

# GENERATION: THE GREAT INVISIBLE

The mysterious effects of electricity were observed by our ancient ancestors long before they were fully understood. Natural electricity, encountered in the form of lightning tearing through the skies or the spectacular colours of the Aurora Borealis (northern lights), was often believed to emanate from a higher power or other spiritual realm.

The story of our earliest discoveries about its seemingly magical qualities begins with the ancient Greeks, who first noticed the existence of static electricity as sparks of light generated by friction. But it wasn't until the 18th century that “electricians” – as electrical experimenters were then known – really began to unlock some of its secrets, which when unleashed could be both invigorating and deadly in equal measure. Complex experiments attempted to artificially recreate some of the extraordinary effects seen in nature while striving to harness and define this elusive force.

As the possibilities of electricity began to unfold, spectacular demonstrations became popular in public forums and private salons, fuelling the fascination with electrical phenomena. Scientific endeavour, the diffusion of knowledge and entertainment were combined with theatrical flair.

# SUPPLY: WIRING THE WORLD

After the scientists of the 18th century had laboured to understand the physical nature of electricity, their 19th-century successors became the innovators and inventors responsible for harnessing electricity and converting it into a potent power source that would transform the way we live.

By the end of the 19th century, the two main methods for transmitting electricity had been developed: direct current and alternating current, each of which had its advocates.

However, the key to facilitating the use of electricity is the ability to store it. The invention of the first battery by Alessandro Volta had not only enabled the storage and transport of electricity but also revealed electricity to be more than just a static charge: it could be made to flow in a continuous current. This discovery enabled the creation of the electric motor and, eventually, the industrial generation of seemingly limitless amounts of electricity. This energy revolution resulted in a vast web of complex networks and monumental power stations.

# CONSUMPTION: THE SILENT SERVANT

As the distribution of electricity progressed, the next step was to ensure access for consumers *en masse*. By the 1930s the growth in the number of electricity users in Britain had become the fastest in the world.

While the public were initially uncertain and anxious about its potential dangers, they soon came to prize electricity as a luxurious method to power appliances, particularly in the home. The simple act of flicking a switch for instant lighting, heating or cooking represented a new culture of efficiency and convenience that could only previously have been achieved with staff. And so the “silent servant” was born.

Over the last century, electricity has enabled countless technological advances in the realms of industry, transport, communication, medicine and entertainment, and its influence permeates our daily lives now more than ever. With global electricity consumption reaching new highs, attention is turning more and more to the future availability of electricity, to environmental concerns, and to how human behaviour will need to adapt.