

# ■ The Power of One

## *How small actions can change big systems*

by Tom Terez

If you think you're powerless in your organization, two powerful lessons from science and history should convince you otherwise.

In the 1960s, Edward Lorenz was running computerized equations to model and predict weather. Lorenz would enter the temperature, air pressure, and wind speed into three interacting equations. The results from one equation were automatically fed into the others, again and again, forming a mathematical feedback loop – and a portrait of the resulting weather.

The model worked predictably, with the same data always producing the same outcome. Then one day Lorenz did a double take. He had carefully entered the same variables from previous tests, but this time, the model produced a dramatically different weather system. He checked and rechecked the data. The only difference seemed to be in one number: he had rounded it from six decimal points to three (from 0.506127 to 0.506). Could a miniscule change to one variable have such a profound impact on the outcome?

Skeptical, Lorenz reran the numbers – once again with the rounded variable, then with the original number at six decimal points. The same sharp difference emerged. In this complex system with its constant calculations and recalculations, a seemingly insignificant difference in one variable had made all the difference.

Lorenz publicized his discovery at a 1972 meeting of the American Association for the Advance-

ment of Science. The title of his talk? “Predictability: Does the Flap of a Butterfly’s Wings in Brazil set off a Tornado in Texas?” Thus was born the term “Butterfly Effect” – the notion that a small action can produce big change over time.

Seventeen years earlier, on Friday, December 1, 1955, the Butterfly Effect came dramatically to life. When Rosa Parks boarded a crowded bus in Montgomery, Alabama, she was a solitary person in a big, inhumane system. She could have followed the bus driver’s instructions and given up her seat for a white person. But in a soft and unwavering voice, she made it clear: “No, I won’t.” The bus driver hailed a police car, and Rosa Parks was arrested.

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The story quickly took wing, and as the weekend unfolded, Montgomery’s 17,000 African-Americans resolved to stand firm against further injustice. On Monday, they boycotted the city’s bus system. It began as a one-day boycott, but the protest continued for 381 days, with Martin Luther King Jr. as its spokesperson.

Needing to get to their jobs, people improvised by forming car pools or simply walking. Dr. King and 89 others were arrested in March for conspiring to organize the bus boycott. They were tried

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and convicted within three days of their arrest.

What began as one person's brave decision on a crowded bus turned into a widespread stand against segregation and racism. Many whites were awakened to the situation for the very first time. Others were forced to rethink their old prejudices.

On November 13, 1956, the U.S. Supreme Court ruled that segregation on city buses was unconstitutional. The desegregation of buses began a month later – exactly a year after the tailor's assistant from Montgomery Fair department store refused to give up her seat on the bus.

Few of us will make history like Rosa Parks. But all of us can exercise the liberating power that comes from taking positive action in the face of dysfunctional, debilitating systems. Even the smallest actions – the flap of a butterfly's wings – can stir up significant results. All we need is courage.

I received a call several years ago from friends at a big government agency. The place had a newly appointed director, and my friends were distressed. "This director is a cold fish," they said. "She refuses to say hello. She won't even make eye contact in the hallway."

"Have you done anything to break the ice?" I

asked. "Instead of waiting for her to go first, have you tried saying hello to her?"

Well, no, they said.

A month later, they called me back. "You'll never believe this! The new director" – they used her first name – "is just the nicest person."

What the heck happened? I asked.

"We started saying hello to her in the hallway. She started saying hello back. Then we had a few of those quick hallway conversations. Others in the office saw all this, and they started saying hello to her too. It grew from there." They couldn't say enough nice things about the new director.

Could a simple hello produce such profound change? Their excitement gave me a convincing answer.

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