Science and Invention

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THE word *Science,* from the Latin *scientia,* meaning knowledge, is closely related to *Invention,* which, derived from the Latin *inventio,* means, finding out. There is little in Science that did not at one time require some inventive powers, while conversely most of the world's inventions are based upon one or more of the sciences.

But "invention" antedates "science" by thousands of years. When our prehistoric man first fashioned his crude hammer by binding a stone to a stick, by means of reeds, he had made a basic invention in every sense of the word. And when he first applied his stick to a huge boulder he wisht to move, then placing a smaller stone under the stick—he had made another notable basic invention—the lever.

In fact, both of these basic inventions are discoveries, and if they were first made today, would be patentable. Right here we may state that in patent law "discovery" and "invention" are held to be synonymous, tho popularly an "invention" designates one that is new and useful as well as patentable.[1]

Science, or rather the sciences, on the other hand first came into being with the ancient Greeks. Of course, some sciences existed before the Greeks, but they were not recognized as such. At least there is no record of any sciences

[1]This issue marks a change in the title of the magazine from *Electrical Experimenter* to *Science and Invention,* though a shift in its content from specialized articles for tinkerers to general interest pieces had been underway for over a year. Thomas Edison, when solicited for comment on the name change by Gernsback, replied in a letter:

> Change of name from Electrical Experimenter to Science and Invention better indicates the proper sphere of your journal. Your field is not unlimited and your journal will be of great value in the advancement of invention and individual applications of science.

Thomas A. Edison, "Telegram to Editor, Electrical Experimenter," July 1920

classified as such by the Phoenicians or the old Egyptians. Even in Grecian times there were comparatively little sciences. Thus the Platonists had their sciences divided into dialects, physics and ethics.

Even in comparatively modern times there seems to be little agreement as to what the sciences really comprise. Thus Bacon in 1605 has history, poesy, and philosophy as his sciences. As late as 1830 Comte classifies the sciences into six parts in their following orders: Mathematics, astronomy, physics, chemistry, physiology and sociology.

Even today there exists no classification of the sciences that would be acceptable to all of our great thinkers.

The general public and "the man in the street" possibly come nearer the actual definition of "science" than most of our philosophers. To the public, the arts, discoveries, inventions—all fall under the term science. Anything under the sun nowadays becomes a "science"—be it the science of cooking, the science of darning socks, or the science of cleaning streets.[2]

The myriad of inventions and discoveries all tend to make the world more "scientific" and whether we like it or not, one science or another creeps into every one of our homes. We are surrounded with science all day long as well as during the night. Science does this thing for us, and makes us do that. There is no escaping it and the general public has awakened to the fact but yesterday, that science no longer is the sombre book closed with seven seals. Quite the contrary, it is the public that popularizes science—not our scientists. Just at present, for instance, educational scientific films are all the rage and the public clamors for more and heartily applauds them.

But our *real* scientists are as backward as in Galileo's times. The public applauds and instantly believes in anything new that is scientific, whereas the

[2] A "Publisher's Announcement" prepared the *Electrical Experimenter's* roughly 200,000 readers for the change in title and content of the magazine in the previous month's issue:

> your average experimenter wants more than experiments. He wants to know the latest word in science, the newest invention, the latest developments in the realm of human endeavor. He wants to know what the scientists and his fellow workers are doing the world over, and he wants these facts in plain English, adequately illustrated.

The new format would address a growing readership with more general interests.

> The business man, the manufacturer, the doctor, the professor, the student and countless others found in the ELECTRICAL EXPERIMENTER an intellectual gold mine, second to none. The ELECTRICAL EXPERIMENTER always has and always will appeal to the thinking class. … We kept all of our old friends and supporters—the ones who buy the ELECTRICAL EXPERIMENTER mostly for the experimental section, and we added besides many thousands of new readers who derived their greatest pleasure from the other "general science" departments. But we are out for the half million mark, because we know from past experience that the greater the circulation the better we can make the magazine, the more text we can give, the better we can satisfy *all* readers.

true scientist scoffs and jeers, just as he did in Galileo's times when that worthy stoutly maintained that the earth moved and did not stand still.

Then as now they burn our great discoverers and our great scientists at the stake. Only today the stake is moral and the fire derision.

It matters little that Jules Verne or Nikola Tesla are a hundred years ahead of the times—the scientists scoff and laugh unbelievingly.

But happily, the great public today appreciates the "fantastic dreamer", because it knows from experience that these "fantastic dreams" have a habit of coming true on the morrow.