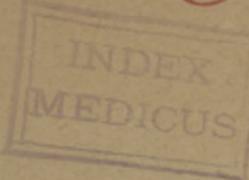


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THE BICYCLE IN ITS RELATION TO THE PHYSICIAN.

By SENECA EGBERT, A.M., M.D.,
Lecturer on Hygiene, Drexel Institute, Philadelphia.

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The above title may seem incongruous to some, and doubtless there are many who have never given much thought to the relations existing between the medical man and the now popular wheel. The fact that the latter is so extensively used, not only as a means of recreation, but also by many for the purpose of more rapid progression, and in the transaction of their daily business, must give it some influence, for good or evil, upon the general health of the riders, and as such our profession is bound to take cognizance of it. Though still, in the eyes of some, a mere fad, perhaps even a nuisance, it is remarkable to what an extent the use of the wheel has reached. It is said that in this city there are upwards of twenty thousand wheelmen and wheelwomen, and that there are almost one hundred establishments in this country alone busily engaged in the manufacture of the machines in question is evidence that the business is one of extreme proportions. Moreover, the effect that the League of American Wheelmen, a body with over thirty thousand very active members, is exerting upon the improvement of the roads throughout the country shows that they have considerable power and influence. And it is with a full recollection of Burdette's recent remarks upon prophesies and prophets that I venture to assert that this extensive use of the bicycle is not a passing craze, that it has not reached its limit, and that it has come to stay, the use becoming more universal as both the wheel itself and our streets and highways are improved,

and as wrong notions and prejudices are eradicated from the popular mind.

Consequently, it is with the feeling that cycling is to have an increasing influence on public health, one way or the other, that, after a practical experience of several months, the writer ventures to note the various relations between the doctor and the silent steed. I say after a *practical* experience, because I have found that that decidedly modifies certain notions and theories that I, along with others unused to the riding, formerly had. And, though it is hard not to speak with enthusiasm of that which is really a delight, I shall try to put down the facts exactly as they are.

In the first place, as an exercise cycling is superior to most, if not all others, at our command. It takes one into the out-door air, is entirely under control, can be made as gentle or as vigorous as one desires; is active and not passive; takes the rider out of himself and the thoughts and cares of his daily work; develops his will, his attention, courage and independence, and makes pleasant what is otherwise often most irksome; moreover, the exercise is well and equally distributed over almost the whole body, and, as Parkes says, when all the muscles are exercised, no muscle is likely to be over-exercised. This general muscular exercise also has its direct effect upon the other and vital organs of the body, the heart, lungs and digestive organs especially; and the improvement in general health and digestion, after a few weeks' riding, is by no means illusory or fleeting. We all know that the trouble with many of our patients is purely functional, and that their maladies have been brought on by lack of pure air, too little exercise, and too much mental worry over their work or business. For these the bicycle furnishes an agreeable remedy.

Take a case of nervous or anemic dyspepsia, of hepatic or intestinal torpor; the increase in the flow of the blood current, the gentle vibration and the additional elimination of waste matters through lungs and skin, all results of a ride on the wheel, are just what we desire for the cure of our patient. Or with one of a tuberculous diathesis, or with incipient

phthisis, how much depends upon teaching him to breathe properly, *i. e.*, fully and deeply, and to spend much of his time in the open air. This, the bicycle will do for him, perforce. Cases, also, of neurasthenia, melancholia, and other nervous troubles, will derive much benefit from our present hobby, for, in addition to the above hygienic elements, the wheelman must develop—whether he will or not—his will, his independence and self-reliance, and the accurate control of all his muscles. Those of rheumatic tendencies, especially, will find that regular and systematic riding will do much to keep the disease in abeyance, and even to act as a cure. Someone has said that every muscle is a little heart, and, surely, no better means can be devised of eliminating deleterious waste matters from the whole system than the general and active use of all the muscles, voluntary and involuntary. In this connection permit me to quote the testimony of Dr. W. G. Stables, formerly a prominent medical officer in the Royal British Navy. He says: "My rheumatism used to come on periodically and last for six weeks at a time, during which I could hardly stand on the floor, nor sleep in bed without feet and legs elevated. Since I adopted cycling as an exercise, and thus found pleasant means to keep my skin in working order, I have never had a single twinge of rheumatism. Cycling has banished my pains and lightened my mind, and made me, physically and mentally, double the individual I was." Of course, this is only an isolated case, but dozens of other erstwhile sufferers could give similar favorable evidence.

And it is just in these respects that the wheel is destined to be of great benefit to women. It gets them out of doors, gives them a form of exercise adapted to their needs, neither too violent nor too passive; one very pleasant withal that they may enjoy in company with others or alone, and one that does go to the root of their nervous troubles; for we are beginning to realize that these do not, for the most part, have their primal origin in woman's peculiar anatomy and physiology. Even the orthopaedist may employ the wheel with benefit in certain cases, as by proper adjustment of the parts more or less work may be given to the limbs and muscles of

either side. Other conditions might be cited, did space permit, wherein we might look for decided benefit from the proper use of our machine, but these will, I think, be sufficient to indicate that we have in it one of the therapeutic means for which some of us have long been looking. I might here note that in a recent and extended article on "Physical Education,"¹ Sir Frederick Treves speaks very highly of cycling as an exercise, and discusses at length its advantages and disadvantages. Unfortunately, he writes from the standpoint of one who has not had the personal experience, and I doubt whether that would really verify some of the things which he *thinks* are to be set down as objections to the exercise.

Of course, I have been presupposing in all my previous remarks that the rider will have a wheel adapted to his or her weight and strength, properly adjusted in all its parts, but especially in the relationship between the saddle and handle bar and pedals, and, above all, that the rider takes pains to maintain a *correct* position and to do all he can to benefit his health and bodily development. In fact, I am confident that it is through neglect of some one of these important points that the evils attributed in justice to bicycle riding arise. There can be no question as to the erect posture being the correct one, and if this be maintained, cycling *does* "tend to develop the chest" by increasing the lung capacity, "and to exercise the muscles passing from the trunk to the upper limbs," Sir Frederick's opinion to the contrary notwithstanding. But if his "tall, lanky lad with a narrow chest and a stooping back," or any other person, persists in maintaining a posture resembling a half-opened jack-knife, the faults and evils resulting therefrom cannot fairly be attributed to the use of the wheel. It requires muscular effort to sit erect, on a bicycle or elsewhere, and that effort means, as everyone knows, the continued exercise of all the muscles of the back and neck. The arm muscles are brought strongly into play in hill climbing and whenever the speed is considerably increased, and the augmented depth and fre-

¹ Treatise on Hygiene, Stevenson and Murphy, 1892.

quency of respiration that even a minimum of exercise induces makes a new demand upon all the chest muscles and the diaphragm.

On the other hand, an improper position, especially the one so commonly seen, not only does tend to cramp the chest and to interfere with the proper oxygenation of the blood, but by compressing the iliac vessels it also interferes with the flow of blood to and from the lower extremities, whose muscles are all being most actively exercised and, therefore, most in need of an unimpeded current at this time. Certainly, the gain of the few seconds per mile that this incorrect position is supposed to give cannot in any measure compensate in ordinary riding for the physical harm it must induce. I am aware that other objections have also been urged against the use of the bicycle, and it will not be out of place to refer to what may seem to be the graver of them. Undoubtedly, the excessive use of the bicycle or tricycle by very young children is not advisable. Bad habits of position and carriage are only too readily acquired at this age, and there is danger of serious muscle strain and possibly nerve injury. Another fault is that parents too often purchase a machine too large for the child in order to save the expense of a new one the following year, the result being that both the weight and the power needed to propel it are in excess of the child's abilities. Moderate riding on a proper wheel need not, however, be forbidden. For older boys and girls there is probably not the same danger, though intelligent supervision is never harmful, and especially watchfulness for incipient harm is advisable with girls about the time of puberty. Even at this time the bicycle may do good by drawing a too studious or house-loving youth or maiden into the open air and active exercise, and the writer has in mind two cases, one fourteen, the other eighteen, where a decided increase in height, and especially in length of lower limb, can be fairly attributed, he thinks, to bicycle riding within the last year or two.

As for injurious results from pressure on the perineum, these seem to exist more in the minds of non-riders than in the persons of the riders themselves, and there is but little

if any evidence that such results occur. The bad position already condemned does bring undue pressure on the perineum and is an additional reason against it, but with a proper saddle and the erect position the weight really comes partly upon the feet and partly upon the tuberosities of the ischia, where it should. Treves says that cycling has caused no aggravation of the symptoms in numerous cases of hypertrophied prostate in his experience, and that cases of chronic constipation with hemorrhoids and functional disorders are benefited by it. Nor is there any evidence that varicose veins are caused by it, though this or any other vigorous exercise on the feet may not be advisable in cases of long standing. I also do not believe that there is any danger of hernia being induced in any way, though I should not advise anyone suffering therefrom to do much riding. This, however, more on the grounds of caution than from any actual knowledge of danger to such cases. The vibration and jarring was formerly an unpleasant feature of the exercise, but improved roadways, spring frames and especially pneumatic tires have all combined to reduce these to a minimum, and to make them unnoticeable except to the very sensitive. It is possible that with one of the older machines on bad roads a woman with certain uterine displacements might feel the worse for riding, but for the majority of women who ride today the increased tone and quickened circulation in the pelvic viscera, together with the improvement in general health, will more than compensate for any discomfort on this score. I know one fair rider who has never yet experienced any distress comparable with what she suffers from the jarring of our city street cars.

Again, I am often asked whether the motion of bicycle riding is not the same as that of running a sewing machine, and whether the same evils may not arise from the former as from the latter. Not at all. Women, at least, sit erect on their wheels, and consequently the thigh never makes even a right angle with the trunk, and there is no stasis of blood in the lower limbs and genitalia. Moreover, the work itself makes her breathe in oceans of fresh air; and if she wears a

corset at all, it is a loose one that won't interfere with respiration. If she enjoys cycling at all, she cares more for comfort and health than she does for the fashions. As a contrast, the woman at the sewing-machine works indoors, probably in an ill-ventilated room, stoops over her work, contracting the chest and almost completely checking the flow of blood to and from the lower half of her body, while at the same time she is increasing the demand for it there, finally aggravating the whole trouble by the pressure of the lower edge of the corset against the abdomen, so that the customary congestions and displacements have good cause for their existence. One other objection has been advanced, and that is that the exercise of the lower limbs would so increase the size of the iliac and psoas muscles as to materially decrease the superior pelvic inlet; but these muscles are flexors of the thigh upon the trunk, and their action is almost wholly passive, since each limb is alternately flexed by the weight and power of the opposite one as it descends and gives the impulse to the wheel. Surely, there would have to be an abnormal development of all those other muscles that are so actively engaged before these two should so increase in bulk as to be an obstacle in future parturition; nor will anyone, on second thought, venture to assert that these two muscles of the whole body are not to be normally developed along with the others. Only a pelvis very narrow transversely could be an excuse for forbidding cycling on this ground.

Persons with organic heart disease should either not ride at all or do so with caution. Even those whose hearts are functionally weak should be careful, though the riding will, probably, benefit them by improving the general health and removing the cause of the disorder. Several deaths have occurred from heart failure, and there is, perhaps, a real danger that too great a strain may be thrown upon a faulty heart, especially by those unaware of their condition. Nor should patients with any other grave organic trouble attempt much hard or rapid riding, lest it be too heavy a tax upon the already weakened part. Finally, the same objections exist in this as in any other exercise against over-exertion,

over-training, or other unwise action. Like everything else, the ownership of a bicycle, or the ability to ride it, does not guarantee the possession of brains by the subject.

Having thus considered, at some length, the influence of the bicycle upon the health of those who ride, it will not be out of place to say a word or two about its use by the doctor himself. To many physicians, in the earlier years of their practice especially, the cost and maintenance of a horse and carriage is a serious burden and drain upon their financial resources. To these the bicycle is an efficient substitute for the more expensive outfit. It costs practically nothing for sustenance, room-rent, or repairs; it is always ready at a moment's notice, with no dependence on the pleasure of the stable-boy or driver, and it can be ridden almost anywhere that one can drive. As I have already hinted, pneumatic tires have almost wholly removed the terrors of rough pavements and bad roads; but these latter are rapidly being improved, thanks to the efforts of the wheelmen who are awakening public interest all over the country in the deplorable condition of the highways. For night use in the city, where it is often impracticable or inadvisable for the doctor to use his horse, it especially recommends itself, and the saving of time by its use at any hour is not inconsiderable. As we know, a few moments in times of emergency may mean a great deal to the patient. A recent case of the writer's comes to mind wherein the ten minutes that his wheel gained for him, in responding to the summons, meant the difference between life and death to the patient; so it seemed, at least, to the latter and his family. Contrary to the general opinion, it is easy to learn to ride, and there are few, indeed, that cannot master the whole problem in an hour. The additional knack of applying the power most effectually, and of moving with the greatest ease, will come within a day or so, while even sooner the balancing becomes automatic and requires no thought. The same effort that one employs in walking will carry him thrice or four times the distance on the wheel, and with far less fatigue, for the greater part of the weight is carried on the saddle, and not

by the thighs and legs, which are doing the bulk of the work. A speed of eight or ten miles an hour is easily maintained; in the city one makes better progress than in the street cars or average carriage, and for the country practitioner, in a community blessed with good roads, I am confident that he would find that, for the greater part of the year, the bicycle would save time for him in more ways than one. Lastly, the wheel affords an agreeable means of recreation and relaxation to the busy physician, which he can take at a moment's notice, or even in the actual pursuit of his duties, and it gives him that active exercise in the open air, with only a minimum of fatigue, which too many of us need and too few of us get. The only practical objection that I know to many physicians employing the bicycle is that it is not available in rainy weather; but, then, comparatively few of our days, from May to November, are of such a character. As to the exercise not being dignified, I believe that that depends altogether on the man who rides. It is well known that many physicians in Washington and Buffalo, two cities noted for their fine pavements, use the bicycle constantly in their practice without detriment to either their professional standing or dignity.

In conclusion, let me say that, if a vein of enthusiasm does seem to run through the foregoing remarks, I have only tried to show what seems to me to be the true status of the "silent steed" in its relations to our art and profession.

Since writing the above, and with the advent of cold weather, there has been called to my attention the danger of incurring laryngitis by riders breathing through the open mouth. Care should be taken to keep the mouth closed and to breathe altogether through the nose, especially on cold days; and also after riding and becoming heated to avoid draughts and assume additional clothing till the body has cooled and become rested.

S. E.

