



DESIGN BEHIND THE BIKE

HISTORY

INTRODUCTION VO.

The history of the bicycle from its origins to the bike as we now know it can be traced back to the 1800s. The impact of this machine on worldwide society is without doubt and this impact continues to grow.

1 - THE HISTORICAL TIMELINE OF INVENTION

PHIL LIGGETT, COMMENTATOR

Well the design of the bike seemed fairly straightforward and simple over a hundred years ago. I mean even the hobby horse that had no pedals you just jumped on and used your own feet to get along, you still had the basic diamond shape frame.

SCOTFORD LAWRENCE, NATIONAL CYCLE MUSEUM

It was not until the 1860's that someone had the idea of the most simple thing which was to put a set of pedals on the front wheel. The first commercial producer of such machines was the Michel Family in Paris and they started to produce machines in numbers and these were designated and called the Velocipede. They were steel wooden wheels made like cartwheels but much, much finer, they had an iron, forged iron frame, suspended saddle, front wheel steering and eventually the design settled about 1890 into the conventional machine that we recognise today.

GEOFF GIDDINGS, RALEIGH UK MARKETING DIRECTOR

Back in 1887 Sir Frank Bowden, who was our founder, bought a small bicycle company on Raleigh Street in Nottingham, he manufactured most of the components that were on the bike so from the chain wheel, the wheel, the frame, the forks. It's one of the oldest bike companies in the world. A bike would have been quite simple then, there would have probably been a single gear on the bicycle, it would be a bit more like a traditional classical roadster type bicycle that you still see sold today.

2 - HISTORY OF BIKES & THE TOUR DE FRANCE

V.O.

In the late 19th century, there was enormous growth in the cycling industry. The conventional bike as we know it gave freedom to its riders and the bike as mode of transport filtered down through society. It would not be long before the competition element took hold. Hobbyhorse dandies were known to race each other and formal races on velocipedes began in the 1860s.

Racing grew in popularity in the late 19th and early 20th centuries when the safety bicycle, with a steerable front wheel and a chain drive to the rear wheel, replaced the high wheeler. Time trialing became the English amateur race of choice and remained so until the 1970s.

SCOTFORD LAWRENCE, NATIONAL CYCLE MUSEUM

Racing became part of the history of the bicycle, tracks were built, events were organized, riders became professional.

PHIL LIGGETT, COMMENTATOR

Tour de France is the biggest sporting event in the world on an annual basis second to none, there is nothing that comes close to the Tour de France, it gets the television exposure, it gets the viewers on the ground, the spectators, but in the world of cycling it's the pinnacle.

SCOTFORD LAWRENCE, NATIONAL CYCLE MUSEUM

The race was designed to be grueling and it was ridden on lightweight but very standard machines without gearing, with very little help on the road for the rider. In 1936 the organisers of the Tour de France threw in the sponge and gears could and would be used by anyone after that date.

V.O.

At the same time cycle manufacturers started to look at new technology, Reynolds Tubing were at the cutting edge.

KEITH NORONHA, REYNOLDS

In 1935 it invented a high manganese alloy which is known as Reynolds 531 which actually became a classic of its time and in its time it was seen to reduce the weight of a frame by probably about 25% which would have been a massive change for any cyclist back then.

SCOTFORD LAWRENCE, NATIONAL CYCLE MUSEUM

Tubular steel, was a vital element in the bicycle and remains so up until the present day until you start looking at the more exotic materials used in competition machines.

KEITH NORONHA, REYNOLDS

A lot of Tour de France wins right from the 1940's, 1950's right up to the mid 90's, a number of wins at the Tour de France were on Reynolds 531 or 753 tubing.

PHIL LIGGETT, COMMENTATOR

The lighter materials of course they came during the more modern days of the Tour de France rather than the older days. First of all it was the 753 took over from the 531 tubes from Reynolds. Then you got Columbus tubing which

was a very light tubing, then you got titanium building into it, then they did the mix carbon fibre for the forks and then the metal for the frame.

BERNARD HINAULT, FIVE TIMES TOUR DE FRANCE WINNER

The first bike that I had was in 71, it probably weighed about 10 kilos.

When I was professional with the Reynolds 531 so it was already lighter we got it to about 9 kilos, we then moved to the 731 it was a lot lighter, a bit more flexible.

PHIL LIGGETT, COMMENTATOR

The other innovation really was the changing of the gears by pushing the levers across on your brakes instead of putting your hand down because a rider would see your hand go for the gear and he'd out jump you.

GEOFF GIDDINGS, RALEIGH UK MARKETING DIRECTOR

The two bikes that I would probably think were influential on bicycle design would be going back to the 1980's, Greg LeMond using carbon fibre frames and a rider called Miguel Indurain using a bicycle called the Pinarello Sword which was a very, very extreme aerodynamic bike.

PHIL LIGGETT, COMMENTATOR

I mean Indurain's Sword was a wonderful looking bike, I would never have been seen dead riding it but it won in the stages of the Tour de France. The saddle just went out into space and then the bike went down that way and then the wheel went somewhere underneath and the top tube was sloping down and it looked quite ridiculous but boy it was fully carbon fibre. These were extreme looking machines but very effective, he was winning everything he rode, he set the world hour record on the track model, he won all the Tour de France time trials on the road model.

GEOFF GIDDINGS, RALEIGH UK MARKETING DIRECTOR

The Tour de France is a fantastic testing ground and showground for new products.

ROGER HAMMOND, FORMER PROFESSIONAL CYCLIST

I think for the cycling industry it's their advert, it's where people produce or they run out their new prototypes or their new products, it's their show case really and you know it's their place to say look we're ahead of the game, this is what we bring out for next year, have a look at it now, you'll be able to buy it next year in January or February when you start riding.

3 - BIKES TODAY AND TOMORROW

V.O.

Today science, technology and significant investment push the boundaries of the bicycle industry. For competitive cycling, this must be done within the confines of the rules of the Union Cycliste Internationale, the UCI.

BEN SPURRIER, HEAD OF DESIGN, CONDOR

The governing body of cycling, the UCI has in place a stringent list of rules regarding bicycle design, frame design and also the products that are allowed within competition and those state very strictly what you can and can't do and so it's for that reason that the bicycles we see in the Tour de France look the way that they do, it's the reason that they still look roughly like conventional bikes from the 1920's.

VO

These more extreme aspects aside the bicycle is an increasingly accessible form of transport that will continue to have a growing social significance.

END STING