S-76 – Electric energy in history: social, economic and cultural issues

The History of Technology

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Abstract:
Nearly 200 years ago H.C. Oersted contributed with a major breakthrough towards unlocking a natural property linking electricity and magnetism. Within a few decades the earlier prototypes of generators and motors had been improved and become trademarks of a new industrial spurt, and were overwhelmingly taking place in the economic infrastructure. Electricity was versatile as it could be used in factories, transportation, illumination, and recreation. It did not take long to create a global electric world, given the economic potential released through the capital accumulation based on the multiple applications in its domestic and industrial use.

Later on, this impulse was enhanced by the vertiginous growth of electronic devices, and the ubiquitous presence of information processing became both a source of everyday comfort and reliance as well as a source of worry about its potential capacity of control over our lives. In fact, one cannot envisage the present globalization of markets and finance without electricity. On the other hand, electricity became a matter of dispute between local and global economic interests.

During these two centuries of practical application of electricity a tremendous development of scientific theories and technological applications have opened up new and challenging perspectives, directly or indirectly related to electric energy. A nation’s position in several rankings of development is evaluated by per capita consumption of electricity. In fact, man’s dependence upon the production and use of electricity is such that its abundance could overcome the undesirable effects of fossil fuel combustion, once more evidencing the interlocked global and local relations in man’s relation to electricity.

This symposium will welcome papers related to the history of electric energy in its diverse dimensions in the last two centuries. Topics may include the historic development and appreciation of the following subjects, but need not be limited to them:

- Introduction of new technologies in the electrical production systems
- Integration of electrical networks, control centers, and economic policies
- Transmission lines, from point to point transmission to smart systems
- Global and local planning of energy consumption and production
- Landscapes and the environment of energy production, transmission and local distribution
- Energy issues from the consumer’s point of view
- International x national competition and power production
- Industrial heritage related to electricity production
• Technological innovation, evolution and cycles in equipment (generators, motors, transformers, cables, automation etc.)
• Electricity for leisure and entertainment, cultural impacts
• From the wired to the wireless world
• Distribution of wealth and electric concentration
• Electrically powered transportation
• Pollution and environmental awareness: enterprises, public opinion and politics

Keywords: electrification – electric power applications – electromagnetism – electricity in society and culture – economic impacts of electricity.

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