

Cycling and its' Significance

Cycling can be said to be one of mankind's most important innovations from the time we have inhabited this planet. Since its introduction human society has undergone much sociological and technological advancement, simply put this has had quite a modernizing effect on us. Now the question would arise as to why or how this would have happened, but the fact of the matter is that this was quite simply one of the first inventions to use man's own strength to travel more effortlessly. Compared to the horse driven carriages or the simple act of walking, this paved the way for further technological advancements leading up to the automobile and aero plane. Another important development that came with this innovation was that; manufacturing and marketing techniques introduced by the bicycle industry were massive steps toward current modern industrial practices. This had a remarkable effect on the social functionality as well, by making individual travel accessible to many people for the first time; bicycles changed the speed at which life flowed in much of Industrial Worlds. Bicycles granted a measure of personal freedom of mobility to many for the first time, and subsequently their effect on the women's rights movement of the time was noteworthy. Bicycles were used in war, by police, and by the postal service, among others. In countless walks of life, the accessibility of personal travel offered by bicycles had an incredible impact on society.

According to noted historians, the formation of the bicycle goes like this: in the late 18th century and early 19th century, a two-wheeled vehicle with a wooden frame and a saddle, known as the celeripede ("fast feet") was developed in France. The celeripede had a fixed cross-bar and no pedals, meaning that it could not be steered very well and it was moved by running along the ground while straddling the saddle. Needless to say, it never became popular being nothing more than a passing entertainment.

Around the same time in Germany, Baron Karl von Drais de Savebrun developed a similar machine, with the difference that his had handle-bars which allowed for limited steering. This vehicle, which became known as the draisine, was briefly popular among the rich, but was incredibly heavy, unwieldy and dangerous, and was never widely used. Drais de Savebrun was aware however, of some of the distinguishing aspects of the draisine that hinted at the future possibilities of bicycles: "when roads are dry and firm it runs on a plain at the rate of 8 to 9 miles an hour which is equal to a horse's gallop... and on descent it equals a horse at full speed."

Simply put this innovation could begin to challenge the hold horse carriages had in terms of transport. The next major development came with the acquisition of pedals. In 1855, the first bicycle with pedals the velocipede, was invented and became briefly popular to a greater reach of people having even reached the United States. Because of the ride provided by its iron tires and wooden frame, the velocipede became known as “the Boneshaker”. The excitement around the velocipede died off within a few years however, as it proved to be difficult to ride, expensive, and dangerous.

During the second half of the 19th century, most of the major improvements were made that allowed for the invention of modern bicycles. An iron frame rather than a wooden one, rubber tires (solid rubber, however), rubber-coated pedals and steel rims were all developed during this time. Although these new bicycles known as “Ordinaries”, had one wheel much larger than the other, had the problem of being difficult to mount and dismount, had no brakes, and were expensive; however they became much more popular than any of the previous ancestral bicycles. They were promoted on the basis that they provided exercise to the riders, and that they had the potential to make humanity more efficient. Quite surprising how these sales pitch can be seen to have had its echoes in the times to come.

As they increased in popularity, the use of bicycles at this time was at odds with the most widely used form of city transport: horses. Horses were frightened by bicycles, and cycling posed an economic threat to horse-drawn transport. As a result, a first attempt at hand-signaling was invented by Charles Pratt in 1883. In the US there was much public debate and many law-suits in regards to the rights of cyclists, and in 1880 the League of American Wheelmen was organized as a coalition to lobby for legislation thought to be beneficial to riders. This level of public debate stands as evidence to the dominance of bicycles at this time.

The “bicycle-craze” did not truly begin, however, until the 1890s with the introduction of the “Safety Bicycle”. The Safety Bicycle had wheels of equal size, pedals mounted on an endless chain, inflatable rubber tires (which reduced bumps) and lighter steel parts. They were instantly popular. The incredible popularity of bicycles at this time had an immense effect on their manufacturing. Noted historians claim that it was the bicycle industry that was the true blueprint for the automobile industry that soon followed. In large factories, the labor was subdivided and the bicycles assembled on assembly lines. The marketing of the bicycles was also a radical development. For one thing, the big manufacturers instituted nation-wide set prices for their bicycles, so that a person would pay the

same price no matter where he or she purchased his or her bicycle. In addition, bicycle manufacturers were some of the first to introduce “planned obsolescence”; they would introduce new models each year in order to promote constant upgrading. This became standard practice for automobile manufacturers in the following decades. It should not be forgotten that it was this same advancement of this technology that allowed men like Henry Ford and the Wright brothers to come up with newer innovations which changed social life forever.

They were adapted for use in many professions and many walks of life. Two bicycles strapped together with a stretcher in-between were used as an ambulance in some areas, though this never really caught on. Many postal services introduced bicycles for their deliverers as they recognized their many advantages over horses and travel on foot. Bicycle-police officers in many cities were instituted in many cities. The country-areas surrounding cities were supported by the increasingly frequent weekend trips made out of the cities. The cyclists would stop at farms along the road for food and drinks. Bicycle theft promoted an increase in lock and insurance sales. New clothes were invented for cyclists (including bloomers for women in the US). Such was the influence and prevalence of this invention that a leading American newspaper of the time, the Detroit Tribune had written in 1986, "It would not be at all strange if history came to the conclusion that the perfection of the bicycle was the greatest incident in the nineteenth century."

One of the most important areas of society that was affected by bicycles was that of gender equality. Although many considered cycling to be too crude for females, manufacturers quickly recognized the potential of advertising to women. The increased independence offered by cycling was embraced by the growing feminist movement. Prominent Civil Rights Activist Susan B. Anthony had this to say regarding the importance of the bicycle:

“I think it has done a great deal to emancipate women. I stand and rejoice every time I see a woman ride by on a wheel. It gives her a feeling of freedom, self-reliance and independence...The bicycle also teaches practical dress reform, gives women fresh air and exercise and helps to make them equal with men in work and pleasure...What is better yet, the bicycle preaches the necessity for woman suffrage. When bicyclists want a bit of special legislation...the women are likely to be made to see that their petitions would be more respected by the law-makers if they had votes...”

This quote helps to demonstrate the extent to which bicycles were seen by many as revolutionary devices.

In 1894, bloomers were introduced as the women's cycling fashion for the year. Bloomers, which resemble a pair of pants that is quite loose at the knee and tight around the ankles, were a drastic departure from the common dress of women at the time. It was not long before women began to question why it was not appropriate to wear bloomers when not cycling. Heated debates and controversy surrounded the appropriateness of women wearing pants, and for a time they were a common subject of argument throughout the women's movement. Although the popularity of bloomers declined, some permanent "rational" changes in women's dress were made, including the shortening of dresses and the decline of the corset which could be described as an attire "that had gripped generations of Western women with fingers of wire and bone".

Bicycles were also quickly adapted for use in war. War correspondents of the time had this to write regarding the use of bicycles in controlling a riot in Cuba after the Spanish War of 1898: "They were laughed at and scorned but the amusement quickly died away when they proved effective". Although the bicycle never replaced the horse's position in the military, many advantages were offered by bicycles in terms of speed, maneuverability and stealth. Perhaps this can be most apparent in famous literature where in "A Farewell to Arms", Hemingway describes the terror of seeing German soldiers bicycle past during World War I.

Perhaps because the bicycle is seen in our current society as an environmentally-friendly and low-impact alternative to automobiles, it is difficult to imagine the drastic effects that bicycles had on society when they were first introduced. They allowed for a new kind of personal mobility in cities and in countries that had never been experienced before. This alone must have affected the way that people conceived of travel and of distance, making the world as we know it truly "a small world". What before which had been a day's journey on foot or an expensive carriage ride' was now an easily reached journey for a person with a bicycle. Increased travel must have sped life up considerably for many, making things possible at faster rates than before.

Bicycles were seen as a "leveling" factory in society. In 1896, Scientific American wrote: "It is the great leveler, for not 'til all Americans got on bicycles was the great American principle of every man is just as good as any other man...fully realized". The increased availability of travel enfranchised many people, including

women, in an immense way. In addition, the popularity of the bicycle caused a massive change in both manufacturing and marketing in America one of the first instances of the current capitalist systems to come to play. Bicycles represented a great increase in the speed of life and in the travel options of individuals. Perhaps it is because of their current position in our society as an alternative mode of travel that it is often difficult to imagine what a difference they made on modern life.

However for a clearer picture if we continue pursuing the story of bicycles in this last century it can be seen as a rollercoaster ride of highs and lows. While little has changed in the basic design of the bicycle, slight advancements have steadily improved bike efficiency. Increasingly, bicycles have become sturdier, as well as more lightweight and aerodynamic.

In the 1930s and 1940s, while the Great Depression and World War II's gas rationing kept car ownership expensive, bicycles experienced a new boom. Sales reached levels comparable to those in the 1890s. With their silver fenders, chain guards, headlights, horns, and balloon tires, designers clearly attempted to make bicycles look as much like motorcycles as possible. The popular roadsters of the day were dubbed "moto-bikes", which was ultimately the next step for this innovation.

The economic prosperity of the late 1940s and 1950s meant another low for bike sales, although they remained popular with kids. But a second twentieth-century bicycle boom came in the late 1960s and lasted through the 1970s, when the back-to-nature movement collided with an energy crisis to revive interest in environmentally friendly human-powered vehicles. Along with traditional bicycles; recumbent bikes (on which the rider reclines) and human-powered cars received lots of attention, if not widespread use. As these developments combined with the fitness craze of the 1970s, bicycle sales reached record levels. Here attention should be given to a current day important terminology; Active Transport. Though this was not known at the time these associations with the bicycle made us realize the significance of human powered transportation as compared to machines dependent on engines. Important questions began to be raised as to the cost of this newfound efficiency of "engines" compared to the impact this had on our environment and lifestyle.

Recent decades have brought the rise of two new bicycle models. The thin-framed ten-speed bike, which had been introduced in the late 1950s, became the most common road bike of the day. As the 1980s approached, groups of designers in

California and Colorado created a bicycle to better handle rugged off-road riding. By combining the durability of the balloon-tire roadster with lightweight racing components and design, the makers invented a new kind of bike. By the end of the 1980s, the bike's strength and versatility would make it the most popular choice for riders both on the road and off. The age of the mountain bike had arrived.

With the continuing dominance of the mountain bike, the 1990s has also seen the rise of hybrid bikes that combine the sturdiness of the mountain bike with the practicality of the road bike. Even more recently, bicycle engineers have again taken a cue from auto makers and designed the world's first automatic transmission bike. But these bikes, which forfeit the ease and control offered by manual gears, are unlikely to cause major waves in the biking industry. More likely, bicycles will continue to make slight improvements in design and materials, but will probably remain similar to the brilliantly simple creation perfected over one hundred years ago. With bicycles still the most efficient human-powered vehicle in existence, the question should be raised can we really ignore or more likely forget the socio-environmental effects.

The above segment briefly covered the history of the bicycle focusing on Western nations such as France, Germany, England, and the United States. The story of bicycling however is very different when told from a non-Western perspective. While bicycles developed more slowly in other parts of the world, they currently rank as the dominant form of individual transportation for the billions of people on the continents of Asia and Africa.

Like many Western inventions, the bicycle, made its way around the world during the era of colonialism. As England, France, Holland, Spain, Germany, and later the United States, carved up the world into their own empires, each conquering power brought with them customs and tools from home. As early as the 1860s, bikes had been introduced on all continents. Nonetheless for the most part they stayed in the hands of foreign colonialists, away from native people. With the exception of royalty, bicycles were either too scarce or too expensive to have much impact on the lives of people in colonized lands.

In the years to come as automobiles became the vehicle of choice for Europeans and Americans, this had the effect of making the bicycle more affordable and more common around the world. By the middle of the twentieth century, as countries began to assert their independence from colonial powers, bicycles became firmly rooted as the major mode of transportation.

Today, the relative poverty in many of these countries, particularly in eastern Asia, makes bicycles more common than cars. While few people in the world can afford to buy a car, most have the money for a bicycle. Not surprisingly, there are more than sixty bicycles for every car in China. Cars outnumber bicycles three-to-two in the United States. Even in well-developed Eastern countries like Japan, the tremendous traffic jams caused by overcrowding make riding a bicycle more practical than driving a car.

Most of the one billion bicycles in the world today are found in countries such as China and India, where they're used for individual transportation, commercial transit (as pedi-cabs or rickshaws), and even to transport cargo. In small villages around the world, bicycles are often the only vehicle available. While the automotive age long ago swept the United States and other Western countries, as far as most of the world is concerned, the age of the bicycle continues.

At this juncture an interesting contrast should be brought to light which is the difference in the “image” of cycling between these two “worlds”. The context of cycling in Asia and Africa could be said to be similar to that of the early days of its inception where it is viewed on aspects of functionality and socio-economic paradigms. Whereas given the time period it has experienced in the “developed” countries the phenomena of cycling is seen as something that has become its own unique standpoint or cultural milieu. Simply put in these places the emergence of phenomena such as “Professional Cyclists” and “Cycling Clubs” has encouraged it to be a unique identity and social norm of its own, where people live quite easily in the “world of cycling”.

To better understand this let us look at the lives of those we call professional cyclists. Professional cyclists compete in races such as the Giro d'Italia, the Tour de France, and other events across the globe to see which cyclist and which team can make the fastest time. Though professional cyclists train extremely hard, like all other professional sports, the financial rewards are much lower than the others. Even so, sponsorship is an important part of becoming a professional cyclist as the amount of cash available will determine the quality of equipment, coaching, and medical care you will have. Training and experience are the foundation of any sport, and for a professional cyclist, this means making lots of miles on the road. On average, these individuals train at least two hours a day for six days a week covering as much distance as they can to become a professional cyclist. Like other sports as well there is a strict discipline that they follow where they keep pushing themselves where even if the weather is too cold to cycle outside, they would train

on a stationary bike in at a gym or at home. They keep working on themselves to improve where they have even identified specific training requirements such as doing strength-training workout a couple of times a week to build their muscles, specifically the leg and core muscles. Similarly in the Western cities there are quite a few cycling clubs as well where interested individuals gather and help each other, professional cyclists often gather at these clubs to participate in weekly trainings. As such people with experience and a love for this activity can be found at these places who help others in pursuing this activity. Sometimes good coaches can be found through these cycling clubs, who help younger members break their own time records, build endurance, speed, and ultimately improve their own technique when racing against others. An experienced coach can also give important advice about the best nutrition for endurance sports and advice on the best equipment. In this way professional cyclists begin to perform at races first at their local areas to keep improving themselves. This has advanced in a similar way to other sports such as boxing or tennis for that instance in that these individuals scientifically keep analyzing each race they perform and they can do to improve in terms of techniques, equipment and physical stamina. Similarly like other group sports cycling also has events where teams with the best understanding of each other, dominate the race course.

During the off-season, pros take anywhere from 1-4 weeks off the bike, this is as much mental as it is physical. During the break, they usually do some type of exercise. Mountain biking, running, hiking and cross-country skiing are some of the cross-training activities preferred by cyclists, which they may continue for a period when they return to more structured training.

To fuel training and racing of 100 or more miles per day as is the case in the Amgen Tour of California requires wholesome, healthful foods and a disciplined diet. Pros typically consume an abundance of fresh fruits and vegetables, plenty of carbohydrates from pasta, rice and potatoes, and protein to foster muscle growth, repair and recovery. “When I’m doing long rides or if I’m in the middle of a hard block of training, I eat more carbohydrates. When I’m going easy, I eat less,” explained George Hincapie, former USPRO Road Race Champion and Olympian who now races for High Road Sports and was Lance Armstrong’s loyal teammate for all seven of his Tour de France victories. “I don’t eat junk or bad fats. Thankfully my wife (Melanie) is a great cook and she prepares my meals when I’m home. I don’t really drink hard alcohol, but I do have a glass of wine almost daily with dinner.”

Three-time USPRO Time Trial Champion David Zabriskie of Team Slipstream, the only American to have won a stage in all three of the Grand Tours – Tour de France, Giro d'Italia and Vuelta a Espana – concurred saying, “My wife prepares organic and healthy foods when I’m home. I wouldn’t eat a piece of chocolate cake if it was offered to me, but being on the road traveling, well let’s just say it’s harder to resist the desire for that beast known as fast foods.”

Professional cyclists need to eat and drink on the bike to maintain proper hydration as well as keep their energy sources up. During training, riders consume energy bars that are rich in carbohydrates and contain protein. They also down packets of energy gels that provide a quick jolt of carbs and calories. Some will indulge in fig bars or slices of carrot or banana cake. Athletes that compete in multi-day races know that what they eat today fuels their race tomorrow. There is more than just water in their bottles. Pros drink electrolyte beverages and sometimes even a caffeinated soft drink. During races, the soft drink provides a boost for the final hour of racing. In the feedbags you see handed off to the riders during long races are energy bars, gels, fig bars, small pastries, and easy to eat sandwiches.

Pros typically burn up to 5,000 calories during a race such as with the Amgen Tour of California (the average diet consists of 2,000-3,000 calories per day) so not only is replenishing their resources vital, but you’d imagine they can eat whatever they want and never worry about it. However, riders have been known to become obsessive about their weight with some developing eating disorders. Many weigh their food to aid in portion control. Pros may weigh themselves after a stage to know how much food and fluids they need to consume to get back to their racing weight. During the off-season, riders may weigh 3-10 pounds more than their racing weight and most don’t fret about it because they know they’ll trim down when they add intensity to their training regimen.

Pros may consult with a doctor or a nutritionist to carefully map a course of vitamins and nutritional supplements making sure the items fall within the rigid guidelines of permitted substances. Hard training or racing days are followed by recovery rides: short, easy rides that enable the body to recover from the previous day’s effort by getting the legs spinning and the blood flowing. After training and races, riders usually down a recovery drink of carbohydrates and protein followed by a complete meal to stimulate recovery. During races, the teams provide a massage therapist to help the rider work the lactic acid out of the legs and alleviate the aches and pains earned as badges of honor from the day’s efforts. When at home, pros usually do self-massage or may use a foam roller or another massage

aid. Riders may elevate their legs to let the toxins and lactate drain. There's an old cycling adage that many pros follow: "Don't walk if you can stand. Don't stand if you can sit. Don't sit if you can lay down."

With races that begin in mid-January and finish in mid-October, cycling has perhaps the longest and arguably the most grueling season of any professional sport. With such a long season, professional endurance athletes must carefully pace themselves and give their bodies and minds the rest they need in order to maintain sharp physical and mental fitness, focus and motivation.

As can be seen cycling becomes a test of will for these individuals who keep pushing themselves. Perhaps it can be best said with the words borrowed from former Pro cyclist Michael Barry, "Cycling is the people's sport, free to watch from a doorstep or on a mountainside. It is a beautiful and intriguing to see. It can be liberating, healthy, sustainable and fun. It is an activity many governments around the world promote to improve their citizens' health and to decrease road congestion. Pro cycling helps encourage people to ride to work, to pedal away in the gym or to tour the countryside. It is a sport that belongs to us all."

Unfortunately the significance which this activity has in relation with our human society has yet to be fully realized, but if just once they can see what a simple cycle ride can mean other than it being just another tool to transport or for that matter just to get to one point to the other, it would be able to show an example of how the human race has progressed till this stage in life and what we can accomplish if we put our mind to it.

To this extent it becomes imperative to promote this activity to the greater populations that are only present in Asia. That is not to say that there is not at all a concept of pro cycling in these places but with very little, and this too mostly due to foreign intervention. This needs to change. In this present day of global connectivity and outreach only by embracing such activities can there still be scope for a holistic development of human society as a whole. After all cycling becomes unique from other sporting activities due to its' own unique history. It was fundamental in changing our perception of distance and what we can achieve to do in a single day. To also becomes so much more of a symbol for freedom due to possibilities of movement it presents to an individual regardless of gender or creed and unlike its' future predecessors it is one of the inventions which does not have a backlash on our way of life and the world we live in. In this way it should be

realized how significant cycling has been to the human race as a symbol and as a tool for self empowerment.

In the Pro cycling circuit there are many different types of challenges such as time trials, road races, endurance or a combination of the three. Most of the notable events are mostly road races or time trials. Here however this event would be an endurance challenge. Endurance is the ability to strive and remain active for a long period of time. It can be challenging in a physical, mental manner, or both, depending on the person. In order to have endurance one must be physically fit. For instance, when going on arduous bike rides, sometimes towards the end of the ride beginning to feel mentally fatigued is quite normal, but physically these individuals still have the power to pedal the rest of the way. This doesn't just happen to particular people, it happens to all the individuals that ride professionally. They just have to keep level-headed and push the feeling of exhaustion. This event therefore is quite simply an amazing test of mental and physical courage. To be associated with such an event would greatly add to the name image of any corporation willing to sponsor it. In the end the symbol of the cycle is intuitively known to everyone as having many underlying connotations for the betterment of human society. This symbol with the test of the human spirit will no doubt give a strong public message. A message that cannot be ignored, after all it is that of the enduring human spirit!