

## 2nd Storyworth: What is one of your favorite children's stories?

While I don't recall much of my childhood reading material, I must have read some, and my parents must have assured I read as well. My vocabulary skills are too developed not to have had an early foundation, based on the empirical evidence from Head Start programs and the like, although I certainly have no specific recollection of such. However, one of my favorite children's stories has stuck with me throughout my adult life as well; The Little Engine That Could. Probably for multiple reasons; my love of all things automotive and my love to tinker until I understand fully the WHY, not merely the WHAT, of most subjects.

Most children's stories present a form of moral argument in the guise of telling a tale. And just like almost ANY Disney movie involving a Princess, the demarcation between good and evil is unmistakable. In the case of The Little Engine That Could, the gist is that effort is more critical to success than any supposed talent. I suppose I would temper that with the observation that obtaining talent almost always requires effort – little in life is capable without practice, and as I have told countless driving students; the reason we have so many incompetent drivers on the roads is their parents taught most of them. And their parents were no more capable than they are. So they learned bad habits. Practice NEVER made perfect. ONLY perfect practice can result in perfection as an outcome. But the one thing for certain is that what you practice MOST will become your instinctive action in a crisis, which is where the idea of expecting perfection when you need it is sorely and obviously going to disappoint if you HAVEN'T practiced.

I take as a concrete example the technology of ABS. When it was, like much automotive science, developed for advanced vehicles like the S Class Mercedes, the engineers understood the physics pretty well. The cause of loss of control in hard braking was that once a wheel stops rolling, it can no longer be expected to perform like a rolling element. So the engineers sought to stop the wheels from actually coming to a physical stop, even as they understood that the BEST braking is that which is occurring at the point just before the tire breaks free from gripping the surface. Ask ANY competent performance driver, and most will assure you they can stop a vehicle better than a car with ABS because they have practiced the art of incipient lockup braking.

The issue, though, is that few people really give much thought to trying to maximize their braking rate, instead trying to assure their braking disrupts the comfort of the passengers in the vehicle least. Those are directly opposite outcomes from a physics standpoint, although the FASTEST performance drivers are those who are smoothest, so it is NOT inconsistent to have such expectations under normal driving.

Anyway, when the physics and the mechanics needed to achieve ABS were eventually optimized, one result of the "ain't no such thing as a free lunch" immutable laws of nature was that the pulsing which is the rapid releasing of braking pressure on each wheel just before that lockup occurs in a panic stop would transmit those pulses to the brake pedal. Where the REAL difficulty with that occurred was that the effect so startled drivers who had not practiced stopping that way, that they lifted their feet off the brake pedal just when they most needed to stay there. So the early Mercedes-Benz (M-B) S Class cars were having disproportionately HIGHER rates of accidents and severity than before the introduction of ABS.

I well recall the first ads I saw for Ford's Lincoln when they adapted ABS, which was the typical progression for using technologies – they first went to the more expensive models. But Ford chose to have a Lincoln on a wet pavement come to a screeching stop when a child stepped between cars on a street to retrieve a ball. First, there IS no screeching if ABS actually works, and second, the ad missed the point of ABS entirely, because the truth is that a CAPABLE driver could actually stop FASTER without it.

I should in the interests of full disclosure reveal here that capability and fact don't usually square quite that well. I am a capable driver, but a panic stop WITH ABS is better than WITHOUT. But NOT because I stop faster. Rather, because I can STEER around that kid without drama, even as I am braking pretty closely to the best braking I am capable of, with high RELIABILITY. But ONLY because I religiously take my cars out on snow covered parking lots after the plows have made them like skating rinks, and PURPOSELY try to stop and turn until I am so familiar with the pulsing effect that it in NO WAY startles me.

The famous line from The Little Engine That Could was where he was pulling a load up a hill and kept saying to himself "I think I can... I think I can... I think I can..." until he eventually DID. Real talent is a PRACTICED art, whatever the talent. I ought no more to expect my first foray into baking to duplicate Julia Child than to hope my first attempt to make a suit would result in a Brooks Brothers masterpiece. But NEITHER should I be afraid to LEARN to bake like Julia, nor shy away from sewing, just because my early results ought not to expect perfection, so long as I am willing to make the needed effort to work toward that perfection by learning from my mistakes and applying those lessons.

Just as I think I have spent most of my career doing, at whatever I put my mind to, to be like that Little Engine.

Addendum: Just so you don't worry about those poor M-B owners lifting off the brake, M-B did not leave that situation for long. And anyone buying a new vehicle today should thank them, although SOME of the outcomes are still limited to higher-end vehicles. One unique to M-B still is the addition of the "we'll protect them from themselves" feature which, if it senses that a panic stop was started, will finish it even if the driver lifts off. But even Federal Law for vehicle design has mandated one of the capabilities which grew from that discovery and fix; Stability Control, which uses that same technology to apply the brake action to only the rear outboard tire if the vehicle senses that the yaw rate exceeds a specified limit, which is well below that where the vehicle would normally spin out, thereby slowing it even if the driver is applying more throttle.

That development is part of a pattern which closely follows the dictum of The Little Engine, which is "Continuous Improvement". So even the lowest price automobile available today has benefitted from the things engineers have learned over time as they, too, have sought to understand the "why" when sometimes even contrarian outcomes seem to occur from those expected by the application of some technology. Like the Uber driver in a supposedly autonomous vehicle mode when the car's reaction to a woman on a bicycle in its path had been disabled so it would not make the vehicle seem to be continually surging, which resulted in killing the cyclist because the driver was actually preoccupied watching her phone instead of monitoring the road as was specified in the instructions.

And THAT was why the once touted full autonomous vehicle is a LOT farther off than originally hoped – because people are the weakest link in EVERY system which depends upon effort by that human for perfection. While systems are hybrid in any way, the closer we get to full autonomy, the more we CAN be sure that humans will attempt to do something with their time besides the prime directive of the role, precisely because they do NOT commit to that effort, which kind of makes an asterisk applicable to The Little Engine ;-)

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