The Idea Factory Summary

1-Sentence-Summary: *The Idea Factory explains how one company, Bell Labs, has managed to spearhead innovation in the communications industry for almost 100 years by dedicating themselves to science and research, thus producing a disproportionately big share of the technology that significantly shapes our lives today.*

Read in: 4 minutes

Favorite quote from the author:

Did you know that phones didn't always make noises? Until the 1920s, you'd still have to agree on a "meeting time" when you wanted to call somebody, pick up the phone at the specified hour and start shouting into it, until eventually, someone on the other end would pick up.

Crazy, right?

But that's just the tip of the iceberg of crazy facts about the telephone and communications industry you don't know yet. In his 2012 book *The Idea Factory*, Jon Gertner looks at the history of Bell Labs, the company behind the telephone ring, among other things.

As it turns out, this company has almost single-handedly invented modern communication technology. Let's see how that was even possible and what it took to make that happen.

Here are 3 lessons from the book:

1. If your vision is big enough, it can survive for over a century.
2. Without Bell Labs, we wouldn't have computers, phones, radio or the internet.
3. Monopoly breeds innovation, because it can use profits to fund science.

Ready to re-shape your image of the history of communication? Let's see where modern technology really comes from!

Lesson 1: If you have a big and broad vision, you have a shot at impacting the world for centuries.

More often than not, the greatest inventors in history are forgotten. They either don't get credit for their inventions, or, if they do, it is purely academic. Since their work is seldom tied to commercial ventures and big, profitable businesses, their names aren't broadcast enough and end up hidden in the dusty pages of history books.

For example, do you know who Tim Berners-Lee is? The guy who invented the internet. And who invented the urinal? Andrew Rankin. Air conditioning? Willis Carrier.

But chances are, you know very well who invented the telephone: Alexander Graham Bell. This isn't a coincidence. He invented the telephone in 1876. In 1880, he was awarded the Volta prize of 50,000 francs (approximately $250,000 in today's money), which he decided to use to set up a lab, dedicated to the research of analyzing, recording and transmitting sound.

He knew that he needed to keep inventing, make profits and re-invest those, in order to keep investigating and improving communication, which is exactly the vision with which Bell Labs was formed in 1925.

If you really want to have an impact on the world long after you're gone, you can't just say "I've invented the telephone, I'm done." Your vision must be bigger and broader than that. Even if he couldn't imagine what it would look like at the time, I'm sure Bell thought of a world in which all humans are connected over 100 years ago, and that's why his vision still lives today in the form of Bell Labs.

Lesson 2: Bell Labs was majorly involved in inventing most of modern technology, including the phone, radio, computers and the web.

Bell Labs was set up as a subsidiary of AT&T, you know, the 12th-largest company in the world, which provides mobile phone services to every other person in the US. While they did do lots of operational work (like improving and fixing phone networks, cables, etc.) they also had a division entirely committed to basic research.

Because they hired the greatest minds from the best colleges, they've always been at the forefront of innovation in communication, and among their "alumni" are 13 Nobel Prize winners, as well as five winners of the Turing Award.

Among Bell Labs' inventions are the telephone, the radio, the radar, the nuclear reactor, the transistor, the satellite, the solar battery, the wireless phone and the operating system Unix – **at least three of which influence your life right this second**.

One of their alumni, Claude Shannon, came up with information theory, you know, the whole bits and bytes thing, which is how we measure data online today.

Clearly, hiring MIT graduates paid off. But how have they been able to afford to hire such great people for such a long time?

Lesson 3: Monopoly is a great driver of innovation, as it can use its big profits to fund great scientific efforts.

Remember I said Bell Labs originated from AT&T? Well, what you might not know is that AT&T (American Telephone & Telegraph Company) itself evolved from the Bell Telephone Company, the firm that held Alexander Graham Bell's original phone patent and commercially provided the first phone services to people.

Bell not only invented the phone, he also commercialized it. He knew that by keeping on improving his invention, he could also monopolize the commercialization of it, which in turn would allow him to spend a big chunk of the huge profits on further research.

This is the exact idea Peter Thiel talks about in Zero to One, and it's what PayPal, Facebook, Google and Uber have done to become so big in such a short time. **As long as these profits are used to fund important research and science, which benefit the public, this is a good model.**

For over 50 years, AT&T was a tolerated monopoly, scooping up smaller, independent phone companies as they arose and cooperating with the US government to make telephone access for everyone easier. As soon as it was broken up in the 80s, profits started to decline and in 2006 the main campus of Bell Labs was closed.

But the company doesn't give up. In 2016, Nokia acquired it – with Bell's name on it, this company will probably keep innovating for at least another 100 years, monopoly or not.

The Idea Factory Review

Of course Bell Labs didn't invent all of these things alone, but the fact that they had a hand in so many of the most crucial inventions, which impact most of the time we're awake today, is nothing less than shocking. I could spend hours researching *The Idea Factory*, an absolutely fascinating topic!

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What else can you learn from the blinks?

- Why Bell Labs was forced to work on military inventions
- The unspectacular reaction of the public to the first transistor
- How Claude Shannon changed the way phones work
- Why the solar cell was just a consequential invention
- How even Bell Labs's biggest failure was visionary
- The organizational structure that made Bell Labs so innovative

Who would I recommend The Idea Factory summary to?

The 23 year old electrical engineering student, who loves to tinker with tech in his spare time, the 31 year old physicist PhD candidate, who works with optical fibers, and anyone who doesn't know who invented the world wide web.