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The Genius of Jobs

By WALTER ISAACSON | NY Times

ONE of the questions I wrestled with when writing about Steve Jobs was how smart he was. On the surface, this should not have been much of an issue. You'd assume the obvious answer was: he was really, really smart. Maybe even worth three or four reallys. After all, he was the most innovative and successful business leader of our era and embodied the Silicon Valley dream writ large: he created a start-up in his parents' garage and built it into the world's most valuable company.

But I remember having dinner with him a few months ago around his kitchen table, as he did almost every evening with his wife and kids. Someone brought up one of those brainteasers involving a monkey's having to carry a load of bananas across a desert, with a set of restrictions about how far and how many he could carry at one time, and you were supposed to figure out how long it would take. Mr. Jobs tossed out a few intuitive guesses but showed no interest in grappling with the problem rigorously. I thought about how Bill Gates would have gone click-click-click and logically nailed the answer in 15 seconds, and also how Mr. Gates devoured science books as a vacation pleasure. But then something else occurred to me: Mr. Gates never made the iPod. Instead, he made the Zune.

So was Mr. Jobs smart? Not conventionally. Instead, he was a genius. That may seem like a silly word game, but in fact his success dramatizes an interesting distinction between intelligence and genius. His imaginative leaps were instinctive, unexpected, and at times magical. They were sparked by intuition, not analytic rigor. Trained in Zen Buddhism, Mr. Jobs came to value experiential wisdom over empirical analysis. He didn't study data or crunch numbers but like a pathfinder, he could sniff the winds and sense what lay ahead.

He told me he began to appreciate the power of intuition, in contrast to what he called "Western rational thought," when he wandered around India after dropping out of college. "The people in the Indian countryside don't use their intellect like we do," he said. "They use their intuition instead ... Intuition is a very powerful thing, more powerful than intellect, in my opinion. That's had a big impact on my work."

Mr. Jobs's intuition was based not on conventional learning but on experiential wisdom. He also had a lot of imagination and knew how to apply it. As Einstein said, "Imagination is more important than knowledge."

Einstein is, of course, the true exemplar of genius. He had contemporaries who could probably match him in pure intellectual firepower when it came to mathematical and analytic processing. Henri Poincaré, for example, first came up with some of the components of special relativity, and David Hilbert was able to grind out equations for general relativity around the same time Einstein did. But neither had the imaginative genius to make the full creative leap at the core of their theories, namely

that there is no such thing as absolute time and that gravity is a warping of the fabric of space-time. (O.K., it's not that simple, but that's why he was Einstein and we're not.)

Einstein had the elusive qualities of genius, which included that intuition and imagination that allowed him to think differently (or, as Mr. Jobs's ads said, to Think Different.) Although he was not particularly religious, Einstein described this intuitive genius as the ability to read the mind of God. When assessing a theory, he would ask himself, Is this the way that God would design the universe? And he expressed his discomfort with quantum mechanics, which is based on the idea that probability plays a governing role in the universe by declaring that he could not believe God would play dice. (At one physics conference, Niels Bohr was prompted to urge Einstein to quit telling God what to do.)

Both Einstein and Mr. Jobs were very visual thinkers. The road to relativity began when the teenage Einstein kept trying to picture what it would be like to ride alongside a light beam. Mr. Jobs spent time almost every afternoon walking around the studio of his brilliant design chief Jony Ive and fingering foam models of the products they were developing.

Mr. Jobs's genius wasn't, as even his fanboys admit, in the same quantum orbit as Einstein's. So it's probably best to ratchet the rhetoric down a notch and call it ingenuity. Bill Gates is super-smart, but Steve Jobs was super-ingenuous. The primary distinction, I think, is the ability to apply creativity and aesthetic sensibilities to a challenge.

In the world of invention and innovation, that means combining an appreciation of the humanities with an understanding of science — connecting artistry to technology, poetry to processors. This was Mr. Jobs's specialty. "I always thought of myself as a humanities person as a kid, but I liked electronics," he said. "Then I read something that one of my heroes, Edwin Land of Polaroid, said about the importance of people who could stand at the intersection of humanities and sciences, and I decided that's what I wanted to do."

The ability to merge creativity with technology depends on one's ability to be emotionally attuned to others. Mr. Jobs could be petulant and unkind in dealing with other people, which caused some to think he lacked basic emotional awareness. In fact, it was the opposite. He could size people up, understand their inner thoughts, cajole them, intimidate them, target their deepest vulnerabilities, and delight them at will. He knew, intuitively, how to create products that pleased, interfaces that were friendly, and marketing messages that were enticing.

In the annals of ingenuity, new ideas are only part of the equation. Genius requires execution. When others produced boxy computers with intimidating interfaces that confronted users with unfriendly green prompts that said things like "C:\>," Mr. Jobs saw there was a market for an interface like a sunny playroom. Hence, the

Macintosh. Sure, Xerox came up with the graphical desktop metaphor, but the personal computer it built was a flop and it did not spark the home computer revolution. Between conception and creation, T. S. Eliot observed, there falls the shadow.

In some ways, Mr. Jobs's ingenuity reminds me of that of Benjamin Franklin, one of my other biography subjects. Among the founders, Franklin was not the most profound thinker — that distinction goes to Jefferson or Madison or Hamilton. But he was ingenious.

This depended, in part, on his ability to intuit the relationships between different things. When he invented the battery, he experimented with it to produce sparks that he and his friends used to kill a turkey for their end of season feast. In his journal, he recorded all the similarities between such sparks and lightning during a thunderstorm, then declared "Let the experiment be made." So he flew a kite in the rain, drew electricity from the heavens, and ended up inventing the lightning rod. Like Mr. Jobs, Franklin enjoyed the concept of applied creativity — taking clever ideas and smart designs and applying them to useful devices.

China and India are likely to produce many rigorous analytical thinkers and knowledgeable technologists. But smart and educated people don't always spawn innovation. America's advantage, if it continues to have one, will be that it can produce people who are also more creative and imaginative, those who know how to stand at the intersection of the humanities and the sciences. That is the formula for true innovation, as Steve Jobs's career showed.

Walter Isaacson is the author of "Steve Jobs."