

Royal Society's Impact On Battery Technology Today

Thomas Williams

Key Findings/Brief Project Narrative/Key points

- The Royal Society hosted the creation of the Daniell Cell, the first practical battery, made in England. The battery was made of zinc and copper and was used in telegraphy and later was used to define the Volt.(2)
- The Royal Society hosted the creation of the “gas battery” today known as the fuel cell. Although the battery was lab-bound at the time of its creation, in the 20th century this research was the backboard to the creation of a practical fuel cell that would be used in Apollo and the starting of hydrogen gas energy storage.(3)
- The Royal Society also hosted the creation of other experimental batteries such as John Goodman’s potassium/platinum battery and Christopher Dresser’s zin/carbon battery.(4)(5)

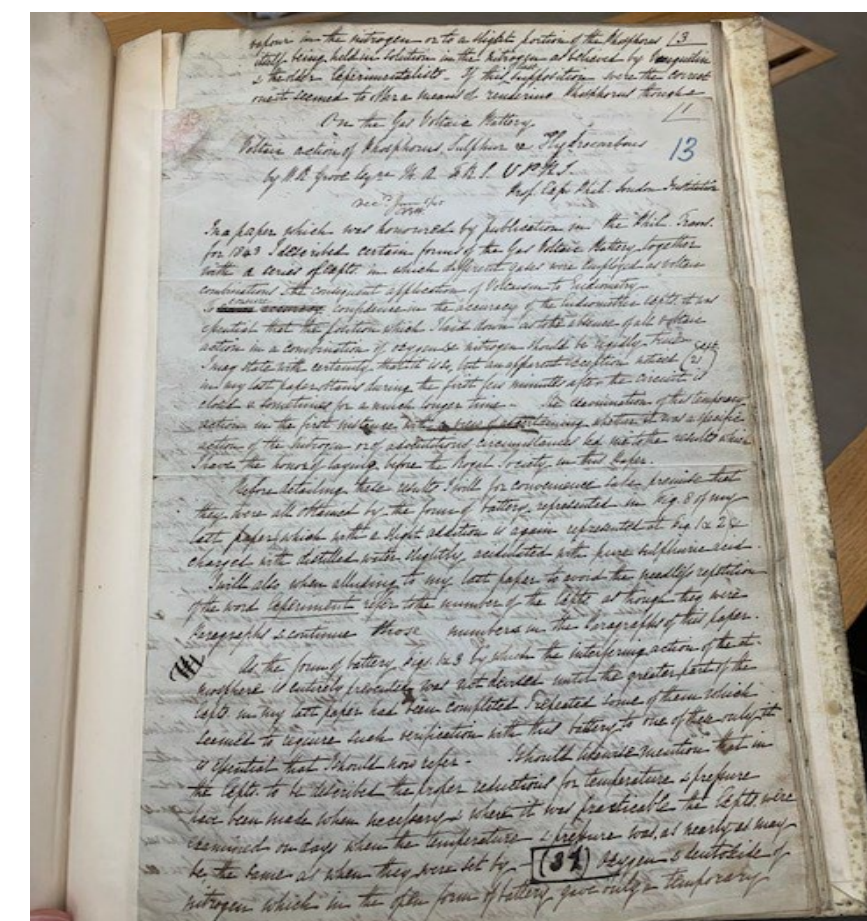
Overview/Introduction/Thesis

Batteries today are the material basis of our modern technological ecosystem whether in our phones, laptops, headphones, or several other wireless devices so it is important to have an appreciation of batteries' developmental history and the effect it has had and the questions that it can give us going forward to create better technologies. This project specifically looks at the developmental history of batteries before the end of the 19th century in the Royal Society due to its prominence as the royalty's scientific arm.(1)

Impact/Conclusions

The royal societies development of batteries was integral for the information golden age, the practicality of space travel, and the furthering of sustainable development. It also highlights the need to not neglect past research as it can lead to clues for new technologies.

Visual Evidence



Bibliography/References:

- 1 Tinniswood, A. *The Royal Society and the invention of modern science*; Head of Zeus, 2019.
- 2 Jayson, J. S. The Daniell Cell, Ohm's Law, and the Emergence of the International System of Units. *American Journal of Physics*, 2014, 82, 60–65. <https://doi.org/10.1119/1.4826445>.
- 3 Cohen, M.; Brown, M.; Gary, K. Fuel Cell Origins: 1880-1965 <https://americanhistory.si.edu/fuelcells/origins/origins2.htm>.
- 4 Williams, T. *A picture of the unpublished manuscript "On a new and practical form of voltaic battery of the highest powers, in which potassium forms the positive element"*, March 15th, 2024.
- 5 On the Application of Carbon Deposited in Gas Retorts as the Negative Plate in the Nitric Acid Voltaic Battery. *Abstracts of the Papers Communicated to the Royal Society of London*, 1851, 5, 928–929. <https://doi.org/10.1098/rspl.1843.0227>.

Acknowledgements

I would like to thank UAH Honors College for providing the funding for this trip, the archivist Rupert Baker and picture librarian Katherine Marshall for allowing me to use images of old documents, and Reagen Grimsly for teaching this class.