

## THE DEVELOPMENT OF ELECTRICAL SCIENCE.

**E**LECTRICITY, like any other preponderating idea, requires volumes to treat it adequately. All this article claims to do is to give a modest sketch of the progress made in this mysterious, but most active, agency, and point out a few of the steps taken to turn it into wealth-giving results. For the last decade or two so great have been the strides made in this department that a complete revolution has resulted in methods of trade and in means of communication. Previously, the power stored up in our great rivers was going to waste, but now, through the agency of the electric motor and the dynamo, this energy has been utilized to run our machinery and to light our cities and towns. Little did the scientists and inventors of a few generations ago picture what has been achieved to-day, much less did they think of forecasting what bids fair to be accomplished in the next ten or twelve years.

It was in the sixth century, before the Christian era, that the existence of *this mysterious, though widespread and active, element* began to be discussed. Thales, a Grecian philosopher, observed, in some of his experiments, that amber, rubbed by a bit of silk, exhibited the property of attracting light bodies. In fact, it is from the Greek word for amber that the term electricity is derived. The knowledge of the ancients stopped here. No more discoveries were made before the sixteenth century, in the latter period of which an English scientist noticed that not merely amber, but other bodies as well, such as sealing-wax and glass, possessed this property of attraction. This led to the method of producing electricity by friction.

In the year 1752, Benjamin Franklin, a name illustrious in statecraft and philosophy, demonstrated his theory of the analogy between lightning and electricity. His experiment consisted in flying a kite provided with a metal tip, which, if his theory were correct, would attract electricity from the clouds as soon as the kite had soared to a sufficient altitude. To the cord of the kite was attached a latch-key, insulated from the ground by a silk thread. According to his theory, the touching of the key with the hand should elicit a spark. For a time, to Franklin's utter dismay, no spark rewarded his efforts. The scientist was almost in despair when rain occurred, moistening the cord, which thereupon became a good conductor, and the expected spark resulted. So the theory