

14, 16
Date note 13 August
1777 - Dec 13 4 Oct 1777
12 14 17 2 1/2

Electricity

History of the rise and progress
of Electricity

Thales -

D. Gilbert 1600

M. Boyle Otto Guericke

W. Murrhey - 1710

Newton

M. Gray - 1730

W. Du Fay - 1740

M. Gordon 1744

D. Murrhey - 1745

D. Franklin 1752

Electrophorus by
N. Volta - Pile -

Elud' Machine

A Cylinder of Glass is turned on its axis by a Multiplying wheel or simple wrench to this is applied a rubber stuffed with hair wool or flannel. From the upper part of the rubber a piece of silk extends almost half round the Cylinder. By a sliding groove ^{and slider} and adjusting screw the rubber is made to press more or less ^{fully} on the Cylinder, and by a spring on the upper part of the stand it conforms to any inequalities there may be in the motion of the Cylinder. Eluticians are not agreed with respect to the most advantageous velocity of the Cylinder some prefer a simple wrench others

a multiplying wheel.

x I am of opinion that a
wheel is preferable

The silk may be either oiled
or not - and should not reach
the points -

The rubber suspended on glass

x I now from twenty ^{three} years
experience am convinced
that a wheel is unnecessary
Calcutta 24 Dec. 1805

x To repair cracked glass - First
lay on the outside a coat of sealing
wax rather thicker than the glass.
Then spread the following comp^d.
on either side and apply it over
the wax and a little farther on the glass
4 pt. Resin 1 Rooin 1 Turpentine
and a very little oil of olives

Hypothesis

All natural bodies contain
Elet. but in very different
proportions. As long as any
body contains neither more nor
less than its natural share
no effects are observed, but
no sooner is this equal Distri-
bution disturbed and a body
becomes possessed of either more
or less than its natural share
electrical Phenomena
The means of disturbing this
equilibrium are various —
Principal is Friction — Now
simple the cause how im-
portant the effects. —

When the machine is turned
a quantity of Ele^{tr} is found
accumulated on the Cylinder.

- Gathers from the Air, Glass or
rubber from the latter.

- Quantity of Ele^{tr} in the Rubber
small - must be connected
with the earth - Ele^{tr} ma-
chines like a water pump.

- Conductors - non conductors

metals
Fluids

Animals

Green Veg.

Charcoal

Glass
Resinous &c

Wax

Silk

Sulphur

Oil

air

X Green wood - Dried wood
Charcoal & Dust -

- Metal - Calc -

* The one pos. the other neg.
we cannot determine a priori
which will be Pos. or Neg.

* Exp^t shows fringing on the con-
ductor -

If two conductors are cut
together no electricity is
produced - If the two non-con.
or a non-con. with a cond.

* Then both are electrified -
- Glass conductor supported
on glass - furnished with
points - Ele^{tr} accumulates
on the conductor - extends
or at least casts its power
at a considerable distance

- Ele^{tr} would return to the
earth - but for the non-con.
* stand of the conductor - Exp^t -

+ Properties - Attraction -
Repulsion -

+ Zinc amalg^m in Cavetto
N. Philosophy Vol: 3 p. 384 note

+ Ele^{tr} Cement 5 Parts 4 Wax
2 powdered red ochre -

Experiments

- 1. Electrometer
- 2. Dancing figures
- 3. Balls
- 4. Head in despair
- 5. Dancing balls
- 6. Fluo
- 7. Overy
- 8. Sparks fired
- 9. Cannon
- 10. Charging
- 11. Cards
- 12. Wire
- 13. Gun powder fired
- 14. Medical Elecⁿ Bucket
- 15. Points
- 16. Thunder house

Experiment

- 48. Gift bell in water
- 49. Fil. dial of different metals on glass by vacuum
- 50. Solomian Phosphorus
- 51. To burn iron wire in oxygen gas
- 52. Iron ball burn in air
- 53. Cotton with powdered iron
- 54.

Experiments—

33. X Eggs - Euhesperia - Table
34. Soap bath with
coloured water
35. Plate for hanging
36. Magni Futuri
37. Euhesperia
38. Diamond jar
39. Gold leaf into glass
- X 40. Obelisk
41. Ship - Punch
42. Luminous Star
- X 43. Powder magazine
- X 44. Spangled Collar
45. Ditto Obelisk
46. Luminous Conductor
47. Fly and Head

17. Church and Steeple

18. Lady

— Dark —

19. X Spiral tube - all -

20. X Aurora Flask

21. Aurora tube X

22. Varnished silk X

23. X Luminous words

24. Moon and Stars X

25. Various forms of light

26. Silk machine X

27. Powder Magazine

28. Candle Light

29. Snake

30. Glass tube burst

31. Pin of oil - hole

32. X Chain across the table

1001

- * remarks on the Orery
- * Spirits find heat in the air
Phlogiston evolved
De-phlogisticated air
- x Head in despair - fight
sensitive plant
- x Orery - Motion of the planets
- x Changing - various ways
- + new Experiment
- + Burn occasioned by the gene-
ration of elastic vapour in the
cord
- + Medical Electricity - Syphon
- Circul: australis (Doubtful)
- Stomach exp^d with a powerful
machine did not produce any
change in the circulation
- + Van Marum's great plate did
not quench the pulse -

Lightning

- Similarity of ~~Electricity~~ to
Lightning.
- 1 - Darts in zig-zags -
 - 2 - strikes the highest pt.
 - 3 - Prefers the best conductor
 - 4 - Melts metals
 - 5 - sets fire combustible bodies
 - 6 - Smells of Phosph^r or Sulph^r
 - 7 - strikes animals, birds
 - 8 - Destroys and insects, insects

9

Doctor Franklin
- Write - with handkerchief
- wet pack Muscad - Wine
- Key - ribbon -
10th June 1752 - French
15th May - Greatest disco-
very of modern times
- accident gave birth to
the Telescope, Barom.
and most useful invention
- First train of reasoning
- Most perfect Analysis
- Synthesis -
With the Electric fluid
we can imitate every part
of lightning and with light
brought from a cloud we
can perform every experiment
in Electricity.

Air always Electrical
- Cause - Heating and cooling
Friction - air Gun -
Proof - Lights on specks
marks - hair of
+ Denong a ~~hot~~ shower: pow.
+ Fog strongly Elect.
may be felt on the face
- Lambert light -
+ Clouds clear part as Neg.
- Sup: two clouds charged
with opposite Elec.
- Flash of light - Gap of thunder
Large cloud near the earth
small clouds discharge silently
attracted to the main cloud
+ main cloud within the
striking distance - Flash
down into the earth or the
contrary

Appearances

- Red lips dangerous
- Sale yellow - Falls next
- Dangerous
- + omnipresence -
- Thunder bolt metaphorical
- Double triple, black
- bones not always softened
- Clouds move in contrary
- directions - attracted by the
- great cloud -
- Returning stroke does
- great mischief -

Situations

1. Low ground
2. On high ground
3. Near a gun or shell
- upright -
4. Under a hedge or tree
5. Stand near a tree
6. Downed leaves of tree!
7. In a house - but not near
- the chimney - looking G.
- best way - look not out
- at a window - stand
- in the door - x cork
8. Safest situation is in
- the middle of the room
- on the carpet - further
- bed - shut with glass
9. Safest room safest
10. Dangerous to cross a river
11. Safer out in than in the
- xx house -

Conductors

1. A bar 1 inch square
 2. Continuous.
 3. Connected with the Earth
 4. Laid on proper height
 5. Finely tapered and pointed
 6. Sweet points on the building all connected
 7. Painted or covered with lead
 8. Upper part a gold needle -
- x New Coat of the Maranda house
Church - Stuppke
- Lady -

Phenomena

- Aurora Borealis -
- immense height -
- affect the magnetic Needle
- appear in cold regions and
more frequently in the winter
- have some connection with
the Sun -
- upper part white, lower
purple -
- Sun more frequent now

Earthquakes —

— supposed to be owing to
Electric Vapors —

— Explorations of Electric Vapors
would not correspond to
the observed Phenomena. —

— Doctor Munkely ascribes Eog
to Electricity — ~~Electricity~~

+ (During an Earthquake
the air is in a highly Electric
state — Vapors: forward —

rumbling noise — rattling
among the leaves of trees

— all consequences of the Electric
Pyrotheria — Spours on a

Dry sandy, or rocky ground
most aptly by an earthquake.

— More loud at on wet muddy
ground or over

x Two clouds Electrically

Water Sports

Phenomena

- A dense black cloud hangs over some part of the ocean - the water under it appears violently agitated in circular waves rise. the cloud descends - they meet and form a wall, small in the middle and thick at both ends - it sometimes moves sometimes it is stationary -
- Perpendicular - Oblique
- Whirling motion -
- x Pressure of the atmosphere will not account for the Phenomena - could not exceed 32 feet -
- x Elect. Cloud -

Volcanoes

Electricity concerned

Flashes of lightning - do
great damage in the neigh-
borhood of St. W. Point

Fire Balls

Electret - Perhaps in-
flammable air concerned

Great difficulty arises for
the judicious height -

From above the limits us-
ually ascribed to our At-
mosphere -

x Fire ball in Aug. 1823.

of an oval form long train
which captured every eye
and ear - Seen at the same
time throughout all Great
Brit: and Ireland -

Lark and Lantern
- Inflant^h air probably
concerned in this - leads
people astray - will not
pass a river -

- Luminous speck on
the Hair - Hummel Ollivier
- Great wool - Bark of a Cat
- Hair combed -

- Club^h hump fermentable
- Omm - Hair -
+ Electricity and common fire
do not act on each other -
- Wispado - Electric Coat -

The same quantity of Elm bark
thrown into two jars of unequal
size gives very different shades.
The larger has the smallest green
why? —

W. Merriest

Queen's Menon' at } 42

12 Salt water } 616

1 Gall. —————

Went: ————— $\frac{1-11-6}{6-2}$

W. Merriest Weather Proof
Height about 200 —————

Silk Machine

Almon^m

Prison - Mass Lady

- Church - fern powder

- one Miller - Eggs -

- tubes - words -

- W. Datzell Gould Square

Antique pieces

- Mr. Reid Angel Court

Throgmorton St

- Mr. Parvins St

Mr. Henderson 1. White Court

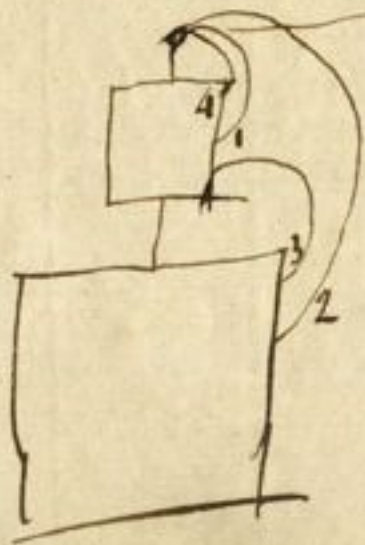
Mulh St

Double Bottle



Charge

after the second
Charge let the
knot cut a few
seconds on A



Charge



Mr. [unclear]

Comd. [unclear]