

To

Lewis

and

Monte

Vol. 10

Lucius

and

Writs

Vol. 10.

London 17<sup>th</sup> April

1789.



~~77~~ A gentleman passing by  
a woman who was dropping  
her self on the snow, he  
asked why she had cast  
off her clothes, she answered  
by saying one half under  
her and the other half gone.  
he was kept warmer  
than if she had remained  
covered. This was reported  
as a fact in company  
where Doctor Beckett  
Duch. Phipps Jr were  
present. quite the same?



Mr. Martin

Pneumatics

~~1794~~ Sir C. has employ'd  
a battering ram to be  
mush'd old St Pauls.

The ram had played for  
several hours with seeming  
by ~~without~~ <sup>no</sup> effect,  
when all of a sudden the  
wall began to give and  
at length fell.

x ~~1794~~ A tumbler may be  
broken by drawing a  
tobacco pipe over the  
edge of the glass.

x The more firm and  
compact the wall the  
more easily it is beat  
down by the ram, hence  
therefore on the head of

is necessary. To loosen the  
glomer is to prevent the  
from vibrating to a distance

~~1795~~ What is the best  
mode of applying the  
power to the ram?

~~1796~~ This has a double  
reparation; it has a sort  
of jaws the rays come  
together, cross at the  
top.

~~1797~~ Water Double Engine

The beam is lodged  
on the cylinder and  
with a weight equal  
to the pressure of the Engine  
This Cylinder is filled with  
at top and bottom and

Air

N. Air

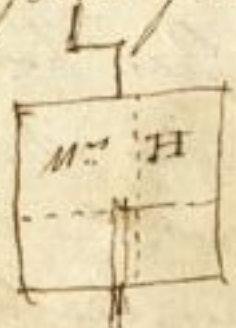
Engine



both exhausted alternately  
 N. 13: The birds must be <sup>19 miles west of Exeter</sup> ~~double~~  
 1728. The Bavery road has  
 evidently been used the  
 structure of the road over  
 knods are distinctly seen  
 both - paths. H

Agriculture

~~1728~~. Part form of a church



25, 7th

The under part is hollow a  
 cell or tube extends to about  
 the middle of the inside, by  
 this contrivance a communication  
 is always maintained with the  
 atmosphere without the cream  
 rising out

~~1728~~ Rummet, Calves Stom<sup>th</sup>  
 emptied of its contents but  
 not washed, put in salt  
 salt for one month being  
 it every morning take  
 it out of the salt and stretch  
 on a cross sticks hang it  
 up till dry. The top of  
 a crown put into boiling  
 the preceding evening  
 is sufficient for 20 Gall<sup>ls</sup>  
 half a pint of water is  
 sufficient for the above  
 temp: about 90° F. Th.

Agriculture

M: H

The flowers of the white  
 may and ~~manufactured~~ or warm  
 will produce the same effect  
 - Stomach of a pigeon -



Exp. 1731

31. Oil of Turpentine or any other open heat oil will take out a stain from paper soap less the same but this last injures the cloth —

Exp. 1732

32. Lemon juice best for taking out ink stains

1733

Tin is the most expensive of all metals known as it will require 16 times its weight of lead to work up at home unless the difficulty & extraordinary expense of separating tin from a mixture of tin and silver. But a method has lately been found to perform this with more ease than from any

Metals

other metal. — Thus To any quantity of tin and silver add an equal quantity of lead, put them into a melting pot and give it a good red heat. Then thro' some clean iron filings on it, about equal in quantity to the lead raise the heat 'till the filings are melted — remove the pot from the fire and let it cool when cold break the pot. There will be found a cake of argentum, the bottom part of which is composed of the silver and lead the upper part of the tin and iron. These two may be separated by giving the mass just such a degree of heat as is sufficient to melt the lead, when the



tin and iron with steam on the surface like a web, and may be shamed of —

— This process depends on the strong affinity between iron and tin, and lead to silver, and the strong antipathy between iron and lead, which cannot unite till the <sup>iron</sup> lead has lost its phlogiston —

~~1734.~~ A great quantity of air is produced in churning butter give what kind of air is it?

~~1735.~~ In making aqua regia a violent effervescence takes place, what sort of air is it?

— Gold dissolved in aqua regia produces air — of what kind? —

1736. The sea seems in painted brown and finished with the hammer, this is the only colour that will <sup>stand</sup> with the hammer, it would be a great improvement to find others that would stand —

1737. Copper well cleaned is browned with Colcothar of vit. with water or urine than with a soft brush. It is then held over a charcoal fire, till the colour takes near the end of the operation, they add a little common pit coal, reduced small this process answers only for copper, but to bronze brass for ornament.

Manufacture

M. C. Long

Chemistry



Salt it in Water with a  
little acid of Vitriol and pro-  
ceed as before, the acid acts  
on the Lapis Columinus  
of the trap and leaves the  
Copper surface — — It —

~~1792~~ A mixture of ~~Starch~~  
and verdigris makes  
a fine Green — Starch  
it self very in flamm<sup>ble</sup>  
blown out of the brass  
make a fine Green

~~1793~~ The tenth proposition  
of the third book of Euclid  
is defective, how is it known  
that the point B is within  
the circle D. E. F. ? —

~~1790~~ — The Dispersive power  
of Glass is increased by a-  
mixing the calx of lead with  
the Flint and Alkale

~~1791~~ The Prismatic has no  
affinity to the Flint, but  
thru the medium of the  
Alkale, even with this it  
is imperfect, and as the  
lead is heavier than the other  
ingredients, it necessarily  
falls to the bottom. Hence  
the middle of the spot is al-  
ways the best, the upper  
having too little, and the  
under too much Dispersive  
power



~~Flint~~ Flint glass the most  
imperfect for optical pur-  
poses, on account of the veins  
of the veins or threads —

— *Ques* are not these occasi-  
oned by the lead falling to  
the bottom? if this be true  
these threads should be  
more dense than the other  
parts of the glass. This is  
proved by holding the glass  
in ~~the glass~~ in the sun  
when the rays will be con-  
verged to a focus or *Conver-*  
sions line by each thread.

— *Ques* what is best method of  
preventing this? —

~~Flint~~ 3. Glass for Artificial gems  
is melted and allowed to  
cool in the pot, it is gene-  
rally without threads.

*Primo* This method will not answer  
for optical glass, because  
here there is a kind of *Conver-*  
sion which totally  
changes the refractive power

~~Flint~~ 4. To remedy the imper-  
fection of Flint Glass above  
either a new substance *instead*  
of the lead, or a more flux  
than the alkali, must be  
(discovered) —

*Primo* Frequent fusion makes the  
matter worse

— The covering the pot improper



~~1745~~ - The present state of  
the optic Glass <sup>being</sup> depending  
on the improvement of the Astronomical  
telescope - whether  
the price allows answer  
the purpose or no, the  
only must be paid for  
- given does not ~~conform~~  
with the views of the board  
of Long: in recommending  
the improvement of the Astronomical  
Glass? -

X  
~~1746~~ Manner of mixing  
the ingredients, and  
putting them into the press.

~~1747~~ To make the appearance of a suspended  
weight over a piece of  
Jewry with Indian Ink  
very thick, then with  
the finger trace the Scales -

~~1748~~ When it is said that  
two quantities are incommensurable with respect  
to each other, it is only  
meant with regard to our  
present calculus, but a  
calculus may be discovered  
by which the ratio may  
be expressed in definite quantities.

Deillo

Remediation

McThomathos



1749. The First Six Books  
of Euclid contain with  
the Eleventh and Twelfth  
231 Propositions of which  
not more than  
are applicable to any use-  
ful practical purpose —

Primo

~~Primo~~ Is tin ever manufac-  
tured of it self? —

Primo

~~Primo~~ Some iron cannot be con-  
verted into steel, some allege  
that this is owing to the iron  
having no Phosphorus, which  
they say is contained in all iron  
that is converted into steel

Primo

~~Primo~~ It is found very diffi-  
cult to free Regulus of Ant.  
from iron, perhaps terra  
ponderosa melted with it  
will produce the effect —  
This would improve types  
which consist principally  
of tin, regulus of Ant. and  
a little Bitum. —  
— The roughness on the surface  
of the type is owing to the  
remaining iron —

Primo



~~#53.~~ The main pipe  
seldom freezes, the off  
freezing on a quest in con-  
venience, to prevent this  
place a stopcock near the  
main, which let be open  
and shut by a work  
near the cistern, by this  
means the pipe from the  
main may when shut be  
always kept empty and  
consequently cannot freeze,

Miscellaneous

~~#54.~~ What reason is af-  
signed by the Millwrights  
for placing the axis of a  
hand mill fly not per-  
pendicular but a little inclined  
to the horizon?

Engineering

~~#55.~~ Bessemer's Lead  
mine (Owenbire -  
<sup>Cwt</sup> 2100 of Lead ore with  
two bushells of lime  
for flux require 12 hours  
waiting and smelting  
and consumes 18 Whinstone  
bushells each = 24 Lb of

McCallum 94



Swansey Coals - They  
produce about 13<sup>oz</sup> of  
Lead -

- The lead unrefined is hard  
and spongy, it is refined  
on a large test of bone  
ashes, requires five bushels  
of coals of Ton, and produces  
about 45 oz of fine silver  
of Ton -

- One test will endure the  
refining of ten tons -

This is performed in five  
days and nights -

- The refining of the silver  
is generally complicated

in a small test -

- A ton of lead produces  
about one ton of Lishage  
- This Lishage is again thrown  
in to the smelting furnace  
with a few shovelfuls  
of common Welsh coal  
thrown into it -

- From one ton of <sup>the</sup> lead,  
Lishage is produced 17<sup>1/2</sup>  
of soft lead, at the expense  
of three bushels of coals of  
Ton - This lead still  
contains near 2<sup>1/2</sup> oz of silver  
of Ton, but the lead refined  
in Germany does not contain



about 1/2 Cwt of Iron -

#756. Bones for leeks are  
bought ready prepared  
in town at about 1/2  
crown of buckel, there must  
be no horse bones, these  
are too light and spongy

#757. A new improv<sup>n</sup> in  
Ship building is just  
now proposed and a vessel  
of 500 Tons is constructing  
at Plymouth by order of  
Government for an Experiment.  
The improvement is to

make the vessel sail either  
in Deep or Shallow water  
This is effected by making  
the keel moveable, by  
means of three strong iron  
bars which pass up thro'  
lubes to the Decks and are  
easily wrought by cranks  
and winches

The first hint was given  
by one ... a young  
Scottishman and a model  
was presented by him to  
a mathematical Society  
of which he is a member.



~~1755~~ Mr. M. applied  
one end of a Magnesian  
bar to the back of a pile  
slip watch, the watch  
stopped on removal of  
the bar the watch  
went seemingly as  
usual but loses 14  
minutes every 24  
hours

Magnesian

~~1759~~ When Caesar landed  
in Britain he found the  
tides highest at the full  
moon, this he observed  
was totally unknown  
to the Romans.

Athenians

~~1760~~ There are vestiges  
of the Roman iron works  
in the Forest of Dean where  
the present iron works  
are built on those of the  
Romans and are working  
the cinders or slag formerly  
wrought by the Romans  
The Romans made use  
of no bellows, they could  
not therefore melt their  
ore sufficiently — The  
slag thrown away con-  
tained much ore

Mr. Spilberg



1761. In the neighbourhood  
of Jerusalem M. Maund's  
informs us that the same  
person holds the plough  
and drives the oxen —

1762. A new lock for a  
cannon was tried at  
Wolwich lately and  
said to answer well

1763. A wheel barrow  
which takes the  
exact plot of a field  
by going round it  
it is a sort of per-  
sagraph —

~~1764.~~ Almost all the schola-  
rants of Poland speak  
Latin —

1765. New method of separating  
Silver from lead — seen  
pair of bellows —

To solder with pure  
or soft solder. Let the  
two pieces be scraped  
clean, give each a heat  
as to make water tight  
make a strong solu-  
tion of sal. am. <sup>in</sup>  
water, put a little of this  
on the joints to be soldered  
the water will evaporate  
and leave the sal. am.



1767 The river <sup>at Lyeon in Bohemia</sup> ~~Prorathus~~ <sup>is 100 feet per a</sup> perpendicular on the melting the snow when the water subsides. it is nearly half a mile wide a Bridge composed of Rafts of Deal wood are fast by Jackplings when it remains till the frost comes in Oct<sup>r</sup> or Nov<sup>r</sup>

The Bridges in general in Russia are Timber covered with boards which are very often broke, shilivered, or full of dangerous holes.

Many Bridges there, and in Poland are covered with fascines and straw.

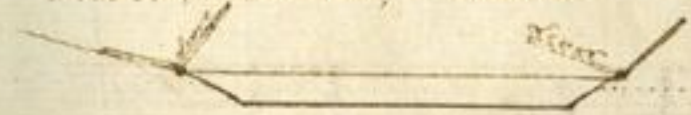
Ab. in Poland is what they call a flying Bridge. the river being there is narrow & deep the Bridge is a Raft of logs with two upright pieces on one side and holes in them thro which a rope extended from each shore passes and at each end of the raft or bridge a piece is lowered down to admit Carriages &c. See

Profile of the Bridge



a. b is the Bridge c. a & e. a & b are the uprights or guides thro the tops of which the rope passes -  
e. a is a flap or movable part which lets down on the shore and is raised by the lever & when necessary

Passage Boat at over the River (Vistula, Poland)

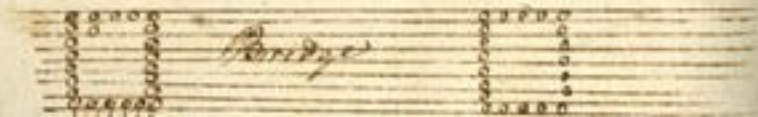


at each end of the Boat or Flat is a piece to be let down for the descent of Horses & Carriages they are raised by levers and hooked up while passing the River these Flats are about 10 feet wide & 20 feet long.



At Thorne

In a Wooden Bridge, very high &  
without any rail, as the bridge would  
be subject to be carried away by the  
quantity of Ice with it not conducted  
between the Beams or Piles of the bridge,  
very long Beams of wood are placed  
in a sloping direction up the river from  
the piles the Ice in its course striking  
against these Beams is broke or turned  
aside to pass thro' the spaces.



Strong Beams of wood.



Strong Beams of wood.

N.B. The slope may be  
about 20 degrees -



~~1768.~~ It was there is frequently  
found charcoal, this affords  
another argument in proof  
of wals being a vegetable sub-  
stance —

~~1769.~~ The veins of metals are  
all vegetable and better  
than of coal quite the contra-  
ry —

~~1770.~~ Mactons for fastening  
sticks of phosphorus. Etaler  
gun barrel, stopcock, & left  
lobe, valve at the opposite  
end —

~~1771.~~ Fumes of phosphorus or  
oil of wax will carry a  
flame to a considerable dis-  
tance, fire ball machine &c  
dampers easily blown with phosph-



~~Chemist~~ For Distilling Alcohol  
uses about 300 Opeus of fuel  
are requisite - light fuel  
distill. very much -

~~Chemist~~ #773. weight of a complete  
suit of armour - must  
be 60 to 70 pounds -

~~Chemist~~ #774. In the Albion mill  
Double Engine  
the Dia. Cyl. 32  
Length Stroke -

~~Engineer~~ Stroke of Piston: - 18  
In 24 Hours Coals 3x = 600

Diam. Millstones - 4.4  
Each pair makes in  
24 hours - } 144 lbs

Upper Millstone 1/2 part thick -

#775. Charcoal of the  
silicious substances the angular  
the comminating pyramids  
worn down. in those of Calcareous  
substances they do not -

~~Engineer~~ #776. A boiler with double  
plates of copper like <sup>was</sup> the  
with 9 plates presents a greater  
surface to the water -

~~Boiler~~ #777. Boilers with tubes  
inside -

~~Boiler~~ #778. Boilers when the flame  
passes immediately  
into the water -  
Sub bent downwards -



~~1779~~

Chemistry

I hot water evaporate in vacuo? If so might not Sugar boiling be made for the much improved? —

~~1780~~

Engineering

In Distillation of spirits might not the steam be employed to work an engine and afterwards condensed into spirits as usual? —

~~1781~~

Physics

A rotative motion by a tube welded round a wheel steam admitted value —

~~1782~~

Physics

A machine moved by water by a vacuum

on the same principle as the steam engine —

~~1783~~

Chemistry

What effect has the addition of a superstratum on the appearance of a column? —

~~1784~~

Mathematics

When large and small shot are mixed they go to different distances — also scatter more — Patent shot is better polished consequently truer —

~~1785~~

Physics

It may be known which of a mortar is touched by the shell when bearing the fire, by observing the whistling of the shell —



~~1786~~ Ten with shell with  
2:9 powder and 35° elev.  
rang'd 1000 yards line  
of sight 14 seconds —

~~1787~~ Sealing Saddons-folds  
- joined consists of pieces  
of six feet each - upper  
step of each piece broad  
goes into a slot in the  
lower end of that above  
- copper ends of the sides  
go into two square iron  
ferrets in the inside of the  
lower end  
of the copper piece —

~~1788~~ In every mortar  
battery are two brass

Modern War

placed   to preserve  
the man from the shells  
of the enemy - guns have  
not been ~~to~~ the same

~~1789~~ Continuance to keep  
a gun always ready  
at whatever be the  
position of the ship

~~1790~~ Rotative motion  
produced by a strap  
and weight

~~1791~~ The velocity of a  
bullet may be so great  
as to render its range  
shorter than with a less

Bullo's  
Tadpole  
Engin  
Machinery



charge. A bullet shot  
perpend' into a vessel of  
water with a quiver you  
may pass thro' the water  
with a greater will not  
penetrate thro' the water  
but will be flattened —

~~1792~~. Some small shots  
discharged with a great  
quantity of powder makes  
it scatter and not go so  
far as with a less —

~~1793~~. What sort of air does  
a red hot iron striking  
into water produce? —

~~1794~~. The Muspoon may  
be shot from a cannon

constructed on the same prin-  
ciple as the Saliva —

~~1795~~. At Gibraltar when  
a particular wind blows  
from the Barbary coast  
every object seen thro' it  
is magnified sometimes  
very much — air perfectly  
clear — lasts  $1\frac{1}{2}$  to 3  
hours the Barbary coast  
and the coast of Spain  
rather black —  
This happened on the

~~1796~~ How many stars may  
be seen by the naked eye  
at one time? —

Dallas

N. History

N. History



~~1777~~ *Minut* ~~1778~~ *Minut* ~~1779~~ *Minut* ~~1780~~ *Minut*  
I desire what proportion of the real value is the land tax?

~~1781~~ *Minut* ~~1782~~ *Minut* ~~1783~~ *Minut*  
Would one fourth of the value in land be equal to all the other taxes put together? —

~~1784~~ *Minut* ~~1785~~ *Minut* ~~1786~~ *Minut*  
When a stone is discharged from a ship it is whirled twice or three round, before a boat is launched from the main is in power and vibrates for some time to give it greater force — The wheels require some

time to be brought to rest in concert — Irish women at Edinb. cannot walk without a load on their back — none in their baskets —

# 1800. A substance which # grows on the outside of the Cocoa <sup>Plant</sup> ~~tree~~ is manufactured like hemp and made into cables which are superior to our common cables — They are more elastic — specifically lighter than water, and do not rot so soon as those made of hemp —



X  
1801. At the setting of  
the moon in Oct.  
about the 20<sup>th</sup> should the  
moon be new or full at  
that time Deadfall.  
Murraines are expected.

N. History

— The Murraines in the  
west India and Corolla  
was Do they happen at  
the same season of the  
year? —

— last sometimes 6 to  
12 hours —

X  
1802. An. the Coroman-  
Del coast they have two  
prosp. of rice in the year  
reaped commonly in the  
months of \_\_\_\_\_ and  
\_\_\_\_\_ the same in Corolla

1803. The rainy season  
begins about the middle  
of October and ends about  
the \_\_\_\_\_ of  
\_\_\_\_\_ Rice grows best under  
water — common food  
boiled in water — sit on  
the ground round a  
Large Ditch —

Pallo



~~#14.~~ The real value of a  
rupie is 2<sup>3</sup>/<sub>4</sub> but com-  
monly reckoned half a  
crown - A Pagoda is  
often valued at 10 sh.

1805. Ships seldom pass  
between Madagascar &  
the main - the passage dan-  
gerous - large ships  
cannot pass between  
the Island of Ceylon  
and the coast -

1806. Eclipses do not  
always happen at the  
changing of the moon-  
soon, seven years have

sometimes elapsed without  
any

#107. An essay on Fluxions  
is gained the prize  
ably. In this essay the  
expression of infinites or the  
rule and new principles  
are assumed less liable  
to objections -

1808. It is said that the  
Chinese cannot compass  
springs, that they can make  
at other parts of a watch

1809. The Cayen cables  
are made of the bark of the  
Coccoloba -

Miscellan

Navigatior

M. P. History

Mathematics

Miscell  
China



1810. Doctor Berthollet says that  
common air in its digest  
state contains 19 parts out  
of 20 of water if this be true  
it will overthrow the advan-  
tage taken of Cavendish's  
experiment respecting the  
composition of water —  
Vitriol and Phosgene and  
several acids are found in  
the residuum, Priestley  
says there were mixed  
with the water, The Analysts  
say that the Nitrous acid  
mixture from some phos-  
genetic air being mixed  
with the pure air and  
which in the Experiment is  
decomposed — Mr. Goussier's  
other Experiment of ascending  
from a mixture of pure and <sup>formed</sup> Nitrous

Chemistry

<sup>Nitrous acid</sup>  
generated in ~~the~~ <sup>the</sup> experiment  
by the Electric spark, they were  
as an answer to Doctor Berthollet  
The last Experiment took 3  
months to produce the effect  
~~that~~ when fresh air is up-  
plied to a cold glass it is  
condensed and runs down  
another stream succeeds

Chemistry

1812 Does the rising of the  
vapour on the surface of  
the body tend to produce  
heat?

Chemistry

1813. The Lapland thread  
is made of the skin of the  
reindeer — cord of leather  
used at St. Hilda, wear  
better than hemp. The  
skin of the sea is  
the most valued, though

Miscellaneous



cut circles—

~~1875~~. In a treatise published  
late at Copenhagen  
Speculum Regale the con-  
struction of the American  
Engine of war is mentioned  
It is written in the  
13 Century

~~1875~~. On what prin-  
ciple does oil skin  
produce heat when  
applied to the body?

~~1876~~. Royal society 5<sup>th</sup> Nov.  
1789. This evening I  
read a paper of Doctor  
Herschell on the discovery  
of two new satellites of  
Saturn. They are both  
within the orbit of the 1<sup>st</sup> Sat

and called by the Doctor the 6<sup>th</sup>  
and 7<sup>th</sup> which last is nearest  
his body— Saturn's ring ex-  
tremely thin does not cover a  
satellite perhaps reflection may  
cause the sat. to appear on both  
sides of the ring as it actually  
did to Doctor Herschell—

Protuberances sometimes seen  
on the ring proved by the Doctor  
to be planets— Ring more  
luminous than the planet  
and with a high magnifier  
appear perfectly clear, when  
Sat. had a yellowish ring  
— The ring a luminous  
matter—



~~#577.~~ A pewter plate is sup-  
ported on a common drink-  
ing glass, a table knife laid  
across the plate, with some  
salt on it, an egg is laid  
on the salt with its end on  
endwise: if the plate be  
shook horizontally, the  
egg will drop into the glass  
whole —

~~#578.~~ Royal Society 12<sup>th</sup> Nov  
The remainder of De La  
Mare's paper on the  
Planet Saturn was read  
with respect to the very  
spherical form — Equat.  
to the pole. (Drawn at 9:10  
— Atmospheric, 6<sup>th</sup> and 7<sup>th</sup> Oct.)  
hung at the limit of the

Remains

Johnson

Planet — Clouds among the belts  
the belts sometimes white  
sometimes dark —

+ Mr. De la Mare's answer to  
Mr. Flamsteed's paper on the  
Invention of the Astronomical  
Telescope — Mr. De la Mare  
was the invention of a Mr.  
Hals who employed Mr. De  
la Mare to grind the glasses about 30  
years before Newton

~~#579.~~ Royal Society 19<sup>th</sup> Nov  
nominal observation on Van  
and Mars's nodes for  
Copenhagen — Cronin's

~~#580.~~ If two comets and  
a shower are struck at  
the same time the comets  
will be heard at a much

Comets



~~179~~ 179. Crucible Dulceme Char  
the discord —

~~180~~ 180. If two conductors are  
electrified the one Pos:  
the other Neg; then  
removed from the machine  
will they give a larger  
spark than from one of  
them?

~~181~~ 181. What is the cause  
of the crack of a whip?

~~182~~ 182. Multiply the diam:  
of the Speculum in inches  
by 60 gives the highest  
magnifying power which  
Watson uses in his Ref: Tel:

Electricity

Muscle

Optics

~~183~~ 183. M. Newton's Exp

Having precipitated a  
solution of Gold in aqua: r:  
with bell. Ether in a small  
flask of about 1/2 ounce  
put this flask with another  
of bot. alkali in a case  
in his pocket he had car-  
ried the case five or six  
days when taking it out  
and returning into another  
room left it on the table  
an explosion took place  
like the report of a cannon  
The aqua: R. was made com-  
posed of 5 parts. Nitron Acid  
and one part Am: — The  
same air from the calc of  
Gold contributed to the effect

Chemistry



1825. This evening  
at the royal society part  
of a paper on the heat and  
contraction arising from the  
mixture of the Mineral acids  
with water - Also Doctor  
Austin's observation on the  
heavy inflamm<sup>te</sup> air

*Chemistry*  
~~#826.~~ An animal acid  
in the blood different from  
all the other acids  
united with iron forms  
Prussian blue

*Electricity*  
~~#827.~~ If a cord made of gut-  
ton is dipped in water  
and an electric shock  
sent thro' it, a shower  
of air issues

~~#828.~~ A rompian cord  
will not produce a  
prurient wound thro' the  
vein so much - Is not this  
owing to the fibres?

*Chemistry*  
~~#829.~~ Phosphorus in  
phosphorus and the  
Caustic Pot. alkali  
in contact with atmosphere, efflu

~~#830.~~ Nicolson's rubber  
can not touch

*Electricity*  
~~#831.~~ A musket bullet  
taken out of a wound  
perfectly round - bullet  
not altered in its shape  
by the resistance of the air  
- appearance from the stroke  
on a solid - heat probably



produced by collision - no  
heat from the most violent  
agitation of Mercury -

1832. Volatile Acid is  
highly concentrated attacks  
more fluently than the  
alkaline salts  
or any other substance

1833. Method of elevating and  
depressing a gun by  
a kind of spirit on  
the hind axle of the  
carriage -

1834. If a watch Cal: is  
is held near the fire  
for some time, it will  
be heavier in one side than  
the other -

1835. The principal ad-  
vantage of a gold sponge  
is that it does not rust

1835. Charcoal made in  
an iron by London better  
than the common one -

1835. In this way  
the alkaline salts are  
expelled, and large bills  
can be charred -

1836. A glass cork  
will spoil a bottle  
of wine by giving it  
a taste which even  
distillation cannot get  
off -



~~1837~~ If a bad of wine  
is not quite full a  
cork gets on the sur-  
face of the wine which  
if mixed with the wine  
will entirely spoil it  
musty - The wine should  
in this case be drawn  
off within a gallon or  
two without disturbing  
it

Dr. W.

~~1838~~ The cork should be  
dipped in wine or brandy  
before it is put into  
the bottle of wine -  
- Green should the bottle  
be full -

Dr. W.

~~1839~~ The age of wine in  
the best India is advanced  
by passing it from one  
vessel into another this  
evaporates part of the spirit  
some ingredients are also  
lost into it to render it  
milder, the old mild wine  
is  $\frac{1}{3}$  weaker than when  
new - Preboiling wine  
produces the same effect

Dr. W.

~~1840~~ The best wine is made  
Manufact. without addition

~~1841~~ Fermentation is  
Chemistry always checked by an  
acid



~~1847.~~ Royal Society  
 14<sup>th</sup> Jan<sup>r</sup> 1790. A letter  
 from Doctor Harsnet  
 to Doctor Watson was  
 read giving an account  
 of his sister Miss Pen  
 having discovered a Coma  
 in about 21 hours  
 right Accurately and  
 70 odd degrees of pot-  
 tence

Astronomy

~~1843.~~ Patent churn

~~1844.~~ Machine for working  
 Linn Gauge Murlins  
 and all other fine stuffs  
 with stockings  
 apparatus mat

Mechanics

~~1845.~~ The principal  
 objection to the gun  
 has been the  
 breaking of the line

~~1846.~~ A new kind of  
 1847. A new kind of  
 water made in the  
 Boat

~~1848.~~ Count Ruden says  
 that at Paris Manufacture  
 in Anglesay 2000 Tons  
 of Copper are manufactured  
 from the ore and sold  
 by precipitation, in the  
 year

Metallurgy



8 X  
149. To make Scotch  
short bread —

Beat carefully one pound  
of butter without oiling  
let it stand few minutes  
to cool knead it with 2  
lit flour add 6 oz sugar  
1/2 oz Cauded Lemon Juice  
and a little cloves —

This may or not be  
sprinkled over with  
candy crumbs baked  
in a flow over —

~~150.~~ To Dissolve Belladonna  
in water — Terra Pont.  
+ Fixed air, Lime water —  
+ Iron Infusion of Gallic or  
Purpure Alkali

Miscellaneous

~~151.~~ Pieces of red yellow and  
blue silk printed on paper  
and laid over one another  
like slate may be used  
in proportion till the  
white is perfect —

~~152.~~ Rybright's new  
patent antiseptic horsey

~~153.~~ Saxon Blue Magnesia  
Ordinary — by Wolf

add 1 ounce Indigo to  
4 Ounces oil with Digest  
in the heat of boiling w?  
for one hour dilute with  
12 ounces w? and filter  
— Dying silk stockings, rub them  
hot  
In Delute with water —  
Dyed hot water —

Chemistry



# ~~1554~~ Brewer put on  
# the water to wash it  
Manny 161. if much hotter the  
ale will be ripy. —

Manufacture 1555. Whether is it better  
in brewing to begin  
with a small heat  
and rise to the above  
or descend?

Manufacture 1556. The yeast is put to  
the wort when the  
letter is about 90° of  
temperature. —

1557. Ryabi but on mould  
Nathan take for turning my bone  
or wory mould —

~~1558~~ M. Their bolt mule  
consists of Copper, Iron and  
Calamine —

Metal 1559. It is affirmed by some  
that mushrooms and  
fungus are vegetable  
crystallizations - no  
seed being found in any  
Perhaps the substance  
called shot stone is of the  
same kind - It has been  
obtained by M. Kiri  
but produced no vol;  
alcohol, therefore no im-  
fect matter —

M. Kiri



Manufactures

~~1761~~ The wedges in the  
late improved oil mill  
are more powerfull than  
any other known mode  
of pressure - The bag is  
engaged by a single stroke  
on a reverse wedge



~~1761~~ Would not lime-  
stone powdered prove  
a good measure? That  
is made use of in many  
parts of England & Irish  
certainly substances  
are used as good ma-  
terials in various forms  
- I am what is the use of

Agriandlers

Manufactures

converting them into lime  
~~1762~~ A machine for drawing  
spiraloidal teeth for large  
wheel work

~~1763~~ A Thermometer applic-  
ed to the melted tallow  
in candle making use-  
full -

~~1764~~ Polished wood is  
polished with roller  
stone on a cloth and  
finished with pum-stone  
would not fine Marsh  
do better?

Manufactures  
Home

~~1764~~ If red port is frozen  
the cold part is clear



The interior part is more  
red - the same with Domesday

~~Feb.~~ Doctor Presley pro-  
scribes his Mercury by  
treating it with water  
the head is calous by the  
operation - Dr. Wolff  
has a different method -

~~Feb.~~ It is probable that  
the Phosphoric acid  
renders cast iron brittle

~~Feb~~ In spirit level the  
air bubbles should be  
very long - Short ones  
are not so accurate

Experiment

Metal

Instrument

~~Feb~~ The Chinese are excel-  
lent imitators, but have  
no inventive faculty -

A Clergyman, applied to  
a Chinese Taylor to make  
him a new gown, desiring  
him to make it like the  
old - The Taylor brought

Amulman  
China

it full of holes &c. exactly  
like the old one telling  
him he had had great  
trouble with it

~~Feb~~ - Kind mill made  
of tin said broader at  
the top and not flat  
but curved - Also  
by water

Engl



~~1870~~ 9. The circles were ~~ap-~~  
plied to the purposes of  
Geography and Astronomy  
probably 360° was taken as  
the <sup>measured no.</sup> ~~measured~~ to the days in the  
year —

~~1870~~ 10. Circular Gunter by  
Margatt no. 3 Newgate St

~~1871~~ 1. Paper Instrument  
to show the progression of  
the Equinoxes, a small  
black circle  $23\frac{1}{2}$  radius  
one end of the diameter fixed  
on the pole of the ecliptic  
the center extends to the  
pole of the world. —

~~1872~~ 2. Logarithms

1	2	4	8	16	Number
1	10	100	1000	10000	Number
0	1	2	3	4	Logarithm

It is <sup>no</sup> matter in what propor-  
tion the natural numbers  
and their logarithms may be joined  
to any series — The second of the  
above is that used —



~~1073~~ One of Sines and  
Tangents explained  
by a quadrant and tri-  
gon, larger or the radius  
be twice the Sines  
give the angles - If the  
radius be any other  
length, then it bears  
the same proportion to  
cos. that one of the sides  
bears to the sine of the  
angle opposite -

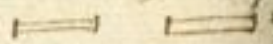
Circle


~~1074~~ Nautical triangle  
composed of the Rhumb line  
meridian and part -  
To steer clear of a cruise  
directly west - Rhumb is  
not the distance as some  
writers have asserted -  
- <sup>the</sup> ~~mere~~ Etymology  
of Rhumb line -

1075. Magnetical experiment  
Every piece of iron is  
magnetical - poles - long &  
The magnetic fluid per-  
haps pervades all bodies  
but finding a greater resi-  
stance in passing thro' iron  
and steel it draws them into  
its direction -

Magnetic



1876. Magnetic curves shown  
by a single magnet - by  
two magnets with their  
poles about 1 1/2 inch apart  
with three bars 

with a Quadruple  
magnet - opposite  
poles of the same kind  
with a single bar held  
perpendicularly to the plane  
and on one pole. The  
file dust from a dredging  
box - 

1877 To discover the poles  
a bar - put a small magnet  
in a glass tube the bot-  
tom blown into a ball  
when on the pole the

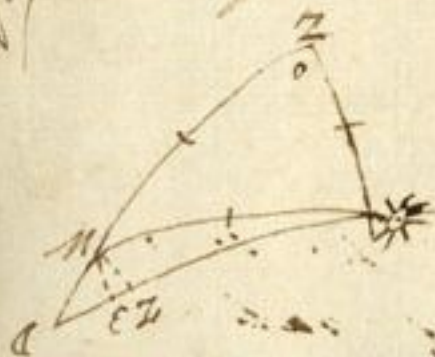
needle stands erect -  
1878. Dip in London is  
about 73 degrees -

has varied but little since  
the first observations  
The variation since the  
first observations 40° -  
Dipping needle -  
Knights - M. Culluchi  
compass -



~~#79.~~ Ferguson's Eclipsation determines the phenomenon of an Eclipse better than any other instrument yet contrived —

~~1880.~~ In the Spherical triangle there are given three sides to find an angle which is the difference of time — Differential triangle —



~~#80.~~ The Lunar Method is preferable to any other for finding the longitude because the Elements are on a larger scale —

~~1882.~~ Goubaud's Solution of lead a good test for discovering hardness in water —

~~#81.~~ Ground Glass on Paper the best for polishing wood - fish skin formerly used but not so good —

~~1883.~~ Mr. Water says that one Cub. of Oats will evaporate



we possess 13 cubic feet  
of water. In the African  
mills not  $\frac{1}{4}$  of this is  
done - Mr. R-y says his  
boiler we possess 14 cubic  
feet with one Cub. of Coal

~~1005~~ 5. Salt just into the  
Chimney<sup>in</sup> sic. well melted a great  
quantity of it.

~~1006~~ 6. The right eye is in  
general better than the  
left eye. quill and candle

~~1007~~ When repeating is owing  
to a difference in the limits  
of distinct vision would not  
a pair of spectacles with

lenses fitted to each eye  
cure the deformity?

~~1008~~ 8. If the squint eye  
be of a shorter focal  
distance than the other  
may not the oblique po-  
sition be accounted for  
from this that the eye  
by turning to one side  
endeavors to find a shorter  
line than the diam. in  
order to bring the focus  
to the retina  
+ If this be true should  
not all night squinted people  
squint? —



1889 Phosphorus muffle  
in 90° Fahr! The Ther-  
moe bottles should  
have oil of wax put to  
the Phosphorus - The muffle  
dipped in Nitrous acid  
well covered with a much  
less degree of heat. —

1890. It is said that  
prussian fulminates  
can only be made with  
aqua regia formed with  
that amt? —

1891 Since the Electric  
spark passes over the

surface of a dead body  
and not through its substance  
may this fact be made use  
of to determine when ani-  
mation ceases? —

1892. An Elephant killed  
a man for which he is to  
put to death, a court mart  
is held on him —

1893. An Elephant which has  
been one at Meua river  
after exempted from Labour  
Royal Elephant and  
People divides the rice  
— woman and children —



~~1094~~ By passing plants  
from seed the result is  
uncertain, by steps the  
plant never falls off but  
often is improved

X  
1095 This morning  
Oct. 4<sup>th</sup> 1790 attended  
Doctor Harrison's lecture  
on the Practice of Physic  
- Cause of venous putrefaction  
occasional - the part in  
the body, the other exter-  
nal e.g. cold putrefaction  
in 2 out of 30 the cause  
- owing to weakness the

pre-disposing cause -  
- Logical definition of a  
cause - Sir Hans Sloan's  
Introduction to Sydenham  
- Prudens - Herb women -  
- Proximate cause the same  
with the disease itself -  
- Physiology anciently ex-  
tended the whole of medical  
knowledge - Anatomy the  
richly, botany and well  
as the living matter, this  
part now generally under-  
stood by the laws -  
- Cause of disease - Diagnosis  
or Symptoms - Diagnosis of  
conjecture respecting the



Spine of Disease

— Spine of Disease Depends

1. on the result of exposure

2. on reasoning on the spine

Composing an occasional

— Cause. —

+ History of the Disease

3.



H  
 3 51' 30" — 20' 7"  
 — 52 50 — 27 53  
 — 53 00 — 27 39

---

9 25 50 3 57 0  
~~15 13 50~~  
 3 16 20 = 28 20

---

Lat 6 50  
 8 10 40  
 Eq 8 39

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Martin 4000 King

11  
 0 46 30 — 46 31  
 — 48 30 — 48 45  
 — 49 30 — 46 59

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2 21 — 0 51 10  
 15 56

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Lat 10 51  
 Eq 5 50  
 Lat 7 27

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