



WHEN FRANCIS SCOTT KEY WROTE the Star-Spangled Banner, our Great Nation's National Anthem, rockets had been used as weapons of war for many centuries. Developed in the 13th century during China's Song Dynasty, early rockets were propelled by gunpowder. They were used for amusement (fireworks) but soon became incendiary siege weapons. They spread into Europe through Mongolian invasions & trade. Britain's Sir William Congreve modified a Mysorean design to produce a deadly iron rocket in 1804. Mr. Key saw the red glare of Congreve rockets bombard Fort McHenry from the HMS Tonnant; but at dawn's early light, our flag was still there!

ROCKET SCIENCE: The significant difference between rockets & other forms of forward propulsion is that rockets are propelled totally by their own fuel; pushed forward by the thrust of their exhaust. This is why rockets work in the upper atmosphere & in the vacuum of space, where an engine requiring air for combustion would fail. Until the early 1800s, rocket science consisted of the many different gunpowder recipes that could be used to propel rockets, which at that time, was about 100 yards. But the Mysorean/Congreve design increased a rocket's range to perhaps 2,000 yards & modern rocket science began to develop. The first mathematical treatment of rocket flight was in 1813 & by 1861 rockets entering space was being discussed. The modern rocket, with a chemical liquid propellant, was first launched on March 16, 1926 by American Robert H. Goddard. Rockets are steered by vectoring the gasses they emit, which are pressurized internally then released through a nozzle to increase the speed, reducing the pressure & in turn increasing the speed again, building its momentum & kinetic energy. (You can now claim an understanding of Bernoulli's principle.) By accurately vectoring these gases a rocket can follow a trajectory. But there are many forces that affect that trajectory, including thrust, gravity, lift & drag. From Newton's 2nd law, we find the acceleration of a rocket is a function of its mass & thrust, the weight of the fuel the rocket bears versus how well that fuel is used. An entrepreneur with an emerging brand would benefit from thinking about rockets. There are many forces that affect the growth trajectory of a brand. How fast a brand can gain sales (thrust), breaking onto retail shelves filled by bigger brands (gravity), growing sales to gain attention & customers (lift) while dealing with manufacturing, chargebacks, distribution & more (drag) is essentially rocket science. Once a brand gets acceleration, the efficient use of its money (fuel), by managing its margins & vectoring its spending in the right direction, will move that brand's sales faster! The efficient use of capital will attract more capital & once again increase the brand's speed & momentum along its trajectory (Bernoulli's principle)! If all these factors are properly considered, a brand can rocket to the stars! Because there is so much to consider; brands need the help of good investors & advisors & need to pay attention to the financial & operational details. Wernher von Braun, Nazi rocket scientist turned American aerospace engineer (under Operation Paperclip & proving both politicians & rocket scientists make strange bedfellows), provided some great advice to entrepreneurs trying to break the force of gravity & reach the heavens: "We can lick gravity, but sometimes the paperwork is overwhelming."

INDUSTRY NEWS: Califia Farms completed a \$225M led by the Qatar Investment Authority, with Temasek, Claridge & Green Monday Ventures involved. Cott Corp. will acquire & assume the name of Primo Water Corp. for a \$775M. Purity Organic acquired Dunn's River Brands (iced tea brands Sweet Leaf & Tradewinds)

from Fireman Capital for an undisclosed amount. Ancient Harvest (Quinoa Corporation) has purchased better-for-you original leader & icon, Pamela's Products. Utz Quality Foods acquired Kitchen Cooked, manufacturer & distributor of potato chips & snack foods, for an undisclosed amount. Criminell's Fine Meats merged with Daniele International, another specialty meat company that is backed by private equity company e2p. 301 Inc. was among the investors in a \$32M round for Gathered Foods, maker of Good Catch Foods plant-based seafood products. Animal-cell cultivator New Age Meats received \$2.7M led by ff Venture Capital. Albertsons is once again considering an IPO, this time with an expected \$19B valuation. TreeHouse Foods & Post Holdings will terminate their agreement for Post to acquire Treehouse's ready-to-eat cereal business.

Whole Foods is apparently ready to update its 365 private label brand & look, based on research from IGD. Instacart wants to double its click & collect footprint this year to more than 3000 stores. SpartanNash added GPS location technology to its existing click & collect program, Fast Lane, to give shoppers insight to their orders & track the customers' arrival. C&S Wholesale Grocers will roll-out a point-of-sale platform for its independent supermarket customers using DUMAC Business Systems. Weis Markets, Toshiba Global Commerce Solutions & systems integrator Pomeroy will partner on self-checkout at Weis locations. Walmart opened a cashierless Neighborhood Market in Florida, including online grocery pickup & sameday delivery. Walmart will increase its use of robots for shelve scanning, inventory & other routine tasks to more than 1K stores from 350 stores. Cooler Screens, digital screens that replace traditional cooler doors with targeted ads after sensing the customers age & gender, will expand its partnership with Walgreens in 2020. Sweet Earth Foods' first restaurant partner serving its Awesome Burger will be Ruby Tuesday. Panera will remove meat from at least half its menu items in the next few years. Kind will reduce calories for 95% of its nut bar portfolio with the reductions ranging from 10 to 30 calories per bar, as may other brands, per USDA studies on calories in nuts. Hershey will launch Krave plant-based jerky made from peas & fava beans. Oatly will launch at Starbucks, who will serve the oat milk at 1,300 Midwest cafes. The Consumer Brands Association debuted, officially replacing the Grocery Manufacturers Association.

In Morning Consult's ranking of America's most trusted brands, food brands Chick-fil-a (#6), Hershey (#7), Cheerios (#9), M&M's (#10), Heinz Ketchup & Campbell Soup (tied at #21) made the list. Children who drink whole milk have a 40% lower risk of unhealthy weight gain, from a Toronto's St. Michael's Hospital study in the American Journal of Clinical Nutrition. A study of 100K Chinese, reported in the European Journal of Preventive Cardiology, connects drinking tea with lower risk of heart disease & a longer life. Sugar production & winter wheat seedings are lower; corn & soybean crops higher, per the USDA.

MARKET NEWS: Markets set records throughout the week on positive news. The administration met with Chinese officials in Washington D.C. & signed the first phase of a historic trade deal with China, reversing previous policies that have been detrimental to USA growth! Likewise, the USMCA passed the U.S. Senate, another signature piece of the administration's economic policy. The Wall Street Journal reported on the effectiveness of the current administration's trade policy as the USA trade deficit fell to a 3-year low. The Philly Fed manufacturing index came in at an 8-month high, 8X higher than the experts predicted. The CPI came in lower for December, indicating a muted inflationary impact despite income & retail spending increases! Wage & wealth growth for the bottom 50% of workers is well outpacing the wage/wealth growth of the top 1%! Weekly jobless claims dropped once more. Housing starts reached a 13-year high!

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THE LITCHFIELD FUND — Tom Malengo

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