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David Gordon Wilson, MIT professor and father of modern recumbent bicycles, dies at 91

By [Bryan Marquard](#) Globe Staff, May 7, 2019, 7:23 p.m.



Dr. David Gordon Wilson in 1983, on an Avatar 2000 recumbent bicycle that he codesigned. (RICHARD HOWARD)

David Gordon Wilson co- designed a recumbent bicycle that set a world speed record,

and he rode his own — somewhat less swiftly — through the streets of Cambridge for decades, until he was 90.

An engineering professor emeritus at MIT, he wrote the influential book “Bicycling Science” and he was a key figure in spurring resurgent interest in recumbent bikes. “I’m regarded as the father of modern recumbents,” he said in 1998. At times, though, he wished his bicycling fame didn’t overshadow his other accomplishments.

“It’s a bit of a pain that all I’m known for is the bike. I’m very keen on some of the other things I do,” he told the Globe in 1982.



David Gordon Wilson. (WENDY MAEDA/GLOBE STAFF/FILE 2014)

Dr. Wilson, who was 91 when he died Thursday of complications from a fall in his Winchester home, was a multi-faceted inventor who held more than 60 patents, and he had led a group that pushed for banning smoking in some public spaces about 45 years ago.

He also was decades ahead of some modern-day political proposals that aim to address climate change. During the OPEC oil embargo in the early 1970s, he proposed a “revenue-neutral” tax on fossil fuels — a precursor to the carbon tax plans that would

follow.

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His proposal would have recycled those tax proceeds back to consumers in an attempt to encourage them to use alternatives, such as solar and wind, and to invest in energy-saving measures, like more insulation for their homes. Dr. Wilson wrote op-eds and attempted to interest politicians, but his efforts fell short.

“I started calculating this fossil fuel tax, and I realized that with the amount we use in this country, there would obviously be a vast flow of money into the government where people would do silly things with it. That worried me,” he told the Globe in 2014. “So I began to search for ways that money could do more good, and it occurred to me that we could recycle the money, and it would have all kinds of other beneficial effects that I hadn’t thought of yet.”

He also applied that analytic approach to designing bicycles and to his decision to switch from a standard model to a recumbent — a move prompted in part by safety.

Upon moving to the United States from his native England decades ago, he noticed in

a bicycling newsletter “what seemed a disproportionate number of reports of people killed or seriously injured in accidents on regular bikes. Riders would go over the handlebars and land either on their head or back,” he told the Globe in 1998.

He noted that the recumbent design is closer to the ground, with riders sitting in something “rather like a lawn chair, and your feet are out in front.” With so short a distance to fall, riders are more likely to suffer scrapes than fractures, which he learned the two times he was struck by vehicles. “No bones broken,” he said, “but I was covered with blood.”

Dr. Wilson had served as president of the International Human Powered Vehicle Association, and days before his death he finished the fourth edition of “Bicycle Science,” which [one reviewer](#) called “the bible for bicycle and human-powered vehicle development.”

With Richard Forrestall, he designed the Avatar 2000 recumbent bicycle. [In 1982](#), an Australian rider used a modified version to set what was then the world’s bicycle land speed record.

The recumbent bicycle was Dr. Wilson’s commuting vehicle of choice to and from the Massachusetts Institute of Technology. “The first time I got on a recumbent, my whole body felt so relaxed that I started singing,” [he told](#) Forbes magazine in 2007. And all those hours on the road let him observe the sometimes antagonistic relationship between bicyclists and drivers of motor vehicles.

“About a thousand bicyclists are killed on US roads each year,” he told the Globe in 1986. “A significant proportion of these are undoubtedly homicides.”

A trained scientist, Dr. Wilson had an international reputation in mechanical engineering, a pursuit that dated back to his boyhood.

One of five siblings, David Gordon Wilson was born in the county of Warwickshire, England, on Feb. 11, 1928. His mother, Florence Ida Boulton, had emigrated from New Zealand. His father, William Wilson, was an electrical engineer.

While growing up, Dr. Wilson began tinkering with bicycles, and soon after entering the University of Birmingham he switched his focus from electrical to mechanical engineering. He finished his undergraduate degree there and received a mechanical engineering doctorate from Nott-ingham University in England.

His family said that as an undergraduate, Dr. Wilson essentially sang for his tuition money, earning his way by performing Gilbert and Sullivan works with the D'Oyly Carte Opera Company.

He initially worked for a British engineering company, before studying at MIT and Harvard University on a fellowship. At the end of the 1950s, he taught at a college in Nigeria before returning to Greater Boston as an executive at Northern Research and Engineering Corp.

Soon after joining MIT's faculty in 1966, he served on an advisory commission studying incentives to improve the Massachusetts Bay Transportation Authority.

"The idea of structuring incentives absolutely consumed me," he said in the 2014 interview.

Dr. Wilson subsequently was on a commission working on solid waste legislation. Along with crafting a proposed fossil-fuel tax, he formerly led GASP, the Group Against Smoking Pollution, and cofounded the state chapter of the national organization Action on Smoking and Health.

His first marriage, to Anne Sears, with whom he had two children — Erica, of South Carolina, and John — ended in divorce.

While leading an Appalachian Mountain Club hike, Dr. Wilson met Ellen Warner, a physical therapist. They married in 1988 and have a daughter, Susan, of Brighton.

Bicycles were part of family life, too. “Every day was a surprise,” Ellen said. “A Wilson vacation involved not only planning the destination, but getting there on the three-person triple tandem.”

She added that her husband “amused and entertained the neighborhood” with a display of solar cookers on their home’s front lawn. “One even burst into flames, bringing out the fire brigade and burning the entire garden.”

In addition to his wife and three children, Dr. Wilson leaves a granddaughter.

Family and friends will gather to celebrate his life at 10 a.m. May 17 at Parish of the Epiphany in Winchester.

Dr. Wilson’s biography on the Union of Concerned Scientists website [noted that](#) he “designed the centrifugal pump used in the world’s first artificial heart,” and that during his long career, he devoted considerable time to turbine engineering and research.

His love of recumbent bicycles remained a key part of his life, however, in health and in sickness. He even rode from his Winchester home to Mount Auburn Hospital in Cambridge and back for cardiac rehab in recent years.

Upon first switching to a recumbent model, “I thought that it would be a compromise. I thought there’d be a lot of disadvantages to pay for it,” he told the Globe in 1982, adding that “what amazed me was that I found the compromises were very few, and I had nothing but advantages left.”

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