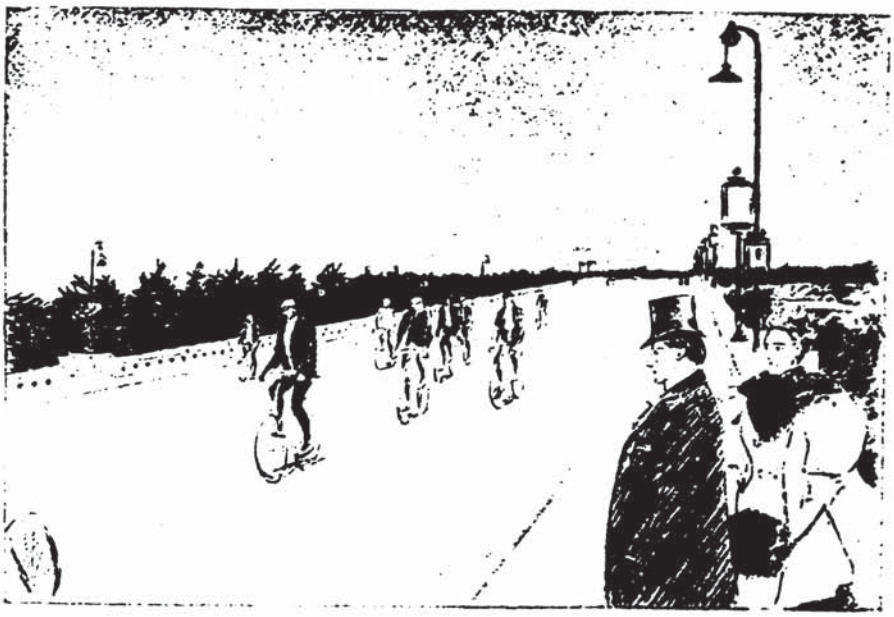


THE BICYCLE

THE WHEEL OF TO-DAY

By Philip G. Hubert, Jr.

FROM the time of my early childhood I have had the notion that flying must be the height of bliss, and not even the example of Darius Green and his mishaps deterred me from an attempt at a flying-machine. When I was nine years old I constructed a pair of wings. Nevertheless, like the small boy who defined faith as "believin' a thing that you knew wasn't true," I had faith in my flying-machine, but an innate conviction that it might not work. So I fastened it to the arms of a younger brother before pushing him off the roof of our wood-shed. I had assured him that with those wings he could fly in a way that would surprise him. It did surprise him. He came to the ground in a condition that resulted in a sound thrashing for me.

Some years later, when in Paris, I paid a franc to see a flying-machine—it looked like the combination of a washing-machine and a windmill—which the venerable proprietor and exhibitor assured me would soar into the air like a bird could he but raise the money for two or three cogwheels and other trifles still needed to perfect the apparatus. That was a good many years ago, so that I presume he never raised the money.

Having always had this mild mania for flying, I was much impressed a few years ago when some one said to me: "If you want to come as near flying as we are likely to get in this generation, learn to ride a pneumatic bicycle." Then I began for the first time to take a serious interest in the bicycle upon which my eldest boy was so fond of scurrying around the country; and to-day I am only too willing to say all that I can in its favor. When one begins to tell why the bicycle is one of the great inventions of the century, it is hard to begin, because there is so much to say. A bicycle is better than a horse to ninety-nine men and women out of a hundred, because it costs almost nothing to keep, and it is never tired. It will

The Start from the Westchester Country Club.

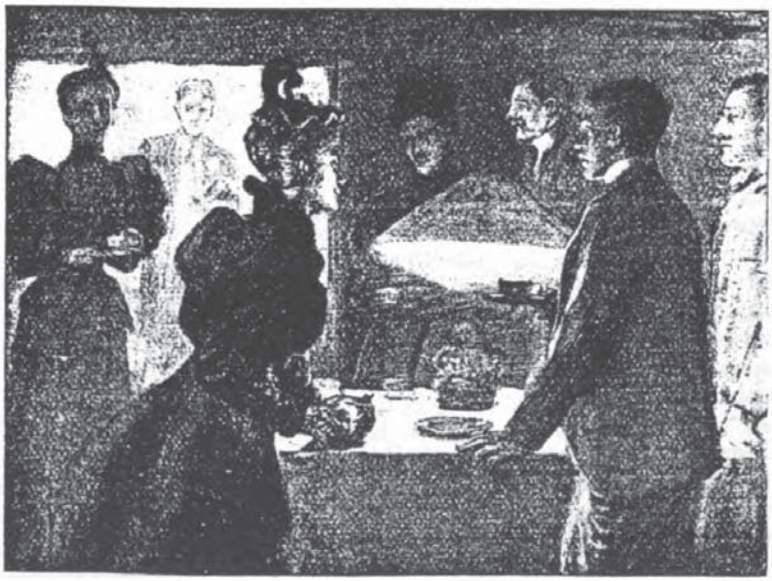
take one three times as far as a horse in the same number of days or weeks. In touring with a bicycle I can make fifty miles a day as comfortably as twenty miles on foot, and I can carry all the clothing I need, besides a camera and other traps. The exercise is as invigorating as walking, or more so, with the great advantage that you can get over uninteresting tracts of country twice as fast as on foot. In fact, as any bicyclist knows, walking seems intolerably slow after the wheel; even easy-going tourists, with women in the party, can make forty miles a day and find it play. Perhaps even greater and more important than its use as a touring machine is the bicycle as an every-day help to mechanics, factory hands, clerks, and all people who live in or near small towns. Thanks to this modern wonder, they can live several miles away from their work, thus getting cheaper rents and better surroundings for their children; they can save car-fares and get healthful exercise. For the unfortunate dwellers in cities it offers recreation after working-hours and induces thousands who would never walk to get out into the air and find out for themselves that life without out-door exercise is not living.

How tremendous has been the change in the fortunes of the nickel-plated steed within the last five or six years can only be realized by those who remember the first bicycle exhibitions of a few years ago, and can compare them

with the wonderful show held last January in the Madison Square Garden, in New York. The early shows were held in dingy little halls, and attended by a few thousand persons, who were looked upon by the majority of other people as grown-up children. The bicycle was still a toy five or six years ago. Half a dozen manufacturers exhibited their wares, and the pneumatic tire, then a curiosity imported from England, was viewed with interest, but much doubt as to its practical usefulness. The wheel was still something of a curiosity as a machine for grown men, while women who braved public opinion far enough to ride one in public were looked upon with suspicion.

The high 52-inch wheel, upon which the rider perched himself at the risk of his neck, was still the only one in common use, and had the "Safety" pattern not appeared, it is pretty certain that we should see but little more of the bicycle now than we did then. When I look at the high wheel to-day I rather wonder that any one was ever reckless enough or skilful enough to ride it. It was a matter of weeks to learn to get on it at all, and of months to ride it well; many persons who tried gave it up after a few bad falls. At best the big wheels of a few years ago were fit only for athletic young men; they were out of the question for all other persons and of course for women. The pneumatic tire has been credited with the rapid growth of the bicycle craze, but the introduction of the "Safety" pattern has had much more to do with it. The pneumatic tire adapted to a high wheel only made it higher and heavier. When a wheel was offered that anyone—man, woman, or child—could learn to ride well inside of a fortnight; that exposed the rider to no dangerous falls while learning, and that possessed all the speed of the high wheel with none of its dangers, then, seemingly, every one began to talk bicycles. Now no one is too old or too young to ride a "Safety," and the woman who objects to bicycling is soon likely to be looked upon as more eccentric than her sister who skims along the road in bloomers.

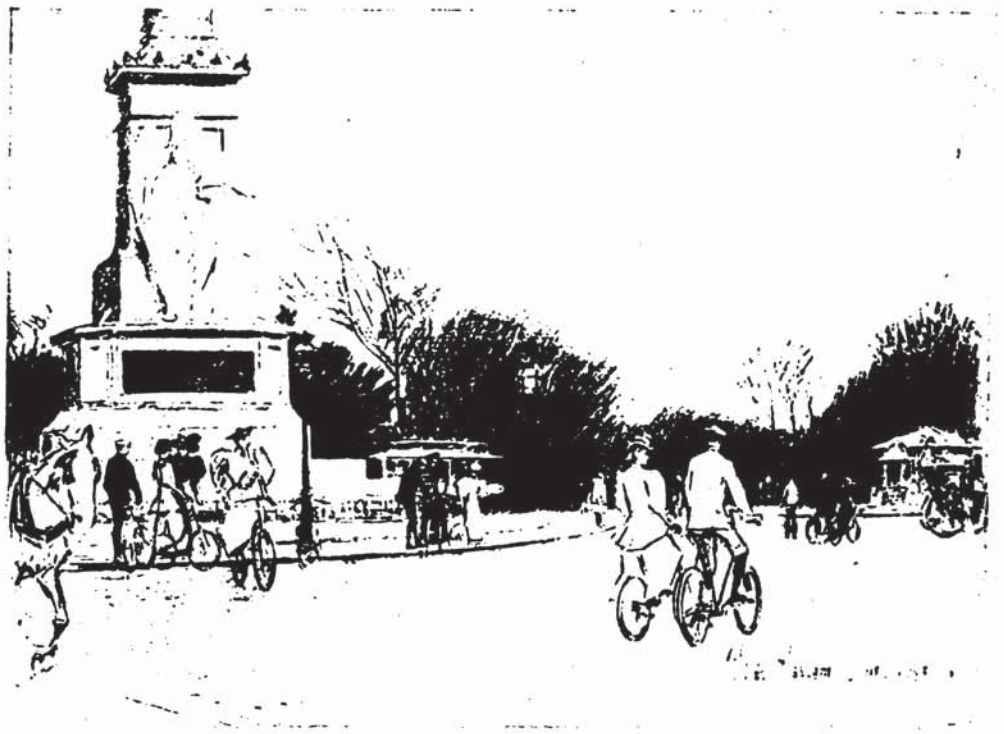
While the "Safety" pattern made the bicycle possible to everyone, of course the pneumatic tire is a great invention. Persons who have never studied the action of this tire may not realize that its purpose is not merely to act as a spring or cushion, but much more. Some pretty experiments made this last winter make this clear. It was shown that upon a perfectly smooth board floor less power was required to propel a steel-rimmed wheel than one with a pneumatic tire. But let a few fine pebbles be sprinkled upon the track and then the power required for the steel tire had to be doubled and even tripled, while that for the pneumatic tire required only a slight increase. The reason is simple enough. Whenever the steel rim encounters an obstruction the whole wheel and the weight it supports has to be lifted in order to go over



Tea at the Michaux Cycle Club, New York.

DRAWN BY CHILDE HASSAM.

Claremont Hill—Riverside Drive, New York.



Entrance to Central Park at Fifty-ninth Street and Eighth Avenue, New York—the Grand Circle.

it; with the pneumatic tire the pebble simply makes a dent in the soft tire, which passes over it without rising. A country road, or almost any road except a smooth floor, offers to the wheel a succession of minute obstacles. The power required to haul a rubber-tire vehicle loaded with 300 pounds over a fairly good gravel road averages 20 pounds, with a maximum of 26 pounds; with a steel-tired vehicle on the same road the average was 41 pounds and the maximum 79 pounds, or three times the resistance of the rubber tire. Hence the remarkable gain in power as well as in comfort effected by the air tire.*

At the show of last January every inch of space in the vast building seemed to be utilized for the display of bicycles, and more was needed; one or two prominent manufacturers felt so aggrieved at the small quarters offered them that they refused to exhibit in the Garden and organized shows of their own outside. Experts at figures estimated that at least thirty million dollars of capital were represented. There were nearly one hundred different makes of bicycles shown by eighty firms, while a score of manufacturers exhibited nothing but bicycle accessories, such as tires, saddles, lanterns, cyclometers, etc. For a whole week the place was crowded.

Various estimates have been made of the output of bicycles for 1895, the figures running as high as four hundred thousand. The sales of wheels last year are said to have been two hundred and fifty thousand. It is generally reported that the business has taken a sudden jump within the last six months, and almost all the manufacturers have been running their factories night and day. An important feature of the business, from the manufacturer's stand, is the growing export trade to Mexico and South America, and even to Europe and Australia. At a bicycle tournament held in the city of Mexico last January, our American riders carried off most of the prizes; the whole population seemed to be bitten with the bicycle craze. English and French manufacturers have endeavored to keep our machines out,

* For a full report of these experiments, see *Good Roads* for January, 1895.

but without success. The Mexicans found, as we have already found here, that the English standard bicycles are heavier by ten pounds than our own, without any compensating advantages.

In one respect the bicycle show was peculiar; all classes seemed to be represented. At the horse show, for instance, or the dog show, the mechanic is never seen; at the bicycle show I noticed hundreds of men, evidently prosperous mechanics, who had come to see more of a machine that offered them at once economy and recreation, a healthful exercise and a saving of car-fares in getting to and from their daily work. One manufacturer to whom I mentioned this feature of the show said that bicycle-makers were particularly interested in the hundreds of bicycle agents from all over the country who came there every morning and who wanted machines to sell to workingmen. There was not, he said, a village of five hundred inhabitants within a thousand miles of New York that would not have its regular bicycle agent this summer. "I really believe," said he, a shrewd Yankee, "that between electric cars in cities and the bicycle in the country, the value of horse-flesh will drop almost to nothing within the next twenty years. The time is fast coming when a good, serviceable machine will be sold for $50, or less. Already in every village and town the mechanic and factory hand goes to his work on his wheel, the postman takes his letters around on one; even the doctor and the clergyman make their rounds on wheels. It is far more than a recreation. And these hundreds of agents all talk of the wheel they are going to offer in their towns, not as a sporting machine but as an every-day necessity; they want to know about the durability and the practical work to be got out of a wheel, and its value to the mechanic and shop-clerk."

I was glad to find a manufacturer who would admit that we should some day get good machines for less than $50. Personally I am satisfied that a poor bicycle is a most costly affair. At the same time, the price asked for the best machines, although it has dropped this year from $150 to $125 for specials, and from $125 to $100 for standards, still seems out of proportion to the actual cost. It is said that a good sewing-machine costs less than $10 to make; and it is hard to see why a good bicycle cannot be sold at a fair profit for $50 or less. Probably when the supply catches up with the demand it will be. This year's cut in prices is a promise of better things to come.

Among the novelties of last winter's show the greatest interest seemed to be aroused by the motor bicycle, the hill-climbing attachments, the bamboo and aluminum frames, and the tandems. The motor bicycle, as its name implies, is one to which a hot-air motor, worked by naphtha or kerosene, is attached. It had been used a little in the western part of this State, but until this last show we had seen nothing of it here. In appearance the motor bicycle is longer than the ordinary "Safety" and its whole build is stronger and more clumsy; its frame is solid and its tires are of what is known as the Jumbo type—enormous affairs, three inches in diameter. The motor, or rather motors, for there are two, one on each side of the rear wheel, are small enough to be contained in brass cylinders about a foot long and four inches in diameter. The supply of oil or naphtha is carried in a cylinder placed near the handle-bar, from which the oil trickles down to the motor through one of the frame tubes. The pair of motors weigh but twelve pounds and are said to furnish two-horse power at an expense of one gallon of oil for one hundred miles. The oil is ignited at every stroke of the piston by an electric spark. There are foot-cranks for use in case the motor should give out. The danger of explosion is said to be nothing. On the day of my visit the motor bicycle was not working as usual in the basement, owing to some accident. Some of the *habitués* of the show who had seen the thing run, told me that it seemed to work well enough, but made a good deal of hissing noise. Admitting that it will do all that its manufacturers say, the present cost will prove an obstacle to its wide introduction, the cheapest form being sold at $275, and another—a four-wheeled affair—at $500.

Within the last two years several forms of hill-climbers have come into use, all of them, however, constructed upon virtually the same principle—the introduction of a gearing which shall cause the pedal to make fewer revolutions in proportion to that of the driving or rear wheel; in other words, such devices increase the leverage of the pedal. An old and experienced bicyclist, fond of "century runs," or one hundred miles at a stretch—which I am not—remarks, that so far as he has been able to find out, these hill-climbing devices work well enough, but he doubts their value. If the hill is too hard to ride up, it is steep enough to walk up. Any device to change the gearing at will adds just so much to the cost and intricacy of the machine. I may add, however, that such advice may apply to strong and seasoned riders, who can "pedal" over hills up which the ordinary bicyclist has to foot it.

The much-talked-of bamboo and aluminum bicycles may come under the head of attempts to get rid of weight. In the bamboo bicycle rods of polished bamboo, let into aluminum castings, are used for the frame instead of steel; a steel wire tightened by nuts runs through each rod. The gain in lightness is not great, but the makers claim that the machine runs with more elasticity. Speaking of lightness, aluminum seems likely to achieve wonders for the bicycle in the near future, provided its tendency to corrode under salt air and water can be corrected. Some of the light-weight machines were wonderful, especially one weighing less than nine pounds, which was ridden at the show by a man weighing more than two hundred pounds. Five years ago the average weight of the road bicycle was from forty to fifty pounds. Now, anything weighing more than twenty-five pounds is looked upon with disfavor.

The tandems, upon which, as the name implies, two riders sit, one behind the other, and the duplex bicycles, in which the riders sit side by side on a sort of tricycle, were much in evidence at the show, but do not seem to be gaining favor so fast as the single bicycle. The power used to propel the best form of tricycle is nearly three times that required for a bicycle, so that, even divided between two riders, there is a loss as compared to the bicycle. It is also to be said that there are thousands of miles of country road upon which a bicyclist can find a suitable path, a foot or two wide, where a tricyclist would have a hard time of it. Also, that where the road is broad and level enough for a tricycle, two bicyclists can run along side by side, near enough for conversation, while when it narrows they can take up single file again.

Of bicycling accessories at the show there was no end. Good lamps and cyclometers may now be had for half what they used to cost. Saddles are wonderfully improved, the newest saddle being made of wire springs, looking like piano wires, which, if durable, ought to be perfection, as it is light, cool, and yielding.

With regard to a number of points concerning the bicycle and its use, more can be learned in five minutes' talk with any intelligent agent or amateur than can be told here in many pages. The height of the saddle, the safe distances for a beginner to attempt, the best ways of learning to ride, depend almost wholly upon the rider. Some riders like a high-geared wheel, for instance, sixty-six or more inches, that is to say, one in which every full turn of the pedal is equivalent to the revolution of a wheel sixty-six or more inches in diameter. The higher the gear, of course, the more power required at the pedal, for which reason the low gears, not exceeding sixty-three inches, are best for all day work in touring. With a very high gear hill-climbing is out of the question. Concerning the details of equipment—whether with a brake or without, single or double tires, mud-guards or no guards, metal or wood rims, rubber or rat-trap pedals, each rider must decide. The present tendency is to do away with every superfluous ounce of weight, and brakes, guards, rubber pedals, all mean weight and are not essentials. The battle between the tire makers as to the comparative value of single or double tires is not over. Both have advantages. The double tire—one thin rubber tube containing the air, protected by a stout outer tubing—is not so easy to repair

as the single tire, but neither is it so easily punctured. Wooden rims seem to be having the preference over metal, but some of the aluminum rims are equal to wood in every way and even lighter.

So delicate a piece of machinery as a bicycle, of course, needs care. Every agent will explain how it must be oiled —one oiling to a hundred miles is the usual rule—and the chain rubbed with the mixture of plumbago and tallow sold for that purpose. After use the machine should be cared for as conscientiously as a good gun, if it is to do its best work.

To the beginner in bicycling I should like to say, beware of the cheap bicycle. I know of nothing more disheartening than to have a trip, upon which one may have counted for weeks, cut short by the break-down of a machine. Of course accidents will happen to the best of bicycles, but as a rule they are not serious enough to necessitate long delays. You may run over a piece of broken glass thrown upon the highway by some fiend in human shape, and thus puncture your tire; or a spoke may break, or a nut work loose. But in such cases, if you cannot make the repair yourself—which usually you can—there is a bicycle shop in almost every village nowadays where such things may be made right. But when the mishap is due to radical weakness or bad workmanship in the tire, the frame, or the castings, the best thing to do is either to sell the machine for what it will bring, or never venture more than ten miles away from home. I once made the blunder of getting a cheap bicycle for my boy. No one would imagine that a bicycle could have so many failings as that one developed. Its maker's motto might have been, "For Repairs Only." It was a fortune to the man who repaired it. As fast as one break was patched up another appeared. Several most promising expeditions were broken up by the failure of that rotten machine. One day we started off, my boy and I, to ride from Stamford, Conn., to New London, by way of Long Island, crossing the Sound at Bridgeport. It was a week's trip that we had planned for months, and we got lots of pleasure out of the planning and anticipation. In fact all the pleasure we got out of the trip was of this kind. Our start was a delightful one, early on a lovely June morning when it was a pleasure to breathe, to say nothing of riding a bicycle. Through Darien and Norwalk we pushed gayly on, counting upon reaching Bridgeport, a distance of twenty-five miles, before the noonday sun got a chance at us. For perhaps the tenth time I exclaimed that a bicycle tour was one of the joys of life, when, Bang!—like the explosion of a pistol, the rear tire of my boy's wheel burst. He had run over no glass or nails; the tire had simply exploded in a long slit with which we could do nothing. That was the end of our expedition. We got the wheel to the next town, where an expert told us that he could mend the break, but that the same thing would happen again in an hour. The tire was simply too cheap or rotten for the work.

There are people who declare that there is a certain maliciousness about a bicycle's behavior nothing short of the miraculous. Doubtless we riders all remember the delight every bicycle takes in guiding the beginner straight toward any big bowlder that may be in sight; the road may be fifty feet wide and that the only bowlder within half a mile, but do what we may, the bicycle makes unerringly for that stone, even if it takes us twenty feet out of our way to do it. And if there is anything the bicycle likes better than a big, sharp bowlder, it is a deep puddle. A muddy hole of any kind is a perfect magnet to the bicycle when ridden by a beginner. Experts insist that the beginner's own nervous fear is at the bottom of such mishaps, but the beginner knows better.

A strong confirmation of the theory that credits bicycles with innate viciousness is to be found in the fact that when bicycles do break down it is always just where the accident will give the rider the utmost trouble. In my time I have had a good many annoying accidents happen to my bicycles, but never within a mile or two of home. I could ride my wheel over broken glass and tin cans all summer if only I kept near home. But let me decide upon a

touring trip and start off — unless I have a really first-class machine, something is sure to happen. In the course of one short tour last summer I was unlucky enough to break one of the frame-bars the second day out, and the pedal-crank the third day. The frame I patched up with the aid of some wire and a friendly blacksmith. The pedal-crank, a piece of steel, could not be fixed. And of course that crank broke when I was fifteen miles from a railway station, in a forsaken district near Salem, back of New London. There was a flaw in the casting. It was the hottest day of a hot summer—July 20th —and the accident happened about noon, the hottest part of the day. It is bad enough to know that you will have to give up your trip, for a new crank-bar takes time to get. It is worse to have to trundle a wrecked machine for miles, stopping at every farm-house, like Mr. Pickwick with his balky horse, to ask for help. Finally, after risking sunstroke for an hour or two, I found a boy who drove me to New London, reaching there after six o'clock. I never swear; if I did, it would be upon such an occasion, when a rascally manufacturer sells something that will not do the work it is bought to do. That one or two such experiences do not disgust one forever with bicycling shows the charm of the thing. A poor bicycle is a most costly investment.

In the manufacturing town where I live in winter, I know scores of men who get pleasure and profit out of their bicycles by riding to and from their work, and I know also that there are thousands of city men and women who delight in spinning along the asphalt pavement of the Boulevards after the day's office work is done. Such use of the bicycle is well enough so far as it goes, but for those who can make the opportunity the greatest boon the machine offers is the possibility of roaming over much interesting country at small expense. Take, for instance, the usual fortnight's vacation of most city men, and see what may be accomplished with the aid of a good bicycle. In a fortnight, if the rider has kept himself in good condition by practice after business hours, he can make a distance of six hundred miles with ease, more than twice what he could do on foot or even with a horse, and at no more expense than on a walking tour. If he is a member of the League of American Wheelmen, a privilege costing but a dollar a year, he will be able to get lower hotel rates than the rest of the world. This League, by the way, publishes the best maps for touring that we have, giving an account of the condition of the various roads a bicyclist may take in travelling from one place to another, with a list of the hotels where he may expect a welcome at reduced rates.

Six hundred miles in a fortnight is about as much as most people will want to make for pleasure. It is possible to ride one hundred miles in a day, and experts will keep this rate up for a week at a time. My own practice when touring is to get off as early in the morning as possible, and yet not too early to get a good breakfast. I ride at about six miles an hour, seldom more than that unless I am in a hurry, getting off to walk up all hills that deserve the name, and stopping to pick a flower or admire a view whenever the spirit prompts.

By starting at seven o'clock, which is not an early hour in summer—six o'clock is better—I have made my thirty miles at noon. During the morning I am pretty sure to pass a baker's shop where good things are on view, and I buy some rolls or crackers, carrying the bag with me until I come to some quiet nook, the bank of a stream by preference, where I can wash, eat my luncheon, take a look at the morning paper bought in the last village, and smoke a pipe. The noon stop does not last more than an hour. By one o'clock I am a-wheel again and ready for the three hours' run that will finish my fifty miles at four o'clock, when, if my route is rightly planned, I ought to reach some town or village where I find a suitable hotel. Once there, I put on fresh underclothes, the soiled clothes of the ride going to the laundress to be washed out at once, and I am ready for an inspection of the town at the pleasantest hour of the day —when the sun gets low, and everyone turns out for a breath of air. And no matter what the heat, I am ready for

the best dinner that mine host can offer, and a good night's sleep. Such touring need not cost more than two dollars a day for each person.

I know that some men, fond of touring, adopt a wholly different plan—they ride early in the morning and late in the afternoon, taking a long rest in some shady nook during the heat of the day. For several reasons, and after trying both ways, I prefer to make my day's journey in practically one stretch. In the first place, on account of clothing. Except in really cold weather the bicyclist is pretty sure to find himself covered with dust and bathed in perspiration at the end of his morning's ride. Therefore, if a stop of several hours is to be made, he must change clothing by the roadside, and either wash it out himself in some stream or carry it with him till night. He must take it off, or he will catch cold, sitting and sleeping in the shade. In the next place, unless he knows the road exactly and the distance he has to make, he will feel more or less hurried; the chances are two to one that he will arrive at his stopping-place covered with dust, his second suit of underclothes soaked in perspiration, late for dinner, and too tired to enjoy it. By the time he has washed and dressed, dined or supped, he is too tired to look about the town, which may be well worth the attention; and he thus loses, what to me is one of the pleasures of my trips—the stroll along streets that are new to me, and the sight of hundreds of strange, and sometimes pretty faces. To wander around a quaint New England town wholly new to me, to watch the shopkeepers light up their wares for the evening, to see the life and brightness of the place as the electric lights burst forth, and the streets fill with people—all the people in these small towns seem to do their shopping in the evening—and perhaps to end by a visit to the local theatre, all this constitutes a feature of a tour that I prize. Or I may go to church. In either theatre or church you may see the people of the town face to face, and learn more about them than by days of loitering in their streets.

A friend with whom I once made a bicycle tour believes that the expense of such trips could be much reduced by eliminating the hotel, and camping out. His plan necessitates the carriage of some sort of tent, cooking utensils, and food to last for a meal or two. I have never tried it, but may do so this summer. We propose to use a light drill for tent material, the two bicycles forming the ridge pole, and the tent being thus not more than three feet high, a mere covered hole to crawl into when bedtime comes. Aluminum cooking utensils might be used. Firewood may be found anywhere. If cooking is out of the question owing to the weight of the apparatus, it would be easy to buy one's meals in the villages. The objections to this scheme are apparent, and except to show upon how few cents a day one may enjoy the pleasures of travel, I have my doubts about it. To make a comfortable bed on the ground will require much clothing, which again means weight. There is also the danger of catching cold, the difficulty of getting washing done, etc.

While talking of weight, it may be worth while to say something of the touring outfit that I have found most convenient. The best clothes-carrier is the flat, triangular bag built to fit between the frame-bars; it is better than a knapsack strapped to the handle-bar, because the weight is carried lower down, making the machine less top-heavy, and it leaves the handle-bar free for any light parcel. My outfit consists of three light outing-shirts, three suits of gauze underclothing, a dark flannel bicycle suit, laced tanned gaiters, light-weight rubber coat, comb, clothes-, hair-, and tooth brushes, soap and towel, cup, writing pad and pencil, map and matches; and, of course, the regular kit of tools and materials for road repairs. Another suit of clothes suitable for calls and Sundays would be pleasant to have, and other shirts and shoes, but this means weight. Now that the bicyclist's knickerbockers are seen everywhere in summer, even at the theatre and in church, it is hardly necessary to carry more than essentials. An umbrella is not needed; if one has a rubber coat for stormy weather, he can ride, rain or no rain, while it is next to impossible to ride and carry an umbrella,

whether for sun or rain. Gaiters are better than low shoes, which are apt to fill with sand when the road is too soft to ride.

To come back to my point of beginning: When a good and safe flying-machine is introduced at a price that I can afford, I shall perhaps abandon my bicycle. Until that time—and I am very much afraid that it will not be in my time—I shall hold fast to it. I see nothing to compare with it, not even the pneumatic skate-roller, upon which experts in England are said to have made as high as twelve miles an hour upon a fair road. How about hills? The slightest rise in the road must compel the foot bicyclist to take off his skates and carry them over his shoulder.

I shall hold fast to my pneumatic "Safety," thanks to which I have enjoyed scores of days that live in the memory. The bicycle tempts one outdoors. There is something about bicycling and tennis-playing that enables one to enjoy either, when the mercury rises to a point where all other exercise seems forbidden. Upon days when I should hesitate to take out a horse I have enjoyed a quiet turn upon my wheel. There is an independence about it that one doesn't feel in driving. Keep a note-book, and when your summer's tour is over, count up how many glorious days, how many bits of scenery and of adventure are well worth remembering. It is only from the top of a hill that one gets all there is of beauty in a fine sunset. Sometimes, when belated, I have enjoyed from my wheel pictures of the dying day so glorious, bursts of color so resplendent, as to make one regret the shortness of life if for no other reason than that such superb triumphs of color have filled the skies before we were here to see them, and will continue to glow for generations after we are gone. To paraphrase Mr. Gilbert's Pooh Bah, there will be sunsets without end; we may not see them, but they will be there.

To wheel quietly up and down hill and across the valley, miles away from so-called civilization, and yet knowing that with a good bicycle miles mean but little; to wheel along drinking in the perfumes of the morning with the songs of the birds, and at even, thankful for the matchless glow in the west and the music of the cow-bells; to wheel silently at sunset into some peaceful village where your guide-book bids you expect a welcome—and at reduced rates—all this is worth celebrating. The use of travel, says Dr. Johnson, is to regulate the imagination by reality. Thanks to the bicycle we have the joys and benefits of this discipline almost without cost, and without the fatigue incident to prolonged tramps on foot.

WOMAN AND THE BICYCLE

By Marguerite Merington

The collocation of woman and the bicycle has not wholly outgrown controversy, but if the woman's taste be for the royal pleasure of glowing exercise in sunlit air, she will do well quietly but firmly to override argument with the best model of a wheel to which she may lay hand.

Never did an athletic pleasure from which the other half is not debarred come into popularity at a more fitting time than cycling has to-day, when a heavy burden of work is laid on all the sisterhood, whether to do good, earn bread, or squander leisure; no outdoor pastime can be more independently pursued, and few are as practicable as many days in a year. The one who fain would ride, and to whom a horse is a wistful dream, at least may hope to realize a wheel. Once purchased, it needs only to be stabled in a passageway, and fed on oil and air.

The first women cyclists of New York City seemed to rise in a heroic handful from the earth near Grant's Tomb, on Riverside Drive. That was years ago. To-day, on the broad western highway

of the city a dotted line of riders, men and women, forms a fourth parallel to the dark band which the Palisades stretch across the sky, the Hudson's silver width, and the white thread of flying smoke from the trains beside the river. They ride from the first day of spring to the last privileged days of frosty winter. They ride from morning to high noon, and their lanterned wheels purr by with the gleam of a cat's eye through the dark. A moon sends hordes of their queer cobwebby shadows scurrying over the ground. In the revolving years, to the eyes of those whose windows overlook the wheelways, the woman cyclist has ceased to be a white blackbird. The clear-eyed, vivified faces that speed by give no clue to the circumstances of the riders, but inquiry shows that many callings and conditions love the wheel. The woman of affairs has learned that an hour, or even half an hour, may be stolen from the working day, with profit to both woman and affairs. Now and again a complaint arises of the narrowness of woman's sphere. For such disorder of the soul the sufferer can do no better than to flatten her sphere to a circle, mount it, and take to the road. An hour of the wheel means sixty minutes of fresh air and wholesome exercise, and at least eight miles of change of scene; it may well be put down to the credit side of the day's reckoning with flesh and spirit.

The eye of the spectator has long since become accustomed to costumes once conspicuous. Bloomer and tailor-made alike ride on unchallenged; tunicked and gaitered Rosalinds excite no more remark than every-day people in every-day clothes. No one costume may yet claim to represent the pastime, for experiment is still busy with the problem, but the results are in the direction of simplicity and first principles. Short rides on level roads can be accomplished with but slight modification of ordinary attire, and the sailor hat, shirt waist, serge skirt uniform is as much at home on the bicycle as it is anywhere else the world over. The armies of women clerks in Chicago and Washington who go by wheel to business, show that the exercise within bounds need not impair the spick-and-spandy neatness that marks the bread-winning American girl. On the excursion a special adaptation of dress is absolutely necessary, for skirts, while they have not hindered women from climbing to the topmost branches of the higher education, may prove fatal in down-hill coasting; and skirts, unless frankly shortened or discarded, must be fashioned so as to minimize the danger of entanglement with the flying wheel. Knickerbockers, bloomers, and the skirt made of twin philabegs, all have their advocates; Pinero's youngest Amazon has set a pretty fashion for the cyclist, and many of the best riders make their records in a conventional cloth walking-dress with cone-shaped skirt worn over the silk trousers of an odalisque, or the satin breeks of an operatic page. This sounds costly, but it need not be. Here and there a costume strikes the spectator as an experiment, but the sincerity of all is unquestioned, for absence of self-consciousness has characterized the woman cyclist from the outset. The pastime does not lend itself to personal display, and in criticism the costume must be referred, not to the standards of the domestic hearthrug, but to the exigencies of the wheel, the rider's positions to the mechanical demands of the motion; accordingly, the cyclist is to be thought of only as mounted and in flight, belonging not to a picture, but to a moving panorama. If she ride well, the chances are she looks well, for she will have reconciled grace, comfort, and the temporary fitness of things.

Regarding bicycling purely as exercise, there is an advantage in the symmetry of development it brings about, and a danger in riding too fast and far. The occasional denunciation of the pastime as unwomanly, is fortunately lost in the general approval that a new and wholesome recreation has been found, whose pursuit adds joy and vigor to the dowry of the race.

Having reached these conclusions, the onlooker is drawn by the irresistible force of the stream. She borrows, hires, or buys a wheel and follows tentatively. Her point of view is forever after changed; long before practice has made her an expert she is an enthusiast, ever ready to proselyte, defend—or ride!

There is full opportunity in and about New York City for the daily hour with the wheel. From Christmas to Christmas Central Park is a favorite haunt of the cyclist when the weather is kind, and indeed a fine frenzy once set rolling the eye of a poet, who told of a wintry flight among snow-laden pine-trees over sheets of frozen snow. It sounded like a Norse Saga, but the scene was Central Park, the steed a wheel, and the story true. Riverside Drive and the Boulevard offer fair roads and a breeze coming fresh from the sources of the Hudson, untainted as it sweeps by Albany; the historic ground of Washington Heights is practicable as well as picturesque, for the Father of his country outlined a clear march for the city's gigantic stride; Washington Bridge is a fine objective point where the rider will surely dismount to rest in the embrasure of the parapets, and admire the view up and down stream where the little Harlem wriggles along between its high green banks. For the longer ride, by crossing Madison Avenue Bridge a wheel-worthy road leads to Westchester and Mount Vernon. There is a ferry at Fort Lee, and a good road even in New Jersey, skirting the trap-rock battlements at whose base the Hudson lies like a broad moat. People who return from Tarrytown speak rather boastfully of the hills.

Far-reaching dreams of summer may bear the traveller of the wheel through clean stretches in the Berkshires, on sunny lanes of Normandy, among Welsh mountains, or down Roman roads between English hedge-rows, but all the workaday year there are highways radiating from the heart of the city to the borderland of the country, where one may breathe new inspiration for the world—the world that we persist in having too much with us in the getting and spending efforts that lay waste the powers.

SPINNLIED

FOR GRETCHEN ON THE WHEEL

Good health to all, good pleasure, good speed,
A favoring breeze—but not too high—
For the outbound spin! Who rides may read
The open secret of earth and sky.

For life is quickened and pulses bound,
Morbid questionings sink and die
As the wheel slips over the gliddery ground
And the young day wakes in a crimson sky.

Oh, the merry comradeship of the road
With trees that nod as we pass them by,
With hurrying bird and lurking toad,
Or vagabond cloud in the noonday sky!

Oh, the wholesome smell of the good brown earth
When showers have fallen for suns to dry!
Oh, the westward run to the mystic birth
Of a silver moon in a golden sky!

Good health to all, good pleasure, good speed,
A favoring breeze—but not too high—
For the homeward spin! Who rides may read
The open secret of earth and sky.

THE SOCIAL SIDE OF BICYCLING

By James B. Townsend

The rapid development of the present interest in bicycling among people of wealth and leisure in America, is perhaps its most striking feature. Scarcely a year has elapsed since the first woman, known at all in and to the fashionable world of New York, rode her wheel along the Boulevard and through Central Park, and this she did amid all manner of adverse comment from and by her associates. A few society men—so called—of an adventurous and athletic turn of mind, rode the well-remembered "high wheel" spasmodically for some years, and some few again essayed the safety bicycle when it was first invented. These, too, were jeered at by their fellows and, with few exceptions, soon abandoned a sport in which they did not find congenial companionship. The society world, which in this generation had taken up croquet, roller-skating, and lawn tennis in turn with avidity, and tired of them in succession, watched with languid glances the bicyclists seen in the streets and met

with in its drives and rides—was rather disposed to grumble at them as a nuisance, and to silently approve all measures to restrict their privileges. It was for the most part ignorant of the rapid development of the sport, of the capital invested in bicycle manufacture, of tournaments, and leagues, and classes. It sneered and laughed at women riders of the wheel, and was as far away from even the idea of adopting the wheel itself a year ago, as it was before the invention of the safety bicycle.

The changed conditions which now prevail, and which have so rapidly come about, were due, first, to Americans returning from a stay in Paris and who had imbibed the craze for cycling on the asphalt pavements and the smooth wooded drives of that city's famous Bois de Boulogne, where they found the sport fashionable among the leaders of Parisian society; and, second, to the influence of several of New York's leading physicians, who, in some cases from the reports of the French doctors, and in others from their own experience in Paris, and their study of the wheel from a medical standpoint, began to advocate its use among their patients and patrons. It was a New York physician's wife who first, as has been mentioned, learned to ride a year ago, and became the pioneer among fashionable wheel-women; and her example and that of her husband was soon followed by other well-known New York men and women.

Bicycling among fashionable people was, however, of slow growth at the start, and although the favored school of instruction in New York began to be crowded last May and June, there were few well-known men and women who had acquired sufficient skill to ride on the road before the July heats drove them to the summer-resorts. At the watering-places, however, and particularly at Newport, Bar Harbor, and Southampton, bicycling sprang into instant favor early in the summer, and by August there were few men and women who were not riding, learning to ride, or contemplating taking lessons in cycling. A colored "Professor," so called, who had acquired some reputation as a teacher in New York during

SHE'S ALL RIGHT.

the spring months, opened a school in Newport and achieved fame and temporary fortune. Four or five young society girls, who had spent the previous winter abroad and learned to ride there, appeared one morning on Bellevue Avenue, and their graceful riding and evident enjoyment of the sport, created a mild sensation and increased the interest already felt in and for bicycling. By August the wheel had become a marked feature of the Newport season, and vied in attractiveness with golf, also a new craze, and even with driving and yachting. The most prominent members of the summer colony became its devotees, and the opportunities afforded by smooth and level Bellevue Avenue, and the beautiful Ocean drive, with its ever-changing panorama of land and sea, were fully taken advantage of. Finally, with greater proficiency came longer journeys through Newport Island, and parties of men and women even rode via Conanicut Island to Narragansett Pier; while to testify to his devotion to the sport, a popular Newporter organized, toward the season's close, a moonlight evening lantern parade of bicyclists from his fine mansion to the new golf club-house and thence to Gooseberry Island—which was participated in by a hundred men and women, and which was made a news feature the next day in important journals. The news of Newport's devotion to the wheel soon spread to neighboring Narragansett Pier, to Bar Harbor, Southampton, and even to other smaller fashionable resorts, and the same interest became aroused; so it came to pass that, with the advent of autumn and the return of society to the nearer suburbs and the city, the sport had become firmly established in social favor.

By this time the society people of other sections, many of whom had seen the development of bicycling at the summer-resorts and had perhaps indulged in it, took it up, and the suburbs of Boston, Philadelphia, Baltimore, and the Western cities saw also the advent of the society cyclist. The social world of Washington—that city whose countless miles of asphalt pavements have for years afforded the best of all opportunities to the cyclist—has, strange to say, been slower to embrace cycling than that of any other American city; and although now it is becoming fashionable there, it is not pursued with the same zest as in other places. Perhaps the fact that "the butcher, the baker, and the candlestick-maker" have for many years made the bicycle less novel at the National capital than elsewhere, may account for this seeming paradox.

With the return of the winter season last December, and the advent of the cold winds and snow, wherein no amateur cyclist may ride outdoors, arose the demand for indoor riding; and this led to the formation in New York of the now well-known Michaux Club, so named in honor of the French mechanic who first placed weighted pedals on the old velocipede. This club, which now has its imitators in Brooklyn, Richmond, Va., Philadelphia, Chicago, Louisville and other cities, sprung at once into popularity and was a social success from its inception. It secured the use of an old Armory in upper Broadway, near Central Park, fitted up tasteful and complete dressing- and club-rooms, and held meetings on fixed afternoons and mornings, and during Lent on two evenings also each week. At these meetings a band played, tea and refreshments were served, and society gathered in full force to ride or watch its friends ride—sometimes in graceful cotillon figures, and, shall it be said, to also see, with pleasurable excitement, some of the more inexperienced riders occasionally tumble with a crash, but fortunately with no serious results. At recurrent intervals exhibitions of trick and fancy riding by professionals, and once a display of the different makes of wheels was given; and the interest continued unabated till the close of the winter season. The club is now continued without its indoor meetings, but with every facility to its members in the matter of attendants, lockers, dressing-rooms, and care of their bicycles, and will doubtless resume its indoor meetings next winter. The Michaux Club has developed numbers of skilful and graceful riders—women as well as men—and has had de-

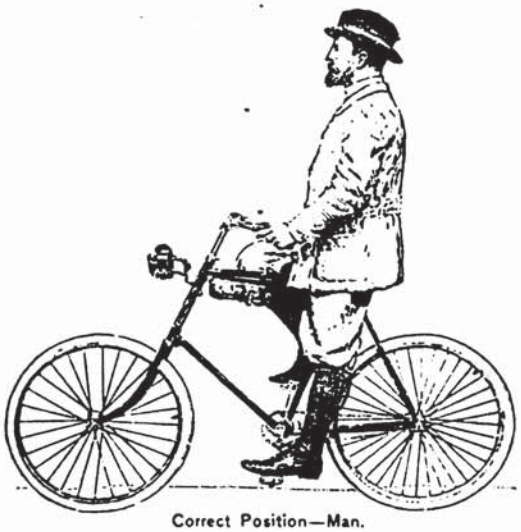
cided influence on the sport in society everywhere. Cycling has afforded endless satisfaction to the members of this club not only by the rapid and inspiriting motion of the wheel, but in the substantial, or perhaps one might say etherealizing, benefit that it has conferred, in lengthened waists and diminishing bulk. Burgundy, terrapin, and other rich but unwholesome delights of the gourmand are robbed of their retributive terrors while the bicycle exists to neutralize them, and men as well as women smile defiantly at the inroads of age as they glide on their noiseless steeds.

Correct Position—Woman

During the early winter and spring, when the weather has permitted, the Michaux Club and its fellow, the Brooklyn Cycle Club, have had weekly "road runs"—in other words, rides, participated in by those members so desiring from the club-houses, along some favorite boulevard or road, to some inn or suburban club before decided on, where lunch is enjoyed, with a return by the same or a different route to the starting-point. These road parties are always an attractive sight. Twenty, thirty, perhaps even fifty men and women, all picturesquely attired — for the society cyclist pays the strictest attention to his or her costume—bowling along a boulevard or park drive, on the handsomest, lightest, and most carefully burnished of wheels, their cheeks flushed with the healthful exertion and the rapid movement, the air resounding with laughter and the slight clicking of their many pedals, present a rare picture of life, and movement, and color. There is generally a leader who "sets the pace," as it is called, with due regard to the varying proficiency of his followers, and an attendant usually rides in the rear to aid the laggards and be at hand in the rare case of any accident. Arrived at their destination, all dismount, and then follows a breakfast, lunch, or even dinner, informal, and eaten with a zest which only healthful appetite can give. The most popular objective points for these "road runs," near New York and Brooklyn, are Claremont, the West End Hotel, the Suburban Club at Inwood, the Country Club at Westchester, and Coney Island, and scarcely a fine day in the outdoor season passes without scores of bicyclists visiting these places.

The early morning in Central Park and on Riverside Drive is much favored, particularly by New York women riders, and astride their wheels, and in the most fetching and nattiest of costumes, they flash up and down the wooded drives of the Park or along the Hudson's bank, sometimes in parties of three or four, sometimes alone, often with an attendant cavalier, and form a still novel picture to onlookers. Then, too, there are excursions to delightful suburban retreats—to Englewood and Hackensack, to Yonkers, and even Nyack, to Summit and all through Staten and Long Islands—for the society cyclist is quick to discover good roads and runs, and to enjoy their facilities.

So has cycling added to the pleasure of the life of society men and women in our American cities, particularly in New York. It has brought to them a new and fascinating form of exercise and enjoyment, and has, for a time at least, superseded the horse to a really surprising extent, as is evidenced by the low prices of saddle-horses alone. For this "silent steed" rarely goes lame—except through an easily mended punctured tire—is always ready, always will-



Correct Position—Man.

ing, runs up no expense account for oats and hay, travels over many a foot-path a horse could not follow, and leaves the animal far behind in distance, and even in continuous speed. To the man or woman who rides the wheel for pleasure and exercise, there is no sport comparable to cycling. He or she does not feel it necessary to acquire, or give the impression of having acquired, curvature of the spine, and is oblivious to the charms of racing, or "scorching," as fast riding on the road is called. To sit erect, and glide gracefully and swiftly along, with almost a minimum of exertion, is to this class of cyclists keen enjoyment. They know little and care less for "Class A" or "B," for the constant wrangles of professional bicyclists, and the jealousies of manufacturers. They enjoy the sport for the health which it brings, and for the opportunity which it affords for seeing the land alone or in congenial company, and in an easy way.

It is as yet too early to predict the future of cycling from the social standpoint. Every indication thus far points to its growing popularity, and that we have not as yet reached the crest of the wave in the sport's development. There are those who argue that society women, with their many other distractions, will soon tire of the wheel and even the slight exertion it requires, and that at least they will not keep at riding sufficiently long to acquire that hardness of muscle and endurance necessary to enjoy outdoor riding to its full extent. The justice of this argument remains to be proved, but certainly present sales of wheels to society women, and the crowded state of the riding-schools, would disprove it. The average man's need of exercise—and especially when possible, outdoor exercise—leaves little room to doubt of the lasting popularity of the wheel with the sterner sex.

A DOCTOR'S VIEW OF BICYCLING

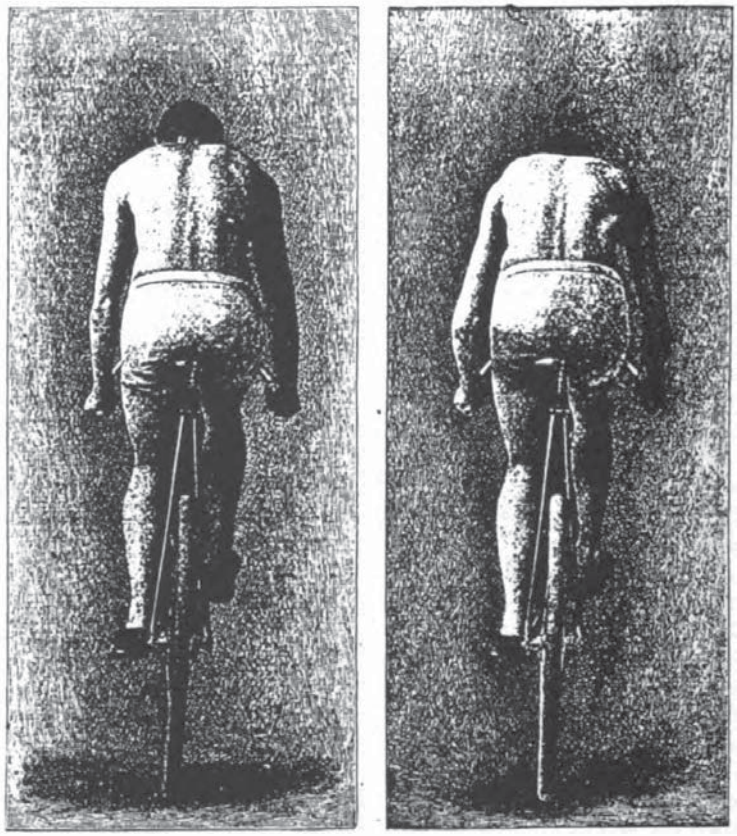
By J. West Roosevelt, M.D.

When a person whose muscular system is not already well developed by other exercise begins riding the bicycle, he will probably be surprised to find (unless the various bruises incidental to his first attempts are painful enough to mask all other aches) that the stiffness and soreness due to the unaccustomed work are not confined to the legs, or even the region of the hips. Probably he has more discomfort in the thighs than anywhere else; but he soon learns that it is well to avoid too sudden movements of the whole body, for they cause not a little pain in various unexpected parts of the trunk, and especially in the loins and between the shoulder-blades. He discovers also that a number of muscles in his arms and shoulders and

A "Scorcher"—Wrong Position.

At the Michaux Club, New York.

chest are more or less stiff and sore. In this painful way is it demonstrated to him that cycling should not be regarded as an exercise of the legs alone. Observations by experts show that it is not only the legs which are developed by wheeling. In previously sedentary persons a considerable increase in the circumference of the chest takes place, the increase often amounting to one or two, and sometimes even three, inches. The arms and forearms also grow firmer, and it is said that in them also quite a marked increase in size has been seen. The muscular system everywhere in the body also improves in tone.



Back Views of Zimmerman.

At rest. In action.*

It is easy to see why cycling increases the strength of the legs. It is also easy to see why the chest measurement should be increased as a result of the deeper and more rapid breathing. Not only do the respiratory muscles become stronger and larger, but also the joints and cartilages of the ribs move more easily and more freely, because they have been made more limber by use. I do not know of any investigations which may have been made to determine whether or not there is any increased mobility of chest (*i.e.*, extent of expansion and contraction), as a result of bicycle exercise; but it is almost certain that such studies would demonstrate its existence.

The muscles which we have been considering are all directly "exercised," as the word is usually understood, since they all contract and relax more frequently and more forcibly than when a person is either at rest or doing very little work. I have said that the power of muscles not directly (or rather not visibly) employed is also increased. There are two reasons for this. One is that exercise, if not excessive (and especially exercise which is pleasurable and which is taken in the open air), almost always makes the appetite greater, the digestion completer, the heart stronger, and the circulation better; there is a generally improved tone in every organ of the body, simply because all are better and more abundantly fed, including the muscles, both those which are actively used and those which are not. The second reason for the increase of power and size of many muscles which are not connected with the lower extremity, and which the superficial observer would think were not called into play in bicycling, is that they really are in active use, although they appear to be at rest. For example, a large number are concerned in maintaining the equilibrium, so that the wheel does not fall sideways. This requires at times only a perfect balance of the forces of opposing muscles, and at others enough contraction of some of them to shift the weight by inclining the body to one side or the other. Others fix the lower portion of the spine and hip-bones so as to enable the great thigh-muscles to work effectively. In the arms and forearms very delicate adjustment is required in steering, and when hill-climbing or increased speed demand it, a great deal of force is expended by the arms in the firm grip

* The pressure upon the right pedal, accompanied by strong contraction of the muscles of the right side, is especially well marked near the shoulder.

and strong upward pull on the handles which counteracts the strong downward push on the pedals.

There is one muscular structure which bicycling, like every form of physical exertion, compels to do extra work—the heart—and upon its integrity depend not only health and physical vigor, but also life itself. It has often been asserted that wheeling is apt to injure the heart. Is this so? I can only say that, theoretically, it is impossible for such harm to result in sound people, save from attempts to attain a high rate of speed, or from prolonged and fatiguing rides, or from climbing hills which are either very steep or very long; and practically I have been unable to find authentic records of any case in which heart disease has been caused by the use of the wheel in a sensible and moderate way. It may be added that the existence of organic heart disease does not, in the opinion of a number of physicians of great ability, always debar cycling. Indeed, the wheel is actually recommended by some as a valuable aid in the treatment of certain affections of this organ. There is a striking resemblance between bicycling and walking, so far as their effects on the heart are concerned: either may be healthful or harmful. Excessive exertion in either is dangerous, and moderate exertion is beneficial. That cycling is *more apt* to do harm than walking, can hardly be denied: there is much more temptation to ride than to walk too fast on the level; and the hill climbing on the machine, even at a moderate speed, is far more of a strain than walking up the same hill at a speed proportionately moderate, and very few people seem to have sense enough to get off and walk when going up hills. It is safe to assert that for a person capable of acting with common sense no harm will come from either, and certainly no more from one than from the other. If either in wheeling or walking shortness of breath is felt, one knows that an unwonted strain has been thrown upon the heart and lungs—and the intensity and duration of the breathlessness fairly measure the degree of strain. It is safe to assume that if neither shortness of breath nor palpitation of the heart be felt, the strain is not excessive. A physician who has given much thought to the subject says that, so long as the cyclist can *breathe with the mouth shut*, he is certainly perfectly safe so far as heart-strain is concerned.

At Rest—Muscles of Arm, Body, and Neck Relaxed.

In Action — Muscles of Neck, Shoulder, Arm, and Upper Parts of the Body Contracted.

It has often been asserted that cycling is injurious to women. There is a little truth in the assertion. Paraphrasing one of Lincoln's sentences, I would modify it and say that cycling is harmful to *some* women *all* of the time; to *all* women *some* of the time; but not to *all* women *all* of the time. There is no reason to think that a healthy woman can be injured by using the wheel,

A Side View of A. A. Zimmerman in Racing Position on a Wheel of His Own Design.

provided she does not over-exert herself by riding too long a time, or too fast, or up too steep hills; and provided she does not ride when common sense and physiology alike forbid any needless exertion; and provided also she does not get the bad habit of stooping over the handle bar; and there *is* reason, not merely to *think*, but to *know*, that many women are greatly benefited by the exercise. There are certain anatomical and physiological peculiarities which make it far more dangerous for a woman than for a man to undergo excessive physical strain; but if she be careful to avoid strain, cycling is both beneficial and safe for any woman who is free from organic disease.

The same may be said of men and children and adolescents of either sex. If no organic disease exists, bicycling in moderation tends to increase strength and improve health, except in persons who find by practical trial that every ride, no matter how short and easy, is followed by a feeling of exhaustion. I do not mean merely a rather comfortable sense of fatigue; I mean a weariness which is painful. Human beings are not all built alike, and there are some people who, although they seem to be in good health and to possess not a little physical strength, ought not to ride the wheel, simply because, for some unknown reason, they are not able to ride without injuring themselves. There

is some peculiarity about their body machinery which forbids its use in this particular way.

There is one bad habit into which many wheelmen have fallen (or perhaps one ought to say "slouched"), which calls for sharp condemnation, for reasons partly medical and partly æsthetic. There is absolutely no reason for stooping over the handles in either of the two ways so commonly seen—and there is no excuse for so doing—in ordinary road riding. It may be necessary for the "scorcher," when engaged in "scorching," to assume the one or the other of these attitudes—to sprawl with the body straight but almost horizontal, and the head close to the handle bar, or to bend the upper part of the back as if trying to break it in its middle, and throw the shoulders forward as if desiring to make them meet across his breast. Even so—one who is not "scorching" does not need to make himself a hideous object to look at, and also to reduce the benefits of wheeling to a minimum, so far as its effect on the chest capacity is concerned.

When high speed is attempted the body must be bent forward and the handles must be low. The stooping posture reduces the surface exposed to the resisting air, and also makes possible the effective use of many more muscles than can be used when the cyclist sits erect, as do those on pages 707 and 708. The picture on page 712 is from a photograph of A. A. Zimmerman. It shows that wonderful rider in the position assumed by him when making his record-breaking speed. There is something singularly graceful about the curve of the spinal column, and the position of the arms and shoulders. It is the grace which comes from evident power. On page 708 is depicted a "scorcher" of the ordinary type. He is simply a hideous caricature of the real athlete — a man who does not know how to use his muscles, engaged in a futile effort to look as if he does.