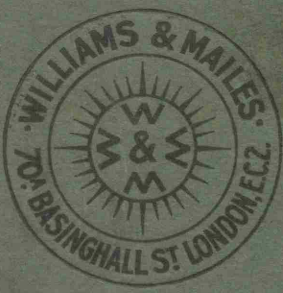
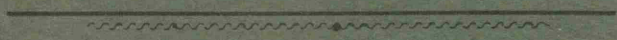


1917

Handwritten notes:
The...
Game...
1919

THE
"BASSISHAW"
REPORTER.



TELEPHONE NO.
LONDON WALL 4399.

Handwritten notes:
orig
1919

Egyptology - Early dynasties

Prof. Flinders Petrie

Univ. College London

May 1st 1919

Periods Historic

- 30 Earliest
- 40 2nd period
- 46 Cylinders
- 60 Handle claw
- 71 New Types
- 75 Kings 1st Dynasty
- 79 Meza

3 types of people
West Asiatic
Egyptian
1st known - Babylonian
Persian

79 = 5500 B.C.

30 = 8000 B.C. probably

Types of heads show at least 4 types of people

30 - no ability to carve

60 - beautiful animal forms. figure of man holding lions apart - a Persian idea

∴ Art came from West Persian or East Mesopotamia

Persian or Elam art - began 15000 B.C. probably

Carved slates - Symbols for historical records

Development of art for beauty's sake only

2
Oxen asses & goats captured in
Lybia. + symbolic representations
of storming of towns -

King Narmer (?) 's victorious conquest
represented by bull -

Same as Menes.

King's interest in canals & Agric.

Flint implements of 1st Dyn.

Carved knives

Use of glazing - tiles for interior
walls of palaces.

Doorn carvings - lions - wined
eyes wh. were sacred.

Tombs (small places for offering)

Wooden buildings overlapping planks
sides, due to changes spanned by

Box coffins end of 1st & during 2 + 3rd Dyn.

Seals of 1st Dyn.

Jewellery on bones of arms. Very fine
work in gold + cutting stones 1st Dyn.

Royal symbol of 1st Dyn. falcon
Attempts at stone carvings of heads -

The Quantum Theory & the
Structure of Atoms.

Prof. James Jeans

Chem. Society
Burlington House

May 1st 1919
8 p.m.

atom

What composed of
What relative movement
Source of energy

sl. ch. plate +, -

- = electron $M + e$ known $e = 4.77 \times 10^{-6}$

a standardized part - same in all
Substances -

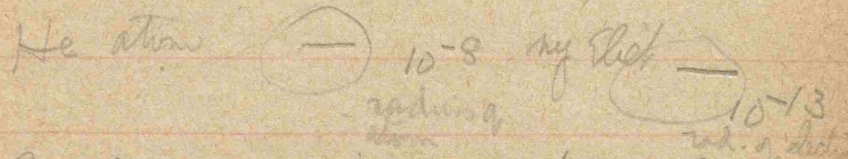
2×10^{-13} cm - radius - from vel. & Mass

The pos electron - by radiat
emissions α -ray is +, and - 2 times

The neg. is $+2e$

2 part + 2 neg elect = neutral He atom
- here mass of + elect.

M_+ = approx whole He atom



Bombard 2 plate w/ sheet of Aluminum.
+ they go through smoothly

\therefore 2 plate is smaller than He atom

no. of electrons is by order of At. wt.

7e approx 56

$$\text{no. of elec.} = \frac{56}{2}$$

= At. Number.

At. no.	H	He	Li	...	Argon	Polas
					34	40
rearranged	1	2	3		19	20

Argon nucleus + 19e
19 neg. elect.

H atoms.

$$+e \quad \text{and} \quad 10^{-13} \text{ cm}$$

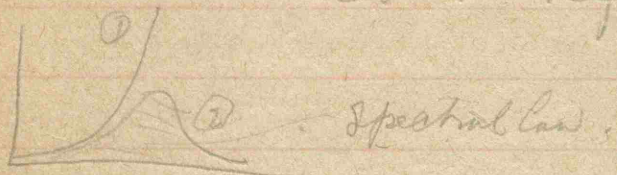
Spectrum - many lines accurately determined of known -

Newtonian attraction inverse Sq
- that describes ellipse + radiates
+ ... decreases in size ... spectrum
gets continuous to violet

Not correct -

Spectrum of a black body is perfect radiation
Thermal laws give definite spectrum.
Spectrum depends on motions of radiating
parts.

Take Newtonian $P = mf$.



$\lambda = \infty$ $\lambda = 0$

① Theoretical

② Actual. \therefore Newtonian laws not exact

Law a differential eqn

Total integrated energy is ∞ .

But it is known finite

Planck's assumption of irregular
law of change $E = h\nu$.

It gives actual curve above

Jeans 1910 gave law of motion mathematically
as above

Planck 1911 perfected it.

Energy from radiators $E = nh\nu$

$n = 1 \ 2 \ 3 \dots$ - wave factors.

$h\nu$ is a quantum.

E not definitely known as KE + PE
or both.

n_1
 n_2

$$h n_1 \nu_1 - h n_2 \nu_2 = \delta$$

ν = frequency, n = no. of quanta

Kaleidoscope jump from n_1 to n_2

with loss of energy = δ = radiation.

What kind of spectrum does this δ give

UV viol light of freq. about n .

critical value. on a metal

gives off electrons.

$$Q = h \nu_0 \quad h = \text{Planck's const.}$$

"energy in concrete bundles tied up"
Savart's Expt.

\therefore frequency energy set free is $\frac{\delta}{h}$

$$= n_1 \nu_1 - n_2 \nu_2$$

$$= f(n_1) - f(n_2)$$

which is laws of spectral series.

$$= N \left(\frac{1}{n_1^2} - \frac{1}{n_2^2} \right)$$

for H series.

$n = 2$ gives series in red

$n = 3$ " " " violet.

N comes out as Rydberg constant -
Rydberg constant

$$N \left(\frac{1}{1^2} - \frac{1}{\infty^2} \right)$$

Bohr

of

discrete about C.G.

correct above thus $\frac{m}{M}$ for N

$$\text{For } \frac{m}{M} = \frac{1}{1835}$$

Mercury round Sun

Relative, then, accounts of
rotation of elliptical orbit
of orbit of electron.

elliptical orbit is in one plane.

$\left(\frac{v}{V}\right)^2$ vel of light.

then gives satellite lines u/m

[∴ law of Quantum Theory
governed by law of Relativity explain
spectrum of H. absolutely.]

Helium $+2e^+$
 $-e^- -e^-$

3 bodies too much for Astronomer
+ Mathematician.

When relative motion of 3 bodies is
worked out then probably for any number
thence properties of all substances
could be better understood.

Quantum Theory solves questions regarding
Valence + c. (Dr. Leidenham)

A master mind - Leonardo da Vinci

Prin Academy
FRS rooms

Prof Holmes
Director National Gallery

May 2nd 1919

400 years since death in France (1519)

Extensive collection of notes, drawings & books on his life & work

1452 - he appeared

at 20 Florence
16 years at Milan

in conquest of France & Ferrara (Monarch)
1500 - 1506

School of Florence Science - anatomy
Baccio Paoli

Donatello's work golden the original sculptor
his master till 1476

I did Madonna & Child in S. Kera - not good
one found in St Petersburg better - more human

Adm of Maya - Maya's beauty of jumping
St. James - L. de la Cruz in 1570

A Philosophical sense any of attitude of world
to birth of Christ. Rained Blg of old
inspiration. Figures - wonder, curiosity -
philos contemplation -

o. origin of movements in hand.

Minor effect - It got too black - never finished

Smith + Guelagn. Cliffs near Florence, Italy

His notes - none -

Madonna of Rocks. ^{Provenance of} ^{John} ^{nat. Gal 2nd attempt}
1497-81 Baccio did a monument. not a copy
1490 L. does a mon. Francesco - not
finished - 16 years.

Madonna of Rocks. Nat Gal.

Head of angel looking at child one of
loveliest things in all art - the catching
of a thought in transit.

First Supper - psychological study of primary
gestures of central figure sets the ^{importance} apart
As Michel combined & modified artist of London
of Raphael & lovely & quiet of the Angels
lived as a scholar.

L. travels Goussier &c. invents bills for
Sinking Turkish ships.

Returns to Florence

times of painting & does Giovanni.

March 1503 goes to France. More Jews +
Battle of Angiers.

Former expression part of his of ground
Michael Angelo. Posa mechanical smokes
glt of hand

L. - psychological - form of battle

1509 possibly fought also studied science

1512 Rome - Vatican. M.C. + d. d. d.

Plans for draining the marshes, with re
alienated Pope.

Left with patron Julius + at his
death went with Francis I to France
where he died. He left notes + writings
in left hand script. No sequence of thoughts
+ notes never rearranged by him. Notes on
painting, anatomy, science etc latter
ran contrary to religion. He kept silence

Phys Geog + Geology very modern

warmed by Sun, ^{water} as body warmed by blood

Capillary - raises water - later covered den

circulation of water by Swiss action - all
passing over & over again thro' Alps mts.
Erosion formation of lakes - future
action on the water & the d. Rise
emerging at Gib.

Fossils - creatures imbedded in mud
& process of fossilization absolutely modern.
→ Geol. Geology before small
Geol. ages - immense antiquity of earth
Sufficient for us

Upset his faith in religious dogmas
If published he might have led the Reformation
but might have been its martyr.

He was suspected of atheism
Geological setting of Rhone - ⁴⁰⁰⁰ Age of
bridge showing modern track

A Physiologist - continual change
Smile of candle flame.
Death due to closing up of superficial veins
veins

Forum of Kings. Study of God.
18 to study brain. & phonetics through
Illustrated by anatomical sketches.
Dissected 10-25 human bodies
120 books.

Occasional studies of botany -

Plant structure, sex, capillary -
leaf - dew, arrangement of leaves to catch
moisture. Increase of soil due to
old vegetation - hence method of getting
age of earth.

Aviation study of bird movement.

lack of motive power alone prevents
human flying - made model aeroplane
screw a helix -

parachute thought out by him.
Mathematics essential to advancement

of sci. Says he completed study of
curved surfaces -

"Mechanics is the paradise of mathematics because it brings
it to fruition." List of all his plane sections etc.

Mechanics - fully lever, plane
less patent than Galileo. Laws of Friction
Practical Engineering - stresses & strains
in architecture rather than artistic
Canals & movement of water.

Planned canal for Arno valley &
for draining marshes

Pumps & lock sluices. Roller bearings
& wheel barrow - Armoured car
for breaking line of troops.
Lift-saving belt.

Tube under water for hearing ships.
His maps of world America apart
from Asia.

Astron. - make glasses to see
moon large. "The sun does not move"

Refraction & dispersion in colour produce
hence blue of sky -

Studied
Admiral Dante

Akin to Copernicus & Archimedes
Mechanics - Aristotle not much of Plato.

Like Dante he rejects classical notion of
writing & master Italian vocabulary.

Fiction one experiment

(1482-86 Turkish Embassy ^{got} not done, due to
this novel, which is very interesting)

Platonism of his nature.

A good man of sci. who made a
living by art.

In vision the foreman of Platonism.

Supreme beauty of his drawing.

Originality in art.

Raphael incarnate spirit of Platonism.

L. not of Platonism except accident of birth.

R. classical.

L. problem of future sci.

L.'s intellectual salvation - experimental
and math. deduction.

Notes not appreciated - sold separately

Personality

Rare personal beauty

Lovable

Smiles, nice + good he jokes

Perception of large masses of religion
is vivid.

Stress as an artist is incontestable.

Is he even greater as a Scientist?

In 15th cent a modern mind looks
at all phenomena apart from current
superstition - aims at betterment of
conditions for mankind.

Want of concentration

Immensely of Outlook

2 were one one marvellous man.