

QUERIES AND HINTS

VOL. 3.

NEW SERIES

OR

VOL. 22

OLD SERIES

Lewis

and

Hints

Vol. 22 Old Series

J. D. Murrill Esq

Calcutta

10th March

1005

472 It is remarkable that the a future
state of rewards and punishments was main-
tained by the most eminent among the ancient
Philosophers, the resurrection of the body was
a doctrine with which they were wholly un-
acquainted.

473. The females of the human race, Quadrupeds and
Whales are the only animals which afford Milk.

474. Take a little dust of rotten timber and a
drop of water on the bench of the microscope
by and by the wheel insect appears, two horns
arise on its head, and then a wheel, the vertex
of which is unpronged. It sits among the
dust as if amidst islands. The wheel seems in-
tended for catching its prey.

475. When hay, about to be stacked, is not
completely dry, and may take fire, it will be
sufficient to strew over each sheaf of hay a few
handfuls of musick of soda (common salt)
This both prevents infl^{am} and renders the hay more palatable

476. Does the prism exhibit rays equally brilliant
in vacuo as in air? What are the angles of
refraction?

477. England and Wales contain 50,331 square English miles
area — 37,334,400

Population in 1801 — 9,072,900

Number of inhab. in a sq. mil. . . . 132 —

Pop. of Scotland being 1,600,000

W. to one square mil. — 53

Ireland — 4,250,000

Irel. to a square mil. — 146 —

Scotland and Ireland equal to
England and Wales in area —

The United Kingdom averages to a
square mile — 130

including soldiers and sailors 470,000

3 geographical square miles are equivalent for English
miles Monthly Mag. July 1804.

478. A workman whom I employed to make
some electrical cement, brought a roll which
appeared to be pretty good. He fastened a few
articles with it. It was with great difficulty
the roll could be bent by the hands. It hap-
pened to be laid on the table, with one end resting
on a ruler. Next morning, it was bent down
so as to lay flat on the table all but the end on
the ruler, and it stuck so fast to the table, that
it was with great difficulty separated from
it. — This cement was made of rosin, gutta &
brick dust. — Calcutta 13th August 1805

479. Different opinions have been formed by poli-
tical writers with respect to the standard of
national wealth. — D. A. Smith makes the
price of labour the Standard of National
wealth. This is objected to by L. Lauderdale —
— If what is true of every individual, ^{or part} be also
true of the whole, would it not be proper first
to establish the stand^{ard} or criterion of private
or individual wealth? —

400. - The cracking of wine, particularly sherry is
 said to be owing to bottles being kept up-
 right. The cork gets dry, and when again in
 contact with the wine, it communicates to
 it that bad taste which is caused. —

401. - About the beginning of Decr. 1803 were
 captured about 1000 tons - The following
 ships

The <i>Mermaid</i> captured four days after leaving her Bengal port - Value	3,50,000
The <i>Walden</i> within two days sail of the coast —	3,50,000
The <i>Commerce</i> the same —	1,50,000
The <i>Phoenix</i> —	2,50,000
	<hr/> 11,00,000

Insurances on the above in Calcutta.

<i>Speake Insurance Company</i> - Bank	1,75,000
<i>Calcutta Insurance Office</i> - Fane	2,55,000
<i>Calcutta Insurance Company</i> - M. Taggar	2,45,000
<i>India Insurance Company</i> - Edin & Co.	0,00,000
<i>Phoenix Insurance Office</i> - Swin	36,000
<i>General Insurance Society</i> - Campbell	10,000
<i>London Insurance Society</i> - Buxton	1,55,000
	<hr/> 9,72,000

Observations on the last Detail

Since the above mentioned Captures another
 such ship has been taken - The whole am. this
 season is at least 15 Saes. —

During the war, the French cruises ap-
 pear regularly every Nov. in the Bay of Bengal
 and capture to a very great am. the
 men of War are at Trincomalee, Penang, Colombo
 &c. and very seldom fall in with the enemy.
 - Two stout frigates, constantly cruising in the
 bay, would effectually remedy this, and the town
 of Calcutta alone has lost in this way, more
 than the value of ^{twenty} such frigates.

Observations made at the Ice field near Chinsumak
on the 10th of Jan^r. 1806

The thermometer on the ^{ice} ~~ground~~ near the ice pots
at a bubble after day break stood at 40°.
In the water and ice _____ 39
and remained at this height till taken out
at 7 o'clock it was again placed on the
ice when it rose to 40° as before—

— At Malda the plates are laid on stones
on the surface of the earth no pit is made
use of.

— The plates at Chinsumak are about 8 inches
square in Diam. water about 1/2 Inch deep—

— Water not boiled here as it is at Malda—
Drops begin about the middle of the even
twilight and the ice is taken out of the plates
about sunrise— Pit about 1 inches deep—
Plates about 1 Inch thick—

There has lately been a hard frost in the
upper parts of Hindostan, which has almost
totally destroyed the crops of Indigo, corn &c.
This frequently happens in the country round
Benares, and generally lasts four or five
days. — ^{are} Wheat and other grains ~~are~~ instantly
bleached, the leaves drop from the Indigo plant
and are turned to a brownish black colour.

From Williams paper on making ice at Berne.
 - Ice is made during Dec. Jan⁷ and part of Feb
 - Water not boiled - Ice 1 1/4 inch thick when the
 * atmosphere could not be supposed to produce it
 - Between 5 and 6 o'clock in the morn^g when the
 ice makers told me that the cold was most intense,
 I never saw the thermometer below 35. I never even
 saw ice of a considerable thickness, when the therm^o
 was not lower than 40

- Process -

About four acres of nearly level ground is divided
 is divided into square plates of from 4 to 5 feet and
 The borders are raised to about four inches with
 earth taken from the surface of the plates. Cavities are
 filled with dry straw or sugar cane ^{the} ~~leaves~~ ^{leaves}
 laid smooth on which are placed as many shallow
 pans as the space will hold. These pans are unglazed
 and so porous that their outside become moist the
 instant water is poured into them. They are covered
 on the inside, to prevent the ice adhering to them. It
 is necessary to repeat this every every three or four
 times; otherwise it would be impossible to remove
 the ice with^{out} either breaking the vessel or spending

more time than can be afforded where so much
 is to be done in so little time - In the afternoon
 the pans are filled with water by persons who
 walk along the borders or ridges - About 5 in
 the morning they began to remove the ice
 by striking an iron hook into the center of it
 and by that means breaking it into several
 pieces - The number of pans about 100,000.

and 300 men, women and children employed
 in getting them and taking away the ice - The
 straw must be dry - I have observed water
 which had been boiled to freeze in a China
 plate but ^{with} wet water straw among the pans
 on the straw never would freeze. I have also
 noted the straw and found ^{that} it always prevented
 the formation of ice - The air is generally
 very still when much ice is formed. A gentle air
 usually prevails from the S. westward about
 daylight - When ice was formed a thermo
 meter on the straw was from 35 to 42 and a
 another in a tub 5 feet above the surface, about
 4
 40 or 45 degrees higher; but if there was any wind to
 prevent freezing they both agreed!!

Experiments

- 30-March
1792
1. The thermometer, in water in an old glass the
glass of which was blown, stood at 97, when in
a new glass it sunk to 68.
- 16-May 2. In the shade exposed to a hot wind this 110
In the house cooled by tatties 07
104
- 7-June 3 In the shade - hot wind
In the house cooled by tatties 03

485 This evening (Tuesday the 6th of March 1804) whilst
Mr. Latham, schoolmaster was writing near the
apparatus of the air pump, he heard immediately
after a very loud clap of thunder, a noise like
that of a glass breaking. On examining the glass
remains that for the guinea and feather experiment
was found broken into two pieces by so clean a
fracture that not a single chip was to be found
in any part of the curve which was not circular
but was higher on one side than on the other.

486 In Scotland Marriage legitimates the
children that may have been born of the
same parents before marriage. In England it
does not. —

487. Were the planets all in conjunction,
it would be more than seventeen thousand
millions of millions of years before they
return to the same position again, the calcu-
lation being made only to the nearest day.
Were what time must elapse before they
return to the same position, to the nearest
minute?

488 Simple method of copying in recent Manuscripts
Put a little sugar into common ink and
write on common paper: When a copy is re-
quired, some unsized paper is lightly moistened
with water by a sponge, and laid on the writing,
and a flat smoothing iron being moderately heated
and gently pressed over the unsized paper, the com-
mon proof or copy is immediately produced.

Annals of Phil^o for 1801

489 - Glass tables in this country (India) frequent
break when laid on a shelf or table, and more
readily if the table be covered with cloth.
This seldom happens if the tables are set
on end and lean against a wall. —

The question on new circles, but
errors estimating the circumference
Determine Lengthwise —

490. A professional man is often beat in argu-
ment on his own ground by an ignorant
pretender. It becomes the stream of prejudice
runs against the Professor, even tho' his antago-
nist has nothing to recommend him to the
spectators — Corrus

¹ A continual war is carried on against the
learned professors, by all those who, conscious
of their own ignorance, seek to level the reputa-
tion of their superiors with their own

2. In all disputes in physical subjects,
the arguments of the profane will seem
stronger and more intelligible to those unacquainted
with the previous systems on which they are
built; while the theory of the illustrious pretender
derived from common notions, and self-perpetuated
obscurantism, will be more agreeable, because
better adapted to the comprehension of the know-

The judgment of the ~~masses~~ is apt to be brief
by that surprise which is the effect of seeing
an artist foiled at his own weapons, by one
who engages only ^{apparently} for amusement. —

XX The safest way for a professed is to
avoid entering into argument in his
own time with an illiterate person. —

491 A good memory was a quality highly esteemed
among the Romans - Lucian says "tantum
ingenii quantum memoria". Seneca says that in
his youth, he could repeat the Roman words in the
same order they were read to him. He tells a pleasant
story of a certain poet who having recited a poem
in public, a person who was present claimed it
for his own, and as a proof repeated it ^{word} for word
which the real author was incapable of doing
- Multitudes is said to have understood 22 languages.
Cyrus remembered the name of every soldier in his
army. But the finest compliment was paid to

a good memory is what Cato says of Cato
in his Oration for Ligarius "that he never
forgot any thing but our injury."

492 One of the ancient Roman authors "that the
"we should read much, yet we should not read
"many books - they may become learned by the
reflections of others; but we become wise only by
our own. There are more bad books than good
- Destroys originality ^{both the love and growth} of genius. —

- When the gods visited Greece the libraries
escaped destruction, by a notion which some of
their leaders industriously propagated among them,
that it would ^{be} more for their interest to leave the
books to their enemies; as being proper to enervate
their minds, and amuse them with vain and
idle speculations

493 During the cold season in the
see ~~evening~~ (Bengal) when the moon
494 rises, the wind flows from the east or
from the moon

493. It is remarkable that the howling at funerals, as practised in Ireland, is also found in many other countries - In Laptland they walk round the corpse, asking him why he died? Was he angry ~~at~~ with his wife? Had he been unsuccessful in fishing and other questions similar to those put to the corpse in Ireland. - Also in Persia -
Norris.

494. In Laptland the corpse is wrapped in linen, the hands and feet left bare - Under coffin - In one hand a piece with money in it to pay the fee of the porter of the gate of paradise, and in the other a certificate signed by the priest, and directed to St Peter to certify that he was a good Christian and ought to be admitted into heaven.

495. An the Court of Madrid's publishing an Edict for proving and keeping the streets of Madrid clean, a petition was given in to God requesting that the edict might not be carried into execution, for the air of Madrid was so pure and subtle as to require a mixture proper proportion of grosser effluvia mixed with it, to prevent its pernicious effects on the constitution!!

496. (Deriving the cold season in this country (Siberia) the same blow almost always from the moon at rising, and follows her round to the southward, seldom further

497. Whether a ship draws more or less water at the Equator, than at the pole.

498. Experiment by M. Luthiers on the distance the two kinds of Steel - Insulated two bars equated, one with the magnet, the other with the positive Cond. a ball of $\frac{1}{4}$ inch diam. on each - Distance four inches.

For each other, place a candle, snuffed
short, in the middle between the bells.
On the turning of the machine the flame
will burn much and seem to incline
most to the negative bell. After about
fifty revolutions the negative bell will
grow warm, while the pos. bell will
remain cold. If the revolution be continued
to about 202 the negative bell will be
too hot for the hand to touch, the other
will remain as cold as at first.

499. A metal consisting of six parts of gold
and one of platinum is of a beautiful colour
great malleability, and capable of receiving
a very fine polish, and more malleable
than gold by Sulphureted Hydrogen &c.

300

£ 125,000

At present (July 1866) The Calcutta
mint can coin 25 Lacs of Rupees in
a month or three Crores in a year
a crore at the present Exchange ~~is~~
~~about~~ ^{on} hundred millions of Rupees =
~~the same~~ ^{and slightly less than} that. The whole ex-
pense of the mint is about one $\frac{1}{2}$ Cent.

The loss at present is only 3 annas in 100
Silver Rupees. Formerly it used to be at
least 5 annas in 100 Silver Rupees.

501 Altho' the British army, when in pur-
suit of Holkar, travelled farther to the N.W.
than any had ever been, yet to the shame
of those whose business it was, not a single
observation for Longitude or Lat: was taken.
It may even be doubted whether there was
a sextant in the Army!!—

502 An action was brought before Hyde
to recover the price of a horse sold for
a cartage and a pair, doubling every
pair, and thereby two in each shoe
The amount 500 quarters of barley—
Hyde ordered the jury to give the value
of the horse in damages. They gave £

503.

504 Princes and States, in the first ages of
Christianity, granted to the Clergy many im-
portant privileges and exemptions, particu-
larly an exemption of their persons from
criminal proceedings in some capital cases
before secular judges. This was the origin
of ~~Benefit~~ Privilegium Clericale, or Benefit
of Clergy.— The Clergy increasing in number
power and consequence, soon set up for
themselves, and what was conferred on them
at first by the favour of princes and states
they now began to claim as a right, and
a right of the highest nature, namely
by the Law of God; and by their Canons
and institutions inforced, and in some
places obtained vast extensions of these
exemptions, with regard not only to per-
sons in holy orders but also to every
person any how connected with the
subordinate ministrations of the Church

and likewise in respect to the causes, ex-
emplary, as far as they could, all causes of
clergymen, as well civil as criminal, from
the jurisdiction of the secular power, and
wholly subordinating them to the Eccle-
siastical jurisdiction, which they supposed
to be lodged first in the Pope by divine
right from Jesus Christ, from ~~him~~ the Pope
sent all subordinates and Ecclesiastical
jurisdictions. By this means they endeavored
and in some Kingdoms and for some ages
obtained that there was a double supreme
power in every Kingdom, the one Eccle-
siastical and independent on any but
the Pope, over Ecclesiastical men and causes,
the other secular, of the King ~~and~~ or civil
Magistrate.

It was soon found necessary to abridge
this claim of exemption. Various acts
of parliament were ^{to time} made for
modifying and in many cases doing it en-
tirely away.

De mortuis nil nisi bonum!!

It is the duty of the biographer to draw a faithful and finished portrait: but this he never can accomplish, if he keeps out of view those private anecdotes and domestic incidents which paint character and speak to feeling. With the historian of an individual as with the his-
tory of a nation, a regard to truth should be paramount, to every other consideration. We should not drag into the glare of day the failings of the unfortunate: but neither would we wholly conceal them from the eye of the impartial observer. The professor of genius, taste, and learning, and their direction to the best interests of mankind, ought, no doubt, to cover a multitude of sins: but we should also reflect that a well constituted mind, rich in its own resources, and susceptible of the most refined and elevated pleasures, is the least exposed to debasement from habits of low intemperance. Yet that such a mind some times yields to degrading propensities will not admit of dispute. A sense of false delicacy

or the partiality of friendship may draw a veil over the unambiguously fact: but the professed painter of human Character is improperly required to exhibit its diversities as he finds them, and not as he would wish them to be. More than one public teacher of youth has fallen a sacrifice to the unmoderate use of ardent spirits; we can commiserate their fate: but we cannot patiently endure that they should be held up as paragons of conduct, or called into Saints.

D. Meekins case, if we are rightly informed, admits of palliation and pity. The profusion of domestic affliction exhausted and paralyzed the firm sensibilities of his frame, leaving the man and left only a weak behind

Monthly Rev. Nov. 1805.
Dramatic Life of Beattie

The profession of letters, by far the most laborious of any, leads to no real benefit; Poetry seems and letters, when not made the sole business of life, may become its best ornaments in prosperity, its most pleasing consolation in adversity; but he who hopes, by mere learning and books, to raise a family or acquire a comfortable retreat for old age, will find, when it is too late, that he has mistaken his ~~business~~ path; that labours and studies of a far different kind are absolutely necessary and that unless he can assert his own independence in active life, or render himself useful ^{and} necessary to mankind, it will await him till he be favoured by the learned, esteemed by the eminent or even to be recommended by Kings. — S. W. Jones

556. A sudden check from the master has sometimes made a boy of strong memory forget entirely a well learned lesson — Public examinations &c.

The olive trees in Calabria usually blossom in June. In October the fruit begins to ripen, but does not reach its full perfection till December, when the skin the pulp and the ~~stone~~ surface of the stone become black. At this period they yield the best oil — Before the stone is hard, which takes place in August, no pressure whatever can force any oil out of the fruit. — In October the olives, though quite green, are fit for the table. About the end of December the olives are gathered and laid in heaps in cellars till it be convenient to press them.

558. The proprietors of a Lordship or Baronry in Calabria, has still the barbarous privilege of keeping the first night with the Lords, and the, now, this is not unusual yet compensation in money is caput

509. It is the Law of the Land that the crown is heir to all Barons who leave no relations beyond the third degree. In consequence of this positions are continually falling into the King who enjoys them with all the rights of a Baron. There are the most cultivated in the country.

510. The British army in India is very deficient in Artillery. This is the opinion of every officer with whom I have conversed.

511. In what particular cases are Coke and Charnock applied?

512. It is said that ^{it costs the nation} upwards of two millions sterling at every election for a new parliament.

513. - Bankers are unwilling to discount bills which have more than two months to run, because the Bank of England will not discount for a longer period.

514. - Hydrogen is a better manure than Carbon. ^{Charcoal}
- Alkali renders Carbon soluble in water.

London June 10th 1807

- Charcoal decomposes water, having a greater affinity with Oxygen than oxygen has with Hydrogen. -

515. There is ^{no} ground for establishing it as a general principle, that in the ^{language of} prophesy a Day signifies a year - Or that a Day should have in the same time when applied to a State or Kingdom should not signify in prophesy the same as when applied to an individual - North: River May 1806

516. The potatoe as most authors affirm, was introduced into Ireland by Sir Walter Raleigh. Sir W. - left the country soon after the first potatoe was planted. The former began with the apple, but after many trials the plant was given up. Next season in ploughing up the field they found the potatoe which they soon began to ^{cultivate} and eat. - Potatoes and French Beans are the most useful articles ^{imported} from America

517. The Rheumatism is much more frequent in Britain than formerly. This is supposed to be owing to the use of cotton, instead of woollen cloth.

518. One Tenth of the whole mortality in London is occasioned by the small pox, which has been supposed to destroy a sixth part of those whom it attacks, and by maculation 1 in 300 -

519. Domestication increases the labour of the female, among animals, in producing their young. A cow at stall has a more difficult labour than a one ranging in the fields. Persons in high life have more pain in labour than hard working people.

520. Angel lost - fallen Angel -

521. Origin of Cook peaking - by M. Linn.

When Themistocles led the Athenians against the Persians, he observed without the city some Cooks fighting. Commanding his Army to halt he addressed the Soldiers thus do not fight each other for the sake of Country, nor for their father's sake, nor for the reputation of their house, but for Liberty, nor for glory, nor for children, but for Liberty. Annual commemoration

522. I have succeeded, for the third time in curing Hydrocele by Galvanism. In the last case the left Testis was more than double the size of the other - began Galvanizing on the 11th; Sept. 1807. Sent the Shock from the right hand to the bottom of the T. - On the tenth application there was a perceptible diminution, and on the 14th applicⁿ, a complete cure was effected. - In the former case, at Calcutta, the testis was not so large as in the last. - I am of opinion that every incipient Hydrocele may be cured by Galvanism.

523. The word pain when applied to crumpled papers, bushes &c. seems improper. In fact of put, thights - Also these words are said to be plurals having no singulars. Optus, Mathematicus &c. - pain of bottom - means. All these are used in the singular number.

It is said, by some, that Mathematicians do not reason better, or even as well on other subjects as other men. If so, give the reason.

The Definitions and axioms of Mathematics are certain and fixed - ^{is math.} - ~~the~~ is never denied - Express the same wisdom in other subjects. Mathematical mode of reasoning the most perfect of all ^{methods} - How can it, therefore, learn to have its effect on other subjects. Explanation of terms precise in Math but difficult, some times ^{impossible} in other subjects. A man absorbed in Mathematics has little time, and little inclination to reason on other subjects. This is the case in every other pursuit. A man of any one pursuit seldom reasons well in any other. In most other subjects the reasoning is generally about words.

On the 13th of March last in the afternoon the Inhabitants of the Canton Suchow in the Government of Szechuen in Russia were alarmed by an uncommonly loud clap of Thunder. At the moment of the explosion two peasants pursued at the distance of 20 paces a black stone, of considerable size, falling to the earth which it penetrated to a considerable depth beneath the snow. It was dug up and found to be of an oblong square figure, very smooth, of a black colour, and shaped like a Coffin on one side. It resembled in colour cast iron, weighed 160 pounds. —

526. In the European Magazine for August 1807 A gentleman who signs himself Britanicus to prevent Earthquakes, advises large and deep shafts to be dug at convenient distances to allow the pent up air, which is well known to be the cause of Earthquakes, to escape! The cause being removed the effect would cease of course!!

A treatise of the Climate of Great Britain by
John Williams Esq. 8^{vo} pp 360 - O. H. Bradwin.
In this work the author attributes our change
of Climate to the introduction of foreign Vegeta-
bles. He proposes to regulate the quantity of
Electricity in the Atmosphere by ^{creating} a great number
of Electrical Machines in every County. The Motion
to be wrought by windmills. He proposes that a
Board of weather should be established to deter-
mine every matter respecting the weather.

A late writer on Atonement §: asks "If it be
necessary that the justice of God must be satisfied
before any sin can be pardoned; and if Christ be
God as well as the Father, whether the Justice of
Christ ought not to have been satisfied in the first
place? Respecting the Holy Ghost, he observes that
there is no example in Scripture of prayer to the
H. Ghost or Holy Spirit. And in Saint Paul's
which commonly begin with devout wishes of blessings
from God ~~the Father~~ and from the Lord Jesus Christ,
the Holy Spirit is not named at all. He concludes
with remarking that 461 passages are to be found
in Scripture, wherein God the Father is styled the one
or only God. — John Smith — John H P Church
— If the doctrine of atonement is to be taken in its
utmost extent, it will destroy at once both the sovereignty
of God, and the obligation of man to the practice of
virtue; for it may be said if the Father received a
full equivalent for the sin of the whole world, the
Deity of Jesus is excluded on his part, and he
can have no claim to future Obedience —

529 Milk is found to contain ~~contains~~ a considerable quantity of Phosphat of Lime, of great use in forming the bones of the child.

530 Platina amalgamated with Mercury produces a remarkable exception to all other Amalgams, an amalgam of the specific Gravity of 11.5 whereas the sp. G. of the ingredients is 13.5 Mr. 21 Platina. This fact ^{was} discovered by W. Charnick. The Cause unknown.

531 The maximum density of water is at the temperature of 42.5° Far^t from which it diminishes both upwards and downwards and in the last proportion to the distance from 42.5° - Hence ice swims on water.

Fir at Cause. - Ice is heavier than water it would sink to the bottom, another stratum would soon follow &c till a whole river, however deep, were frozen. Thus the sun's heat would be insufficient to dissolve the world would therefore be converted into a frozen ^{Ch} Chaos.

532 The glow worm is the female of an insect of the beetle kind without wings. The male has wings, and, in the night, is directed to the female by the light which she emits.

533 There is a small sparrow in India which is said to light its nest with glow worms, fire flies. These are fixed to the inside of the nest. These glow worms all fly, and make a fine appearance in the night. -

534 O. M. Proust, Physician of Paris, has lately endeavored to prove that the cause of insanity is seated not so much in the head as in the stomach and bowels. - He has observed the bowels to be inflamed with mucous or bilious matter, more or less discoloured and dark. Worms are often found, and the inner membrane of the bowels is often constantly reddish, or even changed altogether from its proper colour, in diverse points of its surface. The Gall bladder and its duct are always dilated, and frequently contain concretions. The liver too enlarged and swollen.

In Feb. 1807. As two men, in Lancaster, were sawing in American Log of Maple in two, they found a cavity in its center, containing about five or six quarts of Wheat without any hole or passage ^{was} without. The Log was 25 in length 13 in square being 6 long and 3 inches in Diameter.

536. Sheep fed on turnips often die of the disease called the water. To prevent this, when they have eaten their fill, do not suffer them to lie down, but move them about several times both day and night.

537. The quantity of matter greatly affects Chemical affinity. A weaker affinity being compensated by a greater quantity of matter.

538. Forty seven Ship wrecks were sunk in 12 months.

539. Foppery in dress is by no means a sure mark of either effeminacy or cowardice. Sir M^r. Schomberg who dressed like a bear to the end of a long life, ~~was~~ walking down Brandstreet when pulling out a highly perfumed pocket handkerchief, observed that he was sneered

at by two fuffies, who concluded that he was a safe object of their impudence. A Frenchman at his own door, called one of the Gent: to ^{bring me} speak to him. ~~He~~ You seemed much pleased with the perfume of my pocket handkerchief, would it be a little nearer, when seeing his nose he ^{said} F. gas is a proper perfume, and with his ^{own} right hand he gave him a quotation. I suspect of this nature saying "I am Capt. Schomberg of the Royal Navy at your service Sir."

The German was not kind of afterwards, and his Companion, much in character, smacked of Lord Nelson was a great job in dress.

540. The Ancient Britons had their wives in common, or five, ten or more brothers or particular friends married, each a wife, and lived in common. The children belonged to the husband whose wife had born them. They were educated by the Society.

541. British Mothers in former ages use to plunge their infants into cold water, at all seasons. The mothers ~~at~~ abroad nursed their children - Dress the skins of wild beasts - afterwards the Roman Dress.

British women unaccountably ~~bring~~ ^{bring} forth
their children with little pain ~~and~~ ^{or} danger
and often without any assistance or interrupt^{ions}
to their business -

542. The lives of Manibet and Supu Africans were
not ~~endured~~ by Plumb, this was ~~is~~ ^{is} ~~proved~~ ^{proved} by
Ormsby and M. Tyler

543. In some steam engines, lately constructed,
the boiler is made so strong as to condense
the steam equal to three or four Atmospheres
when the safety piston is down the steam
is let out into the Atmosphere. It reaches with
a velocity equal to
and yet the hand may be held in it without
being burned.

544. A red hot ^{vapor} iron may be passed over the
tongue without injury, provided the iron be
very hot and passed, of course, very quickly.
- Finger thro' melted lead, if perfectly dry. But
if wet, the person would get a thimble on the
workmen call it. The lead will stick to the finger
and give a severe burn.

- Boiling pitch may be softly shown by the
naked hand

- A drop of water on a hot iron vaporates
sooner from a red or blue heat, than from a white
or greater heat.

545 In decomposing water by art, we do it only by abstracting the Oxygen and liberating the Hydrogen. Vegetable effect this in a different way, they preserve the Hydrogen and set the ^{oxygen} gas free.

546 The System of Vortices owes its downfall to this, that when you suppose the vortex so arranged, that it will explain one of those great facts in the planetary motions, known by the name of Kepler's laws, it becomes quite inconsistent with the rest — The quantity of matter in the sun, will not affect the velocity of the vortex, or the bodies immersed in it, for that velocity might be the same, tho' there were no central body ^{whatsoever} at all: But as the quantity of matter in the sun does enter as a most material element into the expression of the gravitation of the planet, it is impossible to ascribe that gravitation to the action of a vortex — These two arguments are both perfectly conclusive

547. "Hypocrisy, it self is an homage which we pay to virtue" — Rochefoucault

540. English Dogs sent to India all die of the liver — Hence this disease is not owing to drinking as alleged in the Human species. —

549. A maniac seized with the small pox seldom recovers. Does his face? been tried in this case? —

550 His sense of Integrity and Dignity would not permit him to adopt that false and superficial pretence which treats all men alike, tho' even so different in points of real estimation and merit, with the same shew of cordiality and kindness. He was above assuming the profession, without the reality of respect — Sir J. Pringle

551 To prepare perfectly white paper, that of
see Mataber answers very well, by any open vessel
562 which exposes a large surface to the air. When it has been kept in fusion for some time, the metal becomes covered with a greyish powder or oxide. Strive this carefully off without taking any of the metal along with it. The surface will now be quite clean but in a few moments it will be again oxidated. Repeat this process, till a sufficient quantity be obtained. Pick out the whitest parts of the Oxide which

National Finances for the year ending the 5 January 1809

	£	s	d
Produce of Customs	9,214,101	0	0
Excise	19,824,313	9	0
Stamps	4,021,865	0	0
Land and Assessed Taxes	7,606,162	10	3 $\frac{3}{4}$
Post office	1,490,251	2	0 $\frac{1}{2}$
Duties on Pensions & Salaries	0,125,479	7	4 $\frac{1}{2}$
Masterly Coaches, Messengers & Postmen	0,042,759	3	11 $\frac{1}{2}$
	43,132,994	4	2 $\frac{1}{2}$

This forms the whole produce of the ordinary and permanent taxes - Next come the war taxes under the heads of additional Duties of

Customs	£ 2,704,544	4	1
Excise	6,076,790	17	7 $\frac{1}{2}$
Property tax	11,390,104	16	4 $\frac{1}{2}$
Assessors of Income Duty	15,427	7	7 $\frac{3}{4}$
Total	21,074,093	5	0 $\frac{1}{2}$

besides which there are other branches of revenue among which we observe the produce of the

Crown Lands	£ 50,721	9	3 $\frac{1}{2}$
Lotteries	461,250	0	0
Money repaid by pub: accountants	121,040	13	0 $\frac{1}{2}$
Paid for int: on Loans to Ireland	2,053,123	6	1

There are also various ^{other} smaller ~~articles~~ items, and of the whole money raised ~~therefrom~~ ^{the} total is

The Grand total is	£ 67,054,410	2	1
To which add Loans into the	10,102,620	15	6
Exchequer in 1800			
Grand total of receipts	77,157,230	17	7 $\frac{3}{4}$

Expenditure

National Debt

Interest and charges of management	20,982,420	16	3 $\frac{1}{2}$
Money applied to reduction of Nat: Debt	10,100,606	16	6
Interest on Exchequer bills	1,610,562	16	6
Total	£ 32,701,590	9	7 $\frac{1}{2}$

Civil List

Under this head are included all the expenses of the civil Government of the country, pensions, bounties &c

Total of this head	£ 2,050,409	10	3
Navy Expenditure ^{land} - all its heads	17,467,092	0	2
Ordinance	5,100,900	3	2
Army Exp: ^{land} all its heads	17,210,061	15	9

Subsidies

To Sweden	1,100,000		
To Sicily	0,300,000		
Total of subsidies	£ 1,400,000		

Miscellaneous Services	2,909,166	10	4
Total of Expenditure	£ 70,391,343	15	2 $\frac{3}{4}$
Income	77,157,230	17	7 $\frac{3}{4}$
Deficit	£ 1,234,106	17	7 $\frac{3}{4}$

552. Report says (act. 1009) that it is intended to take down the sounding boards of the pulpits of Churches. Query the effect of ^{an} sounding board.

553. Kotted or laminated zinc is not pure. It is mixed with some other matter. —

554. In the Committee on the Gas Light business it was proved that —

— 1 bushel of Coal gave the same quantity of light as 1 — of Tallow

— Wonders take no better than the common Acuum condense

Says that a greater bulk of Coke is produced than the bulk of Coal employed to produce it — that the coke gives out more heat than the Coal from which it was obtained in the following proportion — Two bushels of coal gave three bushels of Coke, and two bushels of Coke gave as much heat as three bushels of coal, that is evaporated as much water. Now 2 bushels of Coke evaporated as much water as $2\frac{1}{2}$ bushels of the coal from whence the Coke was made — Or 1 Bushel of Coke gives as much heat as $2\frac{1}{2}$ bushels of the Coal it came from!! This Mr. Acuum afterwards thought proper

to deny tho' it is the evident conclusion ^{from} of his statement.

— He said that it was impossible to tell how many cubic feet of water a bushel of Coals would evaporate no man could tell, there was no data to prove it!!

— Mr. A said he had measured the size of the flame by holding a pane of glass between the candle and the wall, and this he said threw an image on the wall of the very size and shape of the flame of the candle itself!!!

— When Mr. A was asked, "Do you mean to say that doubling the length gives only twice the area tho' the breadth too is doubled" his reply was "certainly, but you think that twice the Diam. and twice the length is four times, I think it is only double, that is a matter of opinion, you differ from me on this subject, said Mr. Acuum, and experiment must decide between us. And accordingly his experiment "as he said, proved that he was in the right!!! —

— It was proved in evidence that equal quantities of Coke and Coal gave out the same quantity of heat, — evaporated the same quantity of water. —

555. Receipt for a substitute for yeast, for bread.
3 pounds of potatoes put into 3 pints of water
boiled till it become ~~an~~ a mash, then taken off
the fire and the liquor and potatoes strained through
a cloth: one pint or rather more of milk is
then mixed with it, and left to ferment and this quantity
is sufficient for a bushel flour

556. How Eyremont recommends, at the time of stacking
May, to sprinkle the layers of the rick with linseed
oil in the proportion of one quart to a tan of May.
This is said to render the hay very moist and stummy
and to fatten cattle and sheep very ~~well~~ fast, but not
to be good for horses.

557. Cross ploughing is generally done at right
angles which is a defective practice, as that
part of the soil which forms the center of the square
of the furrows, remains unbroken. It should be done
longwise, by which no part can well remain
unbroken by the plough.

558. A nutmeg should always be grated ~~at~~ from
the upper end, if from the stalk end, it will appear
broken throughout from the particular position
of the fibres in the center of the nut.

The oil is sometimes extracted from the nuts before
the ~~the~~ latter is sent to sale. To know that they
thrust a pin into the nut, which when good the oil
will ooze out all round the pin.

559. A servant of Mr. Mbur F.L.S in taking a
boiler of water off the fire trod very heavily on the
tail of a pregnant cat, lying on the hearth. The cat
uttered a dreadful scream and ran out of the room with
every mark of violent labor. When this cat littered,
half of her kitten had his tails bent in the middle, at
right angles with a second knot thicker than the rest
of the tail, at the angle formed.

560. Water may be filtered by making it pass through
the capillary tubes of half worn cotton cloth, simi-
lar to a ^{time} made of watering plants by a strain
of yarn or soft twisted cotton or rotten cord.

561. If fowls are prevented from getting any
cutaneous earth, they lay their eggs without
shells.

562. To prepare Pretty Metall from tin,
that of Malacca answers very well, in any
open vessel which exposes a large surface to
the air, when it has been kept in fusion for
some time, the metal becomes covered with a
greyish powder or Crust. Skim this off with a
skimming wing of the metal along with it. The
surface will now be quite clear, but in a few
moments it will again be oxidated. Repeat the

Obtained

process till a sufficient quantity be prepared.
Pick out the whitest part of the Oxid, and re-
duce it to the finest powder. This is the putty of
lin. This when mixed with glass forms the beautiful
white enamel, and with leather serves to polish
glass and metals.

563. An account laid before the house of commons
of the total net produce of the permanent, annual and
war taxes in the year ended the 5 Jan^r, 1809, and the
5 Jan^r, 1810, states it as follows

In the first period, Permanent taxes	£32,150,450	15 10 0
Annual Ditto	4,929,790	1 9
War Ditto	20,291,797	10 9 7
Total	£57,380,037	0 5
In the latter - Permanent taxes	33,544,348	19 6 2
Annual Ditto	4,920,760	18 6 2
War Ditto	20,790,125	10 7 4
Total	59,263,253	0 6

making an excess in favour of the latter of near
two millions. - James 15 Feb^r 1810

564. The purser of every ship to and from
India is paid twenty Guineas for bringing
the packet home, & on carrying to Portsmouth.
This is paid by the ship owners and not
a shilling by the company.

565. The ancient curial thin wine in Pige
or hogskins - gum. The derivation of hogs-
head?

566. Dr. Henry has lately proved that the salt
manufactured in Great Britain is in every
respect equal to foreign salt for the preservation of
provisions

1810

567. Composition for damp walls by Mr. Charles Widson
Treat two quarts of tar with two ounces of Holcher
grease, for a quart of an hour in an iron pot. Add
some of this to a mixture of slaked lime and powdered
glass which have passed through a spon sieve, and burn
red completely over the fire in an iron pot, in the pro-
portion of 2 parts of lime to 1 of glass, till the mixture
becomes of the consistency of thin plaster.

The cement must be used immediately after made,
support ^{on} one square foot at a time. It soon gets dry
and continues to grow harder for three weeks. Let no
water come with it - One or two coats sufficient
plaster of Paris, Hair and plaster of Paris may be
afterwards laid on the cement

Trans of the Society of Arts

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War Ditto	—	20,291,797, 10, 9 ¹ / ₂
Total	—	£57,380,033, 0, 3
In the latter — Permanent taxes	—	33,544,340, 19, 6 ¹ / ₂
Annual Ditto	—	4,920,760, 10, 6 ¹ / ₂
War Ditto	—	20,790,125, 10, 7 ¹ / ₂
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 India is paid twenty Guineas for bringing
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 or hockins - green. The derivation of hock-
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1810

567. Composition for damp walls by Mr. Charles Wilson
 Mix two quarts of tar with two ounces of Holcher
 green, for a quart of an hour in an iron pot. Add
 some of this to a mixture of staked lime and powdered
 glass which have passed through a flon sieve, and burn
 red completely over the fire in an iron pot, in the pro-
 portion of 2 parts of lime to 1 of glass, till the mixture
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 sufficient for one square foot at a time. It soon gets dry
 and continues to grow harder for three weeks. Let no
 water unite with it - One or two coats sufficient
 Plaster of Paris, Hair and plaster of Paris may be
 afterwards laid on the cement

Trans of the Society of arts

Our Father which in Heaven art
 We sanctify thy name
 Thy Kingdom come, thy will be done
 In Heaven and earth the same
 Give us this day our daily bread
 And us forgive as thou do
 As we on them forgive that we offend
 Forgive us we beseech
 Into temptation lead us not
 But us from evil free
 For thine the Kingdom power and praise
 is and shall ever be.
 (by George Herbert in the reign of James II. first)

The pentaploa was a cake composed of five ingredients, given to the young man at Athens, who won the foot race from the temple of Bacchus to that of Minerva Saisus. It was so called from the consisting of the following five ingredients, Wine, Honey, Cheese, flour and a little oil. The word punch also consists of five ingredients / see Subjects vol 2 article 628

Provisions - first necessities of life consumed in London in one year - ~~the~~ on the melting of Inhabitants, half a pound of butcher's meat at 7 p. lb.

Butcher's Meat	£ 5,250,000
Bread	5,000,000
Milk	1,250,000
Butter	2,550,000
Vegetables	0,150,000
	<hr/>
	14,200,000

This supposes nothing to be consumed but beyond what is necessary with the most rigid Economy

571. Receipt for Blacking for shoes
 1 lib Ivory black
 1 - Turck
 2 Oz. Sweet oil
 Rub into a very smooth paste, then add
 slowly
 1 Gallon Vinegar - and
 10 Oz Sulphuric acid - Stir well -
 This from Jeffery Thomas & Margat. I
 am of opinion there is too much Sulphuric
 acid -

572.

1	2	4	8	16	32
3	3	5	9	17	38
5	6	6	10	18	34
7	7	7	11	19	35
9	10	12	12	20	36
11	11	13	13	21	37
13	14	14	14	22	38
15	15	15	15	23	39
17	18	20	24	24	40
19	19	21	25	25	
21	22	22	26	26	
23	23	23	27	27	
25	26	28	28	28	
27	27	29	29	29	
29	30	30	30	30	
31	31	31	31	31	
33	34	36	40		
35	35	37			
37	38	38			
39	39	39			

Six
 This table, when cut into five
 slips, serves for the following amu-
 sion. Desire any person to chuse a
 number while the slips all lay on
 the table. Then ask him to give you
 the slips on which the number he
 thought of is found. Add together the
 numbers at the top of those slips and
 their sum is the number thought on.

Ex: 1

Suppose the number chosen to be 23.
 This number is found in the 1, 2, 3 &
 5th slips, consequently $1+2+4+16=23$.

2
 number 18, then $2+16=18$

3

- 40 - Then $8+32=40$

- 32 - found only at the head of the
 sixth column

573 On the 17th Jan^y 1810 Red snow fell on the mountains in the neighbourhood of the town of Placentia in Italy. A coat of white snow had ~~been~~ covered the tops of Mount Contro Croci, when several peals of thunder ~~and~~ accompanied with lightning, was heard. From this moment the snow that fell was red. This ~~was~~ continued for some time, after which white snow again fell, so that the red was enclosed between two strata of white. In some places, this snow was only of the colour of peach blossoms, but in others of deep red. Some of it was collected, and the water which it yielded when melted, retained the same colour. The analysis of it by M. Guignotti, a chemist of Parma, promises interesting results.

The Ancient Greek and Roman writers mention Showers of blood as well as of Stones (pessinites) falling from the Atmosphere.

574. Was climate any effect on the voice of man or other animals?

573. It is frequently urged against Mathematicians Science that inventions and ^{improvements} ~~discoveries~~ in mechanics are almost always made by practical men, instead of Mathematicians. To this it may be answered that it is as unreasonable to expect that a mathematician should invent a new machine as that a physician should invent a new method of calculating a term as 0^0 . A math^s? as such, can invent only in his own Science, and by his mode of reasoning can improve many other arts and Sciences.

576 - Red currant wine. — No. 91 —
1 Sieve of Currants cost from 9 to 10 Shillings, with produce 8 or 9 quarts of Juice — To 1 quart of Juice add 2 q^{ts}. Water and $3\frac{1}{2}$ pounds of soft Sugar.

- To a nine gallon Cask add 1 pint of Brandy.

- Let the Bumps of the sugar be well broken. The whole contents, without the Brandy, well mixed and allowed to ferment for some time in the open vessel, before it is put into the Cask. The Brandy not to be added 'till the fermentation in the Cask is much abated.

- A new fat^{brandy} cask costs about 5 or 6 Shillings.

577. The orbits of the satellites of the Georgian are nearly perpendicular to the plane of the Ecliptic, and it is said they perform their revolutions round the Georgian planet in a retrograde orbit. But if the former be true, the orbit can neither be direct nor retrograde.

578. A writer who subscribes himself Milo in the Scots Magazine for May 1811, says that when the Romans invaded Hampshire it was inhabited by the Belgae which he derived from Belg-ou, that is egg hunting. This word he makes latinized by adding a Deplthong & as they formed Belgae from Belg, and Celtae from celt. And he derives Niths dale from Nid-dal that is nest dale. The river Nid or Nith is almost one continued forest from its source to its ~~mouth~~ ^{mouth} ~~its~~ ^{its} influx in Solway firth. The word Obh pronounced ou or ue is the radix of the Latin word ovum, and the word Nid of Nidus — Egg hunting is still practised, in its fullest extent, at St Kilda.

579. The number of students at the university of St. Andrews in 1803 did not exceed 56 of whom only 7 attended Natural Philosophy. Twenty years before the number was to be 160 — more than twice

A report of the population of Great Britain for 1811 was read before the House of Commons by Mr. Fox, on Friday 17 Jan^r 1812. from which it appears that in the last ten years there has been an increase of a million and a half. That in England had increased 14, Scotland 13 and Wales 12.

Mr. Brougham thought the present increase was not so great. In the year 1801 when the former Census was taken the people had a wrong notion of the matter, from the old Testament story believed that numbering the people threatened mischief and ill luck, and then consulted their seers from the Soudy. Now that the object of God is known, few could have any objections to be registered. Were this increase true, our whole population would be doubled in 70 years, whereas from the calculations of the best writers it appears that the whole population of Europe cannot double in less than 520 years.

Mr. Gough thinks the place of sound from a ~~musical~~ string, is in the frame of the Instrument - Expt. One end of an iron wire (no 28) was fastened to a brass knob screwed into the table, and the other end was wrapped round a slender cylinder of yew, four or five inches long. The wire measured 6 feet from the knob and cylinder and I stretched it with considerable force by holding the wooden pin in my hand, so as to let one part of the string touch my fingers. The second part of the string was from the table. In stretching the wire, one end of the yew cylinder was made to press on a second table placed 5 feet from the first table, the surface of this latter table became the seat of sound. But when the wooden cylinder was removed to a small distance from the table, and kept stretched, the sound was heard instantaneously from the other table as in the first Expt.

The vibration of the string is the exciting cause of sound from the table, like a Drumstick on a Drum.

507 + A ^{string} ~~musical~~ fork should have its end wrought into a blunt point that it may have only one end that a firm bearing on the wood, for if knobbed, or flat at the ends they are apt to give a jarring and interrupted sound - Chatter.

500

The number of primitive words in the Greek language does not exceed 300

Smith's Theory of Moral Sentiments

509

In Nicholson's Journal for May 1812, no 146, a Gentleman from the University of Cambridge wishes to know, supposing a person is tolerably acquainted with pure Geom^{try} and with the Fluxional Calculus, what course of reading should he pursue in order to understand the modern Analysis, and qualify himself for the perusal of La Plaine's Méthode Élémentaire?

Answer

First and principal work is the Traité du Calcul Différentiel et Intégral de La Croix gives a complete notion of most of the branches of the modern Analysis

— ~~Joannucci's Mechanicus, an excellent introduction~~

To the Méthode Élémentaire

— Mécanique Analytique of La Grange a work of the first rank in this department of science

— Théorie des fonctions analytiques, and Leçons & sur les Calculs des fonctions par La Grange

590

Perpetuum Mobile

To the Editor of the Sunbeam and Galloway Courier

Sir. Having been informed that the Board of Longitude had offered a great reward to any person that would produce a Machine so constructed as to preserve a perpetual motion, without the aid of weight or spring, and being stimulated by the hope of such reward, I set my inventions to work and have now discovered one which I hope will meet with approbation. It will revolve without the aid of wind, water, weight, steam, spring, leaven or attraction. It will keep uniform motion as long as the Material of which it is made will last, which may be of wood or any metal. It will revolve vertically, horizontally, or at any angle of inclination. It is the same on water as on land. The motion of a ship makes no ^{difference} ~~disturbance~~ on it; neither is it affected by heat or cold. The principle may be applied to a watch or clock, and made to drive any Machinery. It is not dependent on any power yet known to the world, and its principle is as endless as the profusion of an oak

The above are a few, and but a very
few of the qualities of which it is proposed, and
of the uses to which it may be applied; and
I trust its own influence worth when known,
will be sufficient to advocate its cause. I have
no Patron to introduce me to public notice,
but propose humbly to lay my claims humbly
at the feet of his Royal Highness the Duke of Cla-
rke, who presides at the Hon.^{ble} Board of Inge-
nious; and if it found by them to possess the requi-
site qualities for Nautical purposes, superior
to any thing of which they are at present in posses-
sion of, I think I may rely ^{upon} this justice
and liberality for a suitable recompense.

When my Secret is brought to light, it will
astonish the most learned of the present
day. It will elevate the honour of this country
and will inevitably augment its wealth
and resources - By giving the above a
place in your patriotic paper, you will
oblige Sir

Your O^bl^d Servant
J^r Dabbling
James Carruthers

20th Sep. 1813