

THE GEO-SAMPLER

Way back during the festive—yet wintry—holiday season, we found ourselves yearning for the free-wheeling sunny days of traveling hither and yon with other neighborhood kids on our bikes. With wind in our hair and adventure in our hearts, bikes gave us our first taste of independence. Then, come late 2022, we were proudly buying, assembling, and gifting bikes for kids. More on that later. But it got us wondering: how did the bicycle come to be? And, well, since we've had our hands full in the lab since the beginning of the year, it's taken us this long to figure it out. If you like bikes, ride on. (Or at least, read on.)

LOOK MA, NO HANDS!

The German Baron Karl von Drais is widely known as the father of bicycles. Also an inventor (maybe "Baron" wasn't a full time job back then?), his creation hit the road in 1817. Known as the "swiftwalker," it had a wooden frame and featured wooden wheels with iron rims and leather-covered tires, but alas, no pedals. The Baron called it Laufmaschine (German for "running machine"), as riders propelled themselves by foot, leading to some seriously worn-out boots at the time.

The contraption gained traction in England and France where it took on other names including Hobby Horse, Dandy Horse and ultimately the term velocipede, which is still used to describe "a human-powered land vehicle with one or more wheels."

Lest you believe that the earliest days of bicycle invention were without controversy, we need to point out that it has been reported that Leonardo DaVinci (yeah, THAT Leonardo DaVinci, the ultimate renaissance man) or his student Gian Giacomo Caprotti (it's unclear which) sketched some bicycle-like transport devices during the 16th century. Whether real or fake—historians argue both sides—the ideas never made it to prototyping and so the horse remained the most reliable form of transport outside of human legs for the next 400 or so years.



But back to the Dandy Horse. It took nearly 40 years for a breakthrough that would lead to today's modern bike. Two French carriage makers had a revolutionary idea: pedals. Pierre Michaux and Pierre Lalleme (heretofore referred to as 'the two Pierres') devised a plan to attach pedals to the front wheel and install a seat

(sadly, there was no gel-based cushion at the time). Their first model, built in 1864, proved to be quite efficient and easy to produce. It took about four years to gather the funds for mass production. Quite a shame there wasn't such a thing as a "kickstand-starter" at the time,

as they could have shaved a few years off their timeline. Their initial design became known

as the "boneshaker" given the quality of 19th century driving surfaces and the two Pierres quickly began to improve their model by incorporating iron instead of wood, ball bearings and rubber tires.

Inexplicably, during the early heyday of bicycle production, the model with an oversized front wheel came into fashion. Created in 1869 by the Frenchmen Eugene Meyer and mass-produced by Englishman James Starley, the high-wheel bicycle set out to improve several aspects of its use (more comfortable than "boneshaker," higher speeds and lighter frame) but it

"Good moms let you lick the frosting beaters. Great moms turn them off first."



PUNISHMENT?

Why should you never fight a dinosaur?

You'll get jurasskicked.

I'm reading a book about anti-gravity.

It's impossible to put down!

Did you hear about the man who lost his left side?

He's all right now.

Cartoonist found dead at home.

Details are sketchy.

I went to buy some camouflage trousers the other day, but I couldn't find any.

I couldn't figure out how to buckle my seatbelt.

But then, it clicked.

A man died today when a pile of books fell on him.

He had only his shelf to blame.

I'm going to buy velcro for my shoes instead of laces.

Why knot?

To the guy who invented zero,

thanks for nothing.

The past, the present, and the future walk into a bar. It was tense!

Yesterday, I accidentally swallowed some food coloring. The doctor says I'm okay, but I feel like I've dyed a little inside.



added a few disadvantages (difficult downhill and uphill riding), not to mention an obvious limitation based on a rider's inseam.

Eureka!

Perhaps the most important moment in the history of the modern two-wheeler was the "safety bike," invented in 1885 by Englishman John Kemp Starley. It introduced a feature that would change bicycling (and wide-legged pants) forever: a chain. Known as "the Rover," this device would usher in the "Golden Age of Bicycles," as design and equipment became standardized across the world, satisfying all four basic aspects—safety, speed, comfort, and steering.

This Golden Age of Bicycles lasted from the early 1900s to the 1950s, as manufacturing costs were greatly reduced, the bike became a popular method of transportation and, of course, the coveted two-wheeler arrived on children's Christmas wish lists around the world.

The modern bicycle era has seen exponential growth, including lighter models, models used for racing, models used for mountains, models used for BMX, models used for commuting, models with batteries, and even models transporting models in various magazine, blogs and podcasts.



Still, regardless of the era or the model, there is something amazingly freeing about hopping on a bike and going for a spin. For children, biking is an early taste of independence. (Of course, also wearing a helmet for safety and staying on designated bike paths.) This is why it's become a holiday tradition here at the lab since 2019 to ensure that some local children experience the magic of receiving a bike on Christmas morning.

In 2022, our team donated more than 30 bikes to create joy for some local kids. Actually, if you look closely at this photo above, there was quite a bit of joy right here in the lab before we even loaded the bikes into the sleigh.

With full hearts, happy teamwork, and a life-changing gift for kids, it really makes you appreciate that pedals, seats, and chains made their way onto the velocipede.



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