

Pneumatics

- more nearly connected with the
 air than any other Element -
 yields to the smallest impulse
 - yet it is a body - Expt. candle
 on a piece of cork floated on
 water covered with a receiver
 and pressed down, candle burns
 for some time then goes out
 - Atmosphere figure in the book
 - Diving bell air supplied with
 a syringe - Belqioso East Ind.
 - Breathing Expt. lungs glass
 with a head smother -
 lungs glass, not a perfect re-
 presentation of the lungs
 lungs fill the whole cavity
 air that has passed thro' the
 lungs retained Expt. air lock
 6 times thro' a syphon from
 a jar inverted in water
 Extinguished a candle in

From from by a spring of mud
concerning it at During the
Lecture + this a description of
- what is the use of the Double
circulation between the heart
and the lungs - Nature is simple
and singular it is to enable
more readily heat from the air
and thus of the phlogiston -
arterial blood than an
flow than venous - Crawford's
theory - Vegetables purify
the atmosphere - Phlogiston
air promote the growth of
vegetable from the reason
why the vegetables are more
abundant near or greatly
than at a distance Exp. A
quantity of seeds was sown for
the night of London 6.130 m.
Distance seeds were sown both
on this same ground. See London

Every thing was the same in both
Expts. The veget: produced was
London weighed more by a
fifth than the other owing to
the great quantity of phlogiston
air from the turps —

Expt^o — + Round Glass —
2. An. weighed flask cont:
one quart, 18 Grams —
Flask supported with its
neck down ball; first filled
with air, then exhausted
and 12 Grams lead on the
bottom of the Flask — then
the air let in and the 12
grams taken off the ball:
restored —

3. Ball head — Air bubble
will in time be absorbed

4. Hemisphere — abt. 6 square
inches supported 20 pounds
flat glass —

Pressure on one hand is
supported by the spring
of the air within —

5. No Ductile — Small
receivers rather large
Two receivers — one cork!

and the App. "taken off the
pump plate - The other W.
set on ~~and~~ stop cock off
and both made fast - turned
down - valve inclined to
the weaker side - ready for

6. Barometer - contrivance
for shewing when the mer.
begins to rise or fall -
- little attraction between the
tropics owing probably to
the centrifugal motion of the
earth -

7. Operation of the wasser on
pump depends on the
pressure of the Air, a con-
nec. Syringe fitted by
screw to the end of a tube
with a valve below -
- a stroke first before the
exhaustion with vacuum
a little in the tube and
the Exh. more complete

8. Fountain - with the
pump and pump glass -
set in the plate show
bubbles up thro' the water
- air let in above the
water

9. Spring of the air proved
by the bladder -

10. Bladder put into a
brass frame consisting
of three uprights. Like
a sand glass pump
a circular piece of wood
laid on the bladder
and a cylinder of brass
with lead on it put into
the frame above the
wood. 20 pounds -

11. Fountain by the spring
of the air - Exp. 1th

screwed on the copper form
uncharged with air, only with
the same jet as by the pressure
of the air —

12. Egg. — half an egg and:
whole — membrane —

13. Air extracted from a
guinea — two into a
small receiver —

14. Mercurial shower com-
mon cup —

15. Water is present in air
proved by the closure in the
receiver — observe this
closed vessel from the
vaporation from the porous
plate — when the receiver
it should continue but
it does not — the same

cloud takes place when the
receiver is placed on wax
- How is water supported in so
light a fluid as air? Try
the extreme divisions - Let
small particles of all kinds
be the same & Evapⁿ. much
greater in spring than in
summer - wet cloth. Dry
sawdust - The telescope discover
by the condensation near the
surface of a meadow or river
the water before it is perfectly
dissolved but no condensation
higher up - By the sudden
increase of heat the air will
clear up and by cold be-
comes over clouded
- much more rain which
on the top of a tower than at
the bottom -

Limits of congelation and
evaporation, a kind of sphere
and highest under the Sun.


Steps with  the Sun for
Tropics to Tropics

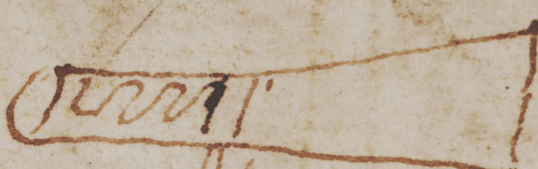

+ winds - heat - between
clouds - atmosphere receive
the heat from the earth
- transparent bodies cannot
be heated - water - air
glass by a burning mirror
that will melt any opaque
body in an instant -

Trade winds - monsoons

In a calm day the wind
blows from every direction
into London. Glass rises

Lect. 5 — 4th April

Condensation and Spring
— Fountain — Air Guns
heat from the condensation
of the air + this a mistake +
— This property of the air the
cause of the condensation of some
waves of air —  — Vibration
of a string — Sympathetic
vibrations — Resonance to the voice
— String of a violin to a note
Soliman Harp — bit of paper
on one string is thrown off by
the stroke of a music string,
but not by any other thro'
nearer — Octave the same divi-
sion as the Prismatic Colours —
string stopped with an ivory
bridge — Division of vibrating
string into bridges gives different

comes from the same string -
 - artificial ear 
 - human organ of such  unique
 it was necessary that the de-
 tectable parts should be concealed
 - Eustachian tube conveys sound
 from the mouth to the ear - it
 watch held in the teeth and the
 ears stopped the beats are heard
 - jaws also probably convey
 sound - Long stick or stick -
 - speaking trumpet by which the
 sound is conveyed in one line - Echoes
 speaking figures - whispering gal-
 lery ~~both~~ above and below

