

# Serendipity and innovation

By  [Amandine Robin](#)

2 Sep 2016

Some of the greatest intuitions and inventions actually result from a mistake.

Indeed, chance can play an important role in the process of discovery. This fortuitous discovery of something that was not looked for is called serendipity. The list of historic examples of fortuitous discoveries is endless and spreads across fields, from chemistry or medical research to the food industry: Penicillin, Viagra, Anti-cancer drugs, Newton's law of attraction, Velcro, the Frisbee, potato chips, the microwave, etc.

The role of chance actually goes much beyond scientific discoveries; it impacts also musical creation, product innovation and much more as soon as one is ready for surprise. Indeed, the role of intuition, receptivity and curiosity cannot be underestimated in serendipity. As noted Louis Pasteur: "in the field of observation, chance favours only the prepared mind".



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A classic example of **the role of intuition in accidental discovery** is Penicillin, discovered by Alexandre Fleming in 1928 when he flippantly went on holidays leaving his boxes of bacteria cultures open. They were infected as one could expect but Fleming genius was to notice an area where the cultivated bacteria didn't expand, on the side of these moulds.

He was conscious of his discovery and identified the responsible bacteria as being part of penicillium. The door to modern

antibiotics was opened...

**Curiosity** also plays a key role in that type of discovery process: one of the major discoveries in cancerology (cis-platine) is actually due to Prof. Barnett Rosenberg who had the unlikely curiosity to immerge some bacteria in a magnetic field and to add an electric current. As a reaction, he observed that the cellular division was modified which, in turn, originated new cancer drugs.

Another key state of mind is **observation**. The inspiration gained by observing of Nature and plants observation is so powerful in innovation that it became almost a science: **biomimicry**. One famous example is the one of Velcro, invented by George de Mestral coming back from hunting with his dog, when he had to take out all the little balls grabbed onto his jersey and his dog's fur. Observed with a microscope, he remarked each ball had small elastic hooks that, when put on fabric, would grab onto it. He decided to mimic them with pieces of nylon.

Observation was also key in physics, e.g. when Newton discovered the laws of attraction after receiving an apple on this head, or when Archimedes discovered the principle of buoyancy while taking a bath...

Examples are countless but one crucial idea sits beneath all of them: to start without a proper plan in order to pick up and build on an arising idea or opportunity is essential to come up with something new, unexpected. By definition, in research, **novelty is something unexpected**, or something unrealisable to the current knowledge. Chance plays a key role in the approach. It is also that kind of approach that allows one to explore a new territory or a wider territory.

## ABOUT AMANDINE ROBIN

Amandine Robin is a design thinker. She co-founded Innovative Matters, a strategic innovation lab with Dora Jurd in 2014. Innovative Matters is dedicated to designing innovative concepts and building consistent brand experiences.

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