

No. 1

Electricity

1 To the quantity of fluid charged
from the capillary syphon increased
when electrified? & is in what pro-
portion to the diameter of the bore of
the syphon? — This experiment
has no analogy to the circulation
of the blood, for the tube opens
into the air, and Discharges more
water from the separation of the
particles of the drop hanging at
the end of the syphon by the repul-
sion of the Electricity, just as hap-
pens when the drop is wiped off
by the finger; but in the body
of an Animal, the blood vessels
are enclosed in the skin — To make
the experiment, similar, the
syphon should be enclosed in
a metallic or other case. and

The fluid should drop into the
case, with this variation, there will
be no difference in the quantity
discharged —

2. In what manner does Eleth
operate in depriving an animal
of life — Are the bones softened
the blood extravasated, or is
action confined principally to the
nerves? —

3. In what manner does Ele^u
act on bodies in the third of
present stages of Fermentation?

4. What is the proportion of
thunder in the different seasons
of the year and why is there
so often thunder without lightning?

5. If the air in a receiver be electrified with a candle burn longer or shorter than in common air?
6. In what ~~matter~~ ^{manner} does a candle act in carrying off the Electric fluid? By a watery humidity or rarifying the air? This may be proved by a hot iron
7. Is not Electricity concerned in the production of a fog? — Electrified fountain — Air highly electrified during a fog.
8. The Electrometer measures the height of the Electric atmosphere but not the strength of the charge this depends on the power of the machine
9. To ascertain the Septic power of Electrically small bits of metal may be electrified in different ways

ways and compared with other
pieces of the same kind and size
and not electrified.

10. Some Electricians are of opinion that
the Electric matter resides in the
Glass and is not extracted from
the rubber. — True by what Exp.
is this opinion supported? —
11. Why are the sparks taken from
that part of the Electric Cylinder
just entering on the rubber rather
than from any other part of the
Cylinder?
12. A point negatively as well as
positively ^{charged} blows the flame of a
candle from the point —
13. Does Electricity promote evapo-
ration? It does. — Vapor always
electric —

14. Does a living animal conduct
electricity better than a dead
animal? If so - A dead animal
is almost a non conductor - It has
sent through a piece of raw meat

15. A flash of lightning in the East
enters a window to the west and
appears almost as distinct as if
it had happened in the west, how
can this be accounted for on the
principles of reflection?

16. Flashes of lightning are frequently
repeated two or three times very
rapidly - Given the cause -

17. Miss _____ of Cork was struck
with lightning on the arm when
she left the room for some days
she was sitting near a large gilt
framed mirror, her elbow touching

The lower corner of the mirror from
her hand on the sole of the shoe
The lightning passed from her el-
bow to her hand. She felt a vio-
lent blow in the elbow —

18. Conductors covered with lead
prevent rust are preferable to
those covered with paint —

19. Ships are seldom struck with
lightning in a storm, the waves
and spray prevent this, as often
at anchor and in a calm —

20. Tho' what part of the egg is the
electric shock conducted? Electric-
ity promotes incubation —

21. Two conductors a positive and
negative when connected destroy
the power of the machine —

22 Two jars charged the one pos:
the other Neg. Discharge each
other

23. Electricity promotes the growth
of vegetables? — Doubtful —

24 Why are the leaves of vegetables
edged and many of ferns edged with
sharp points? Probably to cir-
culate the electric matter —
— Oak, ash — Bramble, Thorn —

25. If the above be the fact will
not the growth of a vegetable
be retarded by cutting of the
points or covering them with
glass?

26 It is asserted that the softer metals
conduct better than the harder
This not always true, for an iron

chain will sometimes conduct
better than one of the same size
of brass — Proof —

27. On what part of the body and
in what manner does the Electric
Shock act? —

28. Is Thunder heard as much in
the middle of the Ocean as near
the shore? —

29. Is it possible by just passing
by an Electrical machine to
destroy its power without touching
it? —

30. An Electrical machine has been
constructed of oiled silk the rubber
the skin of a Cat —

31. An Elec. Machine may be made
of a black and white ribbon —

32. Will power in the rubber increase the power of an Electrical machine?

33. Telumut is the best material for stuffing an Electrical rubber

34. Might not a Hoghead be baked and coated and make a good electrical jar -

35. If a manual glass be charged by and the water removed and the rim of the glass rubbed with a wet cork insulated, when the sound is pretty loud strong, the glass will break. W. H. -

36. The Electric matter sent over follows of
Copper = Green like grass
Brass = Light green
Steel = Yellow like Gold
Antimony = Light white
Zinc = Heavy white
Iron = Reddish

37. If a plate of thin mirror glass
be coated on one side and on the
other be drawn forked lightening
rods & with gum water and the
plate coated shew on the gum
The discharge of the plate exhibits
the most perfect representation of light
any is — If the plate be of thin
glass it commonly breaks —

38. The blade of a pen knife, a watch
spring, and steel wire were all
melted or rather burnt by the disch.
of 20 square feet of coated surface
in dephlogisticated air —

39. An Electrical mortar threw a
shell four inches in diam. to
the dist. of 100 yards feet. The mortar
was made of wood and the shell of
paste board laid over with black
lead —

~~In Boston and Hall's Engine the
is a machine for counting the no.
of Spokes the Engine gives thro the~~

40 year -
An Electrical Machine may be
made in form of a belt with two
rubbers on each side of the drum -

41 Mr. Hall of Boston made an Elec-
trical machine of a large plate of
glass with moved horizontally two
rubbers at one end of the Drum and
the conductor at the other. Turned by
an endless screw -

42 A single drop of Ether is sufficient
to charge an Air pistol of 10 Cubic
inches

43 In the Experiment of the powdered
resin thrown on the Electrophorus
make one side with a nega-
tive another with a positive jar
- some effect - sometimes both for a positive

44. A bit of strong brown paper when rubbed between the arm and the arm and the body becomes excited will sometimes produce sparks two inches in length - A sheet of writing paper rubbed with the hand or with a piece of India rubber will also produce much electricity -

45. Why does hot air conduct Electricity better than cold? Is it because being hot it holds more water in solution?

46. Electric See-Saw - a b a glass tube 10 inches long moves on the center c - D E a few drops with knobs K K two jars charged e. e. -

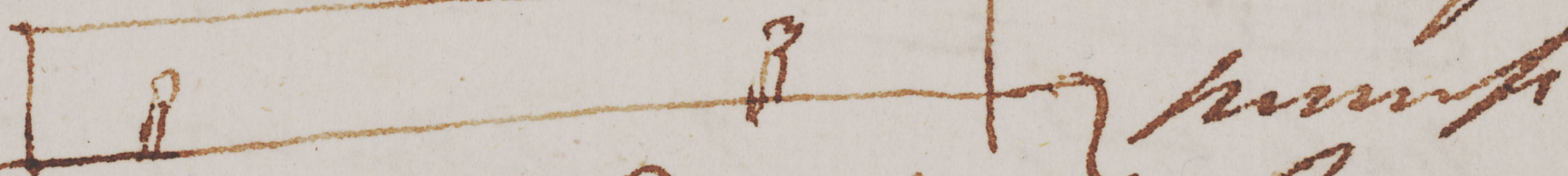
Paris Sept. 1788

47. Electrostatic on a round plate - Gold leaf in the center -
- Sprat on a globe supported on a tube - Sprit with the sparks of different colours -

48. Lecture on Electricity in the Hall of the Royal Academy - Sept 1788

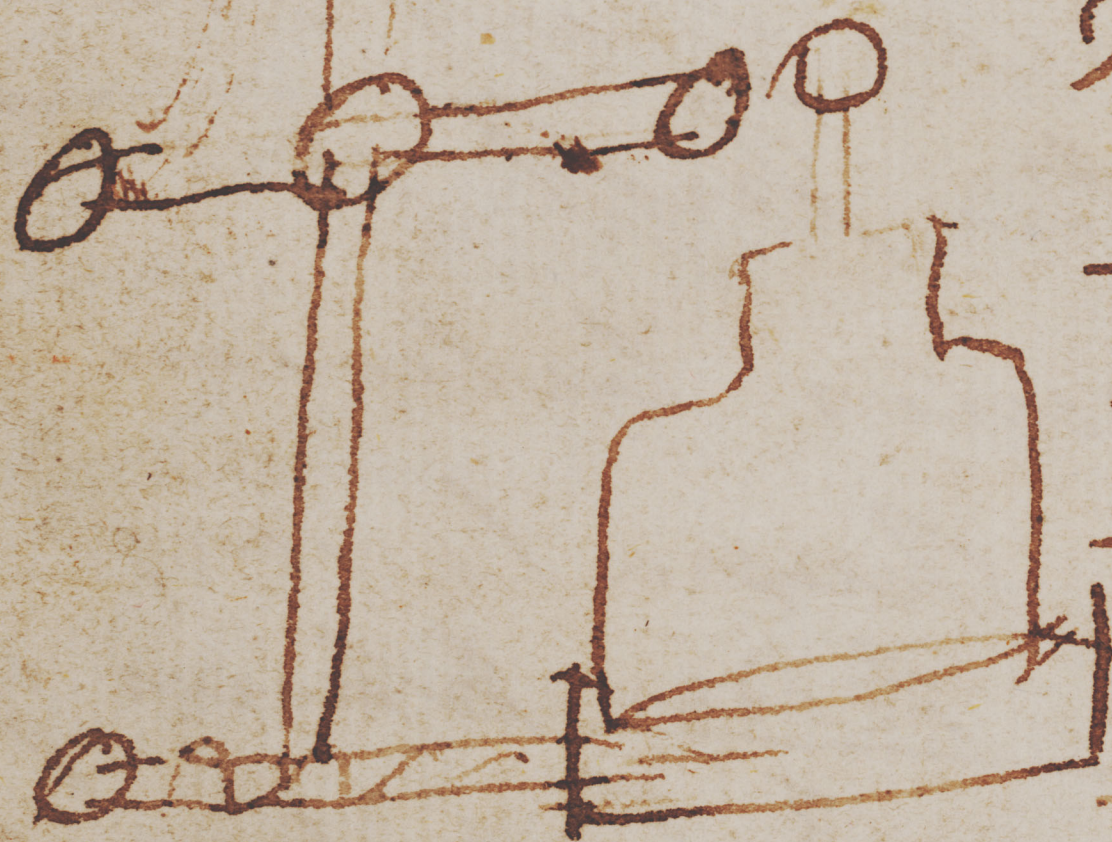
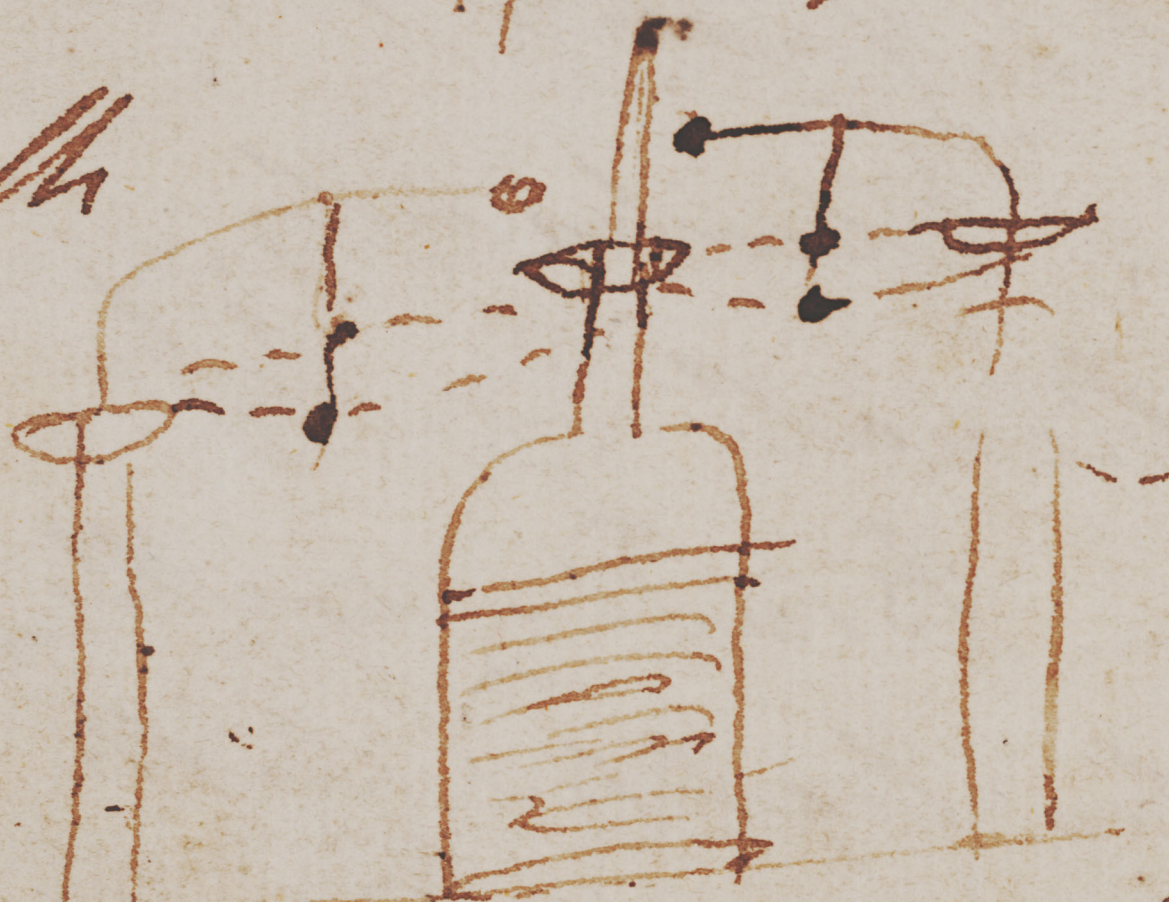
- Sword - Bladder with inflated air, candles lighted with this air - spirit on a glass stand changed from the first air Lamp

- Dancing figures between 2 flat wires - Several large trough balls like the hemispheres of the air -


pump up or conductor - Jar with the mixed Electrostatic series below - Lightning around the

room — Spout on a Cistern —
 for board on the roof — a
 number of brass rods with hooks
 of different lengths to form cornu-
 mulations & insula —

Bells



This structure useful
 for Durbereed si-
 tully several ways
 Powder Præparati-
 on Cotton Lighted
 Large Spirit Tube

See and
 screw below Lightening on a cistern
 for board on the roof —

Electricity. N^o 3

- 101 It is observable that shooting stars run nearly at the same time & meet their course the same way —
- 102 It is probable that every flash of lightning consists of one or more balls of fire, which their extreme velocity ripens into a line of fire, either in a straight or a crooked line —
- 103 Forks of lightning are frequently seen to dart from one part of a thunder cloud to another —
- 104 Thunder clouds frequently serve to conduct the Electric matter from one part of a cloud to another —
- 105 If a receiver full of air in its natural state is made fast to a plate so as to be sound an light, and has a bell included in it, let the receiver be exhausted in a sizer and the air exhausted from between them the sound of the bell will not be heard

106 A charge of one or two large glass rods
over white paper tears it, but if a line
be drawn on the paper with a black lead
pencil the charge will pass without in-
juring the paper - Now, can so small
a quantity of metal conduct so great
a quantity of Electricity? -

107. The force of a charge is greatly increased by
sending it through a small hole in a thick
plate of glass or other non conducting body
- very easily melted this way -

108 If the ball of a Therm. is placed between two
balls ~~with~~ of wood ~~to~~ ~~mit~~ ~~to~~ - in sending
strong sparks ~~from~~ between the balls the
mercury will rise - has been raised 40 to
50 Degrees -

109. There are two imperfections attending
Electric Conductors, the point is melted
or gets rusty, and the lower end seldom
discharges the Electric fluid with sufficient
ease - To remedy these defects, it has
been proposed to terminate the upper
end with black lead, and ease the lower
end with a ^{hook} ~~rod~~ of the same material

and melted Sulphur which will pre-
serve the conductor for ages. The lower
end of the conductor may also be
surround with Charcoal, in a ~~box~~
pit, which is indispensible in any
known time —

110.

