were noted, nor was there any indication that the elasticity of the cervix was lessened; no case of a third degree perineal tear and only three instances of second degree tear were encountered. The incidence of episiotomies was very low. These data compared favourably with the figures obtained by Niemineva for a control group, leaving no doubt that the functional state of the muscles of the athletic women was excellent.

The incidence of caesarean section and of use of outlet forceps in the former champions was such as 'not even to approach the upper limit of what is to be considered normal'. The same statements applied to the number of cases in which manual removal of the placenta or blood transfusions had to be employed of haemorrhage.

Major disorders during pregnancy, especially toxæmias, were not more frequent among the athletes than among non-athletes. The results of measurements of the bony

pelvis were of special interest since a high incidence of narrow pelvis had been reported from Finland; and also because it has at times been asserted that female athletes have narrow pelvis; there was, however, no departure from normal dimensions in the 'athletic' group.

Essentially, the same findings were reported by Pfeifer (1951) who analysed the obstetrical histories of 107 outstanding former women athletes in Germany, among them several world, Olympic and National champions. Some women had attained their best athletic performances after the birth of their first child, and Pfeifer stated, quite correctly, that pregnancy and birth often activate latent forces, with the result that efficiency improved. As in Niemineva's study, the total duration of delivery was found to be significantly shorter in the athletes, the third phase of birth lasting only half as long (1 hour 41 minutes) as in the control group. Fertility ratios were found to be no different compared with control figures from the Heidelberg Gynaecological Clinic in which this study was conducted.

The fact that obstetrical data obtained from athletes or former athletes are normal answers incidentally, as it were, two questions that have frequently been raised, namely, whether track and field activities, such as the long and the high jump, may cause damage to healthy pelvic organs; and whether performances of endurance such as half-mile and mile races overtax the resources of the cardiovascular system of women. Assertions to this effect have often been made though never substantiated; in the author's opinion they cannot be substantiated.

PHYSICAL EFFICIENCY AS PART OF A SOCIAL PATTERN

A new type of woman is at present evolving, in part at least, as a result of the physical education and sports movement of this century. The traditional concept of the physical inferiority of the female sex no longer holds good as a categorical assumption. The adaptive resources of the female sex which in the past were expended in order to resist nutritional, climatic, manual work and other primitive strains have become available for new uses under the influence of social and technological advancements.

In studies of the growth of physical efficiency in children, the author has found that among physically untrained children the muscular performances of the fittest girls equal or surpass those of the least efficient boys. This finding is physiologically as important as is the fact that generally the statistical means for the physical performances for boys were higher than were the corresponding means for girls. Of course, the performance potential of girls as well as for boys can be

greatly developed through systematic training which proves effective in every individual, irrespective of initial performance levels.

Now, what is so remarkable in the contemporary growth of physical efficiency of women which was revealed most distinctly in the analyses of the Olympic performances of 1952 and of 1956 is the two-fold phenomenon that the majority of women throughout the world are unaffected by this trend. Banks (1957) wrote: 'We can be said to live in two worlds. Approximately one-sixth of the population of the world are now healthy and wealthy, although perhaps not particularly wise. They are able to control their environment and, even more important, their rate of reproduction. They have adequate food, shelter and medical care'.

A global analysis of the data for participation and athletic achievements at the Olympic Games reflects the social status and the stage of emancipation of women in the different parts of the world. The nations which were conspicuous by their absence or who did not include women on their teams are distinguished also by unfavourable or by comparatively unfavourable conditions, in respect to child health, of rates of morbidity and mortality of the population at large, as well as to longevity. In the countries which neglect the physical fitness and physical education of women, there is also a short average life-span, as well as high incidences of infectious diseases. Conversely, the high participation and athletic success ratios for the United States of America, Russia, Europe and the British Dominions reflect social advancements, at least in the groups from which the teams were selected.

From the above Olympic Games analyses a special problem arises which is of relevance for the practice and theory of physical education as well as for our general concept of woman's position in society. If, on a global scale, a high standard of physical efficiency of women forms an integral part of a superior pattern of health, of growth and of fitness of the societies concerned, a re-examination would appear overdue of the traditional reserve with which the subject of physical activities and of physical training for women is still treated today by many educators and physicians. Within the limitations inherent in the evidence under study, de Beauvoir's conclusion seems to be corroborated by the above data, namely, that the contemporary social status of women, even in the 'progressive' countries, is characterized by restrictive influences of prejudices and taboos, historical and even pre-historical in origin. Biologically, the female sex is more robust and its scope of adaptation to the demands of environment challenges is much greater than has so far been assumed.

Willy Meisl, in reviewing our Olympic study in *World Sports* (May, 1957), wrote as follows:

I would put it less scientifically but more bluntly: Women are, in a sense, relatively the stronger sex. They entered international sport much later than the men, and, judged on performances and world records, have progressed more quickly. They are likely to continue to do so.'

FITNESS AND AGEING

In some Olympic competitions for women, top-level performances were attained at an earlier age than was the case in the corresponding men's events; perhaps women attain full maturity in athletic prowess earlier. In some of the swimming events the average age of the participants was less than 20 years. In all but one of the Olympic events for women, competitors under the age of 20 years took part. These results would seem to favour early participation of women in athletic sports.

Compared with 50, 25 and even 10 years ago, the age-span of outstanding women athletes increases; young girls of 15, 14 and even of 13 years, have attained Olympic honours. Prior to World War II it was unusual to encounter married women among champion sportswomen, but the situation has now changed. A process of acceleration of growth and of deceleration of ageing characterizes the growth pattern of our time. A large number of finalists in the women's events at the last two Olympic Games were married and had children; many of them were over the age of 35 years, and at least 4 were grandmothers.

In terms of physical efficiency, the old belief that invariably women age earlier than men is fallacious. In 7 out of 18 Olympic competitions, in which performance data of men and women are directly comparable, the oldest female competitors were older than the oldest male competitors. In 4 instances the average age of the female competitors was slightly higher than were corresponding age figures for the male, though the opposite applied in 15 other events. In most athletic competitions the youngest women were between the ages of 14 and 16 years. Many of them were beaten by competitors 15-20 years older. One of the ancient dreams of womankind, namely that of retaining their youth longer seems to have been brought nearer to fulfilment.

It is only in societies which have attained good living conditions that the driving forces which underlie the modern physical education movement have found their projection. This statement applies to men as well as to women though more so to the latter because of the inertia of tradition. The fact that between the hammer of dynamic ideas and the anvil of a favourable environment exercise forges and maintains a new zest for life thus assuming a new importance.

The evolution during the past 50 years of a new attitude towards physical activities of women forms part of a major cultural development. This development is of general scientific relevance in so far as it is amenable to objective evaluation. The question therefore arises whether physiological methods, such as are generally applied to measurable muscular performances, are capable of yielding absolute criteria from which the significance of the social process under review can be assessed. The answer is in the negative. It is well to remember that physical exercise, though exerting profound physiological effects has no physiological aims. If we try to ascertain meaning and value of our motor acts, conclusions based on the physiological approach alone have no validity.

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Every movement possesses a character and a gestalt of its own. Movements are accompanied by subjective experiences which as such are not communicable. They are the sole and inalienable property of the individual. It is exclusively in the latter sphere that, to speak with Buytendijk, 'the human element of human movements' is represented; that 'the sense of movement' reveals its meaning; and that the ultimate value of the new adventure which this century has brought to man and woman alike through the re-discovery of the world of movement lies. We deal here with a universal 'human' determinator.

Buytendijk has tried to define a phenomenological distinction between movements for men and for women. For example, he analysed the act of walking and thought he could perceive an element of purpose and aim in the case of man, while woman's walk is, he felt, more fluent, even, uninterrupted, 'as if there were an ever present connexion between past and future'. But Buytendijk stressed that to such a characterization attaches no more than a broad categorical significance. A man, he pointed out, may also display the 'female' motor characteristics of 'evenness and fluency'. *Vice versa*, women's movements may be dominated by 'aimful purposiveness'. More important still, the kinesiological peculiarities which according to Buytendijk are potentially preformed in men and in women, invariably disappear in 'technical movements', in purposive movements that are acquired through training. As an example, he quoted the act of hammering a pin into the wall. If skillfully performed, this task is carried out in precisely the same way by men and by women.

To a much greater extent, this statement applies to the kind of activities that are

involved in sports and athletics. Not that the conclusion is to be drawn from our analysis that physical training syllabi for boys and girls ought to be the same in every detail. The author is, of course, aware of the perennial argument that women 'tend towards expressive, aesthetically orientated exercise forms'. But then, the expressive, artistic, rhythmic exercise forms which occupy a sector – only a sector, it is well to remember – of the physical training programme for girls are an important but not the sole prerogative of the female sex. The same statement applies *vice versa* for boys. The women's programme of such outstanding gymnastic schools as that of the late Mr. Niels Bukh in Ollerup, Denmark, serves as illustration. Also, it is impossible to overlook the artistic contributions made for centuries by male ballet dancers. It is of equal importance to the theme of our study that the major activity sectors in contemporary physical education, sport and recreation have become the same, or almost the same, for men and for women. In this very fact is expressed much of the nature of the psychological and social impact of the modern sports movement on society.

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The major and minor games, for example, hockey, tennis, ping-pong, and golf; track and field athletics, swimming, fencing, horse riding, skating and skiing; work on the gymnastic apparatus, rowing, canoeing and climbing mountains – all these facets of the world of movement are shared between the two sexes. Those who saw Miss McDaniel jump almost 6 feet high, Mrs. Strickland win the hurdling final and Miss Crapp establish her new record in the 400 metres swimming contest at the last Olympic Games cannot entertain doubts on the validity of this statement.

It is also well to place on record once more that even if we are to disregard the training factor, there would still be the fact that in respect of every known psychological or physiological component that is involved in muscular performances, results obtained from large samples of men and women overlap. Intelligence and reaction time, sensory perception levels and emotional stability, mechanical efficiency and body measurements, cardiac force and respiratory endurance – there is always a substantial percentage of women who range higher than do a corresponding percentage of men. Training further accentuates this situation. In virtually every field of physical activity, the majority of well-trained women will surpass in their performances a comparable group of untrained men.

The new emphasis on physical activity in the life of girls has widened the scope of the

female personality. It is in this context that the medical observations on women athletes, to which reference was made earlier, assume their social significance. Sport has immeasurably enriched the life of women. This lesson from the half century that has now passed since the 'rediscovery of the sense of movement' illustrates, incidentally as it were, the universality of Sherrington's concept of *The Integrative Function of the Nervous System* – proving its validity in a direction which might have surprised Sir Charles himself.

With sound instinct the Scandinavian school of physical education has always insisted upon the attainment of good posture as one of its chief aims. In a recent study Strauss (1952) has drawn attention to the fact that in evaluating human posture we cannot confine ourselves to the consideration of technical problems of locomotion, that posture contains a psychological element; and that the meaning of the term is not exhausted by a description of the physiological processes through which the forces of gravity are counteracted and the equilibrium of the body maintained.

'Language has long since taken cognizance of this fact. The term "to be upright" has two connotations: to rise, to get up, and to stand on one's own feet; and the moral implication, not to stoop to anything, to be honest and just, to be true to friends in danger, to stand by one's convictions and to act accordingly, even at the risk of one's life. We praise an upright man; we admire someone who stands up for his ideas of rectitude. There are good reasons to assume that the term 'upright' in its moral connotation is more than a mere allegory.'

It is in terms of such considerations that the physiological 'energy' concept does not suffice to give us an understanding of the significance of women's conquest of the world of movement. Sherrington has dwelt upon the fact that, 'mind, if it were energy, would be measurable quantitatively. For quantitative measurement of the mental we resort to the energy-scheme. But the validity of that resort is questionable. The search in that scheme for a scale of equivalence between energy and mental experience arrives at none. The two seem incommensurable.'

They are indeed incommensurable in terms of physical laws. On the same token, the nature of the gain which has come to women through sports and athletics is incommensurable with purely technical data pertaining to physical performances. But is it incommensurable as a facet of the female personality in action? The motor act in its relation to the perceiving mind represents a sector of the outside world. Because it is perceivable to me as well as to others it possesses an element of universality. And in so far as women's physical training and athletics involve experiences of motor acts, they are concerned with part of the perceivable cosmos or, to be more specific in reference to the subject, with something that is not 'specifically female'. But there is more to it than that. The motor act as perceived by the performer himself or herself assumes meaning and attains values of its own such as are not communicated and not communicable, values that are not known to the physically inactive individual.