The First Soda in Space: When NASA Got Caught Up in the Cola Wars

In the summer of 1985, NASA, the Reagan White House and seven talented astronauts were wrangled into an orbital battle over soft-drink supremacy.

Credit...Israel G. Vargas

By Joseph Dragovich

- July 29, 2025Updated 12:56 p.m. ET

In space travel, the firsts are often what matter most: the first woman in orbit and the first man to walk on the moon, or, less famously, the first time astronauts grabbed a wobbling satellite with their hands.

Yet in the 1980s, America's two biggest soft drink companies raced for another milestone: to serve the first fizzy drink in orbit.

One of the greatest excesses of the cola wars happened as NASA was transitioning from the prestige-driven program of the Apollo years toward our modern era of commercial spaceflight, which has dominated by companies willing to land a Nokia 4G/LTE communications system on the moon, or launch a mannequin-driven Tesla Roadster into deep space. To the Coca-Cola Company and PepsiCo, the commercially minded shuttle program was a perfect marketing opportunity.

Forty years on, a NASA astronaut remembers positive moments of the soft drink space race. "We did our job and it was kind of fun," said Loren Acton, a space shuttle payload specialist.

But others who faced the cola giants' rivalry were less charitable.

"Of all the things that were done on the shuttle, the one that caused the most aggravation was the goddamn cola war," said James M. Beggs, the NASA administrator in the early 80s. Mr. Beggs died in 2020, but was quoted in a 1986 interview by Joseph Trento, a reporter, in Mr. Trento's book "Prescription for Disaster: From the Glory of Apollo to the Betrayal of the Shuttle."

The cola companies earned Mr. Beggs's frustration. Coca-Cola and PepsiCo would take their space race to the upper levels of NASA, and all the way to the White House. Though spaceflight is difficult, the companies' earthbound rivalries proved even more difficult to overcome.

The astronaut Tony England trying a sip of Coca-Cola aboard the Space Shuttle Challenger.Credit...NASA

Mission specialist Karl G. Henize tried a Pepsi.Credit...NASA

When the Cola Wars Got Political

NASA in the 1980s was on the cutting edge of technology, and was working with major private companies to launch their satellites and conduct space-based research using the space shuttle fleet. But when it came to what it fed its astronauts in orbit, the agency had work to do.

Food on the shuttle had progressed past the cubes and tubes of early spaceflight, but still relied on freeze-dried and thermostabilized foods to feed astronauts on long missions.

“NASA was trying to make the food situation on the shuttle a little bit more what they would have called normal,” said Tony England, a NASA astronaut who served as a mission specialist.

Beverages were a particular concern. NASA wanted astronauts to drink more fluids while in space and the shuttle’s lack of refrigeration made beverages less appealing.

That made the agency receptive when Coca-Cola proposed testing zero-gravity carbonated beverages as a possible way to improve drinks on the shuttle, decades before astronauts could have espresso in orbit, or drink it out of a special aroma-preserving cup.

“When the Coca-Cola people approached NASA, they were willing to say ‘Yes, we’ll try one,’” said Dr. England, who became involved in the cola project.

The soft drink giant had its own motives.

In 1984, Coca-Cola was riding high on the rollout of Diet Coke. But it was morning again in America, and the Atlanta-based company was rebuilding the influence it had lost with the White House when Ronald Reagan sent Jimmy Carter home to Georgia. The cola test with NASA was one of the company’s Reagan-era charm offensives.

The company declined to comment about the episode.

In June 1984, Brian Dyson, the Coca-Cola North America president, said in a speech that the company was negotiating with NASA to install vending machines on “future space stations and shuttles,” according to United Press International.

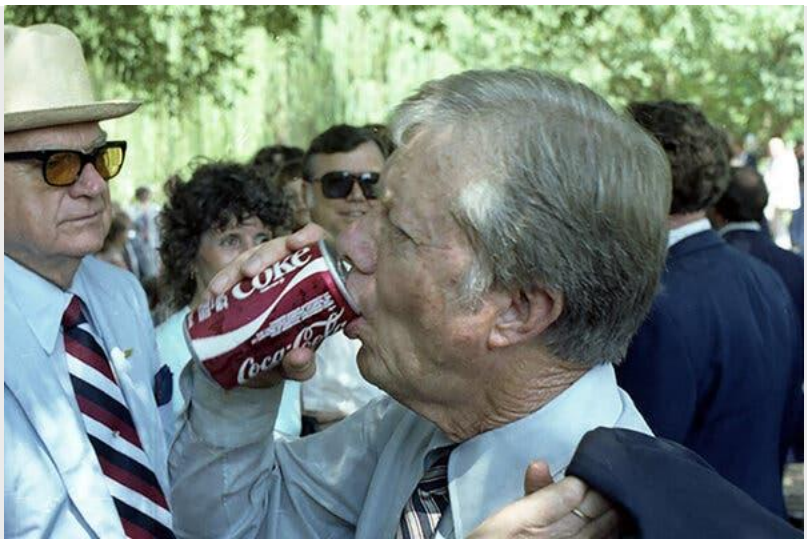
Mr. Dyson had unknowingly created a problem for Coca-Cola. The company’s proposal to the space agency was a research project that fell outside federal bidding rules. But his remarks had left the impression of a commercial relationship with NASA. That quickly got the attention of PepsiCo (which declined to comment for this article).

Max Friedersdorf, PepsiCo's vice president of public affairs and a former aide to Mr. Reagan, pointed this out in a letter to Mr. Beggs, the NASA administrator, in which he insisted that his company be given a chance to compete with Coca-Cola to supply carbonated refreshment to orbiting astronauts.

He didn't stop there.

"You should be further advised that PepsiCo Inc. is strongly identified with the Republican Party and the support of President Reagan and his administration," Mr. Friedersdorf wrote. "At the same time, Coca-Cola was a very strong supporter and advocate of President Carter and is closely identified with the Democratic Party."
The barrage worked. A month later, NASA wrote to both companies that the project had been terminated.
Image

President Ronald Reagan, Pepsi in hand, at the 1984 Firecracker 400 Nascar race at Daytona Beach, Fla.Credit...SC Archives/CQ-Roll Call Group, via Getty Image



President Carter on the campaign trail in Muscle Shoals, Ala., with a Coke in 1980.Credit...Jimmy Carter Presidential Library

Building the Space Can

But NASA remained interested, and a few months after the Pepsi uproar had subsided, officials reached out to Coca-Cola to rekindle the project. However, the agency had a long list of technical requirements that the Coke container for the test needed to meet in order to fly on the shuttle.

Consuming soda in space presents numerous technical challenges. Astronauts usually drink water or rehydrated powdered drinks from soft plastic pouches, which aren't suitable for containing carbonation. Soda needs a rigid container, with a dispensing valve that lets astronauts drink without releasing a sticky spray that can be dangerous inside a delicate spacecraft.

"They're sending the sugar syrup as it is," Xulei Wu, a food scientist at NASA's Johnson Space Center in Houston, said in a recent interview of the impracticality of drinking soda in microgravity. "It's not a powder you add water to dissolve, so it's in the liquid form."

In spaceflight, weight dominates all considerations. Every gram costs fuel and limits which other payloads can be carried to orbit. A modern, dehydrated space drink packet weighs 12 grams. Any rigid container that Coca-Cola could have devised would have been much heavier, even before it was filled with liquid soda. It also had to meet the safety requirements for putting a potentially hazardous, pressurized vessel in spacecraft.

Coca-Cola, undeterred by NASA's requirements, developed its container in earnest from late 1984 through early 1985. The project seemed to mean more to the company than just marketing. Mr. Dyson's claim about space vending machines was part of a thumping speech to his bottlers that Coca-Cola had become the leading soft drink maker in America. Going to space demonstrated the company's greatness. His speech was the cola wars' version of Kennedy announcing the Apollo program.

The development process was elaborate and costly. The company said it devoted the equivalent of hundreds of days of staff work and spent $250,000 in 1985 dollars on the container. The Coke team expected that its soda would launch on an April 1985 shuttle flight.

Then, weeks before it was to blast off, Johnson Space Center grounded the cola test from the shuttle flight. NASA lawyers in Washington told Coca-Cola that the officials in Houston had not followed the correct procedures for flying the containers or notifying the company's competitors.
Image

Coca-Cola had spent almost a year designing its container to NASA's exacting technical requirements.Credit...National Air and Space Museum, Smithsonian

Instructions to operate the can helpfully printed on its top.Credit...National Air and Space Museum, Smithsonian

‘The Coke/Pepsi/NASA Debacle’

Coca-Cola would later blame a call to Mr. Beggs from PepsiCo executives for NASA’s sudden reversal. Worse yet, Mr. Friedersdorf, whose letter on behalf of PepsiCo had sunk the project in 1984, had rejoined the White House staff in 1985.

But the company kept working behind the scenes to book its container on a July 1985 spaceflight and, more important, exclude PepsiCo from the same flight. Then Coca-Cola committed another public relations blunder when it publicly announced it would be flying on the shuttle, before NASA had agreed.

After Senator Sam Nunn, Democrat of Georgia, intervened on Coca-Cola’s behalf, Mr. Beggs wrote in a letter to the senator that the agency had “a policy of avoiding, wherever possible, the use of the NASA reputation and name to endorse a product sold to the general public.”

To Mr. Beggs, Coca-Cola’s behavior had revealed its real motivation. “It appears quite evident, therefore, that the offer to NASA to provide the technology is for advertising purposes,” he wrote.

Unofficially, the NASA administrator was less diplomatic about the affair.

“All right, goddamn it, if they want to pay their way, we’ll fly, but no publicity in space,” he told the reporter Mr. Trento for his 1986 book. “We won’t put their name on the side of the shuttle.”

That opened the door for PepsiCo. Four days after Coca-Cola finalized its deal with NASA, PepsiCo signed an identical agreement. After all of that effort, PepsiCo’s containers would be sitting next to Coca-Cola’s on the same shuttle.

Coca-Cola had spent almost a year designing its container to NASA’s exacting technical requirements. The company must have assumed PepsiCo wouldn’t be able to close the developmental gap in time for the July flight.

That frantic dash was described by Roger Enrico, a top company executive, in his 1986 memoir “The Other Guy Blinked: How Pepsi Won the Cola Wars.” It began with reviving a zero-gravity can concept pitched to the company by another company in 1983, and culminated in an improvised microgravity test aboard a company private jet that made a sharp dive, resulting in an engineer covered in soda.

But PepsiCo’s tight timeline meant that it had to rely on off-the-shelf components.
Image

Pepsi's space can was designed much more hastily than the Coke can.Credit...National Air and Space Museum, Smithsonian

Pepsi's can sported the project's slogan: "One giant sip for mankind."Credit...National Air and Space Museum, Smithsonian

“The Pepsi can, as far as I could tell, was just a shaving cream can,” said Dr. Acton, the astronaut, who held the device during a training exercise. “In fact, the Pepsi can had a stick-on label.”

With just over two weeks until launch, Coca-Cola and its allies appealed directly to the White House to get PepsiCo off the flight. White House staff, trying to make sense of the ever-intensifying scrum of senators, cola executives and lobbyists, compiled a memo chronicling the incident, called “The Coke/Pepsi/NASA Debacle.” With a full understanding of the yearlong administrative melee over a soft drink marketing stunt, the White House opted to stay out of it, leaving the decision to NASA.

Mr. Beggs shook off Coca-Cola’s last-ditch lobbying attempt to keep PepsiCo grounded.

“You know I am just a poor dumb government official,” he recalled telling Michael Deaver, a Coca-Cola lobbyist who had recently been Mr. Reagan’s deputy chief of staff. “I can’t discriminate between colas.”

Coca-Cola was out of options. PepsiCo would fly.

Launch Day

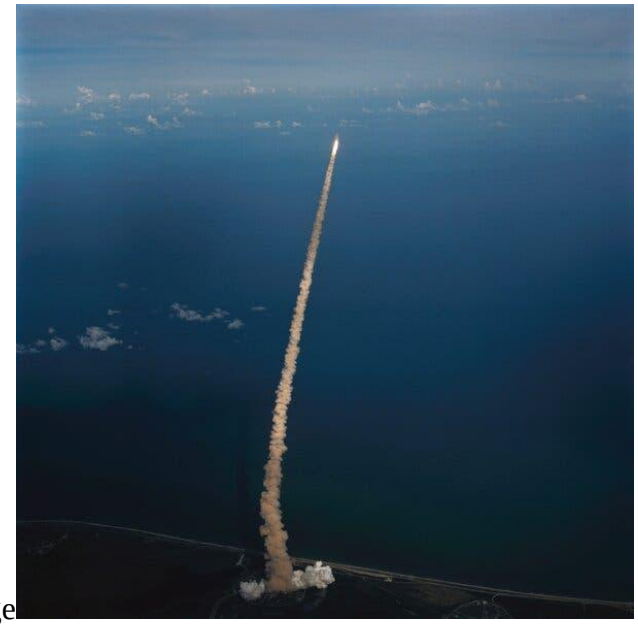
The July flight was designated STS-51F, and would use the shuttle Challenger to get to orbit. Its crew of seven had a mix of impressive credentials and experience: a band of test pilots, Ph.D.s and former Apollo astronauts. They were going to orbit to conduct serious experiments in solar physics, astronomy and atmospheric science. The busy schedule would have the crew members working alternating 12-hour shifts to maximize what they could achieve in orbit.

And sandwiched between all that science, they would test the first cola in space.

Rumors of the political tussle had reached the astronauts. The cola test was clearly a marketing stunt, and the soft drink companies’ battle was filtering down into the training for the mission.

“The rules kept changing,” Dr. Acton said. There was to be no photography, then photography, then video.

Their aggravation with the constantly changing rules for the cola test bubbled over during one prelaunch briefing. As the astronauts discussed technical details, two NASA lawyers interrupted and started to, once again, explain the rules for the cola test. Dr. Acton said he lost his temper and threw the lawyers out of the briefing.
“We’ve got work to do and we really don’t want to hear this kind of garbage,” he recalled saying.

Image 
The STS-51F launch from Cape Canaveral on July 29, 1985.Credit...John Young/NASA

The astronauts tried to preserve some professional dignity as they provided input on the procedures for the test.

“We didn’t want to be in a position where we could say we like the Coke better than the Pepsi or the Pepsi better than the Coke,” the astronaut Dr. England said.

To avoid the question of preference, they split the test between two teams. One would test the Coke container and the other would test the Pepsi container. No one would test both. “We were asked to do this, we prefer not to. But as long as we weren’t in a position to compare, we thought it was probably OK,” Dr. England recalled.

When it came time to launch, PepsiCo officials were celebratory, handing out T-shirts to NASA staff with their project’s slogan, which referenced NASA’s, and perhaps humanity’s, greatest achievement: “One giant sip for mankind.”

After a scrubbed launch attempt, the flight got off the ground on July 29, 1985. Things did not go as planned.

Five minutes after liftoff, Challenger’s center engine automatically cut off. The temperature sensors meant to protect the engine from catastrophically overheating had failed. The least risky option to keep the crew safe was a maneuver known as “abort to orbit,” which would put the flight at a lower altitude than planned.

The already busy shuttle mission became more of a scramble. Timings and positions had to be recalculated for the lower orbit. Messages flew between mission control and the shuttle.

For all the hurried adjusting, the cola test never dropped off the schedule.

“They wanted to get it over with, not carry that one on another mission.” Dr. England said of NASA.

A number of hours into the flight, orbiting more than 100 miles above Earth, the astronauts, some sick from weightlessness, drank the first soda in space.

To recognize Coca-Cola’s initiative in starting the project, the astronauts tested the company’s container first, pushing a button to spray the soda in their mouths. It was warm and sometimes frothy, but recognizably Coke, ending with a slight metallic taste from the dispensing mechanism. Hours later, astronauts on the other shift tested the Pepsi cans.

The test also afforded some of the astronauts a bit of fun in their busy schedule, as they squirted small balls of Pepsi out of the containers and let them drift about the cabin.

“You could take these Pepsi balls and let them fly in weightlessness, and blow on them, and get them to spin,” Dr. Acton said. Without gravity to guide their ascent, the soda’s bubbles collected at the center of the floating globules.

Yet the experience of drinking fizzy drinks in space wasn’t entirely pleasant.

Image

Mission specialist Henize prepared to gulp a floating carbonated Pepsi ball.Credit...NASA

In microgravity, gas in soda can’t escape the stomach like it would on earth, causing an uncomfortable phenomenon called “wet burps.” The same forces that keep the fizz in the center of a floating cola ball also keep the carbonation mixed with the contents of one’s stomach. They come out in equal measure during a burp.

Coke’s honor as the first cola in space was a Pyrrhic victory, one that NASA instructed the crew not to discuss with the ground while they were in space.

Once the shuttle landed, the cola companies sniped at each other.

“We consider ourselves the leader in the industry,” a Coca-Cola spokesman crowed.

A PepsiCo spokeswoman retorted that if the astronauts had tasted Coke first, “you can be sure they had to wash it down with a Pepsi.”

But the shuttle’s harrowing launch dominated the news, overshadowing the companies’ swipes.

“The whole Coke and Pepsi thing was forgotten by the media. And as far as I can recall, it wasn’t ever talked about,” Dr. Acton said. “I was always grateful for that.”

For all the political combat leading up to the flight, the cola test was largely ignored by those involved. A NASA webpage on the shuttle mission refers ambiguously to “technology research.” Coca-Cola mentions its plaudit as being the first cola in space, and its subsequent orbital soft drink research in the 1990s, only sparingly. PepsiCo refers to the event briefly in a historical timeline.

And in the 40 years since the soft drink space race, carbonated beverages have never found a regular place on the NASA menu.

Kitty Bennett contributed research.

A version of this article appears in print on July 29, 2025, Section D, Page 1 of the New York edition with the headline: A Cola War In Space. Order Reprints | Today’s Paper | Subscribe
See more on: Coca-Cola Company, National Aeronautics and Space Administration, Pepsico Inc., U.S. Politics