
 Lady. Roddick

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## Mathematical Reposftory;

 An ALMANACK For the Yrar of our LOR D 1799:
## BEING THE

THIRD AF TER BISSEXTILE.

Containing many ufeful and entertaining Particulars, peculiarly adapred to the ingenious Gentlemen engaged in the delightful Study and Practice of the MA THEMATICKS.

The Fifty-ninth Almanack publifhed of this Kind; and the Forty-feventh of the New Style in England.

## With wife Intent

The Hand of Nature on peculiar Minds
Imprints a different Bias, and to each
Decrees its Province in the commo
To fome the taught the Fabrick of
The changeful Moon, the Cit
The golden Zones of Heaven 1 to onve Ma gave
To weigh the Moment of eternad ${ }^{2}$ Thingse
Of Time, and Space, and Fates uñbjoken Ohain,
And Will's quici Impulfe.
Akenside.

Printed for the Company of STATIONERS And Sold by GEORGE GREENHIEL, Treafurer to the Company, at their Hah, Ludgate-Street. 1799. [Price Sixteen Pence flitched.]

## There will be bus two, both of Sun, and both invifible in Great Britaito

1. Early in the morning of the gth of May, for it will be only 9 min. and an half after the midnight of the preceding day. The Sun will be centrally eclipfed on the meridian in longitude $177^{\circ} 37^{\prime} \frac{1}{2} \mathrm{E}$. and latitude $8^{\circ} \mathrm{N}$. The conjunction will be $44^{\prime} \frac{1}{2}$ before 1 in longitude $1 \mathrm{Sr} 14^{\circ} 27^{\prime}$. D s latitude 7 min . S.
2. October 28, after fun-fet here, the Sun will be eciipfed at 5 ho. $35^{\circ} \frac{3}{4}$ in long. 7 S. $5^{\circ} 19^{\circ}$. Moon's lat. $7^{\circ} \frac{3}{4} \mathrm{~N}$. and will be centrally eclipfed on the meridian at $5^{\mathrm{h}} .3 \mathrm{Im}$. in long. $82^{\circ} \frac{3}{4} \mathrm{~W}$. and iat. $5^{\circ} \frac{1}{4} \mathrm{~S}$.

Venus will be an evening far till the 16 th day of O\&tober, and after that a morning ftar during the remainder of the year.

Fupiter will be an evening ftar till the zoth day of May, and then a morning ftar till the 18 th of December, after tbat an evering ftar to the year's end.

It was inferted in the copy laft year, but omitted by the printer for want of room, that Mr. Howard, of Newcaftle, had publithed a ireatife on Spherical Geemerry, with plates, price $4^{s}$. Which alfo was the cafe with the mention of the death of our valuable contributor Mr. Fobn Burtow, of Bolton-field.

Letters, for this Diary, muft be fent before the beginning of May next, directed to the Author of the Gentleman's Diary, StationersHall, London.

The Author's beft thanks are due, and hereby given, to all his kind contributors; and he affures them, that it is his wifh and endeavour, as far as ever his room will admit, to oblige them all, and felect the beft of their performances, both poetical, critical, and mathematical. And indeed their own ingenuity has fufficiently ftamped their merit and value.

The Author knows of no uncorrected errors of moment during the time that he has conducted the publication; if any fuch there be, he will thankfully receive information of them from any gentleman, and corredt them another year.

Thanks are due to Mr. Farey for propofing queft. 753, concerning the wax-candle, and thereby afferding an opportunity of bringing again under confideration queft. 609 , about the excifeman's ftaff. Since it appears, from the folution ar page 33 of the prefent Diary, that whatever be the inclination of the floating bady to the horizon, the quantity of it immerfed in the water will always be the fame, or conftant. Hence, in cafe of the ftaff, $\mathrm{SC}=36: \mathrm{Ca}=23$ : : the fpecific gravity of beer $=1.028$ : that of the ftaff $=.6568$, which, multiplied by the weight .5787 of a cubic inch of water, whofe fpecific gravily is uoity, gives 0 . av. .38 the weight of a cubic inch of the ftaff, which, multiplied by the folidity gives Oz . Av. 6.042 the required weight of the ftaff. Agreeing with Mr. Dalton's folution, mentioned at page 38 of the Diary for 1790.

It moreover now appears, that $\frac{1}{6} \frac{60}{7}$, or about one-fourth part of the weight of the ftaff, will be fupported by the fide of the veffel.


FE BR U ARY hath XXVIII Days. $\left|\begin{array}{|c|}M\end{array}\right|$ South $\mid$



| 1 | 7 | 26 | 4 | 34 | 14 | 2 | 5 | 30 | 5 | 4 | 10 | $a$ | 29 | 5 | 59 | 4 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 6 | 18 | 42 | 14 | 3 |  | 22 | 9 | 10 | 8 | 5 | 41 | 4 | 4 |  |  |  |
| 11 | 9 | 51 | 14 | 38 | 14 | 15 | 9 | 45 | 5 | 23 | 4 | 34 |  |  |  |  |
| 6 | 0 | 5 | 0 | 14 | 26 |  | 6 | 21 | 9 | 26 | 5 | 6 | 4 | 27 |  |  |
| $2 x$ | 6 | 50 | 10 | 13 | 55 | 4 | 59 | 27 | 9 | 57 | 4 | 49 | 4 | 20 |  |  |
| 26 | 40 | 20 | 13 | 9 |  | 48 | 33 | 8 | 45 | 4 | 32 | 4 | 13 |  |  |  |

M ARCH hath XXXI Days. $\left|\begin{array}{c}M\end{array}\right|_{\text {South. }}^{\text {O }}$


| 1 | $7^{0}$ | $27^{\prime}$ |
| :---: | :---: | :---: |
| 6 | 5 | 32 |
| 11 | 3 | 35 |
| 16 | 1 | 37 |
| 21 | Nor. | 38 |
| 26 | 2 | 29 |








## SEPTEMBER hath XXX Daye. $\mathrm{D}_{\mathrm{D}} \mid$ North.

| Firft Ouarter 6 | Day | 2h. 59 m. | Atternoon, Morning. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Laft Quarter 22 |  | 23 | Morning. |  |  |  |  |
| New Moba ${ }_{2}$ J |  | 84 | Morning. |  |  |  |  |
| (1) entefs $\approx 2$ | d | 1.49 | Maraing. |  |  |  |  |



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| 1 |  |  |  |  | 45 |  |  | $4^{\prime \prime}$ | 3 |  | 7 |  |  |  | 9 | 43 |  |  |  |  | 0x19 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2 | 25 |  | 35 | 1 |  | 1 |  |  | 21 |  |  | 0 | 9 | 31 | 6 |  |  |  | - 13 |
|  |  |  | 34 |  |  | 3 | 3 | 3 |  |  | 34 |  |  | 4 | 9 | 15 | 6 |  |  |  |  |
|  |  |  |  |  | 16 | 5 |  | 8 |  |  | 45 |  |  | 8 | 9 |  | 6 |  |  |  | топа. |
|  |  |  | 54 |  |  |  |  | 4 |  |  | 56 |  |  | 2 | 8 | 44 | 6 |  |  |  | $\pm$ |
|  | 6 |  | 41 | 5 | 56 |  |  | 46 |  |  |  |  |  | 55 | 8 | 28 | 5 |  |  |  |  |




\section*{DECEMBER hath XXXI Days.} $|$| M | $\bigcirc$ Decl. |
| :--- | :--- |
| D | South. |

$\left.\begin{array}{l}\text { Firfl Quarter } 4 \\ \text { Full Moon } 12 \\ \text { Laft Quarter 19 } \\ \text { Nivi Moon 26 }\end{array}\right\}$ Day $\left\{\begin{array}{cc}3^{\text {h. }} 26 \mathrm{~m} \text {. } \\ 8 & 55 \\ 10 & 41 \\ 2 & 54\end{array}\right.$


| Morning. | $\mathbf{I}$ | $21^{\circ}$ | $52^{\prime}$ |
| :--- | ---: | ---: | ---: |
| Morning. | 6 | 22 | 53 |
| Night. | 11 | 23 | 3 |
| Afrernoon. | 16 | 23 | 21 |
| 21 | 23 | 27 |  |
| Mf. Afternoon. | 26 | 23 | 22 |



|  | $4^{\text {a } 254}$ | rain. |
| :---: | :---: | :---: |
| $9 \quad 49$ | $\begin{array}{lll}5 & 16 & 5\end{array}$ |  |
| 117 | $\begin{array}{lll}6 & 1\end{array}$ |  |
| morn. | $\begin{array}{llll}6 & 44 & 7\end{array}$ |  |
| - 22 | $\begin{array}{llll}7 & 2 & 4\end{array}$ |  |
| 132 | $8 \quad 3 \quad 9$ |  |
| 241 | $8 \quad 4210$ |  |
| $3 \quad 49$ | $9 \quad 2311$ |  |
| 5 c | $10 \quad 612$ |  |
| $6 \quad 12$ | $10 \quad 5113$ | fine. |
| $7 \quad 23$ | 11.4014 |  |
| Drifes. | morn. F |  |
| $4 \mathrm{a}_{2} 2$ | (1) 3216 |  |
| 22 | 117 |  |
| $6 \quad 35$ | $2 \quad 1818$ |  |
| $7 \quad 53$ | $3 \begin{array}{llll}3 & 10 & 19\end{array}$ |  |
| $9 \quad 12$ | $4 \quad 020$ | wisdy. |
| $1 \begin{array}{ll}10 & 33\end{array}$ | $\begin{array}{llll}4 & 4^{8} 21\end{array}$ |  |
| 1154 | $5 \quad 34^{22}$ | ftormy. |
| morn. | $\begin{array}{llll}6 & 21 & 23\end{array}$ |  |
| $1 \quad 16$ | $7 \quad 824$ |  |
| 240 | $7 \quad 5725$ |  |
| 410 | $8 \quad 5026$ |  |
| $5 \quad 43$ | $\begin{array}{llll}9 & 47 & 27\end{array}$ | fair. |
| 711 | $10 \quad 4928$ |  |
| D fets. | 1153 | mild. |
| $4^{\text {a } 26}$ | aft. 57 |  |
| 5 5 46 | 156 |  |
| 71 | $2 \quad 5 \mathrm{I}$ | fair. |
|  | $\begin{array}{llll}3 & 40 & 4\end{array}$ |  |
| 949 | $4 \quad 25 \quad 5$ |  | D $\mid \odot$ Rifes $\mid \odot$ Sets $\mid$ Cl.aft. $\odot \mid$ D. Breakl| $\mid \odot$ Eaft $\mid$ SaturnS. $\mid$ JepiterS. $\mid$ MiarsS.



## The Gentleman's Diary, No 58.

## ANSWERS tozbe QUESTIONS critical and pbilofopbical.

 CEXXXI. By Eumznes.It appears from the 22 d and $23^{\mathrm{d}}$ ver. of this cbap. that the defign of our Lord in what he did to the fig-tree, was to thew the efficacy of faith; and his power over the vegetable kingdom. For it is not to be fuppofed that he, to whom the winds and the fea were obedient, and who knew men's fecrer thoughts, did not alfo know the fate of this fig-tree ta be fuch, that no fruit was to be expected from ir: but this $m$ racle of his gave him an occafion of exhorting his difciples, and fhewing them that he was Lerd over the vegetable as well as animal part of the creation; and he accordingly takes the opportunity of bidding them hrave faith in Gol.

Ingenious anfwers were alfo given by Aromatis funior, Mr. F. Cairns, Mr. Fon. Horn, Mr. R. Humbir, Mr. F. Needbam, Mr. R. Robinfon, Mr. Alex. Rowe, Ruflicus, and Mr. Jobn Wyrill.
CLXXXII. By Mr, A. Glondenning, of the Royal Navy.

Various conjectares have beee made concerning the origin of this foolifh cuftom. Bourne (in his Antiquitates Kulgares) fuppofes it originated (by a removal, which was often convenient in the Roman Calevidar) either from the feof of fools, held the firft of January, or Auld-Fools-Day, which was the firt of November. Mr. Goodaker (in the Britifh Oracle, publifhed 1769) derives it from the rape of the fabine virgins by order of Romulus. Mr. Swift, of Stow, (in Carnan's Diary, for 1785 ) is of opinion that it took its rife from the Cuckoo's comivg about the beginning of April, making fools of other birds, and cuckooing them by laying in their nefts. And Mr. Sbepberd (ibid, the propofe:) thinks it originated from the Saxons fending meffages to one another on this day, to announce the probability of obtaining a fignal victory over the Welch; but next day the -battie was fought, and the Saxous routed.

Aod according to one or other of thefe ways is the anfwer given by Meff. Cairns, Horn, Humber, Needbam, Robinfon, and Rowe. But another correfpoadent is of opinion, from what is faid in Maurice's Indian Antiquities, that it feems reafonable to fuppofe, that this cuftom, of making leols on the firft of April, originated from the heathen fports and paflimes inflituted on that day, in the age of the world when the vernal equinox happened upen it.

## CLXXXIII. By Rufticus, of Stafford.

To fine athes one p-und that's frefh burn'd from afh-wood, Add three pints of water that's foft, clear, and good :
-3. And ftir them well up once or twice in an hour, For at leaft half a day, and it may require more ; For mind, till the earthy part is quite fubfided, The aqueous muft not from it be divided;

|  |  |
| :---: | :---: |
| - | Then to one pint boil it; and when this is done, |
|  | Wile warm with a fonge rab it carefully on. |
|  | If this thould not anfwer, don't let ic alarm, |
|  | Of foap a ftrovig lather will do it no harm. |
|  | But there need of fome care, fo be mindful I pray, |
|  |  |

## 16 Quest. Critic. and Philof. anfwered, 1799.

CLXXXIV. By Mr. $\mathcal{F}$. Wyrill of Wiftow, near Selby.

The eye being particularly the index of the mind, every thing which affects the one mult neceflarily be fhewn by the other. Now, as fudden joy, as well as fudden forrow, may be too violent for the animal Spirits to bear calmily, no wonder if the nerves that affect the glands of the eyes caufe them to difcbarge tears, from whatever caufe they are irritated.

Like anfwers are given by Aromatis funior, Mr. Cairns, Mr. Horn, Mr. Needbam, and Mr. Rowe.
CLXXXV. By Mz. Alex. Razve, of Reginnis, Cornwall.

It appears to me that they ought always to be underfood in their full abfolute fenfe : except where the ruling paffion coincides with reafon.

Mr . Wyrill, the propofer, fays, I believe that the ruling pafion will always govern a man while he is in a natural or unconverted ftate: and confequently conquer reafon. But when, by Divine Grace, he is converted to a proper knowledge of himfelf, and believes truly in the Gofpel, the influence of reafon, affifted by the holy fpirit of God, will be able to keep even the ruling paffion within proper bounds; or, which is the fame thing in effect, the ruling paffion itfelf will be converted into a branch of reafon or fwallowed up in it. St. Paul is a memorable ivfance. His ruling paffion was zeal for religion, which, in his natural ftate, drove him to the unreafonable and inhuman aets, of perfecution. But after his converfion his ruling paffion coincided with his reafor1, and caufed him to labor more abundantly than all the apofties.

Like anfwers are alfo given by Meffrs. Cairns, Horn, Needbam, Roinjon, and others.

Sod CLXXXVI. By Mr. Fonatben Horn, of Brifcoe.
It is caut very thin trifty vapor, in the upper region of the air. And thus it is alfo anfwered by Mefirs. Cairns, Glendenning, Needbam, Robinfan, Reque, Rufticks, and Wyrill.

CLXXXVII, By Mr. R. Robinfon, of Bowes.
Seazficknefs proceeds more from the motion of the fhip than any, show other canfe. And the inteftines of children are not put out of order taitur thereby like thofe of grown people, becaufe infants ave almoft hourly sione atcuftomed to fimflar motions.

And thus nearly is the anfwer given by Mefrs. Cairns, Ncedbam, out Rowe, and Refficus.
 Kindfir, by union every creature, love; Subfifts through univerfal nature. And this, to beings void of mind, Is wedlock, of a meaner kind.

Touch'd by theall-enliv'ning fame, Then motion firit exulting came, Each atom fought its feparate clars, While womb'd it fpace, primeval Thro'many a fair enamour'd mafs: A yetunfafhion'dembryo lay; [clay Love eaft the eentral'charm around, The fource of endlefs good above And with eternal uluptials bound. Shot down his fpark of kinding is ? Moore

The ingenious propofer, M-dicus Bofminienfis, fays, from the great quantity of calcareous earth that abounds in every part of the world, is appears to be neceffary to its very exiffence, and the great varieties

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 of its combinations tend to prove, that its origin is of equal date with the earth, or mater, with which it combines. There does not feem to be any fimilarity between fhells and flints; yet, in large beds of chalk, maffes of the latter are found in confiderable quantities; and likewife fome large flints have cavities in them containing chalk. From thefe circumftances it would appear, that calcareous earth is fui generis, and had its exiffence at the formation of the world, equally with the orher earths.-And Meffrs. A.omatis Funior, Cairns, Rowe, and $W_{\text {yrill, }}$ alfo gave ingenicus aniwers.> CLXXXIX. By Ruficus.

Every perfon labouring ender that dreadtul diforder is in a hot burning fever, and the motion of the blood too rapid to be abated by the ids power of medicine.

Mr . Rowe fays, this malady has fo ftrong a tendency to coagulate the wis blood and humours, that the ftrongeft fudorifics cannot overcome it. bits
 CXC. By Medicus Boftonienfis.

Each procefs requires the aid of oxygen gas, which becomes decom- of pofed by its bafe joining with the fuoftance it acts upon, and the caloric affuming the aftive form, hear is generated. Aid where this decompo- nav fition takes place with rapidity, it difplays itfelf under the form of noin light as well as heat ; while the exygen forms a new compound, ac- aid cording to the nature of the fubftance upon which it acts, or rather to 139 which it uniles. That combuftion is nothing more than a change proe ald duced in any body that is combuftible, by its union with oxygen, is loye proved from the natural decompofition of pyrites when expofed to the air, the product of which is the fame as that which is obtained by the burning of fulphur. Phofphorus expofed to the air yields the fame acid as if it were burnt; and many mixtures have the property of taking fire spontaneoufly. - In putrcfaciion, oxygen unites with the different elements that compofe either animal or vegerable matter, the produce of which is various, gaffes, \&cc. and heat in fome cafes; as in fea-fifh, light tas well as heat is produced.

In refpiration the oxygen is received into the lunge, where it unites with the carbon of the blood, and forms the carbonic acid; the caloric which is fet at liberty, is, by the means of circulation, diffufed over the siods whole fyftem! if animal heacis generaied in the manner here fuppofed, it follows, that the heat in the lungs thould be greater than in the more "remote parts of the body; that it is fo , is proved by the experiments of Fobn Hunter, who has fhewn that the heat of animals is lefs in the remote parts of the body, than it is wear the centre of motion (the heart.) Here he proved the, fact, but miffed the application, attributing that to the action of the heart, which is owing to a chemical proctis carried on in the langs.
Anfwers are alfó given by bir C irmo $H$ R Anfwers are alfó given by Meffrs. Cairns, Horn, Robinfor, and Razve.

$$
\begin{aligned}
& \text { AENTGMATOLOGY. } \\
& \text { ANSwERS to the laft year's ENIGMAs. } \\
& \text { 3. Ink. }
\end{aligned}
$$

2. A Lyar.
3. Time.

4 Jonah.
5. A Walking Stiok.
6. A Rope.
7. A Sigh.

8, A Semi-breve,
2. Memory.
10. A Blackfonith.
11. A Gig.
12. Fancy.
13. Sleep.
14. Zeal.
15. Confeience.

Pr. The Bible.

## 18 FNIGMAS anfivered, 1799.

Rebus. y. Madam. 2. A Nightcap. 3. A Larkfpur. 4. A Sexton. 5.A Target. 6. Paftime. 7. A Reed. 8. Friend fhip. 9. Mabel. 10. A Ramrod.

## General Answers.

1. Advice. By Mr. John Fildes, Schoolmafter, in Liverpool.

When you fit down with pen and ink to write,
4. Keep free from lies each line that you indite;
(4) Your name will then thro' time perhaps be feen, $\quad$ mbly kifa 3 .
(d) As long as Fonab's has already been.

8 . Stick fait to honefty, to iruth attend,
Tter Or by a rope you elfe your life may end.
Qas Sigh not for riches, titles never mind, $\quad$ wind.
6tx Frefh in your memory good precepts keep,

His thoughts fo moch on pairs in gigs are bent, $\quad$ It.
So fhall your fancy fomerhing fill prefent $\rightarrow 12$.
atf. That with its fond attraction will delight,

Tha To act with prudence, keep your confcience clear 15 .
cata From fin, and ever hold your bible dear.
Think not the courtly madam is more bleft, Reb, I.
(2) Than is the village maid in nigblecup dreft; $\quad$.
(s)e For both, ere long, will like a larkfpur fade,
2.8. And by fome fexton in the ground be laid.

2e No target ftrong can you from death defend, 250 b yom ,
ast So your thort life in pafime do not fpend.
by. But, fince it is by GOD above decreed,
Q. The grave mult all your friendfhip foon fucceed. 8.

- is Prepare for death, as Mabel did of yore,

9 And you'll be bleft when ramrods are no more.
2. The flanderous treafon-writer. A probability. By Mr. J WYRILL.
mibax Whoe'er with ink will flander propagate, In time may meet with worfe than Fonab's fate: : रat 35 atir 3.4. He fafflefs and fufpended bya ropeg as actzozul hoetpipand 5,6 May figh bereft of every earthly hape. What doleful notes muft haunt his memory When blackfmith's fetters forc'd to wear is he lomphinnayignt 10 . Whirl'd like a gig, his fancy in defpair, The gleop of bleft content he ne'er muft thate, Miftaken zeal his confcience loud will blame, M, 14. I.
Who from his bible can no comfort claim;
His flaunting madam now will him defpife, Pr.
(83 ordiznixigen Rebli A night-cap or a larkfpur more will prize;
-The fexton, with a heart hard as a fone, Of iron target, gets him for his own,
प. And thinks it noble pafimes, then with feed Digs him his hole, and joyous tunes his reed. Ot how unlike that friendfhip. Mabel Ahares!
Whofe peaceful mind nor war nor ramrod fears; mgnat 9 so
Who in religions flow'ry paths is bleft,
Whils fland'rous traitors never can find reff.

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## 3. Serious thoughts. By his friend A.F. of Hull. Communicated by

Tho' the poor negro's fkin refembles ink,

Thus in a dungeon fobbing !
No daylight chears my drowzy eye,
My heart with $\sqrt{\text { figbs }}$ is throbbing.
No notes of mufie ftrike the ear,
While at my fate repining,
Nor banquets of luxurious cheer,
On bread and water dining.
My memory doreson hideous things,
Imagination cloying,
And Conjcienee black as ink me fings, All reft and peace teftroying.
5. On Invafion, By Mr. W. TATE, of Stranton, near Hartlepool, Durham.

Witheroaking throat and inkey chin, The Facobins of Gallia gria, And threaten to invade,
But Time will teach themotherwife, For, Fonab-like, we will chaitife

Them, if th' attempt be made. It tras juft at the time, it feems, When Duncan dous'd the Dutchmen's gleams,
They purpos'd to come here.

Be warn'd to fee me dying.

But by the rod was chided,
Tho' Yonab Smith bade me difcert, And be by virtue guided. But, when I came to chufe a trade, W as full of gigs unfitting,
I was by vice a captive made, All horrid crimes committing. For which the judge I thought to Into my conduct prying, Eblink, Will doom me to a rope I think.
were ready, [greedy,
And they, voracious walves, were
A To tafte our beef and been
But, oh! the change! they figb, they
With grieve, pale as a femibreve,
To hear the Dutch are beat.
Perhaps their memory may revive,
That Sidney Stmitb is filt alives

## ENIGMAS anfwered, 1799.

And ftill may them defeat. So in my gig I'll drive away, Nor fancy I thall fee the day

The Genius of our land Will fond of flumber be or geep, While zealoufly he ought to keep Watch with uplifted hand.

St. Vincent, Duncan, and Bridport, Will fruftrate every French effort, And cripple them at fea; While Bible truths fhall grace our ifle, [fmile, And Confcience make all good men A happy people we!

## 6. The Addrefs to Madam.

Thus Yonab Smitb to Madam gay For pafime wrote. Excufe I pray The aweful tale, I have to tell Before the Soxton tolls the bell
For you. I'd have you timely wife, And ufe not pen and ink in lies. To Mabel be your friend/bip true, Should fhe in nigbtscap vifit you. Let confeience guide you dayand night, Be your zeal for religion right ;
That no fad fyhbs may heave your breaft,
No fearful fancies break your ref: With Aaff in hand your garden view 7. To bim that muft underftand it.

## Of larkfpurs delicate in hue.

But think no place fafe hore below, The wicked forrow deep muft know: Ordireful war, where thoufands flain, Are by fore implements, a train Of ramrods, targets, worfe you fee
Than ropes or drowning in the Dee. Y et trifling gigs thefe to that woe, The wicked all muft undergo.
Socautious be what paths you tread, Elfe tho' alive you're worfe than dead.
[hear,
But if you're wife fuch notes you'll With which no mufic can compare.
By Mr. John Savage, Greens. Norton.

Lo! when acquaintance firf with us began,
I fondly deem'd thee as a taithfu! Adownright fenfible and honeftman, But full of contradiction proves the end.
[thy tongue
To think the foandal that employs Againft me now, and that without a caufe,
Say; have I ever done thee any Say, have Iviolated friend/bip's la w's?
How long flatl prejudice $D^{\prime}$ er confoience rule? [fenfe call'd?
How long thatl fenfe by thee be non-
Or a true ferious man be deem'd a foot, g atl'd?
'And time's pure blefings be by envy - When fonab walk'd the fireets of -4. Nineveh, [feer believ'd, And preach'd repentance, they the They who long grop $d$ in ignorance we fee,
The aweful warning humbly foon re-
E'en fo would I in contrite Jighs confefs.
Each faulic if asually I'd done witifs,

Before the lark's fweet notes again addrefs
[peace.
Another morn I'd fue for reft and But, as my menvory recollects no faults, [blackfmirb hue? Why fhould I cringe to looks of The gig of woeful fpite me now affaults ander [and true. From him I fancy'd faithfuly kind, Is it becaufe Myrtilla I revere; Whofe prudent zeal and wifdom fire my foul, To latting love and union all finIn whom the bible's facred laws conf. trol
[afuires, Each paffion that to mad ning rige Deforming beauty more thansmigbtcap far? Hill sbis L [Defires, To waik in virtue's path fhe more Thran to afcend proud honour's scill. ed car.
When on thy former kindnefs! As by a rarger iftopp'd amaz'd Iftand, Nor could I thinte fuch/fexton iff. refpect
[hand,
I ever hould experience from thine

## The Gentleman's Diary, No 59.

Had fortune fmil'd on me with, Was treated with reviling by his
glittering traio,
Fair as a lark/pur and as fading too, Then wouldf thou look on me with. out difdain,
[to do. As in time poff thou hat been us'd
Thus Job, when fore oppreft with pain and grief,
friends,
How often feen when moft we need relief,
[cads.
Pretended friend/bip thus ungrateful Yetfince Myrtilla don't my fuit deny, l'll true as Abel was to Thirze prove (AsGeffiner fweetly tells) and everfly, As guns and rods from interefted love.
8. The Good Man, By Mr. W. Spencer, of Sapcote.

Who can with pencil, pen and ink, decribe [gion flow,
The pleafares that from true reliPleafures unknown to all the lying tribe,
[woe? Who daily wander on the verge of
Eye that juft man, who, Yonablike, is fir'd
[caufe;
With holy zeal for this moit noble
Who worthips God, and, with his
infpir'd, [applaufe.
Demands attention while he gains His bible of companions is the beft, He reads of Adam and of Aod too, No Jog $b$ at night diftorbs his peaceful refo, [his due. For calm content and friendbip are
9. The Aut and Fly. A fable. By Mr. Wm. Watkins, of Wylam, Northumberland.

The ant and fly the other day, Sporting in the folar ray, Each with equal warmth of blood, Argue which the higheft food. It is well known, fays the fly, My pretenfions are moft high, As there is $n o$ facrifice Offer'd, but I claim a flice. The blackeft ink, the fleeteff gig, Things of note, Day 'Fonab's' wig, Staffs the fmootheft time can make, All 1 fancy at the wake Subfervient to my zeal and will Are all; I ride and fip my fill, To facted bibles I refort, And when I pleafe 1 fectp at courr. Not a maid of honour there But my m.mory holds dear, And confdienfly about her I Feaft upon the heartfelt figb. ...is

Lover of peace, he fiffes falre alarms, [ton's call; Nor dreads to hear the tolling fexRope, ramuod, gig, or target, may have charms, [pleas'd at all. But with fuch baubles he's not With fick in hand, a pleafant walk he takes [larkjpurs grow; Near purling rills where recds and Or with the funitb echoing notes he makes [bleffings flow.
In praifing God, from whom all Such is the man, whofe precious time is fpent [his guard, In doing good, whofe confcience is Defirous to improve the talents lent; Such virtue never fails of its reward. Mr. Wm. Watkins, of Wylam, Thus I live and never work, Whillt you labour like a Turk. The Ant hard-by compofed fat, Lift'ning to her foolifh chat. Madam, cay'd, as I'm a finner, I would fco:n to tafte a dimner; And when did you in any pation, E'er receive an inviration?
Confciense fays, I muft forbear
To take another's fav'rite chear. You fometimes on ropes will dance, And made faft are by mifehance; While, by reafon warn'd, I gather Still my food io fummer weather, Fill my barns with ample fore, To drive hunger from the door. Hard as a jmirh I all day long Work -, to make my caftefrong, Lett, on bad weather couning, I Perith like a filly fly.
10. Reffections. By M.: David Robarts, of St. Columb. Receptacle ol ail the grave, fllave, The monarch and the rope-bound Ought to romember thee;

The inky black, and noted tongoe
That deals in falfity and wrong, Here waits the laft deoree.

## 22

## Aniemas anfwered, 1799.

O youth, confider well your ways, Sigb not altho' you loofe the bays

That poets' temples grace; Ler Canfcience be in time your eye, Walk in her paths and vice defy,

In peace fo end your race. Let Virtue's zeal be your employ, While here her charms the good enjoy,
The wicked only hate.
The bible fhews the ruling guide, That made old $\mathcal{F}_{\text {nab }}$ fafely ride, With billows o'er his pate.
11. The poor Poet. A true tale. By Mr. John Carwithen, late Midfhipman on board the Royal William.
Thofe that the mufes aid implore, ${ }^{3}$ Tis faid, are oft diftreft and poor ; And, be the affertion falfe or true, I'll not difpute the point with you.

Near reeds and larkfpurs on a hill
There dwelt a man, tenant at will,
Who gigs and flutes could none attain,
For a poor wife and children twain.
To labour was his daily care,
His meals were coarfe, his coat threadbare.
For, with his ink-ftand by him ever, Deep drank he the Permeffus river. For, tho' his work required fpeed, He fancy'd line would write or read, Tho' blackfmitblike he'd only feraps, Nor purchafe cou'd dear books and maps,
But ftill the Diaries every year
He bought, ere things became fo dear.
His pittance fmall wou'd not fupply

- With food and fire his family :

The legiflature laws had made.
That fpoil'd his moft accuftom' trade:
[lout,
His wife now rail'd, and faid, you
Go beat the neighbouring towns a. bout,
Ands tho your proper trade be feant,
You work muft, or we die for want.
With that, this frowning madam pert
A waiftooat, nigbt-cap, and a fhirt
2 Or two, ty'd up, bid him begone:
His child criet, what's my father

When fummon'd from this eaithly fphere,
You'll glorious with the juft appear; Vice with gigantic face,
Is the fell fmith, whofe deadly darts
So pierce each mortal's vital parts, Ere he can end his race.
God grant repentance on us wait,
Ere ends this tranfitory ftate!
Prepar'd for his right hand,
We'll fee the grave without a tear,
The grifly king meet without fear, And hail the promis'd land.

That you fhould drive him to defpair?
With him I'll go, his fortune fhare. Alas! my boy, you cannot go,
The weather's cold, the bleak winds blow,
No bed have I whereon to fleep, You ftay muft and your fifter keep, While mother work will at her zubeel:
Farewell, alas ! what do I feel!
Reluctant, from my humble home, About in queft of work I roam. Yet peace of mind and confcience clear He yet retained, and banifh'd fear : And going on near Gofport town, Hard by the Featbers fat him down. A prefe-gang paffing him accoff, What flip my boy? you look tike loft,
Another faid, 'tis fexton Tom,
Who lately ran the Friend/bip from.
He rais'd his eyes, but norhing faid.
Come, propher Fonab, to Spithead;
But ere we're got to Gofport beach,
Bomb pells and balls will find your Ipeech.
This faid, they drag him to the boat, And bid mind the after-thought.
He knew not what bat bow'd affent,
And fo towards Spithead they went.
South fouth weft wind, and a lec tide,
Not foon the boat got a-long-fide
The Royal William guardfhip, then Appointed to receive prefs'd mens
The fidefpencall'd; a ropewas flung, done,

## The Gentleman's Diary, $\mathrm{N}^{\circ} 59 \cdot 23$

Which haplefs o'er his body bung. The furf foon pluck'd him o'er the fide:
Send off the boat, the fidefmen cry'd, We'll haul on board this lubber oaf, While thofe upon the deck all laugh, To fee him haul'd up from the flood, He dripping on the gunway food,

Not knowing to go fore or aft;
But they furpected this was crafr? And to the fentry call'd in hafte, Whofe ramiod pufh'd him to the waift,
[year,
Where I thall leave him till next
That he may learn to reef and fteer.
12. On. Confcience. By Mr. Robt. Hendy, jun. of Andover.

A guilty confcience to accufe None need be hafty to begin, Yet, Jonab-like, we ftill refufe To hear the counfellor withip. It fpeaks loud to the liar's mind; And thofe that fancy pleafure too, If deaf to confcience, furely find What boly sorit declares is true. With zealous Smitb attention pay, Let wife inftruetion warm the heart, That time of fleep ebjoy you may, Norgigsnor breves caufe figb or ftart. May I be fill'd with heav'nly love, Ne 'er feed where noxious herbs fill grow,
But eat the manna from above, And living water drink below. Honour, delufive charm, invites Ambitious minds to fig $b$ for gold; My menory it far more delights Creation's beauties to behold.

With tinfel cord the gilded cane.
Adds little worth to hand or head But fhews how empty 'tis and vain, Unlefs in Virtue's paths we tread.
The fowler trips the verdant plain, And rams his piece in hopes of game, But unfuccefsful come again, When, flafhing, he has mits'd his aim.
[reed,
Tho' fweet the youth may tune his The hero's ßield himfelf defend, 5 And him that helps in time of need, I count muft for a faithful friend. For Madam Mabel's rich array, With caplike lark $\int$ purs in full bloom, She's but, like otners, living clay, And forn muft hid be in the tomb. Sad paftime is the fexton's knell, And terrifes the flandero-by: Not fo, if confcience fays all's well, Seraphs will bear us to the flky.

## Answers to the Prize-ÆnigMa, Rebuses, \&c.

## 

Hail, Robarts, boly bible's bard! Teach me thy warmth to fhare,

That in my breaft I may have reft, And feel Religion there.
2. A Sonnet to Religion. By Mr. John Browne, of Huntingdon.

Hail, pure religion $t$ fweetet fove-1 reign balm! [poffef,
The choiceft good by fallen man To purge from guit, to tranquillize and calm [troubled breaft. The guilty heart, and chear the See the benign Difpofer of events ! By his all-fainhful fervants (as to prove), [intent's, Tranimits his boly word, his kind To teach by precept and exhort by
love. [fears,
Devotion can divef our foul of Difpel derpair, and vanquifli death and guilt,
Make our hearts pure, and only turn our cares,
To fit for God the temple he has built. [fures gleam, O! may thy free exhauflefs treaThre all the world with an efful. gent beam!
whit-23. Sacred to Religion. By Mr. RD. HuMBER, of Brighton.
My harp upon the willow I fufpend, Anddartupon my mind celeftial light, Come facred worit, thy holycomforts 겨니 lend,

That I with reverential awe may

For, when religion tunes the charm. Replere with ey'ry grace, and fo beTing lgre, [fire, nign, [vine. The folemn fubject needs a Gabriel's A mortal can but lifp, 'tis all diकीth aitertic By Mr. W. Clark, of Cam's. Hall.
'Tis from the boly faripture found, The deepeff $A$ tab to morrals given Refigion's balm cures every wound; Is heal'd thro' perfeet faith in heafin

## 5. By Mr. A. Glendenning.

27 Can repentance avail, Wounded confciences heal, Sin's confequent iffues prevent?

Reafon leayes us difmay'd, But Religion brings a d,
On this errand our Saviour was fent.

> 6. By Mr. Robert Hendy, jun. of Andover.

Hail, facred page, the fund of truth, Inftrudting age, and guiding youth, Precepts divine in bright difilay, Wifdom invites; let all obey:

Without diftinction all may prove How fweet the peace that flows from love,
Enjoying realms of blifs above.

## 7. The Rebufes. By Mr. W. Clark.

Madam Mabel and I t'other day I told her I thought I had fome of took a jaunt
Togerher for pafime to vifit an aunt
In friend/bip converfing on matter not common, [a woman. I admir'd much to find her foclever In cenverfe fhe afk'd if I'd guefs'd the charades [by the blades. In the Genteman's Diary compos'd them folv'd;
But to name the remsinder fhe feem'd quite refolv'd.
"There is lark/pur, a fexton, and target, you'll find;
Recd, ramr od, and nigbt-cap, are frill left behind.?

## 8. On Friendfhip. By Aromatis, junior.

Tune the reed and ftring the lyre, Down his cheek perhaps, ne'er fole Friend/bift's charms my foul intpire, Tell me, fweetert joy below, In what foil thou deign'it to grow : In Madain Lark/pur art thou found. Whofe bounty reaches all around? The poor by her are daily fed, Her paffime is to give thetin bread. Yon fixzon, tho' his head be grey, Whiftling in his nigbtecap gay,

Thy facred tear . . ah tcallons foul! And far thou'rt fled from war's dread reign.
Targets and ramiods are not feen With thy meek form, ceteftial fair, No fuch emblems thou wilt wear. He is bleft that gaios a friend, Who his aid will always lend, He myy then all cares defy. Peaceful tive andiblamelefé de.
3. Xiquan New 压Nigmas to be anfwered next YEAR.
I. FIGMA 6iG. By INDICENA. $\square$ Dear, Gents, I upon you attend, Am with you wherever you go ; A conftant yet changeable friend, Without me ye nothing can do. More light than a feather I rife, Te Yet elofely adhere to the earth,

And tho' I a ccend to the ifkies, On the hills and the valleys. I've birth. Unfeen thro, the citn I sind ant At copcerts my powers difplay, I fomerimes am folemn and flow, At others, am cheariul and gay.


## The Gentleman's Dfarx, $\mathrm{N}^{\circ}$ 59- 25

I'm feen in the belle debonaire, And offen difoover che beau; At prefent, in form militaire, Am thought to be quite apropos.

On bleak Cal-donian plains You'll find the dimenfions of me. And yet a fmall somprfs contains My beundarice, fix by the fea.
2. 生nigma 627. By Mr. G. Brentnall.

Pray, what is chat mottperpledread? Part cortal men are made to fear, Yet women old wear on their head, Not quire fo white as fnow ; Is dead, and fo has ever been, Yet lives and firs, as oft is feen, Can e ther come or go. Vhene'er they apprehend it near, And yet it has its charms. Yut when they find it very nigh, With utm ft feed fome from it fly, While others truft their arms.
3. 巴nicma 628. By Mr. W. Clark, Cams-hall, near Fareham.

A humble flave in Diary's page, R ghe ufeful in his flation, Pleafe to admit among the fage, Well known throughootthenation.
Affitting cormmerce in what gains Juft balances require,
And, tho' he's of hang upinchains, Le Ton Tbouland-bofoms fire.
In him are trefpaffers couifin'd, 9.Till fetribation's made.

His various ufes to mankind Effintial are to trade.
In town and country, every where) He's held in much repute; Tho' he, alas! with fome appear Their dernier, and turn'd out.
But ufeful Aill, anid worth y your care, On th is you may depend, The more you have, the better fare; Then make miuch of a friend.
bex, 4. Жinigma 62g. By the Rev. Sam. Oliver.

I'm a regular blade
1 Tro look after trade,
An impudent front to I I earry. Like a watchman, I'm found To keep my own round;
But, from truth if I happen to vary
it brings fad difatter
4. To me:-tho' my mafter

Is noble, great, gracious and glorious. And, now my hand's in, I hope "tis no firl [vi\&orious.
To wifh George o'er his foes ftill

## 5. ÆNIGMA 630

Wo Atranger am I, but am very wel! known
In evary vilhage, and every town;
At church you my pious intention behold, [clothing of golet
Where 1 often appear in bright
Am moftly domuflic, nor much in the field;
[lingly yield.
Tho' my back to the burthen I wil.
And belle, beau, or feafant, will fetdom complaia, [again
Their affiftarce to lend, to unload a t
Yet I in the kitchen am ofefol, ti: faid,
[up her bread
To Dolly the cook, when fhe makes

My philofopher's faff s y y rabs I! Would make you all laugh, of Were you but to hear it abus'd; When you fee it, you 'll know, Whereyer 1 go , 8 [us'd. Who I am, tho' my faff's not mif I do, this miy truft is, No more than fair juftice, Yet prejudice ruas fo uncivil, If a prize I fhould feize, Sime people will pleafe nM AnB Co with me and my flaff at the devit. By Indigena.
I may be employ'd at the death of the poze, $[$ Hopé. Give name to a bay a: the Cap of Gnod Yet I io anale houfe, fohardismylet, in comp. Il'd to attend on a ftupity.'d for.
The prep of his joy and hispleafurc's fupport, [my fioal report.
Tho be fometimes louks grave at Metamorphos'd-tohudineyou need but to looke
A: theendorbeginning of every took. The times of ecliplies are found out from m.e, [ide of the fea. With the ebb and the flow of the

Come, fair Erato, ouch the lyre: A beausy fets my foul on fire, Whofegrace, and raptivating charms. The cold with love's fiweet pasfion 5uthe wirms.
She comes, in lucid $\nabla$ fftments feen, Fair as the South's inlluftrious queen, When the her fplendid robes' put on, To grace the court of Solamon. Eclips'd would Solomon be too, For fhe's more glorivas far to view No more let flory boaft the parts Of Mofic, wi h her magic arts; Alrho' thro 'her harmonious lay, E'en shirgs inan mate obey. For more altonifhing, by far, The things by her performed are. She like fome fair enchantrefs - flands,
[mands.
Endow'd with power, fhe all com-
Tea thouland votaries cume forth, To fing and celebrate her worth. The forefts too, a ber decree, To dance ution the meuntains, fee; While ev'ry wood and leary grove, Obedient in her prelence, move.

By Mr. J. Savage.
Fob blefs the nations, fhe appears; Gloom haw hes, faint bearts fas: chears ;
With power, that can to life renew Thoufands her predeceffors flew. Youth in felected bands combine, To fpend their vigils at her fhrine. One memorahle tribute fee Of fidendid pomp and liuxury Soon as Autora, newly born, A wakes the harbinger of morn, Ere Sol the mountains tips with gold, Or Darmon's care forfake the fold, See ihrongs adurn the fertile plains, All joining in meladious ftrains, In concert fing her prailes iound, Till diflant echoes caich the found. She gives the rairy fancy wing, Infpies them whilf they fweetly fi.g, [dances, On leads them to the Pprizhtly Andall their raptorous joys enhances. Should contemplation bid you fray, To taffe the fweets of partung day, Her namefake in finme vale you find, Efteem'd a bleffing to mankind.
7. Finicma 632. By Mi, Wm. Watkins, Wylam-engine.

Let every heart abound with juy,
My prefence can each care deltroy, And fometimes banifh forrow;
And tho' in, myltic robes array'd, My enfigns oft the village maid Will deign of me to borrow. Stand back; or fear the horrio frife: See criminals gafping for life Beheath my very nod.
With prong or dait I cut the thread, And tho' to die all are decreed, I fend no foul to Gud!
In palace, thelt, or humble eot, By Pravidence afingn'd my lor, And cariage marks my way.
But, la! the prince and learned fage
Ac times give fanction to, iny ras's, And toulands for me proy.
To Adamard to motker Eve,
Mind, this I fpeak not to deceive, I very svell was knewn;
In trelli, with at a tribe or fee,
Each of them perfonated me, And (t.at yoa all wi.t own,

Hark! hark! alas, what difmal yells Of innocenis'-fad pain cympeis,

And tortures never ceafe. ¿dead, Strew'd round with dying and the Nogiant's den can crule more dread,

Nor war's fierce rage increafe.
Not that on land I always 'bide,
But often on the fwathing tide
1 brave the jarting waves. Each honeft ar (tho'dy'dwith fooi) Will frive to know what I'm abour,

From me his portion craves.
But hold, for fear 1 almoft tiemble, 'Tis faid old Ni, $k$ I much refembic,

My wo ks are alt fo bale.
I mann, 1 kill, 1 bang, 1 drown, I thay alive, all thas I ewn.

Yet never lear difgrac'. [fliog, Such actions would my concienice And condempation on me bring,

And all my trophies blaft;
Put, thro' repentance, know ihat 1
Look for permiffion to the fky ,
And heaven toigain at laft.

## The Gentleman's Diark, № 59 -

## 8. 压ioma 633. By Mr. Rorinson, of Bowes.

My parent dwelt upon the lowly green, [fcene; And fertile nature beautify'd the Whereallthyfweets, imperial Flora, reigo,
And pleafant breezes fan the waving Nearthemeand'ring rivulet'sfisiooth fide, $\quad$ [numbers glide. Whofe gentle murmurs in' fweet Till on her vengeance keen its vigour pour'd, Her body mangled, and her charms Her body mangled, and her charms fing.
I, phenix-like, as travellers relate, Tho' far I walk not, frequent heard Owe my exiftence tomy parent's fate. Diarian bards, now, left this tale furWhen form'd and fafhion'd I'm of fature low, My num'r us ribs without a fkin I The mafk remov'd, perhaps your Two feet I've got, but then of arms I've lack;
9. Enigma 634. By Mr. J Low in the bofom of yon vale, Where trees protect from winter's

The alchoufe fhewsits fign. [gale,
There, while the merry tale goes round,
A mid the ruftic ring I'm found,
'Tis to amufe them mine. If with the clown I'm forc'd to fit, To fhew my knowledge or my wit, Then I'll not condefcend; Should the excifem an take his place, While the Imile's glowing on each By all I'm own'd a friend. [face, For oft, with tales of mirth or woe, bid the crowding paffions glow, Such is my magic power; The rofy dimpled fmile appears, And fweetcompaffion melts in tears, Within the fleeting hour.

## -ifersur flo. AENIGMA 635 -

I am, good fr, but never, madam, Not quite fo old as father Adam. But I was born before old Parr, Am fill alive, fo otder far.
I have by you been often feen, Ahd am well known to Britain's In camp and city I am found, [queen, And in the country $I$ aboune.

I am a tinker, am a tafior, I am a foldier, am a failor.
I am a captain in gold lace,
fthew. Tbis nightly monfter's only in dif-

By Mr. W. W. of Crowle.
Ane leg 1 have, a belly, and a back,
A monfirous head l've got, but ne'er a tongue; $\quad[$ long. Four hands at leaft befides to me beI am, in brief, a creature deaf and it blind, frehind And one of my four hands is plac'd When fable darknefs veils the deadly night, To your furprife, like demon ora I tois. I rarely talk, yet fometimes Diarian bards, now, left this tale furprife,
[gyife.
charming lover $\{$ cover. Or genaine picture, you'll in me difunius Barken, of London. Not always in the woody vale, For oft I tell my artful tale Within the ftaterman's coach; B d him to catch or fhun the fbade Of pleafure, fafcinating maid !

Or haughty power's approach.
At merchant's loaded defk I vex,
For dull corroding cares perplex
His avaricious mind.
At his right hand I oft appear, And whifp'ring fortune in his ear, Thus I attention find.
But tho' to day with fortune blef, By lords or ruffics thus careft? So fet by is my name,
To. morrow I negleet d lay; aci. So, like the fav'rite of a day? S son flies my flecting fame. arlat is I am a fwerp with foory face: I am a rector, curate, vicar, $A$ Am a merchant, fell firong liquio?。 I am a bifhop, wear a gown, I a m my lord, I am a clown, I am a cobler, am a king, In fhore I'm atmoft any thing.

I by the law am made and 'ty'd, And often taken for a guide. I may be mafter, may be not, To be a fave is oft my lot?

## 28 NEW 压NIGMAS, I799.

And, mufhroom like, I quickly grow That 's odd, you 'll fay, -nay, not $^{\text {Th }}$ Up to maturity, you know.

Good names I from the ladics fteal,
So I, you'Il fay, in feandal deal. By that furmife on me is railing, For I oft hide the woman's failing. If e'er I wed, it is for life, For I cannot furvive my wife.
at all; For, when pale death fhall on her I'm then no more when the is gone, Tho' fill I'm feen the relf fame one; Still go abroad, ftill take the air, A nd often take another fair. Now, what I am be pleas'd to tell, I'm fure ye know me sery well.

## 11. ※nigma 636. By Mr. R. Humber, of Brighton.

Ye ballow'd Nine, attune the lyre, Come aid, with your poetic fire, My various natures, while 1 fing From what, and where, and whence The zeraof my birth isdated [I fpring, Ere beaft or reptile was created, Ere Adam breath'd the fragrant air, Or Eve put up her ev'ning prayer Dragg'd from the enrails of the To crueley I owe my birth. [earth, With fire and blows they me abufe, At length pronounce me fit for ofe. In parliament, tho' far lefs ftout My sature, yet I'm of turn'd out. Nay, I relentlefs hie 10 jail

The man that cannot find a bail, That tradefmen may not fuffer lofs, I, like a papif, wear a crofs.If I'm noi found, the culprit's free, And need not crofs the ruffled fea. In days of yore, as records tell, Amazing numbers by me fell. In other fenfe, with airy flight, If foar beyond the feptierd's fight. The mufic of the grove I thare, Each dulcet note proclaims me there, With warblers on the blooming fpray, Who could not fing were I away. My loft fenfe is, from me you may Be cirtain what you have to pay.
12. Ænigma 637. By Mr. J. Browne, of Huutingdon.

Avaunt, ye great, your boaft, your grandeur, pomp, and pride;
Thefe tritles all are loft, great odds are on my fide.
Tho' you in loftier fate think $m c$ beneath your care,
On me depend the great. I Ahine in bumbler fpberè.
As larks falute the day, and crimfor dyes the Eaft, [calls to refi. Io'er the uplands firay, till evening But for me, one wide wafte would fpread yon fertile ground,

Commerce and trade difgrac'd, and want appear arcund.
Perhaps you'll call me knave, but that I fhall difown, fmy own. For I enjoymene bave on what is not Idwell on rural plains, where chearful peafants toil,
Where peace and plenty reign, and blefs the fruitiol foil.
While pleaiu es fo complete, and unremiting flow,
I envy not the great thein grandeur, pomp, and flow.
 tor 0 , $\mu$ inam ante tuos fedeam capriva penates! Propert. Itb. iv. Friendy to the fylvan Mufe, $\quad$ Read, with kien crestive eye, See yon bougbs a fhade diffufe; Rus rough gurgle thro' the glade; Haffen to the cooling fhade.
There, fequefter'd from the throng, Liffen to the blackbird's fong; There, in me, mufe out the day. Nest the glowing orbs furvey.
Wraet in fome angelic thought, Praffe jear Maker as yon oustht.

All the wonders of the kyy . Freed from yoir lequacious crowd, Penfive walk beneath the fhroud io Aw d, approach my habitation, Dear to hofy contemplation.

Love! y Allanoas retires, ar a, at jons with my querimonious choirs, oft invokes the powers above, to refture her abferat love ;

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And bemoans the rueful day Which took Paridel zway. Charming fair, that theme forego,
Then I'll mitigate thy woe;
Bid thy graces be unfurl'd,
Send thee back to grace the world.
Plēafing fells to me betong,
Finfpire the tuneful fong;
Wifdom woos you all 10 me ,
Tafte of true felicity!
Why your faculties defroy,
In deluding fireams of joy?
Where Deffruction's imps await,
With the minifters of fate!
Rather pierce the filent grove, Nature's with gay foilage wove,
There (remote from empty noife,

Giddy rior, buflling joys,)
Gentle paffions footh the breaft.
You are there obfeurely bleft. "Who'd but caft his pomp away, For my ftaff and amice grey? Who'd but wifh his holy lot in Oblivion's humble grot?"

In thefe flady groves and bow'rs; Peace and harmony are yours;
Yet the bleffings you enjoy, When abuf'd will fu ely cloy. Whence, obferve the golden mean, Since the miad endears the fcene.

Thomfon's finooth infructivelay, Deign'd my beauties to difplay. Candidates for Thomfon's fame, Hence reveal my pleafing name.

## 14. Aniama 639. By Aromatis, Junior.

'Ere the Eternal Wifdom fram'd this world, [hurl'd,
And chaos into form and motion
When night's dark - veil extended o'er the plain,
Great was my pow'r, I held my fpacious reign,
'Till the Atmighty gave the great command,
[hand,
Eet there be ligbs-obedient to his
Atoms and fyfisms into order flew,
And I confounded bid a long adieu.
Far Iretir'd to fome fequeftered cell,
And with the pious hermit there I - 280 dwell.

He by my aid can trace great Na . taxt ture's plan, [man. And vindicate the ways of God to See yonder crew of bacchamalian fots, [pipes and pots; Wafting their health and time in My prefence feldom is where they refort,
I flee the city and the crowded Folly and riot equally I fhum,
Yet fools without me oft would be undone.
$I$ greatly leffen matrimonial onife, And ufeful found a $m$ in a fingle life.
Go afk the fage, who fludies Na ture's laws,
And in each object views the fovereign caufe,

Whofe mind's aloft in contemplat tion flown, [are known. To him my ufefulnefs and worth When youthful Strephon tells his artléfs tale,
[vale,
With tears and fighs, to Delia of the Alternate hopeland fear pervadé her frame,
[fame. Her bofom throbs as fhe furveys the And, when each choughe with me the well has weigh'd, [vey'd. In metheblifsfulnews to him's conCupid, the god of love, my worth knew well,
For, on a time, as ancientrecords tell, A rofe he gave, the firft that e'er was born, [morn; Fragrantand beauteous as a fummer's That I engag'd to him fhould firmly: IT Itand, [hand. Nor e'er betray him to his mother's And from that time this faithful II lovely-flower [bower, Has oft been plac'd in many a thady Where for diverfion meet the youthful traio.
[reign, And 'tis an emblem of my peacefu! "Under the role" no enrious whifper vents [dear gents.
Its rage, Adien-and fay my name By me, howe'er, you 'll ne'er to fame be rais'd, [be prais'd. Tho' you by all mankind ought to

## Prize 届NIGMA, 1799.

15. 庣inga 640. By Mr. J. Wyrill.

Diarian bards, far fam'd for myftic For, oft'times he willon my kingdom lore,
Who hidden meanings can with eafe explore,
In flowing verfe fhew forth my wond'rous fame,
And raife from darkneis my oblivious name
Long ere th' Almighty form'd this earchly ball.
And fair creation did from chaos call,
I boaft my fway; as emprefs rul'd
arsci alone,
[throne.
But now a brother fhares an equal
In him refplencent glories you may fee;
[me.
The fame, tho' lefs, you often find in
And tho we on each other muff depend,
[friend. A ternately we prove both foe and H ow can it be? Why, fate will have t fo; [other's foe.
Tho' friends to you, we prove each/ Extinet myfway, and of meno remain.
Prize- Æinigma. By Mr. Wm. Spencer, of Sapcote.
Stoingss When Pheebus, drooping, finks into the Weft, And drops a fignal for the world to rett; With fteady pace the ruAlic leaves his care, And homeward trudges to his wholefome fare.
(12. His wife, impatient of unufual ftay,
antur Steps to the door, and meets him in the way.
A1 Her chearfollooks denote her envy'd blifs, And children run to thare a father's kifs; 1.0413 Whofe fafe return can each fond hope requite, pho And artefs queflions give the fire delight.

O favour'd man, with fuch endearments bleft tyah thaf Contented too, and that's worth all the reft. But now, adieu; and fweet be thy repofe, While thy fucceffor thall his feats difclofe. For, tho inanimate, the fenfelefs elf Will condefcend to tell his tale himfelf.

When night appears, and gloomy profpects rife, And fable cleuds o'ercait the nether fkies,
At Nature 's call, from my retreat I fart; 0 And, like my predeceffor, act my part. 2 An agent free, I rove from place to place, C2T A ftrong temptation to the humen race. aslopht And, when miftaken judgemene points the way, Quhent The knowing ones are often led aftray.
atranot By me deluded, retrograde they go, 2. And thus fall villims to an open foe. (v). Tib Unguarded wretches, carelefs thus to be a yest Impos'd upon by fuch a thing as me.

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And, if reports fay true, 'tis even faid,

## I haant ti.e dreary regions of the dead.

blat cousd hansia So queer my metion, that the wifft man, With all his k ill, may eatch me if he call. His greateft effi ris not retard my flight; And, ftragge to tell, my feats are all at night, For, ere Aurora whers in the morn.
And Sol's enliv'uing rays the bills adorn, My courfe is finifh'd. Thus, my friend and I Alcernately our precious time employ.

> New Rebuses, Charades, \&e*

I Rebus. By Indigena.
M'y firft, renown'd in clafice page,
Thro' Latium's plains meand'ring glides; emerat arti [rage, If made too free with, you 're to blame;
Take one away, there then remains
$\left.\begin{array}{c|c}\text { glides; } \\ \text { My next fometimes, with frwelling }\end{array}\right]$ Read Milton, Thomplon, Pope, and
2. By Mr. W Ctark.

Five letters conftitute my name. What oft a heart fincere retains;
The lowly meads of Frifia hides。 Would you the beauties of my whale. furvey, But, if you take one more, you'llfee An emblem of ftopidity. An emolera of flapidity. 3. By Serjeant Simp xin.

On buildings high, you'll find it there.
Thefe two conjoin, and hence explore What frequentlymakes cannons roar.
4. By Mr. J. Cairns.

My whole, dear gents, aims only to Omit anotlier, and what's left will decerve; [you'll have. fhew, [to do. O.nit one letter, and much warmth $\dagger$ When hunger-bit, what all men wifle 5. By Mr. R. HENDY, jun.

When Strephon woo'd a lovely fair, Her anfwer made the youth defpair; And, if my rebus you'd define, Her anfwertwiceyou muft combine;

And, tail to tail, will make appear What's feen each day throughout the year.
Direct, reverfe, it reads the fame.
Next year, diarians, tell its name.

## 6. By'Mr. J. Fildes.

When one, who has a with to wed Thinks drefs will ftand her frlende, Without a doubt, the oft my firft Will o'er my fecond fpend.

And, when fhe has her w Thobtain'd, And is become a wiff,
My whole, with inew, if rightly us'd, How fleeting's thoman life.

## 7. By Mr . W. Chavey, of Bath.

## Hail! great difcovery, mighty truth!

 Thou child of genius, fire of yourh! Why haft thou long io embrio late? Whyflepr in darknefs'gloomy fiade? Come, now, and deck fair ficience
## page;

Come, be the wonder of the age!

Heor, how the vain iotruder tells
His tale of timfy knowlege;
Merhinks Thear, from envious cells,
Or youth half-taugh at college,
Who' nut, as well as he, fave four.d An Englifh erepofition,
Which, to ictel in Latin join'd;Will ihew therimpofition.
muft be conceived as unfiformly fpread through an horizontal cylinder whofe length $=b \mathrm{C}$, and its centre of gravity in the fame vertical line $\mathrm{G}_{g}$ with that of the body: and as this is to be fupported by the water acting uniformly through the length $d \mathrm{C}$, and by the fring in direction Tb , bifect $d \mathrm{C}$ in $l$, then the water $d \mathrm{C}$ will aet in the fame manner at its center of gravity $l$, as if it were all collected there or fupported there by another fling parallel to $\mathrm{T} b$. Confeq. as $b l: w=\frac{6 \mathrm{C}^{2}}{\mathrm{SC}^{2}}:: \mathrm{Bg}$; the weight fupported by the water in a vertical direction, : : bl-Bg; that fupported by the fring TS. And thus alfo muft queff. 609 be folved.

Thanks are due to Meffrs. Rowe, Walker, Watkins, Wbite, and Wrigbt, for their ingenious anfwers.
2. Quest. 736 , anfwered by Mr. T. White, of Dumfries. Let the given equation be affumed $=x+\frac{a}{x}+\frac{\beta}{x+1} \cdot \frac{1}{1}=0$, then $x^{3}+$ $x+\mathbf{x} \cdot x^{2}+\overline{a+\beta+y_{0} x}+a=0$, and by equaring the coefficients of the homologous terms, we obtain $a=r, r=p-1$, and $\beta=r-p+q-\mu$ : and hence the required expreffion in the Diary. If $x-1$ be ufed inftead of $x+1$ the given equation is transformed to $x-\frac{r}{x}+\frac{1+p+q+r}{x-1}+p+1$ TH0. The ufe of thefe transformations may be the facility which they afford, for approximating to the roots of adfected equations.

And thus rearly is the anfwer alfo given by Mefirs. Conliffe, Rowe, Walker, Watkins, and Wright. By way of example it has been tried to Find the affirmative root of the equation $x^{3}-15^{x}=3$, or $x-1-\frac{3}{x}$ $-\frac{11}{x+1}=0$, and the refult of a few trials is $x=3.969333$, which is true to 5 or 6 places.
sis 3. Quest. 755, anfwered by Mr. J. Wriget, of Norley. Wart 1. Conftr. From the given point $O$ in the bafe $A B$ as a centre, and radius $\mathrm{OC}=$ the given line defcribe a circle; alfo from $O$ towards $A$ and $B$ sefpectively, fet off OX and OY fuch,
 that ${ }^{2} \mathrm{OX}, \mathrm{OA}=\mathrm{AO}^{2}+\mathrm{OC}^{2}$, and 2 $\mathrm{OY} \cdot \mathrm{OB}=\mathrm{OB}^{2}+\mathrm{OC}^{2}$; on the diame. ters $A B, X Y$ defcribe two femicircles $A Q B, X P Y$ draw $O Q R$ petpend. to $A B$, cutting the former in $Q$ and making the rectangle $O Q$. $O R=$ half the given one : draw RP parallel to $A B$ cutuing the fem:circle XPY in P , demit PD perp. to AB cutting the circle whofe centre is O in C ; draw $\mathrm{AC}, \mathrm{CB}$; and ACB is the required triangle.

Demonftr. $\mathrm{AC}^{2}=\mathrm{OA}^{2}+\mathrm{OC}^{2}+2 \mathrm{OD} \cdot \mathrm{OA}=2 \mathrm{OX}-O \mathrm{~A}+2 \mathrm{OD}$. $\mathrm{OA}=2 \mathrm{XD} \cdot \mathrm{OA} ; \mathrm{BC}^{2}=\mathrm{BO}^{2}+\mathrm{OC}^{2}-2 \mathrm{OD} \cdot \mathrm{OB}=2 \mathrm{OY} \cdot \mathrm{OB}+2 \mathrm{OD}$. $\mathrm{OB}=2 \mathrm{DY}, \mathrm{OB}$; therefore $\mathrm{AC}^{2} \cdot \mathrm{CB}^{2}=2 \mathrm{XD} \cdot \mathrm{OA} \cdot 2 \mathrm{DY} \cdot \mathrm{OB}=$ $4 \mathrm{DP}^{2}, \mathrm{OQ}^{2}$; or $\mathrm{AC} \cdot \mathrm{CB}=2 \mathrm{DP} \cdot \mathrm{OQ}=2 \mathrm{RO} \cdot \mathrm{OQ}$. q. e. d. $i o g$ dioul

When R P only touckes the femicircle XPY at $P$, the rectangle ${ }^{\text {un }}$. der AC and CB is a maximus.

Part 2. Conftr. Take OG a third proportional to $A O$ and $O C, B I$ a mean proportional between BA and BG, and AH=the given fum of

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the fides, through $A$ and $Q$ draw a right line, to which from $H$ apply $\mathrm{HF}=\mathrm{BI}$, demit FE perp. to HG, and from A to the circle whofe cene tre is $\theta$ and tradies $O C$, apply $A C=A E$, join $C B$, and $A C B$ is the reo quired triangle, the fum of whofe fides is that given.

Demonfaration. $\mathrm{AO}: \mathrm{OB}:: \mathrm{AO}^{2}: \mathrm{AO} \cdot \mathrm{OB}=\mathrm{OQ}^{2}:: \mathrm{AE}^{2}=\mathrm{AC}^{2}=$ $E F^{2}=\mathrm{FH}^{2}-\mathrm{EH}^{2}=\mathrm{BA} \cdot \mathrm{BG}-\mathrm{EH}^{2} ;$ or, $\mathrm{AC}^{2} \cdot \mathrm{BO}+\mathrm{HE}^{2} \cdot \mathrm{AO}=\mathrm{BA}$ 。 $\mathrm{BG} \cdot \mathrm{AO}=\mathrm{BA} \cdot \mathrm{OC}^{2}+\mathrm{BA} \cdot \mathrm{BO} \cdot \mathrm{AO}=\mathrm{AC}^{2} \cdot \mathrm{BO}+\mathrm{CB}^{2} \cdot \mathrm{AO}$ (per lemmas page 128, Simpfon's Exereifes) therefore $\mathrm{CB}=\mathrm{HE}$ and confequently $\mathrm{AC}+\mathrm{CB}=\mathrm{AH}$. q. e. d.

When the fum of the fides $A C$ and $C B$ is a maximum, HF will be perp, to $A Q$, in which cafe $O C$ bifeets the angle $A C B$. For, the angles $A Q B$ AFH being botn right, the triangles $A Q P, A F H$ are fimilar, therefore $A O: O B:: A C: C B$

The Aralyfis, by Mr. Jas. Cunliffe, of Bolton, Lancafhire. Suppofe it done, ACB the required triangle, $A B$ the given lafe, $R C$ the given line, $D E$ perp. to AB. the diameter of the circumfcribing circle DBE bifecting $A B$ in $F$, draw EC cutting the bafe in $\mathbf{G}$, produce $\mathbf{C R}$ till it cuts the circle in 0 , and the tang. $m$ Ein $m$, and let fall $m \vee$ perp. to $A B$. Then the triangles $A G C$, EGB are fimilar, and $A C f_{f}$ : $A G f_{q}$ : : : EB $\mathrm{fq} .=\mathrm{EG} . \mathrm{EC}: \mathrm{EG} \mathrm{fq} .:: \mathrm{EC}: \mathrm{EG}$, but AC fq.
 : AG fq. : ; the given fq. on the fum of the fides $A C$ and $C B$ : that on the bale; therefore, when the fum of the fides is given, the ratio of EC : EG and confeq. that of EG: GC is given. Hence, by fim. trian. that of $m$ : RC is given, but $R C$ is given in length, and therefore fo is Rm and Rn alfo. Again, the fq. on $\mathrm{mE}=\mathrm{vF}$ is $=\mathrm{mn} . \mathrm{mC}$ therefore $\mathrm{m} \mathrm{E}=\mathrm{vF}$ is given. Hence this confirufion: bifect AB in F , take $F \mathrm{v}$ a mean proportional $\mathrm{m} C, \mathrm{~m} \mathrm{n}$, erect the indef. perp. vm , to which from the given point R apply Rm of the abovedetermined length, produce $m \mathrm{R}$ till RC is of the given length, draw $\mathrm{AC}, \mathrm{BC}$ and ACB is the triangle required, when the fum of the fides is given. Hence, when that fum is a maximum, the ratio of $\mathrm{EG}: \mathrm{EC}$ and confeq. that of m R : $m \mathrm{C}$ is a maximum, m R is a minimum, and becaufe $\mathrm{R} n$ is given, mn is a minimum, and confeq. m and n coincide at E and RC bifeets the vertical angle ACB.

When, inftead of the fum, the rectangle of the fides is given, let fall the perp. $C P$ then it is well known that the fq. on AC=AR fq. + $R C$ fq. $+2 A R . R P$, and that on $C B=C R f q .+R B \cap q-2 R B . R P$, make $A R f_{q}+R C f_{q}=2 A R \cdot R X$ and $R B f q \cdot+C R f_{q}=2 R B \cdot R Y$, then will the given factum AC fq. and CB fg. \#that under 2AR. $\mathrm{RX}+$ ${ }^{2} A R, R P$ and $2 R B, R Y-2 R B, R P$, or =that under $2 A R, P X$ and $2 R B$ into $P Y$, or the façum under $A C \mathrm{fq}$. and $\mathrm{CB} \mathrm{fq} .=2 \mathrm{BR}$. AR . ${ }_{2} P \mathrm{X}, \mathrm{PY}$, but $\mathrm{AC}, \mathrm{CB}$ and $\mathrm{BR} . \mathrm{AR}$ are given, confeg. PX. PY is given, but their fum XY is given, confeq. $P$ is given, and when the reetangle is a maximum, P bifects XY , otherwife there will be two fuch points P and the whole is evidenr.
Equally ingenious anfwers are given by Mr. Hilton and Mr, Whites: alfo, algebraic ones by Mr. Rowe, and Mr. Watkint.

## Queftions anfwered. 1799.

Quest. 256 , anfwered by Mr, WM. Hilton, the propofer.
Let o PG reprefent the earth, PT the body's direction, T the point where it will ftop, put the force of gravity at the earth's furface $=1, g=16 \frac{\mathrm{t}}{\frac{1}{2}}$ feet. $\circ \mathrm{P}$, or the earth's radius $=r, \mathrm{PR}$ the body's diffance from $\mathrm{P}=x$, and its velocity there $=v$; the forces of gravity without the earth's furface, being reciprocally as the diftances fromt the centre fquared, we get 0
 the force at R in the direction $\mathrm{RO}=\frac{r^{2}}{x^{2}+x^{2}}$, and in the direction $\mathrm{RP}=$ $\frac{r^{2} x}{\left(r^{2}+x^{2}\right)^{\frac{3}{2}}}, 8 \frac{2 g r^{2} x \dot{x}}{\left(r^{2}+x^{2}\right)^{\frac{3}{2}}}=-v j$, the fluents corrected give $a^{2}-v^{2}=4 g r-$ $\frac{4 g^{2}}{\left(r^{2}+x^{2}\right)^{\frac{1}{2}}}$ this when $v=0$, or when the body arrives at $T$ becomes $a^{2}=4 g r-\frac{4 y^{r^{2}}}{\left(r^{2}+x^{2}\right)^{\frac{1}{2}}}$, hence $x \neq \frac{\sqrt{ }\left(8 a^{2} g r^{3}-a^{4} r^{2}\right)}{4 g r-a^{2}}$.

Cor. Hence, when $a^{2}$ is equal to or greater than 4 gr , or a greater than $2 \sqrt{ } \mathrm{gr}$ the body will fly of to an infinite diftance; this velocity a is that which would be acquired by a body falling from the earth's furface to the centre, with the force at its furface uniformly continued.

And thus it is anfweredby Meffrs. Cunliffe, Rowe, Walker, Wathins, $W$ bitt, and $W$ right.
5. QuEs 7. 757, anfwered by Mr. J. LowR X, of Wolverhampion. Projection. On the great circle $A B$, take $A O$ and $O B=$ the given fegments, bifect $A B$ in $P$ and erect the perp, arch PD , make the angle $\mathrm{DBA}=$ half the fupplement of the given fum, draw the great circles $A D$ and $D O C$, and make the angle $O D E=O D A$, take $\mathrm{DE}=\mathrm{DA}$, through E and B defrribe a great circle cutting DOC in C, through which defcribe CAE and ACB is the triangle required.

Demonfration. $\mathrm{AO}, \mathrm{OB}$, are the given fegments, and fince $\mathrm{DE}=\mathrm{BA}$, angle $\mathrm{EDC}=\mathrm{ADC}$ and CD common, the triangles EDC, $A D C$, are every way equal, and ECA is bifehed by DOC: and becaufe the triangles $A P D, B P D$, are in like manner equal, the angle $\mathrm{DAB}=\mathrm{DBA}, \mathrm{DB}=\mathrm{DE}=\mathrm{DA}$, and the angle $\mathrm{DBE}=\mathrm{DBB}=$ $D A C$, angle $B A C=D B E-D B A$, and $A B C=$ the lupplement of $E B A$ or of $\mathrm{DBA}+\mathrm{DBE}$, hence $\mathrm{BAC}+\mathrm{ABC}=$ the fupplement of $2 \mathrm{DBA}=$ the given fum. q.e, d.
7. And nearly in this manner is the anfwer given by Mr. Mrigbt, of Norley. It is alfo ingenioufly conftructed by Meffrs. Cunliff, Hilko, and Wh bice. Meffrs. Rowe and Wafkins alfo gave algebraic antwers.

## 6. Quest. 758, anfwered by Mr: WM. Hit ton, of Saddeworthe

Analy/is. Imagine ACB to be the required triangle, Cr the line bifecting the vertical angle, interfeeting the bafe in $m, \mathrm{Ar}$ and Bo perp. to $\mathrm{C}_{r}$ in o and $r$, produce Bo till it cuts AC in $n$; then the triangles $n$ Co, BC 0 , are equal and fimilar, they are alfo fimilar to $\mathrm{C}_{r} \mathrm{~A}^{2}$ the triangles Arm, Bom are alfo fimilar. By the quef, the ratio of $\mathrm{Am}: \mathrm{B} m$ is given and=to that of $m r: m o$, but the fum of $m r$ and ms is given, and confequently both $m r$ and mo are

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given ; it is alfo well known that $\mathrm{Am}: \mathrm{Bm}: \mathrm{BAC}: \mathrm{CB}: \mathrm{Ar}$ : Bo :: $\mathrm{C}_{r}: \mathrm{C}_{0}=\mathrm{C}_{r-2 r}$; therefore the ratio of $\mathrm{Cr}_{r}:$ or is given, but or is given and confeq. $\mathrm{Cr}, \mathrm{C}_{0}, \mathrm{Cm}$ are all given. Moreover, it is known that An the diff. of the fides=, the diff. of the fegments made at point of tangency of the inferibed circle, and that diff. $\times A B$ is given; by fim. triangles, ro: $\mathrm{An}, \mathrm{AB}:: \mathrm{Cr}: \mathrm{AC}, \mathrm{AB}$ is therefore given, and confeq. $A C$. Ays, But the diff. of the fquares of $A C$ and $\mathrm{A}_{m}=\mathrm{Cr} \mathrm{fq}$.-mr $\mathrm{f} q$. which is therefore given. Hence the redtangle alfo of $\mathrm{A} m$ and AC being given, they are both given, and confequently the triaigle has all the fides given.

The fame anfwered by Mr. John Wricht, of Norley, Conftitute by quef. 739, Gent. Diary, a triangle ABF, which may have the rectangle $A B . B F$ of its fides=the given one, the ratio of its bafe $A F$ : the diff. of the fegments $A D-D F=$ the given ratio, and the perp. $B D=$ the given diftance mentioned in the queft. bifeet $A F$ with: the perp. C meeting FB produced in C , join AC , and ACB is the triangle required.
For, OB being parallet to $\mathrm{AF}, \mathrm{O} r=\mathrm{DB}$ the given diftance, angle $\mathrm{ACm}=\mathrm{BC} \mathrm{C}_{\mathrm{m}}, \mathrm{A}_{m}: m \mathrm{~B}:: 2 \mathrm{Ar}=\mathrm{AF}: 2 \mathrm{D}=\mathrm{AD}-\mathrm{DF}$ the given ratio, and $A B(A C-C B)=A B \cdot(C F-C B)=A B \cdot B F$ that given. q. e do

Ingemous aniwers are alfo given by Meffrs. Cunliffe, Rowe, Walker, Warkins, and $W^{\text {Fobite. }}$
7. ©UEST. 759, anfwered by EUMENES, the propofer.

Let $A B$ reprefent the rod, $G$ ies centre of gravity, I the pulley, $w$ the weight, $A D$ the horizontaf mlane, and $C D$ the vertical one or prop;; produce $C D$ till $C Q=C A$, and let this be fuppofed to reprefent the whole weight, or, at leaft, to be as W the whole weight of the rad $A B$. Let fall $Q E$ perp. to $C A$, then $C E=C D$ and $E Q=A D$, and fince
 it is well known, that the weight that preffes parallel or along the inclined plane $A C$ is as $C D$, and that prefing perp. to that plane as $A D$, CQ EQ and EC, will be as the whole weight W , the weight aeting perp, to the inclined plane, and that acting along it refpectively. Let this laft preflure EC be refolved into two others, CP perp, to the horizon, and EP parallel to AD, and is the force or tendency of the rod to flide along the horiz otal plane if the weight $\varepsilon v$ and fring were away. Confequently, EC is equal to, or as the weight $w$, which by the queft. fupports the body in the direction of the rod AB, and confequently defroys this tendency, and alfo that part of the gravity CO or weight of the rod W which is as CP, therefere that part of the weight W which is not fupported or defroyed by the oppofite action of the weight $z v$, is as $P Q$. And fince $A C D$ may be confidered as a vertical plane without weight, $P Q$ muft be as the weight ading perpendicularly along or upon the whole lenght of $A D$, that the rod with it and $w$ may be lield at reft, in couifibrio. From $G$ the centre of gravity let fall Gg perp. 10 AD , then lince this laift weight which is as PC is fupported at A and D perp. to $\mathrm{AD}, \mathrm{AD}: \mathrm{PQ}: \mathrm{Ag}$ : a line which is as the weight prifing at $D,:: g D$; one as the weight preffing at $A$. Hence it tollows, that W being the weight of the whole rod, $\mathrm{AC}: \mathrm{CD}:: \mathrm{W}$ $\mathrm{wi}_{\mathrm{w}}, \mathrm{AC}$ fq. : $\mathrm{AD} . \mathrm{Ag}:: \mathrm{W}$ : the weight fuppotted by the prop CD , and $A C$ fquared: $A D . g D:: W$ : that fupported at $A$,

Meffrs. Hikon, Rowe, Walker, Watkins, and White, alfo gave ingenious anfwers.
8. QuEsT. 760 , anfwered by Mr. T. White, of Damfries.

Geom. Anal. Let $a b x$ be the required triangle, $y$ the centre of the infcribed circle, $a b$ the given fide, and $a^{2} b x$ the given angle. Then, fince $b y$ bifeets it, the angle $y b x$ is given, as alfo per quef. The ratio of $y b: b x$, confequently the triangle $b y x$ is given in a
 Species, the angle $b x a=2 b x y$ is given, hence the triangle $a b x$ is given in focies, and fince $a b$ is given, the triangle is alfo given in magnitude. The conftr, is obvious.

The fame anfwered by Mr. W. TRUEMAN, of Exeter.
Let $A B$ be the given fide and $A B C$ the given angle to bifeet which draw BF, and from any point $F$ therein tet fatl FG perp. to EB, with F the centre, and FG radius defcribe a circle $\mathrm{G} l$, take FE to FB in the given ratio, from $E$ draw ED to touch the circle in l, and through A parallel to ED draw AC,
 and it is done.
For draw CO parallel to FE, and $O$ is the centre of the circle infcribed in the triangle $\mathrm{ABC}, \mathrm{BO}: \mathrm{OC}:: \mathrm{BF}: \mathrm{FE}$ the given ratio, $A B$ the given fide, and $A B C$ the given angle. q.e.d.

Like anfwers are alfo given by Meffrs. Clavey, Cunliffe, Glendenning, Hiltgn, Rowe, Walker, Watkins, and Wrigbe:
9. Quest. 76r, anfwered by Mr. Wm. WAtkins, of Wylam Engine,

Conftr. Make ED the given diftance of the centres, EC and DC the given difannees, with the sadius EC defcribe the circle ACBF , continue CD to meet the circle in F , with radius FD and centre F defcribe an arch ADB cutting the circle in $A$ and $B$, draw $A B, A C$ and $C B$, and the thing is done.


F

For it is well known that CD bifeets the vertical angle $\mathbf{C}$ and makes $A F=F B=F D$, therefore $A B$ is the bafe, $E C$ the radius of the circumferibing circle, the arch ADB the locus of the centre of the inferibed circle, ED the given diftance, and ACB the triangle required. q. e. d.

The Analyfis. By Mr. A. Glendenning, Royal Navy.
Imagine ACB to be the required triangle, and the given lines EC , $C D, E D$ drawn as per diagram : produce $C D$ to $F$, meeting the circum. ference of the circumfcribing circle defcribed with the given radius EC. Whence D the centre of the infcribed circle, and F the centre of its locus ADB , are both given. Ergo folutus. With the given lines conftiute the triangle ECD , on the centre E with the radius EC defcribe the circumferibing circle, to meet which in F , produce CD with F centre and radius $F D$ defcribe the arch $A D B$, draw $A B, B C,{ }^{\prime} A C$, and ACB will be the required triangle.

Geometrical anfwers are alio miven by Meffrs: Cunliffe, Hilton, Rowef



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## 10. QUEST. 762 , anfwered by Mr. WM. Hilton, of Saddleworth.

If PRT, PST, be the given circles, and PS the required line; then per quefl. $n$.PR士m. PS confequently fince $m$ and $n$ are both given $P R \pm \frac{m}{n} \cdot P S$ is a given line. Now if $P_{s}$ be always taken on PS equal $10 \frac{\mathrm{~m}}{\mathrm{n}} \cdot \mathrm{PS}$, the locus of:
 will be a circle paffing through P , by theor. 1. pa. 242, Hutton's Mathematical Mifcellany. When this circle is defcribed, if $\mathrm{PR}+\mathrm{Ps}$ be given, though queft. 706 of the Gentleman's. Diary be only a partieular cafe of the general problem whofe folution is here required, the printed folutions to that queff, folve this general problem. If $P R-P_{s}$ be given, the problem is the fame as the 27 th of Simp $\int 0 n$ 's Geometry, To thefe places therefore I refer for the remaining part of the folution,
The fame otherwife by Mr. J. Rodham, of Richmond, the piopofert
This is the general propofition, whereof feveral particular cafes have been done; as when $n$ and $m$ are equal, feveral ingenious conftructions are given for the upper fign in the Diary, queft. 706, and for the under fign in Simpfon's Works. But in the former, had $Q$ and $R$ been on different fides of $P$, the conftr. would have been for the diff. and in the latter for the fum. The fketch I have fubjoined, 1 apprehend, is a general conftruction for all cafes, and is founded on this property of the circle, eiz.

If two circles cut each other in $P$ and $Q$, and $C$ be any point in the line joining their centres A and B ; if upon C as a centre, with a radius $\mathbf{C P}=\mathrm{CQ}$, a circle be defcribed, then if any line be drawn through $\mathbf{P}$ to cut the tirree circles in R, S and T, RT : TS : : AC : CB.

Which may be thus thewn; -join the points as per fig. then the angles $B A Q, D=Q$, and $D B Q$, be half the angles at the centres, are refpectively equat to PRQ, PTQ, and PSQ, thofe at the cird cumferences, of courfe the figure ACBQ is in every refpect fimila: to RTSQ, confe. RT : TS : : AC : CB.

Confruction for the affirmative fign when R and S are on the fame, fide of $P$, or for the negative fign, when the contrary.

Divide $A B$ at $C$, fo that $A C: B C:: m: n$, with centre $C$ and radius CP detcribe a circle, to which apply PT: the given line ::1:m $t^{\pi}$, and rom P through T draw the required line.

For the $n$ gative fign-:ake the point $C$ the contrary way from $A$, i. e. towards D, and apply PT in the contrary direction. The limits will appear by PT not couching the circle. The maximum being when the line is drawn through $C$, as is evident.

The fame by Mr. JAs. CuNLIFFE, of Bolton, Lancafhire.
From Pethrough the centres of the given circles draw the diameters $\mathrm{Pd}, \mathrm{P} a$, take any where the line L fuch that $n, \mathrm{~L}=$ the given magni tude, take $\mathrm{Pa}: \mathrm{Pb}:: n: m$, on the diam. Pb defcribe another circle, then draw the line PTR to cut it in T fuch that $\mathrm{PR} \pm \mathrm{PT}=\mathrm{L}$, and the thing is done. For join $b \mathrm{~T}$ and $a \mathrm{~S}$, then the angles at S and T being

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right, $\mathrm{S} a$ is parallel t $\mathrm{T} b$, and $\mathrm{Pa}: \mathrm{Pb}:: \mathrm{PS}: \mathrm{PT}:: n: m$. or $m . \mathrm{PS}=n$ PT; but $\mathrm{PR} \pm \mathrm{AT}=\mathrm{L}$ a therefore $n, \mathrm{PR} \pm n . \mathrm{PT}=n \cdot \mathrm{~L}$ the given magnitude $=n, I^{2} m$. PS. q.e. $d$.

Other ingenious infwers are alfo given by Meffrs. Walker, Watkius, While, and $W$ rigbt.
xi. Quest. 763 , anfwered by Mr . T. White, of Dumfries,

Geom. inalyffs. Drop from the centre the perp. fov, which bifects $c d$, and paralle! to it draw eg, interfceting $f d$ produced in $g$, draw $g b$ parallel to $a b$, interfecting $c e$ in b. Becaufe the ratio of ce:ed is given, sherefore that of $c d=2 d v o: d e$ is given, and confeg. that of dw : ed is given as fgd:a fuppoif, or $a=d g$ is given, and the locus of
 the point $g$ a ci cle $g l$ concentric with that given. Again, by fimilar triangles $p f d, d g b, d f: f p:: d g: g b$ which is therefore given and parallel to $a b$; and fince $p d: d b:: f d: d g$ is a given ratio, and pa given point, therefore by the 5 prop. lib. 1. Apoll. Jocorum plan. by fimpfon, the locus of $b$ is a given circular arch $b i$, take $f k$ =bg, then kg is a parallelogram having its fides given, but fince ab and she cire lar locus ib are given, this parall logram is allo given in fpecies. ergo folutums. Cotiflr. Produce the given rad. till $d g=a$ and to the centre $f$ and rad. $f g$ defcribe the circle gl: defcribe alf, bi fuch, that any line drawn from $p$, and cutting thefe circles in $d$ and $b, p d$ may be to $d h$, in the given ratio of $z v d: c d$, that is of $f d ; d g$; find $g b$ a fourth proportional to $d f, f f$ and $d g$, make $f_{k}=g b$, with $f g$ from $k$ cut $b i$ in $b$, draw bpe cuiting the tang nt in $e$, and the thing is done.

Demonftr. We have $p f: f k=\operatorname{lo} g:: p d: d b:: d f: d g=a:: d w: d 6$ q. el d.

The fame otherwife by Mr . J. Wright, of Norley.
Analyfis. Suppofe the thing done, at D erect $D R$ perp. to EC meeting the tang. EA in R . Then EC: ED : : EC.ED =EA fq.: ED fq. : : AP fq. : DR fq. becaufe of the fimilar triangles EAP EDR; but AP fq. and the ratio of EC to ED are given by the queft. therefore $\mathrm{DR} \mathrm{fq}_{\mathrm{F}}$ and confeq. DR is given; through O the centre of the given circle draw O/Q perp.
 to EC in $l$ and meeting EA produced in $Q$ : then becaufe $l 0$ is pardlel to $\mathrm{DR}, \mathrm{ED}: \mathrm{E}!: \mathrm{DR} ; 10$. But fince the ratio of $\mathrm{ED}: \mathrm{EC}$ is given, that of $E D: E l=$ half the fum of $E D \& E C$ is given, and $D R$ is given therefore $I Q$ is given. Again the angles at $A$ and $l$ being right, $P, l$, $Q$, $A$, are in a circle, confequently $\mathrm{OQ} \quad \mathrm{O}=\mathrm{OA}$. OP a given reet. angle': and $O Q$ is found by Simp fon's Geom. 18.5.

Conftruction. Find DR fuch, that DR fq. : EP fq. : : ED : EC, take 10: $\mathrm{DR}:: \mathrm{DF}$ : haif the fum of DE and EC : to $\%$ add O ? fo that QO. 10 may be equal to the given rectangle of $O P$ and $O A$, then with the centre $O$ and radius Of defcribe a circle, to touch which, shrough $P$ draw the required line CDE.

And in a manner equally ingentious is the anfwer given by Mr. Cano Mffes the propofer, and Mr, Hilton.
52. QuEST.

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- (i2) QuEsT. 767, by Mr. J. WALEEE, of Bilborough. From the firit datum in the quef. the redilangle of the fides is given, by 26.6 . Emerfon's Geometry, and the fecond datums is the fame as the diff. of the fquares of the fides, hence the fides are given by pi, 87, of Simpfin's Euclid's Dara. Hence this

Confrudtion. On the greater given fide AC take CF, a third proportional to AC , and the other given fide, and deforibe the femicircles CKF, CDA: at any point
 $G$ in $A C$ ercht the perp. $G H$ fuch that $A G: G H$ may be in the ratio which is the laft dotum of the queft, from A through H draw AKC to. the femicircle, through $K$ perp. to $A C$ draw ED to the fenticircle $A D C$, through $A$ and $D$ draw a line, to which, from $C$ fet $C B=$ the other given fide, ond ACB is the required triangle.
For $\mathrm{AC}, \mathrm{CB}$ are of the given length, and by lim. triangles $\mathrm{AG}: \mathrm{GH}$ $\because A E: E K:: A C, A E=A D q_{q}$. $A C$. EK, but $E K$ fq. $=F E$. $\mathrm{EC}=\mathrm{EC} \cdot(\mathrm{CF}-\mathrm{CE})$ and $\mathrm{AC} \cdot \mathrm{FC}=\mathrm{CB}^{2} \mathrm{fq}, \mathrm{CD} \mathrm{fq}, \neq \mathrm{DB} \mathrm{fq}$, ther fore $A C f q$. $E K f q=A C f q \cdot E C(C F-C E)=A C \cdot C E \cdot(C R f o .-C A$. $C E)=C D q_{q},\left(C B f q,-C D q_{q}\right)=C D \mathrm{fq}, D E f q$ or $A C \cdot E K=C D$. $D B$, which therefore is in the given ratio to $A D$ fq. q. e. d.
Limitation. Whilf AK cuts the given femicircles, two triangles will be found to anfwer the conditions: but when it only touches it, there will be only one, and then EK will be a maximum, and therefore The ratio of AE: EK a minimum.

> The Analy/is, by Mr. J. WRiquT, of Norley.

Suppofe the thing done, $A C B$ the triangle, $A C$ and $C B$, whole reft, angle and diff of their fquares is given by the two firf dala of the queft and config thefe fides are both given. Produce the per. CD ill it meet a perp, from $A$ to $A C$ in $C$ at $Q$. Then becaufe the vatio of $A D i q=D Q . C D: C D . D B:: D Q: D B$ is given, and the angle BDD right, the angle DQB is given, and therefore the tocus of C is a given circle paffing through the poinis $\mathrm{B}, \mathrm{C}$, on CB moduced lecfal the petp. $Q$, then, by fimilar triangles $C l . C B=C Q, C D=$ AC fq. a given fquare, but $C H$ is given, confeq. $C l$ ad the point $l$ are given. Hence this
Confruetion. On BC deferihe a fegment capable of containing the given angle $B D Q$, produce CB till, the rectang poder $\mathrm{C} . \mathrm{CB}=$, he given fquare on AC erect $L Q$ perpe to $\mathrm{C} l$ cutting the fegmens in $Q$; draw CQ and BDA perp. thereto, to wrich app y CA of the given lenath; $\operatorname{and} A C B$ is the triangle..... When at ratio of the quare on $A D$; the re $A$. of $C D$ and $D B$ is $\lambda$ minum, the fegrent deferbed on $C B$ will touch $Q$, in all other poffible cafes is will cut it in twa points, either of whith may be takent.
L, ke geozerinal anfwers are alfo given by Mefirs, Cunliff, Hiltite and White Mr. Watins gave an algebraical anfwer.
${ }^{13}$. Qces $=$

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13. QUEST. 765 , antwered by Mr. J. Gou GK, of Kendal, the propofer.

Analyfis. Let $O$ be the centre, join OT, and draw TP, AF perpendicular, GE, TL, OQ parallel to $A D$, put $O T=O V=r, K T$ or $\mathrm{FL}=x, \mathrm{LT}=y, \mathrm{VP}=v, \mathrm{PT}$ $=w$. Then $\mathrm{AQ}=\mathrm{DO}=\mathrm{OT}$, and the angle $\mathrm{AEQ}=\mathrm{OET}$, alfo the angle $A Q E=0 T E$, right, therefore $\mathrm{CE}=\mathrm{ET}$, and $\mathrm{LT}=\mathrm{QE}^{+}$
 $E P=T E+E P$, but $T E=\frac{O T \times T P}{P O}, E P=\frac{T P^{2}}{P O}$; hence we have $x y^{2}=2 r^{3}-5 r^{2} x+4^{r} x^{2}-x^{3}$; the curve is therefore Newton's 4 Ift Species, or the locus paffing through the foci of the ellipfes drawn from one point in the fide of a cylinder. Moreover, $a \dot{w} \times \mathrm{EP}=\dot{\gamma} \times \mathrm{TP}$ and $v^{\dot{0}} \times \mathrm{ET}=\dot{\dot{V}} \times \mathrm{OT}$, hence the area $=$ the fegment $\mathrm{VPT}+$ the rectargle KV.

Aniwers sre alfo given by Meffrs, Cunliffe, Hilton, Rowe, Walker, Warkins, Wbite, and Wrigbs.
14. Queśt. 766, anfwered by Mr. T. White, of Dumfries By the Quff. $y^{2}=x^{2}\left(1+\sqrt{1-\frac{2 a}{x}}\right)=\frac{x^{2}}{w^{2}}$ fuppofe. Then $w^{2}=$ $\frac{x^{2}}{y^{2}}=\frac{1}{1+\sqrt{ }\left(1-\frac{2 a}{x}\right.}$, or $\frac{1}{z v^{2}}=1+\sqrt{ }\left(1-\frac{2 a}{x}\right),\left(\frac{1}{z v^{2}}-1\right)^{2}=1-$ $\frac{2 a}{x}, \frac{1}{w^{4}-2}, \quad \frac{1}{z v^{2}}=-\frac{2 a}{x}=\frac{1-2 w w^{2}}{w v^{4}}, x=\frac{2 a v^{4}}{2 w w^{2}-1}, y=\frac{2 a w w^{3}}{2 a v^{2}-1}$, $y \dot{x}=16 a^{2} v \dot{v} \times \frac{w v^{8}-w v^{6}}{\left(2 w^{2}-1\right)^{3}}=a^{2} w \dot{w} \times\left(2 w v^{2}+1+\frac{3}{2 u^{2}-1}-\frac{3}{\left(2 w v^{2}-1\right)^{2}}\right.$ $\left.+\frac{1}{\left(2 w^{2}-1\right)^{3}}\right)$. Which, becaufe $\frac{2}{2 w^{2}-1}=\frac{1}{w \sqrt{2}-1}-\frac{1}{w \sqrt{2}+1^{2}}$ are all known forms, and the fiuent $=\frac{1}{6} \cdot a^{2} w^{3}+\frac{1}{2} \cdot 2 \cdot w-\frac{1}{8} \frac{a^{2} w}{2 w^{2}-1}$ $+\frac{2 a^{2} w 7}{\left(2 z w^{2}-1\right)^{2}}+\frac{5 a^{2}}{16 \sqrt{2}}$.H. L. of $\frac{v v \sqrt{2}-1}{w \sqrt{2}+1}$, where $\varepsilon v^{2}=$ $\sqrt{x}$ , and fince this is an impofible quantity when $x$ is $\sqrt{x}+\sqrt{x-T^{2 a}}$
Lefs than $2 a$, the leaft value of $x=2 a$ when the area begins, and $q 0$ $=$ unity, $x=y=2 a$ at the beginning of the curve, from the fluent therefore above muit ite taken its value when $v=1$; which will give the area required.

And much in the fame manner was the anfwer given by Mr. Fon Mabbort, of Hanging-Dicch, Manch \& r; Mr. F. Vright, of Norley i and Mr . Cunliffe. Mr. Walker gave it in a manner fomewhat different ; as did allo Mr. Rowe and Mr. Wotkins.

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15. Quest. $7^{67}$, anfwered by Mr. Walker, of Bilborough.

Let ADEH reprefent the end of the zefervoir, aefd the conftant aperture, bigbse the additional a, erture, which is wholly flopped by the fhutile G, when the referveir is full, and is moved up and down by the lever IKL moving about K as, a centre, by the buoy B fwimming on the top of the water.

Then, by the queft. $b=e f, d=a e$, $b=A D, v=$ a variable part of $a e$, and $s=193$ inches; and, by the laws of falling bodies, as $\sqrt{ } s: 25::$ half
 the fq. root of $2 b+2 v: \sqrt{2 s} \cdot(b+a)=$ the velociry of a particle of $=$ water at the depih $b+v$ betow DE when the refervair is full, and therefore $-b v \sqrt{ }(2 s, \overline{b+v})=$ the fluxion of the quantity per fecond; whofe fluent mult vanifh when $v=d$, and is therefore $=\frac{2 h \sqrt{2 s}}{3} \times$ $\left(b+a \frac{3}{2}-\sqrt{b}, \frac{3}{2}\right)$ and when $v=0$, or for the whole aperture it becomes $\frac{2 h \sqrt{2 s}}{3} \times\left(\sqrt{b+d} \frac{3}{2}-b_{2}^{3}\right)$ and for any other height $\mathrm{AM}=z$, $\left.\frac{2 b \sqrt{2 s}}{3} \times(x+a)_{2}^{3}-x^{\frac{3}{2}}\right)=$ the quantity per fecond iffuing out of the aperture aefd, when $z=$ the height of the water, and their difference $=$ $\frac{2 b \sqrt{2 s}}{3} \times\left(\frac{1}{x+a} \frac{3}{2}-b_{3}^{3}-z+a \frac{3}{2}+x^{3}\right)=$ the quantity per fecoad required to iffive out of the aperture $q r$ whofe height is $q b=r c=A Q=x$ : let $q r=2 y$ and the fluxion of the quantity p=r fec. for the upper aperture at $q$, MQ being $=x-x$, is $2 y \dot{x} \sqrt{ }(2 s \cdot \overline{x-x})$ whofe fluent mutt vanifh when $x=0$, and $z=b$, hence $2 j \dot{x} \sqrt{z-x}=-b \dot{z}\left(\overline{-1} \frac{1}{2}-z^{\frac{1}{2}}\right)$ and by the queft. $b-n=$ the whole variation of the height is to $n$ the leaft height : : AD-AM : AM : : the defcent of the buoy: the af cent of the fhuttle : :- $\dot{\mathcal{L}}: \dot{x}:: b-z: x:: \mathrm{DM}: \mathrm{AQ}$, that is- $\dot{z}=$ $\frac{b-n}{n} \cdot \dot{x}$, and $z=b+x-\frac{b x}{n}$, hence $2 y \dot{x} \sqrt{b-\frac{b x}{n}}=\frac{b-n \cdot b \dot{x}}{n} \times$ $\left(\overline{z+a} \frac{x}{2}-z \frac{\pi}{2}\right) 2 y \sqrt{b \cdot \overline{n-x}}=\frac{b b-n b \cdot}{n}\left(\frac{n}{n(d+b-x)-b x)^{\frac{1}{2}}-}\right.$ $\frac{n b+n x-b x}{n}$ 支 the equation of the curve required, When $x=g_{9}$ $2 y \sqrt{b n}=\frac{b b-n b}{n} \cdot(\sqrt{n d+n b}-\sqrt{n b})$ which is the value of $y$ at the bortom of the curved a perture, and when $x=n, y$ is infinite or $\mathrm{C}_{\mathrm{g}} b \mathrm{~F}$ is an afymprote to the curve. The area of the curye will be found from the pinent of $29 x$, which from the above equation will be found $=$
 and $q=b n ;$ which, being corrected fo as to vanilh when $x=0$, gives the area required.

If $\mathrm{AD}=b=48, \mathrm{AC}=n=12, b=5.5$, and $d=\mathrm{r} .75$ iaches, the above condlofions will adapt themfelves to the water gauge, that regulates the water which paffes frem the Nettingham to the Erewath canal. Arid, if the value of $x$ be taken $=0$ in the equation of the curve; the bottom double ordinate $b c=297=2 y$; when $x=6$ iaches, $2 y=$ .5394 , when $x=11,2 y=1.8116$, when $x=11.92 y=6.293$, when $x=11.29,2 y=20.1068$ inches, and when $x=n=12$ inches, $y$ is infinite. And other ordinates at pleafure may be found from the above equation of the curve.

In what is here done, the velocity of the ffiuing water is taken equal to that acquired by a heasy b dy falling through half the height of the bead of the water above the iffuing point in the aperture. And with this velocity, aud the above dimenfions, the quantity of water iffuing Should be $=2754$ cubic feet in an hour; but, if the velocity had been taken equad to that acguired by a heavy body falling through the whole height, the quantity iffuing fhould be 3895 cubic feet in an hour. And $\mathrm{KL}: \mathrm{KI}:$ : the lowering of the watcr in the refervoir : the rifing of the thuteie : : $b-n: n$. Meffrs, Hilcon and Wbite alfo gave ingenious anfwers.
16. QUest. 768, anfwered by Mr. JOHN TODD, of Berwick.

Let $A B C$ be a gu'drant of the earth's difk, BC the axis of the echptic, $\mathrm{C} z$ that of the earth, P tie North pole, $a b=+k$, the penumbra's femi diameter, $\mathrm{C} u$ the moon's latituce, and ak the central path.

If a place as at $h$, touched by the Eaftern Iimb of the pentmbra s fun-feting, defribes irs notiurnal arch in the fame time
 that the fhadow's centre moves from $a$ to $k$, then, it is evident, the faid plare will be touched by the penumbra's Weftern limb at fuurifug as at $r$. the arch $i z$ being =abs; and therefore the ecliple it fuch place will begin at fun-fetting, and end the next moraing at funzifing.

Let the fome of $\mathrm{P} z$, the fun's declination, $=n, 6.283$, \& $\mathrm{cc}:=1$, and the fangent of the angle, $\mathrm{P} z=\approx \mathrm{Pb}=x$; then, per fpherics, ithe tangent of the arch $: z$, or angle $+\mathrm{C} \approx=2 \mathrm{C} b$ being $=\pi x$, its fine will be $=$ $\frac{\pi x}{\sqrt{\left(1+n^{2} x^{2}\right)}}$. Then 0 C , and the angle of the triangles $\circ \mathrm{Cm}$ and $\circ \mathrm{C} q$, being given, aad the fine of C expreffed, we fhall, from well known theorems; obtaip) expreffions for the fines of $\mathrm{C} m \mathrm{a}$ and $\mathrm{Cq} \mathrm{q}^{\circ}$, their fum, and alfo for thofe of the fides $\mathrm{C}_{n}, \mathrm{C} q$, and $m q$; and the fides $a b$ and $r$ \% of the triangles $a b q$ and $k r m$ being given, and $b q$ and $r m$ and th fines of the angles aqk and knr expreffed, we oblaic, exprefions for a

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and $m k$, and confequently for $a k=a q \dagger m k-m q$; but $a k$ divided by $\mathbf{1 6 2 9}$ exprefies the time wherein the fhadow's centre tranfits $a k$, which equated with $\frac{4^{8}}{a} \cdot\left(x-\frac{x^{3}}{3}+\frac{x^{5}}{5}-\& c\right.$. $)$ the time wherein the place at $b$ deferibes its noturnal arch, $x$ will be found $=.288272$, the tang. of $16^{\circ} 4^{\prime} 5 \mathrm{I}^{\prime \prime}$ the feminocturnal arch, whofe fupplement $363^{\circ} 55^{\prime} 9^{\prime \prime}$ is the longitude of the required place to the calt of the fotar moridian at fun-fetting, or to the Weft thereof at fun-rifing. But the time at Londen when the fhadow's centre is at $a$, being II $b .59 \mathrm{~m}$. ifec. A. M. the lo gitude of the place required will therefore be $164^{\circ} 9^{\prime} 54^{\prime \prime}$ Eaft from Lindon. The fide $z \mathrm{P}$ and the angle P of the iptierio triangle \& Pr or $2 \mathrm{~F}^{\prime} b$ being given, we obtain P or $\mathrm{Pb}=6^{\circ} 1433^{\prime \prime}$ the coniplement of the required latitude. The time of the greateft obfcuration will be at midnight nearly, and the quantity $10^{\circ} 25^{\circ}$ on ths Sun's lower limb, vifible by refraction. The penumbra's centre eaters the earth in the unknown parts of North-America in lat. $81^{\circ} 26^{\prime}$, long. $147^{\circ} 21^{\prime}$ Weft, and tranfis the fotar meridian in lat. $75^{\circ} 3^{6}$ long. $16^{\circ} 40^{\prime}$ Weif; thence paffing over the Northern and German Oceans, leaving Norway to the Eaft, and the Briifi Ines to the Weft, it enters Europe near Carlfadt, and paffing over Germany, the Gulph of Venice, the Morea, Candia, and the Levant, finalify leaves the earth in Arabia deferta, in lat. $27^{\circ} 27^{\prime} \mathrm{N}$ long. $46^{\circ} 34^{\prime}$ Eaif.

This is the greateft Solar Eclipfe that will be vifible in Great Britain till May ${ }_{15}$, 1836 . The centre of the Annulus entering Scorland near Campteltown about 50 minutes paft two in the afternoon, will pafs near Ayre, Peebles, and Kelfo, and leave England about ten mieutes paft three, near Alawick.
Scbolium. From what has been fhewn it appears, that if the Sun be in the fame hemilphere wherein a folar ecliple happens, there will be a particular point or place in fuch hemifphere, to whofe inhabitaats he will be eclipfed all night; and if he be in the opiofite hemifphere, there will alfo be a place where he will be eclipfed all day. Ane fuch phenomena will always happen, when part of the penumbra falls into the expanfe, except the Sun be in the equinoctial; but cannot bappen when the penumbra falls wholly within the difk. Which, with other femarkable phenomena reititive to Solar Eclipfes, witl be fully illufreted in a treatife on the fubjcat which 1 mean to publifh. Vide, queft. 682 and 715.

Prize Question; anfiwered by Eumenes.
Let $/ \mathrm{BS}, / \mathrm{DE}$ be two conic feclions, whofe veriexes $B$ and $D$ and axes $B, D$ are in the fame righe live B 3 , and fuch the IES being drawn through the point $E$ where a tangent AC within the outer one touches the inner one ac $\mathrm{E}, \operatorname{aod} / \mathrm{S}: / \mathrm{E}:: / \mathrm{B}: / \mathrm{D}$, then it is well known, that the fegment ASC will be bifeeted by the line SE, and confeq. erecting DG perp. $\mathrm{B} /$ meeting the curve in G , the ab -
 cifas BD and SE of the fegments BDG, $S E A$, being to each other in :he ratio of the femi-diameters Bl and $\mathrm{S} /$, thore fegmenits it is eaffly feen muft have equil areas, that is GBD $=$ SAE =SiE. Let braer be another conic fection having fill the fáme

sit backete bas

## 46 New Queflions. 1799.

property, that is, $l_{s}: I \mathrm{E}:: l b: l \mathrm{D}$, cutting DG , in 0 , and AC in a and $c$, and interfectivg $/ \mathrm{S}$ in s . Then, in like mannerthe area of the fegment Dob=Eas=Ecs. If now the whole fig. revoive about the axis $\mathrm{B} l$, it is plain from the nature of the queft. that DG will be the radius of the fegment of the folid's bafe=its perp. height above the plane $\mathrm{GBD}=$ the perp. height above E of the folid AcSA. Hence, at the height oD above the plane of the figure, 206 D will be a fection of the folid parallel to the plane BGD, and asc one of the fegment ASC, at the fame height $\Rightarrow D$ above the plane of the figure. Confeq. the folids whofe greateft fegments are 2 BGD and ASC having equal bafes, and equal fections at equal heights parallel to thofe bafes muft be equal that is the folid $\mathrm{ASC}=2 \mathrm{GBD}$. And the inner curve a paribola, ellipfis, or hyperbola, acconding to what the outer one is.

The fame otherwife, by Mr. James Cunliffe.
Put $f=/ \mathrm{B}$ the fixed femi-axe of the conic fection BAM by whofe revolution the external folid is generated, $r=l \mathrm{M}$ the revolving femi-axe, and let ASCEA reprefent a general fegment of the folid cut off by a "plane prepend, to ASC, AC the tranfverfe ciameter of the ellipfis upor, this plane: IS a femi-diameter of the external fection bifecting AC in E. Put $/ S=a$ and $/ \mathrm{E}=x$. Then the content of the general fegment fo cut off, in the fpheroid and hyperbolic conoid $=\frac{2}{3} p f r^{2} X$. $\left(l-\frac{3^{x}}{2 a}+\frac{x^{3}}{2 a^{3}}\right)$. But by the queft. this muft be a given quantity or magnitude, and $p, f$ and $r$ being given, the ratio of $a: x$ muft alfo be given or conftant. And this can only be when the point $E$ is fituate in a curve fimilar and conceniric to tie external one BSM, in the cafe of the ellipfis and hyperbola. And, as a parabola is only an ellipfis indefinitely long, in this cafe the inner curve, muft be a parabola, having its vertex in the given point $D$ of the fame axis, and in all refpeets equal to the outer one BGM.

Ingenious anfwers are given by Meffis. Hilton, Walker, Watkins, and Wbile.

The firft prize of the Diaries for the folution of the Prize Queftion belongs to Mr. W. Hilton, of Saddleworth, near Manchefter. 9. The fecond prize of 6 Diaries, to Mr. Fames Cunliffe, of Boiton.

The third prize of 9 Diaries for the anfiver to the Prize AEnigma, to Mr. Wm. Spencer, of Sapcote, Leicefterfbire.

That of 9 Diaries for the genersl anfwer to the 有uigmas, to Mr . 7. Wyrill, of Wiftow, near Seloy, in Yorikfhire.

They are defured to write for them 10 Mr . G. Greenbill, at StationersHal , who will deliver them to their order any where in Londor.
New Mathematical Questione, to be anfiwered in next Year's Diary. (i) Quest. 770, by Mr. Tho. Baker, of Nuneaton. vilit Two fifters learned, fair, and kind, Ingenious youths then try your fkill, Defire yon will their ages find, And each woo till fthe fay, I will By mathematic art :
Their ample fortunes alfo you
Required are to fet in view,
From what they here impart,
 Alod U

## The Mathematical Repofitory, $\mathrm{N}^{\circ}$ 59. 47

$2 v^{2}+x^{3} \sqrt{y}=22480, z+y^{3} \sqrt{ } x=64500, w^{2}+w x^{3} \sqrt{ } y=44960000$, \& $z^{2}+z y^{3} \sqrt{x}=129000000$. required $x$ and $y$ their ages and cwsiz theri fortunes by fimple equations?
(2) Quest. 771, by Mr. J. Wyrile.
 Which folv'd, no untruths I declare,
$y$ the month, $x$ the day, $x$ the year, will difolay,
When I firft breath'd the free Yorkfhire air.
$\frac{x}{x-y}=220=a, x+y+z=1772=b, x y+z=3530=6$.
(3) Qest. 772, by Mr. Alexander Rowe, of Reginnis.

In the fpring quarter, the Sun's rifing amplitude was $24^{\circ} 41^{\prime}$, and the colatitude of the place triple the Sun's declination : required the latitude and day of obfervation ?
(4) Quest. 773. by Mr. John Wyrile.

Being upon the look-out one calm night at fea, at the maft head 20 yards from the water, I difcovered a well known light juft in the harizon, whofe height aoove the level of the water was 80 yards. What was the diftance fiom it allowing for refraction, the earth's diameter being 7970 miles?

## (5) Quest. 774, by Mr. I. Filides:

Required the diftance of thofe two points in the horizon, which come in contact with the upper and lower edges of the Sun, at its rifing: in lat. $53^{\circ} 22^{\prime} \mathrm{N}$, on March 27 th, 1798 ?
(6) Quest. 77 , by Mr. Tho. Milner, of Lartington.

Given two of the fides of a plane triangle to confruct it, when the bafe or third fide is equal to the perpendicular upon is from the oppofite angle.
(7) Quest. 776, by Mr. W. Watkins, of Wylam.

Given the perfendiculart the line bifecting the vertical angle and terminating in the bafe, and alfo its prolongation till it meet the periphery of the circumfribing circle : to contfruet the triaugle?
(8) Quest. 777, by Mr. J. Lowry, Officer of Excife.

To a given radius to divide a given arch into two parts fuch that the fum of the fquares of their fecants may be a given magnitude?
(9) Quest. 778 , by Mr. James Cunliffe.

To confruct two arches or angles to the fame radius, fuch that their cofines may have a given difference, their fines a given ratio, and alfo that the difference of the fquares of their chords may be of a givea magnitude?
(fo) Quest. 779, by Mr. J. Rodham, Land Surveyor.
Three right lines given in pofition, interfect in three points $A, B$, C, and form a triangle, to draw a fourth right line parallel to another given in pofition which thall cot the three former, in $Q, R$, and $S$, and form two other triangles CRQ, BRS, whofe fum, difference, or ratio, may be given?
iabio (ia) Quest. 780 , by Mr. Wm. Hinton, of Saddleworth.
To determine a point $P$ in the circumference of a given circle, fo that if twe right lines $\mathrm{PB}-\mathrm{ADE}$ be drawn through two given points B and

## Prize Queftion. 1799.

$D$ both within the circle, and terminating in the circumference at C and E ; the ratio of BC to DE may be a given one?
(12) QUEST. 78I, by Mr. J. TODD, of Berwick.

In an infinite feries exprefing the Moon's true place in her orbit, the term expreffing the mean equation of the. centre is - $.109766 \times$ fine A $+.003766 \times$ fine $2 \mathrm{~A}-.00018 \times$ fine 3 A ; it is required to determine the mean anomaly (A) when the faid equation is a maximum?
(13) Quest. 782 , by Senonsibi.

Given the bafe, the length of a line drawn from a given point therein to the vertical angle, and the difference of the other two fides to conffruct the triangle? .
(14) Quest. $78_{3}$, by Mr. Wm. Hilton.

From one of the points of intericetion P of two circles given in mag. nimude and pofition, it is required to draw a right line cutting them again in $R$ and $S$, fo that the fum of the fouares of PR and PS may be a given magnitude; and to thew the limitations?
(i5) Quest. 784, by Mr. T. White, of Dumfries.
In Euler's Theory of Ships, by Wrifon, $\S 5^{2 n d}$, if $A B$ and $C D$ be the axes of an elliple, ard if the refpective momenums of the particles, with regard to $A B$ and $C D$, that is, of the fums of the products of the particles by the fquares of their diffances from AB and CD refpectively, be denoted by $(A B)$ and ( $C D)$, and the like momentum with refiect to any oblique diameter MN which makes with AB an augle of $\theta$ degrees, be fimilarly denoted by (MN) then $(\mathrm{MN})$ is $=$ $(A B) \cos { }^{2} \theta+(C D)$ fin ${ }^{2} \theta$, required the inveftigation?
(16) Quest. 785 , by Mr. Jas. Cunhitfe.

Required the fluent of $\dot{x} \sqrt[4]{x \times(a+x)^{3}}$ by means of circulararcs and logarithms?
(17) Quest. 786, by Nauticus.

A privateer gave chafe to a floop, bearing S.W. 6. W, and diftant 18 miles, the floop finding the privateer gained on her, and that the wind, then at N. W. by N. $\frac{1}{2}$ W. would permit her to lie up for a port, which bore N. N. E. tacked for it. The privateer could not make her way good fix points from the wind, and ran ten knots, while the floop ran ouly feven. It is required to find geomerrically, wherher the privateer could feich the floop or not ; and, if not, what his neareft approach to her muft be; and when it would happen, reckoning from the time that the chace firt commenced at ?

## (18) Quest. 787, by Mr. J. Wright.

Given the lengrths of four right lines drawn from the feme point $P$, to the four angles of a rhombus; to confiruet the rhombus when the fum of the fquares of the four perpendiculars. let fall from the point $P$ to the fides is given. And to extend the method to any other quadrila. teral whofe four fides are in a given ratio to one another?

Prize Question. By Mr. James Skene, A. M. of Aberdeen.
If a fpherical body A , connected to a weight W by a thread going over a pully, whofe pofition is given, be any how projected upon an inelined plane perfectily polifhed, to determine its motion?

## The Ladies' Diary: <br> 0 R

## WOMAN'S ALMANACK,

 For the Year of our LORD 1799; Being the Third after Bissextile, or Leap-Year. Containing New Improvements in Arts and Sciences, And many Entertaining Particulars: Defigned for the $U J_{e}$ and $D i v e r f i o n$ of the F A I R - S E $X$.The Ninety-fixth Almanack Publifhed of this Kind.


Virtue and Sense, with Female-Soprafes joindife (Air that fubdues and captivates Mankind !) 2 W0 bag In Britain's Matchlefs Fair refplendént fhine; They rule Love's Empire by a Right Divine: Jufly their Charms the aftonifh'd World admires, Whom Royal Charlótte's bright Examplefires.

## L. O N D O. Ne

Printed for the Company of Stationers, and fold by G. Gregnhili, Treafurer to the Company, at their Hall in Luigate-Sreet, [Price fitched, Sixteen-Pence.]
r. of Cbriff. 1600 King Charles I. born 190 3603 Q. Elizrdied, K. Ja. fucc. 196 1603 A great Plague in London 196 1505 ropifh Gun-powder Plot 194 3616 Shakfpeare the not died 183 $\pm 625 \mathrm{~K}$. James died, Cha. I.fuce.174 1641 Bloody Irifn maffacre - $\quad 15^{8}$ $\times 642$ Sirl. Newton born, Dec. $25^{157}$ 1649 K . Chtrles I beheaded 150 1558 Olive Cromwell died 141 1660 K . Charles II, reftored ${ }^{2} 39$ 1662 Royal Society inftituted 137 1665 Died of the plague $68,585 \quad 134$ 1666 Great fire in London - $\quad 133$ 1666 War againk Denmark decl. 133 1667 Peace with Hol. Fr. 88 Den. 132 1672 War againft Holland decl. 127 1672 Falfpence of Farth, coined 127 $\mathbf{1 6 7 4}$ Peace with Holland procl. $\mathbf{1 2 5}$ 1679 Habeas Corpus act paffied, 120 3.685 K. Cha. II. died, Ja. II. fucc, II4 $\mathbf{x} 688$ Prince of Orange landed III I688 K. James II. abdicated III 1689 Wm , and Mary crowned 110 1693 Hackney coaches eftablifhedro6 $1702 \mathrm{~K} . \mathrm{Wm}$, died, Q. Ann fucc. 97 1702 War againft France declared 97 1707 England \& Scotland united 92 1713 Peace with France procl. 86
r. of Cbrijf. $r_{\text {s. fince. }}$

1714 Q. Ann died, K, Geo.I. fucc. 85
1715 Rebellion in the north - 84
1716 A very great frof $=1083$
1726 Sir I faac Newton died - 73
1727 K . Geo. I. dicd, Geo.II.fucc. 72
1739 War againet Spain declared 60
1739 A very great froft - 60
174.3 A great comet appeared 56
1744. War againft France declared 55

1745 Rebellion in Scotland - 54
1748 A general peace - 51
I750 Wefminfter bridge finifhed 49
1752 Date and Calendar altered 47
1736 W ar againft France declared 43
1750 K. Geo.II. died, G. III. fucc. 39
1762 American philof, foc, inftit. 37
$\mathbf{1 7 6 2}$ War againft Spain declared 37
${ }^{1} 763$ Peace with France \& Spain 36
1765 Otaheite difcovered - 34
1770 Blackfriars bridge finifhed 29
1772 A revolution in Denmarz 27
1772 A revolution in Sweden 27
1775 War againt America begun 24
1776 Americadeclared independent 23
1778 French treaty with America 21
$177^{8}$ War againft France begun 21
1779 War againft Spain begun 20
I780 War againft Folland begun 19
1783 A general peace - 16

Birth-days, [n.s.] and Years, of the Royal Family of Great Britain.

KING GEORGEIII, June $4,173^{8}$
Prince of Wales, Auguft 12, $\quad 1762$
Duke of York, Auguft 16, $\quad 1763$
Duke of Clarence, Aug. 21, 1765
Prs. of Wirtem. Septem. 29, 1766
Prisice Edward, Nov. 2, $\quad \mathbf{y} 767$
Prs, Augufa Sophia, Nov. 8, 1768
Prs. Elizabeth, May 22, - 1770 F'rince Erneit Auguftus, June 5, 1771

Prince Aug. Fred. Jan. 27, $\quad 1773$ Prince Adolph. Fred. Feb. 24, ${ }_{1774}$ Princefs Mary, April 25, - $\quad 1776$ Princefs Sophia, Nov. 3, -1777 Princefs Amelia, Aug. 7, -1783 Queen Charlotte, May 19, - 1744 Duchefs of Brunfw. Aug. II, 1737 Duke of Gloucefter, Nov. 25, 1743

Years of Births of the Principal Sovereign Princes of Europe.

Pius VI. Pope - $\quad 1717$ Victor Amada Maria, K. Sardinial 726 PaulI. Emperor of Ruffia, $\quad 754$ Maria, Queen of Portugal - 1734 Frederic V. King of Pruffia, 1770 Guftarus IV. King of Sweden, 1778
Francis II. Emp. Germ.William V. Stadtholder, $\quad 1748$Charles, IV. King of Spain, $174^{8}$Chriftian VII, K, of Denmark, 1749Ferdinand IV, King of Sicily, 1751Selim III, Grand Seignor = 1761



## $\mathrm{N}^{\circ} 96 . \quad$ March hath xxxi Days.

New Moon, 6 th, 34 m . paft 1 aftern. Firft Quarter, $14^{\text {th }}, 22 \mathrm{~m}$, paft 6 aftern. Full Moon, $\quad 21 \mathrm{ft}, \quad 53 \mathrm{~m}$, paft 2 afiern.

Sun enters $\uparrow$ 20d. 2 h .17 m . Laft Quarter, 28 th, 34 m. paft 7 morn.



No. 96. May hath xxxi Days. 7

New Moon, $\quad 4$ th, 14 m . pail 12 night. Firft Quarter, i th, 9 m . pat 5 aftern. Full Moon, 19 th, 51 m . pat 7 morn. Sun enters II sod. 15 h .25 m . Left Quarter, 26 th, 5 m . pat 11 morn. $\qquad$ I Wist. Philip and St. James ${ }^{2}$ Tai A cenfion or Holy Thurf. 3 F Inv. of the Crops. EaT. 5 re. 4 S
5 F Sunday after Afcenfion
6 M Eat. Term e. J.E aP.L.
${ }_{7}{ }^{8} \mathrm{Tu}$
9

TH Ont. Term ends


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14 TroWhit-Tuefday
15 W Ember Week
16 TH

24 F Trinity Term begins
25 S [Auguftin 26 I Sunday after Trinity
27 M Ven. Bede. Trim. Ter. 2 re. 28 Tu
29 WE. Char. II, reftored



| ne hath xxx Days. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| New Moon, $3^{\text {d, }} 5 \mathrm{~m}$. paft 3 aftern. <br> Firft Quarter, 10 th, 28 m . palt II night. <br> Full Moon, $17 \mathrm{th}, 5 \mathrm{~m}$. paft 4 afiern. <br> Laft Quarter, 25 th, 14 m . paft 3 morn. |  |  |  |  | Sun enters ぁ |  |  |
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New Moon, $3 \mathrm{~d}, \quad 27$ m. palt 3 morn. FirftQuarter, $10: h, 12 \mathrm{~m}$. patt 4 morn. Full Moon, 17 th, 17 m . paft i morn. 22 d .10 h .53 m . Laft Quarter, 24 th, 36 m . paft 8 nicht.

Sun enters $\Omega$


N: 6. September hath xxx Days. Ix

Finit Quarter, 6th, 59 m . patt 2 attern. Full Moon, $14 t^{\text {th, }} 31 \mathrm{~m}$. pat 2 morn . Latt Quarter, $22 \mathrm{~d}, 23 \mathrm{~m}$. paft 7 morn. New Moon, 29th, 4 m . paft 8 morn.

Sun enters $\bumpeq$ 22d. 13 h .49 m .
il if ${ }^{2} 5$ Sunday after Trinity 2 M Lordon burnt 1666 [Giles


> | 10 | Tu |  |
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| 22 | F | I8S. aft, Tr, K. Geo. 3 cr . | 23 M




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Sim enters $f$ 2id. 18in. $9^{\mathrm{m} .}$ New Moon, 27 th. 50 m palt 3 mern .
${ }_{1} \mathrm{~F}$ |Ail Saints
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Edmund $K$. and mart.
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22 F Cacilia. O!d Mart. day
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27 Sunday after Trinity
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| 28 | Mich. Term ends |


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30 S

| Das | $\frac{\text { Li of D }}{96} \cdot \frac{\text { Day dec. }}{658} \cdot \frac{\text { D.break }}{515}$ |  |  |  |  |  | ends |  | $n$ Eaft |  | f. S. | 78 | 10 |
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| \% |  |  |  |  |  | 6 |  |  |  |  | $6^{\prime} 14^{\prime \prime}$ | 1 m |  |
| 6 | 18 |  | 16 |  | 22 |  | 37 |  | 7 |  | 9 | $\bigcirc$ |  |
| 15 |  |  | 34 |  | 29 | \% | 30 |  | 2 |  | 543 |  | 30 |
| 16 | $8 \quad 46$ |  | $4^{8}$ |  | 35 |  | 24 | 4 | 57 |  | 457 |  |  |
| 21 | 30 | 8 |  |  | 42 |  |  |  | 53 |  | 349 | 112 | 24 |
| 26 | 18 |  | 16 |  | 48 |  | 12 |  | 49 |  | 220 |  |  |

14 December hath xxxi Davs. 1709.

Firit Quarrer, 4 th, 26 m . paft 3 morn. Full Moon, izth, 55 m . pait 8 morn. Laft Quarter, $上$ gth, 41 m . pait Io night. New Moon, 26th, 54 m . paft 2 aftern.

Sun enters 7o $21.6 \mathrm{~h} \rightarrow 33 \mathrm{~m}$.

|  |
| :---: |



| 318 | 53 | $8 a$ |  |
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| 22 | 2 | 9 |  |
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a 27

## N' 96. Chronological Notes, Eclipfes, E'c.

CHRONOLOGICAL NOTES, Scc. in 1799.
Dominical Letter
Colden Number
Epact
Cycle of the Sun

| F | Roman Indiction | 2 |
| :---: | :--- | :--- |
| 14 | Septuage. Sun. | Jan. |
| 20 |  |  |
| 23 | Shrove Sunday | Feb. |
| 16 | 3 |  |
| 16 | Lent begins | Feb. |

Eafter Day Mar. 24 Afcenfion Day May $z$
Whit-Sunday May 12
Advent-Sun. Dec. I

## ECLIPSES, \&c.

THERE will be only two eclipfes this year, and both of the Sun; but neither of them will be vifible in this country.
I. May 4 , the Sun is eclipfed, but invifible here, at 12 h .15 m night.
II. Octobzr 28, the Sun is eclipfed, invifible, at $5^{\mathrm{h}} 3^{66 \mathrm{~m}}$ afternoon.

May 5, the planet Mercury will tranfic or pafs over the facc of the Sun.


VENUS is an evening ftar till October 16 ; then a morning far to the end. Jupiter is an evening fat till May 30 ; then a morning ftar till Dec. 17 ; after that an evening flar to the end.

ANSWERS to the ENIGMAS.

1 Watering Pot $/ 6 \mathrm{Bar}$
2 Blofh $\quad 7$ Name 3 Fame $\mid 8$ Needle 4 Plague 5 Box

$|$| Suppl. Enignas. | 5 |
| :--- | :--- |
| 1 Fear | 6 |
| 2 Paint | 7 |
| 3 Palm |  |
| 4 Bee |  |

5 Hair Pencil 6 H
7 or Pr. Happi[nefs.

## Anfwers to the Prize Enigma.

## 1. By Mr. Robert Bradley, Geddington.

If e'er at the altar of Hymen I |n her blithfome young breaft, where kneel,
A lawful companion to be,
All the paffion of love may my Delia feel,
And that wholly kindled by me. kind nature has for'd (fine, That bright genius my parts to reSuch a Bedmate by me wou'd be ever ador'd; [be thine. 2. By Mr. W. Clark, Cams-Hall, near Farebam.

With mind averfe to wedded Atrife, Ralph, fquandering his treafure, Had vow'd he'd never feek a wife To interrupt his pleafure.
But, changing fuddenly his mind, Prefs'd Sue to be his bride : $\qquad$
"What woman can you think to Indignant Sue reply'd,
" Wou'd with a fot agree to wed, (For Ralph was moftly mellow)
"I fhou'd indeed be loth to Bed
"W With any tippling fellozv."

## 3 By Edzuin; 10 Mifs Eliza Fox.

Why, Elizz, fhou'd I Weep, languifh, or figh,
Since Damon, you faỳ, is poffers'd of your love ${ }_{j}$

But endeavour to find
A fair to my mind,
Who will conflant and kind to me prove,

Then, Eliza, to you, As a over, adiru!
Still believe me your friend moft obrequioufly;

And may you refign,
Soon at Hymen's thrine,
Your hand, and may Damon your Bedfellow be.
4. Iy M. Gobin Rimmer, of Liverpool.

One night, ingenious Fildes and I, Laid violent hands on Madam Di, And her Companion, who tis clear, A Fellisu partner does appear:
Whole practice long has been, 'tis known,
To trace at large from town to town, With myftic treafures, magic rings, And fpells, and fuch enchanting things;

By which whole nights I've oft been kept
From Bed, while uthers foundly flept.
But fince thefe culprits we have found,
Stern juftice fays, they fiall be bound, And plac'd where future time, with joy,
May fee the fate of Lady Di.

## 5. By Serena, Brook-ftreet, Holborn, London.

Will you admit me, Lady Di?
1 am your friend, tho' feldom I
Take courage to appear
Among your learned votaries,
Whofe thining talents always pleafe, And witty ladies fair.
To guefs your prize wou'd pieafing prove,
Tho' wery queer, I ardent ffrove
The trophy to obtain:

But to make "Adam I, I he, "And Eve too I, and I too fhe," Endeavours I thought vain.
Quite mortify'd, to bed I crept, Without a Bedfellure I flept: Bedfellow !-fure that's right: Yes, withnut mozic art or fpelle, Your puzzle's folv'd, $\mathrm{fo}, \mathrm{M}$. Welle,
I wifh you now good night.

## 6. By Mr. Tbo. Smart <br> Throughout this life's fhort chequer'd

 maze,How bleft the fwains who wed, Burton on the Wolds.
With every virtue, every grace, A parener for their bed.

## 7. By Mr. T'. Wiedon, Newbury.

In the grave's dreary Bed we are Diftinctions muft ceafe, when the filizus: [proud: Know this, and be humble, ye 8. By Miss Ehiz. Wrigbt, of Flaxtan.

May every Pair whon Himen joins, Enjoy contentment fweet.

Then may the fair fex never fear Siy Cupid's darts to meet.

Oiber Jcparate and ing-nious anfwers to tbe Prize Enigmo, befide tbofe inforted in tbe s'ucplemen!, socre given by ibe following ladies and gendement wiz. F. Bayley, Fokn Erockbonk, W. Butterman, E Clarence, Tbo, Coulton, Tibo. Coultbera, Sarab Cozven, Wm. Crofs, R. Dutson, Wm. Francis, jum. Arr. Furnafs, A. Gilbs, Jane Hales, Fubn Hawkes, Tho. Heynes, Fonatban Horn, Rd. Humber, Fames Mulcofer, Panbenia, Petrucbio, Rigdum Funnidos, 7 ko . Rimmer, Alex. Rowe, Yobn Rurberford, Wim. Sa nt \%. Savare, Rea. I, Shackletcr, Wm, Slainjby, F. F. TEumpJon, Fobs


## Enigmas anfwered.

## General Answers to the Enigmas.

## 1. By Mr. W. Butterman, of Nortb Cave.

Having a little time to fpend, An anfwer to th' Enijs I'll fend, Juft as I guefs the fame; And hope, Sir, if you find them right, You'll put them down in black and white,
In Dia's page of Fame.

Plagu'd fore I was the firt to fcan;
At length $I$ found a $W$ atering-pan
Would free it from difguife.
The reft, Box, Needle, Love, and Bar. I blufh-but, Sir, I'll pafs them o'er,
And quickly Name the prize *. * Bedfallow.

## 2. By Mr. Tho. Coulfon, of Rookbope.

Ladies, I hope, you'll take it well, If all the riddles I fhall tell. The firft a Watering-pan will how; The next a $B l u f h$, as well you know; The $3^{\text {d doth Fame fo well conceal ; }}$ The $4^{\text {th }}$ a Plague you may reveal;

The 5 th's a $B o x$, as I explore;
The 6th's a Bar to hold the door ;
The $\boldsymbol{7}$ th's a Name I underftand; The 8th's a Needle in your hand; The ninth is Love; and, ladies fair, A Bedmate will the prize declare.

## 3. T'be obftinate Cook; by X. Dino.

For fhame! you make me Blug $\beta$, Cries Doll the cook to Joe; Plague on your noife; for goodnefs Or I'll give you a Bluw. [hufh, Your flattery I hate, Of Love you've but the Name; Such lingo might fuit Nan or Kate, Or girls of meaner Fame.

Then get you gone, I fay: The Pot I muft attend;
The Bar contains a girl more gay; ${ }^{\prime} T$ is $N$ veedlefs time to fpend. If Kate and Nan fay no, $\quad$ ona $\mathrm{I}^{2}$ Lay fiege to Arabella;
And fhe will fure, for aught I know, Make a waxm Bedf clluw.

Hail! happy youth, poffeffing ev'ry grace,
S6i. And mark on old grey headed bach'lor's cafe;


Who once was young, and anxious for a wife, Yet durft not venture on a married life. My vain and idle fears I Blufh to own, But Fame has mark'd my Name where'er I'm known. Nature's ftrong impulfe I refifted long, Tho' reafon always told me 1 was wrong.
The bugbear was, that wedlock made us poor;

- Such fcruples bring a Plague and Bar the cure.

Wifetefs and childders I, with fore of wealch :
And what availeth all my hoarded pelf?
Thole who fhould Lowe me beft, my death moft crave;
They'll fpend my all, and dance upon my grave;
Nor lay a fone, the ftranger to apprife,
By pointing out, where poor Pillgarlick lies.
Afpiring youth, huun an old bac'hlor's fate,
And take a Badfellow ere 'is too late.

In Needle-work her evenings fhe will fpend,
You with your pipe, your boitle, and your friend; The fnuff-bax next is handed round the room;
The fmelling-bottle gives the fielh perfume.
Mean time the lifping, prattling tribe appear, And play their gambols round their mamma's chair, For joys like thefe my gold 5 'd now forego; But fuch a life a bach'lor cannot know. Sexes fhould joir, as angels do above, Not to increafe their wealth, but prove their love.

## 5. The Old Maid; by the Rev. Mr. Ewbank, Tbornton-Stervard,

Tho' I Love men of fcience, I ne'er yet could find $\quad 9$
A Bedfelluw, juft in all points to my mind. 10
To the Name of a fuitor I fometimes object, ?
Whom, I Blufo to aeknowledge, I elfe would refpect. 2
The Fame of my fortune, my perfon, and parts, 3
Brought e'en ruftics to Plague me, and talk about darts : 4
But foch, for the future, 1 mean to exclude,
By Barring iny door, that they may not intrude.
For unlefs I can find a right partner for life, I prefer an old maid to the title of wife. With my Needle, Dox-iron, and books, I employ
Myfelf in the houre, and I fometimes enjoy
A waik in my garden, when flow'rs can be cund;
And fometimes I rove my efate all around.
To water my garden I have a fmall Pan:
In flort, I want nought-but a fuitable man
Thus fomething is wanting in all fates below;
Add, fooner or later, we all find it fo.
True h ppinefs here does not make her abode;
But virtue, to find her, direets us the road.

## 6. By Mr. Fobn Fildes, of Liverpos!.

Fiff, Allifon, the tunefu! bard, Whofe pollif'd lines deferve regard, Witl Watering por leads on the way; Then comes the Blu $\beta$ of Fainy Bay, With Bayley's Fame, well known to And Piague, catis'd by L. W. D. [me, My Box fucceed , and all will praife The Bar in Nichols's fiveet lays.

All mult admire the Name of Smart, And Woolfton's Needle fhews much art.
Love well defcrib'd is by Mif! Wright;
The prize itielf comes next in fight, The Eedfellow of Mr. Wells, That for true wit the reft excells.

## 7. A Lyric Epifle to Madam Diaria; by Rigdum Funidos.

While others barter efe for ftate, In bopes of fordily growing great, Lei me, with rofy chaplets crown'd, Srretch'd on the flew'r-enamel'd ground,

The vine's nectarious juices quaff, Alternate fing and love and laugh.
For why, ye great ones, may nos I
Flirt in my turn with Lady Di?

Why not in Blu fing colours clad, Inflead of fables dark and fad, Aloon my Nome, and hate to prove
The matchlefs ardor of my Love? With fuch a Bedmate! fuch a lafs! Too foon the longelt night would pafs!

True as the Needle to the pole, Id re'er forfake my loving foul: One purfe, one Bar, one commonBox Would well fupply all other locks. Heediefs of Fame, or envy's dart, The Plague of many an honeft heart, We'd feal thro' life, ferene and gay, Then fink into our native clay.

## 8. Ode to Content; by Mis. M. Furna/s, Heddon-on-tbe-W all.

Hail ! pecae-infpiring heav'nly queen,
Whofe charms outvie the raral fiene, Or morning's Blufbing ray ;
Defcend fiom regions far remov'd, Where Love-creating joys ate prov'd, And wiffom's child bears fway.
When founding Names thy worth proclaim,
Borne on pinions of fwift Fame, Soff flowing from the tongue;
The foul enwrap'd in tranquil mood, Feels joy run ,thro' each Bedmate's And accents yet unfung. [blood,

Forthwith Apollo Atrikes his lyre; The Box and Bar. with keen defire, Uaite in harmony;
Which raife on pimnions thro the Imagination, fportive maid, [fhade, Ta courts above the fky.
There flowers fpontaneous ever fpring,
And vernal zephyrs balmy wing Enlivens ftill the hour;
No Wotring-pan is call'd in view,
Nor baleful Plague, with livid hue,
Ex:ends malignant power.

## 9. Addrefs 10 an Oll Coat; by Mr. Rob. Sanderfon, Steeple Afton.

Unprogu'd with life's unnumber'd ills,
With learned noftrums, potions, pills, -By many dearly bought;
With joy I touch the lyre again,
And fing in linfey wolfey ftrain, Of thee, my old drab coat.
Winter, the fivage, thrice has rag'd;
With fnow-and rain tho thaft engag'd; And firmly brav'd rough weather;
Now nibbled by that rat, old time,
(Such luck betides the weight of rhyme!)
Thou fcarce canf hold together.
What then, tho in this tatter'd fiate,
Thou haft but met the common fate
That ev'ry coat attends;
Thy Nare, thy praife flall ne'er be pars'd
Unfung, white fickle tife fisll laft,
And memory befriends.
For all th attracive excellence
Of fparaling wit, and folid fenfe,
We furely owe to thee;

Politenefs, humour, ev'ry grace

- Fhat 'corns the mind, and decks the f.ce:

This truth we daily fee.
But 'tis when in thy better days
Thou claim'ft a portion of our praife, And dealt thy bounties forch; For fhould I give for fuch a coat
As thou art now, one fingle groat, 'Tis more than thou art worth.
What mortal ever yet could find
A man of wit and fenie who fhin'd, Equipt in flowing tatters ?
See Roicio hurries thro' the ftreets,
Derided, cuffd by all he meets; For who the ragged flatters ?
But Dulbert, drefs'd in fuperfine, Has wit and fenfe almof divine,
He too has genuine humor;
Fäme worlhips him with true devotion,
She Loves to dwell on ev'ry motion,
And Spread a flatt'ring rumor.

Full well I recollect the time, When firft I wore thee, in thy prime, My humor pleas'd the many; I Bluff to fay how chang'd my tale, That humor's grown quite flat and fale,
Scarce worth a new-coin'd penny.
Obeifance then I never mifs'd, Off went the hat, with eager fift, Of tailors, coblers, bakers;

That cov'ring off they fcorn to pull;
But keep it now glu'd to the fkull, As if they'd all turn'd quakers.
All day could 1 thy praife prolong;
Let it fuffice to end my fong, With this affertion true, That each idea, ev'ry thought, Gains luftre from a handfome coat, Companion old, adieu.

In a dirty, dull villa, fcarce deferving the Name,
In an humble builc Box I my refidence hold;
Where 1 labor to live in the annals of Fame,
Not ambitious of pow'r, or o'er anxious for gold.
Each morn I inhale the frefh breeze from the hills,
As I trip with delight o'er the bloffom-deck'd piain,
Or ftray by the fide of the cryftatline rills,
That bound, by their courfe, my paternal domain.
In the heyday of youth, when the blood in full tide Bids defiance to forrow, and laughs at dull care; Cant gay fix and twenty feel dormant to pride, When applauded at once by the witty and fair.
No-I own it with pleafure, your praifes can warm, Bid fancy exulting fweep louder the lyre; Once more, led by hope, grafp the magie-fraught charm, And the mule of the grove to the laurel afpire.
Accept then, fweet maid, without Blufbes, the lay, In return for the favor by beauty beftow'd. May misfortune's dark cloud ne'er o'erffiadow your day, Or the Plagues of the World place a Bar in your way!
N.B. Enig. 1 is Watering-pot, and the prize Bedfellozv.

## 11. T'be Happy Marriage; by Mr. R. Walker, of Byzuell.

When Damon, fir'd with ardent Love, Young Celia did his fuit approve, She like'd the fhepher'd fwain: Without a Blup to him refign'd, In Namelefs raptures both were join'd In Hymen's filken chain.
Thrice happy they whom love unites, In fond attachment and delights,

Who feel the partial flame! No mutual wrongs, no jealous ire, No calumnies at all confpire,

To blaft theirrifing Famen

With Watering-pan acrofs the green,
Now Celia trips with graceful mien, To bleach the lines fair; A Box, with Needlework employs
Thofe hours oft fpent in empty toys, Beneath a woman's care.
No Bar obftructs their nuptial joys, No jealouly their peace deftroys, Or Plagued ftrife moleft; But down the fream of life they glide While gentle breezes fill the tide, And lull their cares to teff.

Otber ingenious general anfwers totbe Enigmas, befide tbofe inferted in the Supplement, were given by the following ladies and gentlemen, viz. 7 . ABcroft, F. Bayley, Fobn Brookbank, F. Cairns, F. Carwiiben, Tbo. Couljon, Tbo, Coultberd, Sarab Coswen, Wm. Crols, A. Gibbs, Mifs Green, J. H., Mifs A. $H-g-t$, Jane Hales, F. Hatficld, T. Heynes, Jof. Hindjon, Da. Lewis. A. Morris, Tbo. Perrol, Da. Robarts, R. Robinjon. Alex. Rowe, 7. Ruiberford, Wm. Saint, F. Savage, Tbeod fia, F. F. Tbompfon, W. Ward, Wm. Wilfon, Eliz. Wrigbt, Eסc.

Answers to the Reduses and Charades.

Rebufer.

## Diary.

x Lincoln
2 Smart
3 Malice
4 Prize

Sup.
I Stone
2 Milton
3 Chat 4 Clition

Cbaracies.
Diary.
r Boat(wain)
2 Damage
3 Campbell 4 Ribband

## Sup.

${ }_{1}$ Lignthoufe
2 Courthip
3 Warfaw 4 Chairman

## 1. By Mr. W. Butterman, Norib Cavè:

Lincoln, Malice, Prize, and Smart, The rebufes I hink impart ; Barfwain, Damage, and Campbell, And Ribband the charades will tell. 2. By Mr. The. Coulfon, Rookbope.

Silence, ye fair, while I declare Each rebus and charade; [heart; There's Lixcoln, Smart, with all my The next on Molice made.

A Prize I fee, a Boalfwain free; Witt, Damage and Campbell;
A Ribband rare adorns the fair; So till next year farewell.

## 3. The Frigne and Privateer; by $X$. Dino.

Ye fiv'ring gales, your aid impart,
While Campbell, Lincoln, and friend Yon privateer attack: [Smart, Ste how the dances on the tide, With all the marks of Gallic pride, Her prize to carry back.

Let Britons o'er their foe prevail, And Damage every Rib and iail, Their Malice to bring down :[not, Come Boxtiwain, gunner, and what Another thund'ring broadfide fhot, And the is all our own.

## 4. By the Rev. Mr. Ewbank.

Buatfwain, Damage, Campbell, Ribband, | Lincoin, Smart, and Malice added, Half my fubject wili explain; $\quad$ Surely I the Prize may gain. Xiso 5. The Unfortunate Tar; by Mr. Fobn Fildes.

Jack Campbell was as Smart a lad As Iincoln e'er coutd boaff ; And Boatfroain of a fhip he went, To cruife along the coaft.
A Ribband and a kifs he gave His Poll, then bid adjeu: But oh, the Malice of a foe, He fion had caufe to rue.

A Gallic fr gate hove in fight, And made his flip a Prize;
By which great Damage Jack foftain'd, And now in prifon lies.
Where he, poor tar, I fear muft be, Till this dread war is o'er;
Soon may bleft peace return again, And waft him to our fhore.
6. By Mr. A. Morris, Liverpool.

Near Iincoln city, Lives Nancy fo pretty, [tend, For whomCampbell and Smart do con.

No Mafice has the,
From Damage fae's free,
And on honour fhe much does depend.

But, alafs ! a Boatfraain, Who no Prize did sain, Stept in, the difpute to decide;

With Ribbands all white,
And a ring tiat is bright,
Takes Nancy to be his dear bride.

## 7. By Narcifa.

M.lice avoid, dear ladies, as you prize \& No Boatfoain's whiffle will affail Your peace, your comfort, or the heav'nty joys. [way, If, as yau journey, Lincoln's in your Pray call on Campbell, and on Smart, on Gay. your ear, [cheer.
Nor Damage will enfue, but friendly Deck'd with your Ribbands and your fans fo neat, [fweet. Their garden will afford a nofegay

## 8. By Mr. Tho. Rimmer, Sboolmafer.

Could I compore like Mr. Smart,
Or Campbell; I with all my heart
On fubjects more fublime would write,
To pleafe a friend fome winter's night.

On Dia's page I would appear, Solve all the myftic quibbles there. Did Prize or Damage prove my ifrain, Or Lincoln, Ribluand, or Beat/wain, Or Malice, I wouli cleat the matter. Believe me Di, I do not flatter.

> 9. By Mr. Whm. Saint, Norwich.

For once, dear ladies, let metry, Charades and rebufes to 'fpy. There laft I fee, without difguife, Are Malice, Lincoln, Smart, and Prize.

Damage, Ribband, with Campbell tro, Jut three charades will bring to view. Hark! fure I hear the Boatfoath's catt. Adieu! fweet girls, I've told you ail.
10. Os Lady Di; by Mr. Wm. Wells; being the Remainder of bis General Anfwer to the Enigmas, Rebules, Esic.

No Malice fhe to any bore, When fhe to Lincoln went:
A Prize fo Smart in drefs before, To there $w$ is never fent.
But hark! the Boatfrwain flouts avaft! Or we fhall Damage take;
Belay the bowlinas, brace all faft, Awake, Campöell, awake.

The cap:ain's lady by him lar, latatis3
With Ribband round her head. bans
He calls the mate, and thus did fay,
Why don't you quit your bed?
Jump up, and lafi the helm alee, And let the fio lay ton;
We're in great danger 1 can fee, And nothing you will do.

## 11. By $M$ r. Fofepb Wilfon, of Black Callerton.

Iinco!n, Malice, Prize, and Smart, Every rebus will impart.

The Boarfwain, Ribband, and Gampbell,
With Dainage, will each charade tell.
Otber ingenious anfwers to the Rebufes and Cbarade, befide tbofo inferted in the Supplement, were alfo given by tbe following ladies and gentlenen, vix. $\mathcal{Y}$. Afpergft, \%. Bayley, \%. Brookbank, I. Brown, Jobn Gairns, F. Garwinoon, 280. Coztyon, \%ै. Cowit, Sarab Coween, Wm, Crofs, R. Duttom, Fane Green, F. Hawkes, A. H-g - t, Fane Hales, Sam. Harrocy, Y. Hat fild, Tho. Hinimarfa, Yof. IInifon, J. Horn, Rd. Humber, It Kendray, Da. Lewvis, T. Lindliy, Wm. Nesuby, Fbo. Perroll, Y. Rimmer, Da. Robarts, R. Rebinfon, Alex. Rowue, Fobn Rurberford, F. Savage, Yo. Sb-tw, Elixa Still. Tbeodofia, 7. F. Tbomp on, Tho. Thorke, Vinti, I. Wh, W. Ward, T. Wecdon, Wm, Wifoon, Elian Wrigbi, Ei.

## $\mathrm{N}^{\circ} 96$.

## Queries anfwered.

## Answers to the Queries.

## Query I. anfwered by Mr. Alex: Roen, Reginnis.

When love is real and well founded, then abfence will doubtlefs increafe it. But if it be feeble and wavering, abfence will often extinguifh is; for, according to the old adage, "Out of fight, out of mind."

Mr. Fobn Branfby fays-Abfence is found, for a flort time, to increafe the flame of love. But if reafon can be allowed to exercife its part, and aid prudence in lengthening the continuance of that abfence, the force of love will be abated, and it will eirher fubfide into a rational and conffetent affection, pr be entirely extinguifhed.

Mr. Thomas Crofoy, of Tork, fays - That a long abfence has a tendency to diminifh love, rather than increafe it, is a poficion I think that canmes be controverted. Frefh amufements, frefh purfuits, and trefh objects, aft upon the ficklenefs of the human mind, in fuch a manner as gradually to extinguifh the moft ardent love; while, on the contrary, a fhort abfence has not that power, or even to obliterate the leaft impreffion which love has made in the tender heart.

MIr. Ralpb Dutton, of Kingfley, fays-The anfwer to this query depends on the degree of love. Where the degree is moderate, abfence may diminifly it, but when the pafion is deeply rooted in hearts of fenfibility, it will certainly increafe it; as the fame degree of wind which will blow out a candie, will caufe a large fire to burn with increafed fury.

Mr. F. Hatfield, of Mansfield, fays - That fhort abfence doubtlefs enlivens the paffion of love. A fagacious author (Lord Kaimes) fays, "Obfacles to gratification never fail to augment and inflame a paffion." And another,

> "All impediments in fancy's courfe
> Are motives of more fancy." SHAKYPEARE.

But in long abfence, love, like every other affection of the mind, produced by habit, gradually will decay; though pernaps leaft with a parly remaining where the tender conneetion was firt formed, and its growing fatisfactions moft fenfibly felt.

Mr. Jof. Hindjon, of Lincoln, fays-When once true love is implanted in the breft, fearcely any thing but death is able to eradicale it; and in that cafe I may venture to affert that abfence rather increafes than dimi iffies love. But when only a flight affection, or a fudden guft of paffion has feized the bre ft, the heatt, ever prone to novelty, will, by time, abfence, and the fight of other objects, be diverted from the creatcie of its oace effeem. So that in this cale abfence diminifhes love,

## Quer y II. anfwered, by Mr . Tho. Couljan, Rookbope.

Shrove Tuefday is always the day before Afhwednefday or firf day in Lent, on which day perfons formerly went to confeffion, during which time they abftained from eating of flef. Some of the ancient fathers mention it as a practice of fome ftanding. It was a cuftom among our anceftors to have both pancakes and collops on that day, or rather the collops on the Monday or day before, which in fome parts is fill ealled Collop Monday.

Mr. Ra. Dutton fays...-Shrove Tuefday, being the day immediately pre. ceding Lent, it was employed by the ancient Chriftians in confeffing their fins, thereby to qualify themfelves for a more religious abftinence. In procefs of time this cuftom changed to that of mutual invitations, to take leave of flefh-meat, by introducing pancakes and the like ; and the feftival ended with various fports as at prefent.

Mr. Wm. Newwb, of Barningbam, refolves it thus from Hutchinfon's Hiftory of Northumberland :- "This feems to be derived from a cuftom in the refectory of religious houfes, where the table was fpread on this day for all pilgrims, travellers, and vifitants. In Newcaftie, Durham, and other places, the great bell of the church is tolled, the fervants have holiday, and whoever partakes of the pancakes muft fry them. In Mr. Brand's Appendix to Bourne's Popular Antiquities, he fays, a kind of pancake-feaf preceding Lent was ufed in the Greek church, from whence probably we
have borrowed it."

## Query III. anfluered.

On the fubject of this query, like moft others, there are different opinions, a, fecimen of which may be as follows:

Mr. Tbo. Crofoy, of Kork, , fays--Hope is much more conducive to happinefs than enjoyment, as may be eafily proved. "It is with life as with the golden bird fent by the fairies to a young princefs : the bird fettled at thiry paces from her; fhe goes to catch it, advances foftly, is ready to reize it; the bird flies thirty paces further; fhe paffes feveral months in the purfuit, and is happy. If the bird had fuffered itfelf to be taken at firft, the princefs would have put it in a cage, and after a week's enjoyment would have been tired of it. This is that bird of happinefs which we inceffantly purfue; we catch it not, and are happy in the prefent, besaufe we are fecure from difgut."

## 

Tbe Rev. Mr. Furnafs fays-..This query is very evident, and every one ean anfwer for this truth - the enjoyment of any thing falls far fhort of the expectation; but "Hope is the foundation of our rejoicing.?

Mr. Wm. Marrat, of Lincoln, fays-.-Enjoyment is certainly the moft productive of human happinefs : for as all our happinefs depends on fomething which gives us pleafure when we have it in poffeffion, it is the enjoyment of it alone that can make us happy. Befides, hope only leaves the mind in fufpenfe, while enjoyment is the completion of all our defires.

Mr. T. Turner fays.--The enjoyment of any pleafure, which comes under the denomination of that of human, very rarely affords us a degree of happinefs equal to that which hope leads us to form of it while we bave it to expect. So that hope affords us a degree of happinefs, which enjoyment, by undeceiving us, diminifhes or takes away. Therefore hope is truly faid to be the more conducive to human happinefs.

## Query IV. anfwered by $M r$. Fobn Branfoy, of $I_{p}$ fwich.

In confequence of the eccentricity of the earth's orbit, the diftance of the fun from the earth varies, as does therefore its apparent diameter; and in confeguence of the eccentricity of the moon's orbit, her apparent diameter alfo varies; and as this latter eccentricity is proportionably greater than the former, the moon's apparent diameter varies more than the finn's does. When the moon is in perigee, her dianeter is greater than the fun's, efpecially if the earth be at the fame time in its aphelion; and, on the contrary, when the moon is in apogee, and the earth in perihelion, the moon's diameter appears lefs than the fun's. Hence it harpens that, if there be a central eclipfe of the fun when earth and moon are in or near the former fituations, the eclipfe is total; but if the central eclipfe happen when they are in or near the latter fituations, the eclipfe is annular, a bright circle near the fun's limb being vifible, becaufe then his apparent difk exceeds that of the moon.

Mifs Sarab Cczeen fays-In Dr. Hutton's Dict. P. 376, vol. 1, according to Kepler the greateft apparent ciameter of the fun is $3 \mathrm{I}^{\prime} 4^{\prime \prime}$, and the leaft diameter of the moon is $30^{\circ}$; confequently the fun's diameter may exceed that of the moon's by $x^{\prime} 4^{\prime \prime}$.

## New Enigmas.

I. Enigma ( 812 ), by Mr. Wh. Anderfon, Crutcbed Friars.

[^1]

## II. Enigma (813), by Mr. Jobn Bayley, Scboomafler.

Ye ladies fair, fay what am I, Diftinguifh'd by my crimfon dye. Mót iikely 'tis I took my rife From mother Eve in Paradife. She, taffing the forbidden tree, [me. Gave birth to Shame, and Shame bore Yet I from diff rent caufes rife, Seize innecence by quick furprize, And tender fouls 1 oft unhinge, But fiamelefs wretches felsom tinge.

## The pink, the tulip, nor the rofe,

 Can a more lovely hue difclofe. The faireft nymph upon the plain To put me on need not difdain. The bards in metaphors adorn With me, the rofe and rifing morn. I glowing rife, but fhort's my fray, For inftantly I fade away. Now, faireft ladies, I fuppofe [clofen, You'll from thefe hints my name dif-
## III. Bnigma (814), by Mr. W. Clarke, of Cams Hall.

Xe fprightly fair, whofe ready wit
Such latent, myfteries can hir, As clearly prove your noted fame, Deferving plaudits for the fame,
For one that ever waits on you;
In whofe devotions I have part, And help to form aright the heart; Your counfelskeep, nor ever ftray
Or devlate from the virtuous way!
But ftrife and difcord wifely fhun ; By fuch, winole kingdems are undone. I conftantly attend the court, But ne'er with citizens refort. And in the country I appear Ev'ry feafon of the year.

You'll fee me now within an hour, Atiending at your parlour door;
Nor is there reed to bid me come, Before I'm with you in the room, There fo conven ent in my flation, You ufe me as you find occafion. Nay 'tis contefs'd without my aid, This pond'rous earth hid ne'er been Yet after all my boafted worth, \made. 'Twas bafe deceit that bro't meforth; And I in Grubftrect have been found, Where ambidext'ous $f$ auds abound. But for all this, you will confefs, I was effeemed ne'er the leis. Hence la myftery remain, For you, dear ladies, to explain.

## IV. Enigma (815), by Mr. Tbo. Couljon, of Rookbope.

Ye lovely fair, whofe piercing wit On dark enigmas often hit, Awhile I pray attend,
To one whole fweetly pleafing fway Your willing hearts with joy obey, And is your only friend.
When pangs of forrow rend your breaft, [reft, And long have robb'd your foul of On me you ftill rely;
For heav'n in mercy fent me here, And bade me wipe the bitter tear

That freams from forrow's cye.
When you're by tyrant pow'r oppreft, Friendlefs, afflicted, and ciftreft, By me you're tavght to rifé?
And coafcious of your heav'nly birth, To forn the hatrow bounds of earth, And claim your kindied fkies.
T Tis mine to pierce the difinal gloom, Where forrow weeps o'er friendflip's And hail that happy fhore, [tomb,

Where pleafure faall for ever reign,
Where virtuous love unites again, And friends thail part no more.
Midft tort'ring racks and fcorching fires,
The hero whom my voice infpires,
In confcious viriue brave,
Triumphantly refigns his breath, And plucks the fing from vanquifh'd The victory from the grave. [death,
If yet, ye lovely fair, in vain
You ftudy for my hidden name, Another hint P'l give;
To heav'n I lead, but, ladies, there
1 cannot be; earth is my fphere, And cflen you deceive.
Then may my kind, my gentle pow'r Suftain you in that dreadful hour, When Nature fhrinks aghaft; [clofe, Whendeath's eotd hand thefe eyes fha: And your long pilgrimate of woes Shall have an end at laft.

## V. Enigma $(8,6)$, by $M r$. Fobn Fildes, Liverpool.

Dear-ladies, let me now prevail
Upon you, juft to hear my tale :
And when my name you have found out,
Whichfoon you will, there is no doubt,
You'ionn you would not wifl to fee
Your tovely heads bereft of me;
For fhould that happen, I proteft,
Your beaux of you would make a jeft.
The good man claims me for a friend, Tho' I on thieves and rogues atient; And oft, like them, it is my doom, Withift the prifon's difmal gloom,

To be in caltody comfin'd;
But I'm fo barden'd I ne'er mind. The fportfman with his dog and gun, Without me would have little fun. I inland narigation aid,
And am to guard you often made. I've for religion no refpect;
Yet conftandy the church protect. I much addicted am to fight,
And in liot wars take fuch delight, I to the field of battle go, And bolaly fece each haughty foe; And very active in a due), But be affur'd I'm no ways crue.
VI. Enigma $(817)$, by I. H. Cantabrigienfis, anfwering the Enigmas of lajt Year.

Like Apollo's fam'd Sybit, who from her dark cell,
In terms, tho' a mbiguous, the fortune could tell
Of princes and flates; fo I, with more eafe,
Give out my ref onfes on Sybilline leaves :

## Thbe Ladies' Diary.

Or rather require refponfes from thofe
Who turn o'er the leaves thefe refponfes compofe.
Yet, not like the Sybil on tripod I fit;
A throne, or a chair, or a fool will me fit:
Nor need you libations to pour on the ground
From the patera ancient while I'm to be found.
For fometimes a Waterpor's fhape I affume,
Nor Blufb for my Fame, any more than at Rome
Did the conful when call'd to the itate from the plough:
A Plague then was power, whatever 'tis now.
To untock all my treafures, to falfe Key you need:
To my Name point the Needlex and oft you'll fucceed.
And fometimes, tho' coy, a Bedfoliow I Love;
Ye, not fixt to one, among many I tove.

- Like nature Iin various, curious as a t;

And icience to me all her charms can impart.
Nay, the world's all my own-every object is mine; I can twinkle with ftars - with the fun I can fhine; Can change with the moon, or can change with the fair; And, tho' fixt as the polef, I am free as the air : And, like Pisteus of oid, at my pleafure, with eafe, I can vary my form, and appear what I pleafe. But one fhort word more, and then ladies farewel! Your Di'ry is often my Sybilline cell.

## VII. Enigma (818), by Mr. Ricband Hallilay, London.

Before Rome's city e'er was built, OrancientGrece was in great pow'r, Was I in being, giving birth
'To male and female ev'ry hour. Upon my tra*els long I've been, Without once ftopping day or night;
And were I but to reft awhile, I forely would mankind affight.

When lord imperious dees command, With threat'ning Speech, in anger made,
His fervant man to make more fpeed, The man oft afks for me to aid. Both fick and lame I often kill, Yet often too 1 both do cu:e, And fhalt continue fo to do, As long as doth the world endure.

## VIII. Enigma ( 8 I g ), by Mr. H. Mawprè.

Good ladies awhile your attention befow,
And bear my furprifing relation;
(My name I conceal for your anfwers to fhew)
${ }^{3}$ Tis vain, let me tell you, to fearch high or low,
Im not to be found in the nation.
In Egypt I dweil, at the end of a cave,
In folitude, filence, and pleafure;
I'm known to the mifer, I wait on the knave, And (tho' it may feem rather ftrange of a flave)
I conftantly add to his treafure.

## $\mathrm{N}^{0} 9^{6}$. <br> - New Enigmas:

Invifible always, yet fill may be feen
In tears, and partaking of trouble;
And tho irve the honour to vifit the queen,
So long in diftreffes fevere have I been,
My body is nearly bent double.
When Jupiter tipples his neetar divine, And Momus increates the mirth, Igo without bidding, and finifh their wine, For fure in the heavens a place fhould be mine, Who dares to ftind chief of the earth.

But why finould I hope, in a myftical guife, To fecrete myfelf from your view, Since thro' the whole year I am feen in the fkies, And always with teunder and tempefts arife, Of lie in the midat of the dew.

## IX. Enigma (820), by Mifs Maria Midallcton, of Edens,

A hero, if that brilliant name Actions of worth and merit claim, Joins th' enigmatic lif; No upfart he, of modern date; With man he did originate, With him doth fitl exif. Nay after him I ftill fhall be, Such is my durability, Not Death himfelf fobdues me; For where old fohn, at toll of bell, Repairs to form the filent celi, With facred dread he views me. I'm not to lordly man confin'dBeaft, fifhes, birds of ev'ry kind, I equally befriend;
'Tis I that firength and beuty give ; uTo bid fweet health and vizour live,

Is my defign and end.

Vet other feats I can reveal;
Let modern warriors hear the tale, And cowards fpurn difmay; For Scripture doth the faet record, How I without or fiaff or fword, A thoufond men did flay!
If more you'd learn concerning me, Take off my head -a thing you'll fee,

Both fingular and odd;
Which, if its tait away you take,
Will, fo revers²d, no fcruple make,
Ev'n to deny a God '
Another hint, ladies, to you, 'Tis wond lous ftianje but really true?

From me you did defcend!
And ftill your conftant friend I prove? By me you live, by me you move,

I caufe the knee to bend.

## X. Or Prize Enigma (821), by Mr. T: R. Smart.

Infpir'd as erft to win a partial fmile, From you the boaft and glory of the ifle, Ye matchlefs fair, once more the youthful mufe, With ardor warm, her much lov'd tafk puifues.
O might her pow'r but equal her defire,
And fervid genius wake the willin lyre!
With Shenftone's beauties fhould the image giow,
Nor Pope's fweet numbers more harmenions flew.

Fruitlefs the wifh ! fern fate the boon withftands,
And gives the paim to more deferving hands:
Yet may the with fupply where merits fail;
Hope whilpers iweet, and bids purfue the tale.
In dark cternity, ere time begun
To count his progrefis by an amnoal fun,
Long ere th' Alinighly fram'd this grand defign,
In hav'ns bifight raions I boaft my birth divine,
With num'rous topriads of feraphic race,
Spann'd countlefs ages, and a boundless cpace;
When at his talt hett wotk the ethereat ray
Stamp'd his own image on the modlding clay;
Me , as high bnon, the deity oettow ' d ,
Unequalld gift, and worthy of a God.
Thence thro' the ages of revolving time,
In every country, and in every clinie,
Where'er th' efiulgent fin's broad cye fuiveys,
And cheers the nations with alternate rays,
With fons flom fires fucceffively take ploce,
In all the branches of the eath-born race,
But not atike in ali my pow' is ffewn,
Not with like plendor co I grace my throne;
In fome, my heav'nily fame fo nearly out,
That my exifence a moft is a doubt;
In others, all my innare beauties fhow,
My richeft tints in vivid colours glow.
With you, fair lovers of the tuneful art,
Gay I appear, and act a matchiefs part.
Led on by me, o'er Grecnland's dreary coaft,
Where nature chills with one eternal folt,
Rude Boreas with unceafing fury roass,
And icy mountains block her gloomy fnores :
Or ere Italia's fuft eachanting plains,
Where fummer with umrivall'd fptendor reigns,
Where cloudlefs fkres and brighter funs appear,
Thro' each unvarying feafon of the year :
In to rid climes, where furgy Neptune laves
A coant of botrors, and $a$ land of flaves,
The Negro fee, in Europe's crimes uavers'd,
Torne from his hat by blocy hands accurs'd,
White 1 to madnefs fire his burtting biain,
Paint the lof pleatures of his narive plain,
In magic vition to his mind and eyes
Wite, parent, children's hea:t-piercing cries! wond and
S.e, nature fills-bis languid eye-lids clofe, atantan

He raves fer death to end his num'rous woes !
Alike in joy as griet I take a part,
And give delight, as well as pain the heart ; mona opatron wh
R My merit fuch, did 1 my did withhold,
Not all conjon'd could this flight veil unfold.
Ye beauteous rivals for Diarian fame,
Call forth my latent pow'r, and fhow my name, New Rebufes.

## Neiv Rebuses, Charades, and Queries.

## 1. ReBUS, by M2t. Fobn Bayly, S:boolmafer, Middletor.

What greatly contributes a man to keep warm, And helps the Freneh nation our trade much to harm, Join a wicked old hag, with one letter left out; $\quad$, Then the name of a town you'll find without doubt, Where an author refides, of juigment profound, Whofe works to his honour and praife much redound.

## II. Rebus, by Mr. Fobn Fildes, Scboolmafer, Liverpool.

A lofty tower, built in vain, He who was by his brother flain, A part of life, in mirth oft fpent, He who was out of Sodon fent, The fickle mother of mankind,

And what you in an egg may find; Of thefe the initials join, and ynu Will have a bard excell'd by few [bightz Whofe works are read with great deLong may he to the Diary write!

## III. Rebus, by Mr. Tho. Hindmarfo, of Rufpeymead.

My name juft confifts of five letters you'll find;
Thro' me was entail'd a great ill on mankind:
My head feparated, the reft will explain
An innocent martyr untighicouny faia;
One letter more cu: off, and then you will fee
An idol, to which thoufands once bow'd the knee.
IV. ReBus, by Mr. Tho. Rimmer, Scboolmafer, Standijbo

The beginning of March, and the middle of May,
One third of the noife of a raven or crow,
When join'd to one half of the end when you pray,
Will name a fweet fair one, whom Diary ean fhow.

## I. Cyarade, by Mr. W. Clark, Cam's Hall.

Productive firft of various goor, For man and beaft fupplying food. My next, th' effect of cold or fear,

Or from the feather'd tribe we hear. My whole ftrikes terror to the hears And awful rends my fuif apart.

## II. Charade, by Mr. Tho. R. Smatt.

Thro'out creation's ample fpace, Earth, water, fire, and air, Whate'er the mind's vatt eyefurveys, My firft implies a fhare. My next, an atom if you pleafe,

The imalleft of the (mall,

Yet, vaft as fancy, by degrees, Deferibes and covers all.
My whole excites your fmiles and Can pleale you, and antuy; [tears, The caufe of all your hopes and fears, The foosce of grief and joy,
III. Charade, by Mr. Gobn Smitb, Alion Park.

Brave conqu'rors in my firf, of old, |The lady who looks wan thro' yeary Were drawn from battle home; Qut of my fecond, filver, gold, And copper too do come.

Whofe face no rednefs thows;
By ufing of my whole appears
As frefh as any refe.

## IV. Charade, by Mr. Tbo. Woolfon, Altasbury.

On yon feep cliff, which fhades that difmall dell, My fportive firft, behold undaunted play;
$4=$ Lo in my next the loves for ever dwell, And hand in hand with Delia fee them fray.
My whole, defenders of the charming fair,
Familiar oft enjoy her warm embrace.
Might love-fick Strephon fuch dear favours fhare,

He then would envy none of human race.

- Man H


1. Query, by Mr. Jobri Brookßank.

Required the origin and true meaning of the old adage "John Bull."

## II. Querx, by Mr. Ra. Dutton.

Whether are early or late marriages moft conducive to human happinefs?
III. Query, by Mr. F'. Hornby.

What is the reafon that the quantity of rain, caught in a tain-gage, is always greater at the bottom of a hill or building, than at the top of them?
IV. QUERY, by Jacobus, of Norwich. Hark, the found of yoncer bells Trembles in the liftning ear :

Now it rifes, finks, and fwells; The caufe dear ladies make appear,

[^2]
## Mathemattcal Ouestiong answered.

L, Question (1029), anfwered by Mr Wm. Davis: Schoolmafter, of Crowan.
Put $x=$ the greater number, and $y=$ the lefs. Then $x y=x^{2}-y^{2}$ and $x y=x^{3} \div y^{3}$, or $x^{2}=y^{4}$, or $x=y^{2}$; then by fubftitution, sce. we have $y^{2}+y \neq x$. By completing the fquare, \&e, we find $y=\frac{1}{2}+$ $\sqrt{1 \frac{1}{4}}=1 \cdot 61803$. Confeq. $x=2 \cdot 61803$.

## The Same, by Mr Fobn Eadon, Junr. Sheffreld.

Let $x=$ the greater, and $y=$ the lefs number. Then, by the queftion $x y=x^{2}-y^{2}$, and $x y=x^{3} \div y^{3}$; therefore $y^{4} x=x^{3}$, and $y^{4}=x^{2}$, and $y^{2}=x$. Put $y^{2}$ for $x$ in the firf equation, and we get $y^{3}=y^{4}-y^{2}$, or $y^{2}-y=1$. Hence $y=\frac{x}{2}+\frac{1}{2} \times 5$, and then $x=y^{2}$ $=1 \frac{1}{2}+\frac{1}{2} \times 5$, which are the two numbers fought,
For proof: $x y=2+\sqrt{5}$, and $x^{2}-y^{2}=2+\sqrt{5}$, ahd $x^{3} \div y^{3}=$ $2+\sqrt{5}$.

## The fame, by M. Fohn Ramay, Lonidon.

Suppoie $x$ the greater number, and $y$ the lefs. Per queft. $x y=x^{2}$ $y^{2}=x^{3} \div y^{3}$. By equating the two firft quantities is got $x=\frac{1}{2} y x$ $1 \pm \sqrt{5}$, and by equating the firf and third $x=y^{2}$; hence $y=\frac{1}{2} \pm$ $\frac{1}{2} \sqrt{ } 5=1 \cdot 618$ \&c., or -618 \&c. $;$ and $x=y^{2}=\frac{3}{2} \pm \frac{1}{2} \sqrt{ } 5=$ 2618 \&co, ; or 1382 skch
evinferers to tbis qugfion svere alfo given by Mefrs. James sdams, Geo. Banct, Winal Eaylist; R. Berrat, Fotn Blaciwull, Fobn Eranjby, Enxor Brown, Wm. burdon, Galin Camptoll, Fobn Cavill, Yobn Coultberd, Tbo. Coultberd, Sarab Gowen, Fobn Craggs, Rev. 7. Ewwank, F. Foret, Wmo Eatun, jun. Rev. L. Evans, Wm. Francis, jun. Rev. FFurnafs, 7. Gee, Jos. Gittins, Ed. Grace, 7. Harris, F. Hartley, Jobn Hawwkes, Wm. Haycock, jun. G. Henderfon, Da. Henry, T. Hewwitt, To Hicknan, M. Hofman, Hon. Hunter, Hm. Kilburn, Rob. Langdon, 7.M. Locksood, Wm. Marrat, Tbo. Milner, Yos. Mouldale, Ya. Mulcafter, Win. Neswby, Rv Oliver, Tho. Pcrroll, Cba. Prutty, Ben. Ricbardjon, Da. Buberts, Wm. Robinfon, Sug. Rouller, Alex. Rowe, Fobn Rutboford, Jobn Rylg, Rev, Tbo. Sewer, Ibo. Squire, Edw. Smitb. Yobw surtacs, F. W. Tepp, Tbo. Tbomplon, Fi.Tboubren, Tbo Towan, W. Truman, T. Turner, Wm. Kirgo, Virtet, Rob. Wallace, Ges. Walton, Yon. Walton, Rob. Wiklinfon, Fis. Wijlon, The 7. Woad, Tbo. Wollfon, Elix. Wrigbt, Wm.


## II. Question (1030), anfwered by Mr Tho, Coultherid, Frofferly.

Let CE be drawn, and produce CA to $F$, letting fall the perp. EF. Then $A F=\overline{B_{E}}-B A^{2}-\overline{A E^{2}}$ $\div 2 \mathrm{AB}=181727$, and $\sqrt{\overline{\mathrm{AE}^{2}}-\mathrm{AF}^{2}}=$ $\sqrt{\overline{E F T}}=17.9125 ;$ alfo,$\overline{\mathrm{CF}^{2}+\overline{E F^{2}}}=\mathrm{CE}=$ 24.5394 and $\frac{x}{2} \mathrm{AC} \times \mathrm{FE}=134.3437$ the area of E the triangle A CE. Again, in the triangle C DE, having the three fides given, by a like procefs is eafily found, the yerp. $G E=15^{\circ} 469589$; and thence $\frac{D_{2}}{2} C D \times E G=92.8175$, the area: Confeq. the fum of thefe two areas gives $227^{\prime 1612}$ fquare chains, or $22 \mathrm{Ac}, 2 \mathrm{R}, 34 \frac{1}{2} \mathrm{P}$. for the area required.

The fame, by Mr $\mathcal{F}$. Gee, Elfwick, near Newcaftle.
In the triangle ABE, the three fides are given, to find the angle $A=$ $93^{\circ} 39^{\prime}$. Hence, if the diagonal C E be drawn, we fhall have two fides and the included angie of the triangle ACE , to find the faid diagonal = 24.539 chains. Then in each of the triangles ACE, DCE, the three fides sre known, whence the fom of their areas is caffly found $=22 \mathrm{Ac}$ : $2^{-R}, 35_{0}$. $=$ the content required.
The fame, by Mr Rd. Oliver, Afiftant to the Rev. Mr. Curgham, Sution, near Mansfield.
In the triangle $A \mathrm{BE}$, all the three fides are given, to find the angle $A B E=54^{\circ} 30^{\prime}$, the fupplement of which is $125^{\circ} 30^{\prime}=$ the angle EBC. -If CE be drawn, we then have the fides E B, BC, and the included angle, whence CE is eafily found $=245$. Hence we have the fides of all the triangles EAB, EBC, ECD, from which (by rule 3 pa. 97 Hutton's large Menfur, adedit, or by rule z par 96 of his compendious Mesfurer, their areas may be found, the fum of which comes out 22 Ac, 3 R. nearly.
Anfivers to this quefios sware alfo given by Meffes. Adams, Baylis, Bomnc, Blackwell, Buulby, Branfby, Brown, Burdon, Campbell, Cuvill, Coulfon, Coultberd, Cowen, Graggs, Dino; Dover, Eadoin, Eaton, Egaas, Ewubank, Forif, Francis, Furnafs, Gillin!, Grase, Harris, Havily, Wlawkes, Haycuck, Hender fon, Hency s, Hiwitt, Hishmian, Hofman, Jackjon, Langden, Latay, Laycoc5, Lockman, Marrats, Mititer, Monlfale, Malcaftio, Newby, Penglafe, Perroll, Pritty, Kainjay, Reffbir, Ricbardfon, Robarts, Robinjon, Roillier, Rower, Rupberford, Kylyy, Saint, Sourx, Sb $w v$, Smith, Squire, Surtart?



## Nor 96

## Quettions anfwered.

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## III. Question (io3i), anfwered by Mr Gohn Blackwell, Hungerford:

Let $A B C D$ reprefent the field; and continue the lines A C, B D to the point E. Then, in the triangle A B E, are given all the angles and the bafe or fide $\mathrm{A} B ;$ from which are found the other fildes and area, viz. $\mathrm{AE}=1163^{\circ} 26, \mathrm{BE}=806.8717$, area of $\mathrm{ABE}=$ 469157 ; from this taking away the given area of the field, kaves 194157 the area of the triangle CDE.
 But, as finilar triangles have their like fides proportional to the fquare roots of their areas, we haye, as $\sqrt{ } \mathrm{ABE}: \checkmark \mathrm{CDE}:$ :

$=$ The fame, by Mr Green, Academy, Deptfirit. .in in
Make the fide AB, and the angles $A$ and $B$, \&ce, as in the queftion, producing the fides $\mathrm{A} C, \mathrm{BD}$ to meet at E . In the triangle A B E are given all the angles and the fide $A B$, from which are found the fide $A E=$ 3163.259 , $B E=806.872$, and the area 469201967 ; from whick taking the given area of the trapezoid $=275000$ fquare links, there remains the area of the trisigle CDE $=1042.01 .967$. Then fay, as triangle $A B E$ : triangle $C D E: A B^{2}: C D^{2}=848750: 09^{6}$, is fquare reot is $921 \cdot 276=$ fide $\mathrm{C} . \mathrm{D}$. Hence, by fimilar triangles,
slgne ${ }^{25} \mathrm{AB}: \mathrm{CD}: \mathrm{AE}: \mathrm{CE}=7+8 \cdot 382$, and again
$\mathrm{AE}=\mathrm{CE}=\mathrm{AB}: \mathrm{CD}: \mathrm{BE}: \mathrm{DE}=519^{\circ 0} 94$; then
ATME $=\mathrm{AC}=454.87 \%$, and $\mathrm{BE}-\mathrm{DE}=\mathrm{BD}=287^{\circ} 77^{8}$;
bence $A B+A C+C D+B D=3055.932$ linkes $=122^{\circ} 2372 \mathrm{rod} 8$, which at 6 pence cach, come to $3 \% .15 .1 \frac{1}{4} \mathbf{d} .69$, the aniwer.
egeit The fame, by Mr Fofiph Montfdale, of Runcorni:
Pat $A B=\$ 432$ links $=g$, the perp. $C F$ or $D G=3$, fine $A=a$, its co-fine $=b$, fine of $\mathbf{B}=d$, its co-Gine $=e$, and the given area $=$ 275000 Iquare lipks $=\mathrm{G}$. Then by trig.

$$
A F=\frac{b}{a} x, B G=\frac{c}{d} x \text {, and FG }=C D=g-2 m x \text { (putting } \frac{b}{a} \text { + }
$$

d $2 m$ ); hence the ares is $\overline{g-m x} \times x=\mathrm{G}$; this quadrantic gives $x$ - $2 \rho 3: 7$ linky. Hence the fides are $\mathrm{AC}=4^{\frac{1}{5}}, \mathrm{CD}=921 \cdot 2, \mathrm{BD}=$ 287.8 . their fum $=30.56$ chairs, which at 21 . per chain is $3 \% .15 . \frac{1 d .}{}$ 1096.9.2

Otber ingenious anfwers were givar. by Meflrs. Adams. Afpinall, Baylis, Benmet, Boklby, Branfey, Brown. Burdon, Campbell, Cavill, Coben, Coultberd, Cowven, Craggs, Crofs, Divo, Dowden, Eadon, Eaton, Evans, Erubank Francis Foref, Furrafz, Gee, Gistins, Grace, Harris, Hartley, Hamekis, Hayresk, Henty, Hewitr, Hickmian, Hofmes, fackjon, Lang-3

## The Eadies' Diary 10

dom, Latey, EZockwood, Märrar; Milner, Mulceffer, Nervby: Penglafes II Perroll, Pritty, Ramfay, Robariske Robinfort, Roullier, Rowe, Rutberrird, Rylky, Saint. Scusr, Sh wow, Smith, Squire, Surtces, Tbyubren, Fowan, Turner, Virgo, Virtte Wallace, Wallon, Waters, Wilkinfon, Witon, Wootfon, Wrigbt, ECC
IV. Question (1032), anfwered by M1 J. Hartley, Auditor's Office.
In the amnexed ligure, are given $A D=8, C D=$ 20 , angle $\mathrm{FAB}=32^{\circ}$, and the angle $\mathrm{CDF}=5^{8^{\circ}}$ by the queffion. Then by trigonometry, $\mathrm{ED}=4.24$, $\mathrm{AE}=\mathrm{EB}=6 \cdot 78, \mathrm{CE}=24 \cdot 24, \mathrm{CB}=\mathrm{CA}=$ 25.08 inches; the angle $\mathrm{CAE}=\mathrm{CBE}=81^{\circ} 30 \%$, and the angle $\mathrm{AFB}=66^{\circ} \cdot 30^{\prime}$, the fide $\mathrm{FB}=7.83$, and $A F$ the tranferfe diameter $=14^{-62}$ inches. By menfuration, the folidity of the cone $=1166.86$; then A E B
 $9 \cdot 3^{\prime 2}$, and $\sqrt{\overline{H F X}} \overline{\mathrm{AB}}=$ the conjugate diam. of the ellipfe $=1 \cdot 24$ $=K \mathrm{~L}$. Then, as radius: AC $\because:$ fin. $\angle \mathrm{CAF}: \mathrm{CI}=15.44$ the perp. Hence, $A F \times K L \times ; 7854 \times \frac{1}{3}$ CI gives $663^{\prime} 388$ for the folidity of the oblique cone CAFC; $\frac{1}{6}$ of this is $110^{+.36}=$ the folidity of the globe; confeq. its diameter will be $\sqrt[3]{110 \cdot 56 \div 5236}=6$ inches nearly.

> The fame, by Mr Jobn Surtees of Aifone.

Let $n=\mathrm{AD}=8$ inches, $\frac{5}{2} n=\mathrm{CD}=20,5$ and $c=$ fine and $c o v$ fine of the angle $D$ to radius 1 , and $a=7854$. Then $A B=2 n s$ $=D, C E=n \times \frac{5+4 C}{2}=H$, and $H F=\frac{T 0 \leq \pi}{5+2 c}=d$. Hence (by Huttan's Menfar, pa. 173) the folidity of $\mathrm{ACF}=\frac{1}{3} a \mathrm{H} d \checkmark \mathrm{D} d$; and therefore the diameter of the globe $=\sqrt[3]{ } \frac{\mathrm{Hd} V \mathrm{D} d}{12}=n \downarrow \frac{5}{5+46} \times$ $\sqrt[3]{\overline{5+26} \times \frac{\pi}{6} s^{2}}=6002629$ inches; as required.

## The fame, by Mr Rob. Wilkinjon, North Shields.

Let $A B C$ reprefent the cone, and $A F$ the dividing plane. Then $A D=8, C D=20$, and the angle $A D E=58^{\circ}$. Now radius : AD: fin. $\angle \mathrm{DAE}: \mathrm{DE}$, hence $\mathrm{C} E$ is known; radius : $\mathrm{AD}::$ cos. $\angle D A E: A E$, hence $A B$ is known. Then $2648 \mathrm{AB}^{2}$. CE is the folidity of the whale cone. And, by Hutton's Menfur. cor, 4 , pa. 228, 2d ejit. the whale cone is to the top part CAF , as $C E^{\frac{3}{2}}$ to $\mathrm{CD}^{\frac{3}{2}}$, which gives the folidity of the top part, which call $a$. Hence $\sqrt[3]{a \div 3 \cdot 14^{16}}$ is the diameter of the globe, $=6$ inches nearly.
Ingenious enfrwers weve allo given by Meffrs. Adams, Alpinall, Bayfis, Blackivell, Boully, Branjby, Brown, Burdon, Campbell, Cavill, Caultherd,

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## - Quefions anfwered.

- सperr, Cower,"Craggr, Dower, Eador, Eaton, Elvans, Ewbayk, THYancis, Foreft, Furnafs; Gid, Gittins, Karris, Hawokes, Haycook. Henry, Hewitt, Hickman , Hoftmian, Hunter , Kilburn, Langdon, Marrat, Wiiner, Mouldale. Muloafier, Neschy, Pengtafa, Perroll, Pritty, Ramjay, Robarts, Robinfon, Roullien, Rorve, Rutherford, Ryley, Scurr, Serw, Smith, Sowire, Thoubrex, Gowan, Turnee, Virgo, Wallace,oWaten,

5V: Question $(1033)$, anfwered by $M r$ fohn Coultherd, $=3$ © sha t

By fimitar folids, as $\sqrt{7^{2}+5^{2}+7 \times 5} \times 2618: \sqrt{\frac{8.67 \times 1 / 28}{21}}$ - $\because 7: 35: 3: 25$, fo that 35 and 25 are the top and bottom diameters nof the frultum, -Again, if $\alpha$ denote the diameter of the globe, then Wgir $1416 d^{2}$ is its fuperficies, and $31416 d^{2} \times \frac{1}{6} d$ is, its, folidity; therefpre $3.14 \cdot 6 d^{2} \times 2 \frac{1}{2}=3^{*} 1416 d^{2} \times \frac{1}{6} \%$ or $2 \frac{\pi}{2}=\frac{1}{6} d$, and $d=2_{2}^{\text {™ }} \times 6=$ I5 the globe's diameter, and confeq. its folid content $=1767.746 . \quad$ Alfo,
 -CD, that is, as $21: 15: \because 35-25: 7 \frac{1}{7}$; to this adding $C D$, gives $E F=32 \frac{1}{7}$ the diameter at the Turface of the wine. Then the folidity of the part CE $F D$ is found $=96671209$; from which taking the conitent of the glove $1767 \times 146$, leaves the quantity of the: wine $=7909063$ cubic inches, or $34^{\circ} 2$ wine gallons, as required
रimilit The fame, by $M_{r}$ Da. Robarts, of St. Columb. . un Put $7 x=A B, 5 x=C D, a=21=C G$, and $b=2618$. Then $49 x^{x^{2}}+25 x^{2}+35 x^{2} \times a b=8.67$ feet $=1498176$ cubie inches; which equation gives $x=5$, and hence the diameters are 35 and 25 .Now call the diameter of the globe $d$. Then is $2 b d^{3}$ the folidity, and $12.6 d^{2}$ the furface, therefore $2 b d s=2 \frac{1}{3} \times 12 b d^{2}$, and $d=15=$ CI or DK. Again', by fim. triangles, as CG:AG::C1:E1三 $3 \frac{4}{7}$; hence

$$
\begin{aligned}
& \mathrm{EF}=3^{2} \frac{1}{2} \text {, and the content of CEFD }=966 \cdot 9316, \\
& \text { from which take the globe's content }=1767 \cdot 75 \\
& \text { leaves the content of the wine }
\end{aligned}
$$

Other ingenious anffeers weere alfo given by Meffirs. Alams, Baylis: Blark-
weill, Branjby, Br wwn, Eurdon, Campbell, Cavill, Cotes, Contiberd, Cowen, Graggs, Dith, Dover, Dowden, Eadon, Eaton, Fwans, Eswbank, Francis, Foriff, Furnals, Garfide, Gee, Gittungs, Harris, Hartley, Hawkes', Haycock, Honry, Hecwitr. Hiciman, Hytiman. Hunter, Kiburen, Laycock, , Loikwond, Natrrat, Milner. Mouldale, Mulcafar, Nezoby, Penglafe, Pervell, Pritty, Ramfay, Richardjon, Robinfon, Roulluer, Rutberford, Ryley, Scurr, Sb-w, Smi'b, Squire, Surtees, Tayler. Tboubren p, Toryan, Turrer, Virgo, Wallsce, Wallon, Wilkinfon, Wiljon, Wood, Wrigbt, Efo.

## VI. Question ( 1034 ), anf wered by Mr. WW-Baylis, Copentry.

 By Euclid vi. 3 , the fides are proportional to the regments of the bafe made by the line bifecting the vertical angle; that is $5: 4 \therefore A B: B C: A D: D C$. Now there are given $a B=5, B c=4$; and $\angle a B c$ $=60^{\circ}$, to find the $\angle a=\angle A=49^{\circ} 6^{\prime} 24^{\prime \prime \prime}$; hence $\angle C=70^{\circ} 53^{\prime} 36^{\prime \prime \prime}$. Then, in the triangle $A B D$; are given all the angles and the fide $B D=16$, to find $A D E$ $A B=20.7846$, and $A D=10.5830$. And in the triangle $B C D$, are given all the angles and fide $B D$, to find $B C=16.6277$, and $D C=$ 8.4664 . Hence $A C=x 9.0494, B . E=1 \xi^{\circ} \cdot 7117$, and area $=149^{\circ} 647$. The fame by $\mathrm{Mr} . W \mathrm{~m}$, Burdon, of Bicafer Malbis. Constr. Make the angle $A B C=60^{\circ}$, and take $a B: B C \therefore 5: 4$ the given ratio of the fegnents of the bafe. Bifect the angle $B$ with the line $\mathrm{B} d$, which produce till $\mathrm{BD}=16$, the given length; then draw A BC parallel to $a d c$, fo thall A.BC be the triangie required.Calcuit. In the triangle $a \operatorname{B} c$, are given the two fides $a B, B 6$, and the included angle $B$, to find the $\angle a=49^{\circ} 6^{\prime} 24^{\prime \prime}=\angle A$; heace $\angle e=70^{\circ} 53^{\prime} 3 t^{\prime \prime}=\angle \mathrm{C}$. Then in the triangle A BD, are given all the angles and the fide $B D$, to find $A B=20.7845$, and $A D=10^{\circ} .883$ In hike manner $\mathrm{BC}=16.6277$, and $\overline{\mathrm{D} C}=8.4664$. Hence $\mathrm{AC}=$ $19^{\circ} .404$, and the area of the triangle $\mathrm{ABC}=149.6488$.
Ingenious folutions suere alfo givento tbis queffion by Meffrs. Adams, Bengal offcer, Blackwell, Branjby, Brown, Campbell, Cavill, Coultberd, Cowen, Liraggs, Dino, Dover, Dowvden, Eadon, Eaton, Evans, Ewubank, Foref, Furnafs; Gee, Gittins, Harris, Hartly, Hawkes, Haycock, Henry, Hewits, Hunter, FackJon, Lantion, Latey, Lockevoad, Milner, Moulf. dale, Mulcafier, Newby, Penglafe, Perrall, Pritty, Ramfay, Rimmer, Robarts, Rebinfon, Roullicr, Rewoe, Ratberford, Saint, Scarr, Smitb, Sparrow, Squire, Surtes, Tboubren, Towan, Truman, Turner, Virgo, Walkace, Waiton, Wilkinfon, Wilfon, Wood, Wrigbt, Eic.
VII. Question (1035), anjwered by Mr Fames Adams. At page 187 of Ctakelt's tranflation of Mauduit's Trigon. it is, as tang. half the depreffion of the crepufcular circle below the horizon, is to radius, to is the fine of the declination, to the fine of the batitude, of a denomination contrary to the declination. Hence the required lat, is $5^{60} 37^{\prime}$ north $\mathbf{H} \odot$ of $\leq N P$. Then $Z P=33^{\circ} 23^{\prime}$; there is alfo given the fun's dech. $=$ $7^{\circ} 36^{\prime}$ fouth, his femidiam, $=10^{\prime} 6^{\prime \prime}$, horizontal refraction $=33^{\prime}$, and his horizonial parallax $=9^{\prime \prime}$; from henoe is found $P S=P O=97^{\circ} 36^{\prime}$ Ah the polar diftance. Alfo,
 Queftions anfwered.
Then, in the triangle Z PS , there are given the three fides, to find thie angle $Z P S=780^{\circ} 5^{\circ} \mathrm{m}^{\prime}$. And, in the triangle ZPO , are alfo given the three fides, to find the angle $Z P O=77^{\circ} 30^{\prime} x^{\prime \prime}$. Their difference is angle $O \mathrm{PS}=55^{\prime}$, anfwering to 3 min .40 fec . the time required.
77 Ingentidus folutions zo tbis quefion were alfo giver by Mefrs. Baylis, Branfby, Burdon, Campbell, Coilliferd, Cowet, Dino, Earon, Furnafs, Gee, Hawwes, Hartly, , Henty, Hewitt, Middlecon, Milner, Moul/dale, Nrwiby. Ramfay, Robarts, Roullir, Rowe, Rutberford, Ryley, Smitb, Surtecs, Whbuibren, Virgo, Wallace, Wilkinfon, Wrigbt, ECa
VIII. Question $\left(\mathrm{HO}^{66}\right)$, anfwered by Mr Fohn Brathby, Ipf wich.
Put $\pi$ for the depth of rain in inches, $a$ the area of the aperture, $b$ the ounces in a cubic foot of water, and $\boldsymbol{w}$ the ounces of water in the gage. Then $a b x \div 1728=s v$; hence $\approx=1728 w \div a b$. - Or, becaule b $=2000$ (fee Hutton's Conics, po 138 ),$x=\mathbf{r}^{\prime} 72830 \div 6$. In words, multiply the ounces of water caught, by $1^{\bullet} 7^{28}$, and divide the product by she area of the aperture, for the depth of water fallen.

The fame, by Mr John Craggs, of Hilton. Thas Jame, fy

The quantity of rain that falls into any given veffel, muft evidencly be as the area of the orthographic projection of the veffel's aperture on a plane at right angles to the falling rain. Now when the aperture is a sircle, its projection is an ellipfis, having its tranfiverie axis equal to the Wiameter of the circle, and its conjugate is to the tranfverfe, as the cofine of the inclination of the falling rain is to radius. Put $z v=$ weight of a cubic foot of water, $d=$ diameter of the veffel, $W=$ weight of water cautght, $a=7854, c=\cos$. of inclin, of the falling rain; then $W \div$ $0 d^{2} z v=$ depth of water in the veffel, alfo radius: $d:: c: \varepsilon d=$ conj. axis, and $a c d^{2}=$ area of the aperture ; confeq. $\mathrm{W} \div a c \nless \mathrm{c}^{2}=$ defth of water as required.
Anjwers to this quefion weve aljo given by Meffrs. Atams, Campbell, Gobn Coultberd, Cowver, Furnafs, Gougb, Haycock, Milnor, Moukjale, Newby, Pritty, Robarts, Roulier, Rowe, Rutberford, Ryley, Tboubren, Wirgo, Wallace, Wright, \&゙c.

1X. Question (IO37), anfwered by Mr James Adams.
Let $A B C$ be any $P$ ane triangle, and $C D$ the Tine bifecting the angle $A C B$. In CA take $C E=C B$, and draw $B E$. Then is the angle $A C D$ or $B C D$ half the vertical angle, CBE the complement of the $\angle B C D=$ haif the fum of $A$ and $B$ the angles at the bafe, and $A$
 the angle ABE , or complo of $\angle \mathrm{D}$, is half the diff. of the angles A and B at the bafe. Now, by trigon. as $\mathrm{AC}+\mathrm{CB}: A C-C B: \because$ tang. $C B E:$ tang. $\mathrm{ABE}::$ cotang. BCD : cotang. $\mathrm{D}::$ tang. $\mathrm{D}:$ tang. BCD, becaufe the tangents and cotangents of arcs are reciprocally proporsional.
$\mathrm{C}_{4}$ The atil!

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was alt Therame by Mr Tho. Coulthend, Erokerly
25 The demonfration of this theorem is easily deduced from the 6 th propose, in Emerfon's Trigon. For, if CE be taken = CB, and C FD be drawn peep. to $B E$; afro $F G$ parallel to $A B$. "Then-wil the $\angle E C F$

 $\because$ tang. $\angle C B E$, tang. $\angle D B E L$, But the tangent of any angie is reciprocally as the cotangent of the fame angle, therefore as $\mathrm{AC}+\mathrm{CB}$; $\mathrm{AC}-\mathrm{CB} \because:$ cotang: $\mathrm{D} \cdot \mathrm{BF}$; cotangi $\mathrm{C} B F: \because$ tang. $\angle \mathrm{D}$; tang. BCF , the whole of each of the fist terms being in the fame ratio as their halves.

Ingenious demonitations of this property fere alpo given by Meffrs. Branfly, Brown, Pardon, Campbell, Cavell, Cower, Craggy, Fum nays, Gee, Comperis, Gout, Harris, Hartley, Hawokes, Hunter;, Later, Middleton, Milliner, Mouldale, Nezvby, Nicbolfori, Pritty, Robarts, Rowe, Rubberford, Ryle, Saint, Squire, Suttees; Tboubiven, Virgo, Wallace, WilSon, Wright, EbB.
X. Question (1038), anf-wered by Mr Colin Campbell, of Sendal. Make $B D$ equal and peep. to the given bare $A B$, and draw E CD the indefinite line DE parallel to it, then AC, BC being inion drawn to meet DE in C, fo that AC:BC::3:2,by
prop, 13, pa, 220, Simp. Geom. ABC will be the required prop. triangle.

A B
For, the area $\frac{1}{2} \mathrm{AB} \cdot \mathrm{BD}=\frac{x}{2} \mathrm{AB}^{2}: \mathrm{AB}^{2}: \because x: 2$. And, because $A C^{\prime}: B C: 3: 2, \mathrm{AC}^{2}: \mathrm{BC}^{2}:: 9: 4$, and $\mathrm{AC}^{3}: \mathrm{BC}^{3} \because 27: 8$, and therefore $\mathrm{AC}^{3}+\mathrm{BC}^{3}: \mathrm{AC}^{3}-\mathrm{BC}^{3}: \because 35: 19 ;$ hence $\frac{\mathrm{AC}^{2}}{\mathrm{BC}^{2}}:$ $\frac{A C^{3}+B C^{3}}{A C^{3}-B C^{3}}:: \frac{9}{4}: \frac{35}{19}:: 171: 140$.

The fame, by Mr foin Rutherford, Lanchefer School.
Divide the given bate AB, fo that A E be to E B as 3 to 2, and take E D, a fourth proportional to AE - E B , E B, and A E, by Letnma Prob. 21, pa. 334, Simpfon's Algebra. Raife the perp. $\mathrm{DC}=$ DE; fo fall C be the vertex of the triangle A BC required.


For then $\mathrm{AC}: \mathrm{BC} \because \mathrm{AE}: \mathrm{EB}:: 3: 2$, alpo $\mathrm{AC}^{2}: \mathrm{BC}^{2}:: 9$ : 4 , and $\mathrm{AC}^{3}+\mathrm{BC}^{3}: \mathrm{AC}^{3}-\mathrm{BC}^{3}:: 35: 19$; hence $\frac{9}{4}: \frac{35}{19}:: 171$ : 140 , the given ratio.

In this la manner is the conftowion given by the Rev. F. Furnafs, Mr. Glenie, Mr. Ry ley, and Mr.T. F. Wood.

Otter ingenious foiutions were alfo given by Mefirs. Adams, Baylis, Bengal officer, Cuittherd, Cowes, Craggs, Eaton, Facer, Gee, Cough, Harris, Hawses, Henry, Horrly, Hunter, Middleton, Mioulfdole, Ni Lolfon, Prity, Tubers, Rave, Smith, Suttees, Tboubrem, Wallace, Wright, © ic.
XI. Question

## No. 96.

## XI. Question (1039), anfwered by Mr Fobn Ramfay,

 London. fint avos $=4$ cost Let $T$ fang. of $60^{\circ}$ or $50^{\circ}$, the angles of eleya. at the firt Aation; , 7 tang. of 580 or 480 10', the like angles at the 2 d fat. to radi ro $x=$ ditt, from int fat, to middle of either hills bafe.By trigon. as $1: 200$ : fin. $10^{\circ}: 34 \% 73=c$, height of $2 d$ flat. above ift ; and as $15: 200$, cos. $10^{7 \%}: 196096=b$, horiz. dift. of the two ffations. Again, as $1: x:: \mathrm{T}: T \times=$ perp. height of eifther hill above iff fat, and $x: i: \because \sqrt{b^{2}+x^{2}}: t \sqrt{b^{2}+x^{2}}$ the fame above the 2d fation. Therefore $\mathrm{T} x=c+t \sqrt{b^{2}+x^{2}}$; which equation reduced gives $x=\frac{\mathrm{Tc} \pm t \sqrt{\left(\mathrm{~T}^{2}-t^{2}\right) \times b^{2}+c^{2}}}{\mathrm{~T}^{2}-t^{2}}=629.373$ and $816: 154$ yards.
From thefe values of $x$ the following are found: y 1 (.) Ditance between tho hills'tops $=1445.527$ yards, niven ar:. Perp. height of the hills, $1090 \cdot 106$ and 9727654 yards, 1110.56
If. Dift- of their tops from Ift ftat . 1269771 and $1258 \cdot 746$,


## The fame, by Mr Fohn Ryley, of Leeds.

21. As the declivity of the road, and the diftance between the two flations upon it, are given, the altitude of the fecond ftation above the firft is found by trigon $=34.72964$ yards, and their horizontal diftance $=\mathrm{F} 96.96154$. Now pute $c=34^{\cdot} \cdot{ }^{29} 6_{4}, b=196 \cdot 06{ }^{6} 54, c=$ cotang. of $60^{\circ}, t=$ cotang. of $58^{\circ}$, and $x=$ the hill to tnefe two angles. Then, by trigon. $c x=$ the diftance from the firt Atation to the middle of the hill's bare, and $c . \overline{x-a}$ $=$ the diftance from the fecond fration; hence, by Eucl. i, $47, t^{2}$. $(x-a)^{2}-c^{2} x^{2}=b^{2}$; from which quadratic $x$ is found $=1090$ yards.
In like manner, if $x$ denote the height of the other hill, whore angles of elevation are $50^{\circ}$ and $48^{\circ} 10^{\prime}$, cand $t$ the cotangents of the faid angles, alfo $a$ and $b$ as above: then will $x=973$ yards, the height of the lower hill

Now from what is here found, and the 47 th of Eucl. i, tbe difance between the fummits is found, $=14457$; the diftance trom the firto ftation to the top of the higher hill $125^{8: 6}$, and to the top of the lower 1270; alfo from the fecond ffation to the top of the highier hill $1232 \cdot 5$, and to the top of the lower 1259.3 yards.
Ingenious folutions were slfo given to this $q^{u}$ uffion by Meffs. Adams, Baylis, Blackwüell, Branjby, Campbel', Cower, Craggs, Dower, Durvder, Eaton, Evans, Furnajs, Gee, Hartley, Henry, Hewitt, Horriby, Huntex, Fackfon, Marrat, Middleten, Milner. Moulddale, Purroll, Rces, Rowliew, Robures, Robinfor, Ruwe, Rutberford, Smith, surtees, Tboutren, Wallace, Wright, ©̌\%.
XII. Question

## XII. Question (1040), anfwered by Mr Gohn Brandy,

 Iprwich.From the given latitude, declination, and hour, the "fun's altitude is found to be $51^{\circ} 30^{\prime} 23^{\prime \prime}$, and his azimuth fouth $22^{\circ} 16^{\prime} 22^{\prime \prime}$ towards the eaft. Let A B C (fig. 1.) be a right-angled triangle, having its angle C \#the fun's altitude, and $A B=20$ yards the height of the tree; thence will AC the length of the fhadaw os a horizontal plane be found $=1589117$. Let BC be continued to $D$, meeting AED, which is the plane of the declivity, and let CE be drawn perp. to the horizontal line A C. In fig. 2, $\operatorname{det} \mathrm{A}$ be the bottom of the trec, and $\mathrm{A} \subset \mathrm{N}$ a horizontal plane paffing through that point: then AN, being the meridian line, and the angle c. A $N=22^{\circ} 16^{\prime} 22^{\prime \prime}$, the azimuth, A c will be
 the direction of the fhadow, and $=15.89117$, as above found; whence $N \subset$ is found $=6.03457$. Again, in the triangle $c \subset N$, right-angled at $c$, having given $\mathrm{N} c$, and the angle $c \mathrm{Ne}=20^{\circ}$ the inclination of the declivity, $c e$ is found $=2 \cdot 196404$, anfwering to CE in fig. 1 . The angle C AE may be now found $=7^{\circ} 51^{\prime} 44^{\prime \prime} ;$ whence $D=43^{\circ} 38^{\prime} 39^{\prime \prime}$; and $A D$ the length of the fhadow is eafily found $=18.036733$ yards.

## The fame, by Mr Tho. Coultherd, Froferly.

The day of the month, the latitude and meridian diftance being given, the fun's azimuth from the fouth is found $26^{\circ} 16^{\prime} 44^{\prime \prime}$, and altitude $51^{\circ} 26^{\prime} 30^{\prime \prime}$; to which if there be added $16^{\prime}$ the femidiameter, and $45^{\prime \prime}$ the refraction, the fum $5^{\circ} 43^{\prime} 15^{\prime \prime}$ will be the altitude of his upper limb. Now, in the figure, let B be the place of the tree, A B the edge of the horisontal plane on which it ftands, ABDO the continu-
 ation of the fame plane; $C D$ at right angles with it, $B D$ the direction of the fhadow, $A D$ an eaft and weft line, the angle $A D B$ the fun's diftance from the eaft, and angle BDO his altitude. Then, as tang. $\angle \mathrm{BDO}$ : radius $::$ height of the tree: $\mathrm{BD}=15.783 ;$ and as radius : $\mathrm{BD}: \because$ cofine $\angle A D B: A D=6.2376$; alfo as cofine CAD: AD $\because$ fine $\ddot{C A D}$ : $\overline{C D}=2 \cdot 2703$, and as $D B$ : radius $: \because C D:$ tang. $C B D=8011^{\prime} 8^{\prime \prime}:$ Hence, in the triangle E BD, having, the angle B lait found, the angle EDB the fupplement of $O D B$, conieq. the angle $E$ is known; then as tine $\mathrm{E}: D \mathrm{~B}::$ fine EDB:EB=17.987 yards, the length of the thadow required.

Tbis quefion was alfo ar1fwered by Meffis. Adams, Baylis, Campbell, Cowen, Craggs, Crofs, Dino, Dover, Eaton, Furnals, Garfide, Gie, Hartley, Hawkes, Henry, Hewvitt, Hernby, Hunter, Marrat, Milner, Moulfale, Penglafe, Perroll; Ramfay, Rees, Rowllier, Rowé, Ryly, Smith, Squire, Surtees, Tbembren, Trwan, Truman, Virgo, Wallact, सright, 心.

## No. 96.

## Queftions anfwered:

## XIII. QUESTION ( 1041 ), anjwered by Mr, 7\%, Gough, Kendal.

The denfity of the air is as its fpring, which in the open tube is equal to a column of mercury of the fame bafe and $29 \frac{1}{2}$ inches high $;$ but in the immerfed tube this weight is increafed by a column of water $30-x$ inches high, $x$ denoting the height of the water in the tube; but 13600 : 1000 $\because 30-x \cdot 2 \cdot 205-0735^{x}=a$ column of mercuty of the fame weight; and the whole preffure $=29.5+2.205-.0735 x=31.705$ - $0735 . x$; but when the matter is given, the magnitude is inverny an the denfity, or preffure in the prefent cafe, therefore $3.705-0735 \%: 29.5$ $\because: 36:-3^{6}-x$; hence $x^{2}+467 \cdot 36 x=-1080$, and $x=2 \cdot 33$

## inches, as required. <br> The fame, by Mr Tho. Hornby, Land-Surveyor.

At pa. 137 of Dr , Hutton's Conics, the fpecific gravity of quickilver, to that of water, is ftated as $1+$ to s . And fince the heights retained above the level by the preffuie of the atmofphere, arc as their denfities, we have by proportion $1: 14:: 29^{\circ} 5: 413$ inches $=34.416$ feet, the height at which water will fand when quick filver ftands at $39 \%$. Therefore, to find what height water will rife in a tube 36 inches or 3 feet long, when funk perpendicularly 30 inches or $2 \frac{1}{2}$ feet in water. Let $x=$ the fpace occupied by water; then, will $3-x=$ the fpace oceupied by air. But by the rule at pa. 390 , vol. i , Hutton's Dictionary, under the article Diving Bell, the fpace occupied by air, is to the fpace filled with water, as $34 \cdot 416$ feet, is to the depth of the furface of the water in the tube, below the common furface of it. That is, $34^{\prime} 4^{3} 6: 2 \cdot 5-x::$ 3-x: $x$; confeq. $34^{\circ} 4 \times 6 x=5.5-5 \cdot 5 x+x^{2}$; hence $x$ is found $=188.875$ feet $={ }^{2} \cdot 26545$ inches, the fame as that in Hutton's

## The fame, by Mifs Maria Middleton, Edew, near Durham.

 Let $/=30$ inches the length of the tube,$b=30$ inches the part immerfed, $x=$ height of water in the tube, and $f=413$ inches, the height of a column of water equal to the preflure of the atmofphere, when the quickfilver ftands at $29 \frac{\pi}{2}$ inehes. Then, fince the faces occupied by the tame quantity of air, are reciprocally as the compreffing forces, it will be, as $i-x: l:: f: \frac{l f}{l-x}=$ force of the air in $l-x ;$ bence $\frac{l f}{l-x}$ $+x=b+f$, and $x=2 \cdot 2654115$ inches.Ingenious anffuers zevere alfo given by Meflis. Adams, Barrett, Campbell, Coultherd, Cowen, Graggs, Furnafs, Gee, Gompertz, Grace, Hewilts Milner, Penglafe, Rees, Rowe, Smitb, Surtees, Towan, Virgo, Wilfor, Wrigbt, Ơc.
XIV. Question (1042), anfweied by the Rev. F. Furnafs, Heddon on the Wall.
The numbers given in this queftion do not feem to be rightly propofed; for firtt a globe of one foot in diameter, and denfity 10 times that of water, will weigh near three times 112 pounds, or the given weight; and agais, a globe that is heavier than water, will never lofe all its velocity, but will continually defcend. It may indeed lofe all its force in the water,

## The Ladies Diary.

## De $\mathrm{I} 99 \%$

to as to come to move with a uniform velocity, when the velocity has in1 ereafed fo far that the irefifting force has becomeiequal to the mstive force urging the body downward - And all thefe circumfances, with proper data, may be determined by Doctor Hutton's Selecrl Exercifes, pa 12727.2:230, \&ec. or his Dietionary; vol. 2, p.l36r, Thus,

Put $d=$ the diameter of the globe, $N=$ its denfity, $n=1 \frac{\pi}{5}$ the denfity of the air, $s=30$ feet the height of the eminence, $g=16 \frac{p}{12}$ fett, and $v=$ the velocity of the globe at the furface of the water. ENow, to determine $w$ in terms of 5, put $b=\frac{3 \pi}{8 N d}$, $c=2 ; 718281828$, and $a b$ $=2 g$; then; by pa. 23x, Select. Exercifes, $v=\sqrt{a-a c^{2}-2 b_{s}}=$ 43.82 nearly, or nearly the fame as the velocity freely geherated by gravity, and is the velocity with which the globe enters the water.

Now put $x$ for any fpace moved in the water, and $e=43^{\circ} \cdot 2$, the firft velocity, the other letters being as above : then, by prob. 31 , pa. 227, the general equation is $b x=\log \cdot \frac{e}{v}$, or $x=\frac{r}{b} \times \log \cdot \frac{e}{v}$, where the Epace $x$ may be found anfwering to any given velocity $\tau$.

Obfervations and calculations Jimilar to tbe above were alfo made by Mefros, (Burdon, Campbell, Cowven, Coultherd, Craggs, Gompertz, Gougb, Howitt, Hornby, Marrat, Middleion, Miner, Rees, Ruwe, Ryley, Smitb, Surtest? Wallace, Wright, Ef.
XV. Or Prize Questron ( 1043 ), anfluered by Amicus.

Make C A and Cb= the two given fides, and C $S$ = their third prom portional; prodece CA to Z till AZ ZS $=\frac{1}{4}$ C $b^{2}$, erect A D perp.C A, mecting a femicirc'e deferibed on the diameter CZ in D ; dras CD ,
 and with the radii $\mathrm{C} b, \mathrm{C} A$ deferibe two circles $b \mathrm{BI}, \mathrm{KAL}$; from draw DB a tangent to $\angle B I$ in $B$; draw $C B, A B$, and $A C B$ is the triangle required.

For, drawing tbrough C a parallel to AB , meeting $\mathrm{DA}, \mathrm{DB}$ produced in $F$ and $G$, and letting fall the per s. $\mathrm{CP}, \mathrm{DX}$; by conftr. $\frac{1}{4} \mathrm{C} \cdot \mathrm{B}^{2}=$ $A Z . Z S$, and $A C^{2}-C b^{2}=A S \cdot A C=A C \cdot Z S-A C \cdot A Z$ $=A C \cdot Z S-A D^{2}=D B^{2}-A D^{2}, D B^{2}=A C \cdot Z S, A D^{2}=$ $A C \cdot A Z, D B^{2} \cdot A D^{2}=A C^{2} \cdot Z S \cdot A Z=\frac{1}{4} A C^{2} \cdot C B^{2}$, or $D B^{2}$. $-A D=\frac{1}{2} A C \cdot C B=C D \cdot D R=\frac{1}{2} C D \cdot C P$, therefore $R X=$ $2 D R$. Now, if $F D G$ be a given triangle, and it be required to infribe another within it for that $A B \times C P^{2} m$ y be a maximum when C is a givef point and $\mathrm{A} B$ paralfel to $\mathrm{F} G$, then fince $D \times$ : $A B$, the ratio of $D R$ to $A B$ being then given, $D R, R X^{2}$ is a maximam, therefore by Simpfon's Geom. pal 208, $\mathrm{RX}=\mathrm{CP}=2 \mathrm{DR}$,

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## Queftiohs anfivereds

and when this is a maxirnum within the tangents D F, D G, it muft needs be fuch within the circles KAL, bBI; confeq. CP ${ }^{2} . \mathrm{AB}$ and the prifm in queftion is a maximum. Q. E. D.

The fame, anfivered by Mr Foby Surtees, Alfion.
Let $x=$ A B the bafe, $m$ and $n=$ the two fides BC and AC . Then $m^{2}\left(\frac{x^{2}+m^{2}-n^{2}}{4 x}\right)^{2}=\mathrm{CE} E^{2}$, and by the queft. $\left(m^{2}-n^{2}\right) \times 2 x^{2}-x^{4}-\left(m^{2}-n^{2}\right)^{2}$ 2 maximun,, which put into fluxions and reduced, give $x^{4}-\frac{2}{3} x^{2} \times\left(m^{2}+n^{2}\right)=\frac{1}{3} \times\left(m^{2}-n^{2}\right)^{2}$. Hence this conftruetion:

Construction. Take HM $(=3 \times \overline{m-\pi}) \mathrm{A}$ pe: ?. to $\mathrm{LH}=\sqrt{m^{2}+n^{2}}, \angle \mathrm{BLH}=\angle \mathrm{L} \mathrm{H}^{2}$, B D parallel and equal to $\mathrm{HK}=\frac{1}{3}(m+n), \mathrm{KN}=9 \mathrm{~m}^{2}$ io...... D
 between B G and BN will be the bafe of the triangle. itios co

The fame, by Mr. Fohn Craggs, of Hilton.
Suppole A C B to be the triangle, A C and B C the given fides, and take CH:CA $\because \mathrm{CB}^{2}$ : $E A^{2}$, and on the diameters CA and CH defcribe the femicircles CDA and CFH; and conceive the line D EF drawn perp. to CH , and join CF. Becaufe C D A is a right ang'e e, the femicircle pafies through $D$, therefore $C E \times C A=C D^{2}$, and CE $\times C H=\mathrm{CF}^{2}$, therefore $\mathrm{C} \mathrm{F}^{2}: \mathrm{CD}^{2}::$ $\mathrm{CH}: C A: \mathrm{CB}^{2}: C A^{2}$, hence $\mathrm{CF}: \mathrm{CD}: \because$
 $C B: C A$, and bicaufe the $\angle C D F=\angle C A B$, the triangles are fimilar, wherice $C^{2}: C D^{2} \therefore C D \times A B: C E \times D F$, thérefore $C A$ $\times D F=C D \times A B$, by mult, by $C D$ we get $C A \times C D \times D F=$ $C D^{2} \times A B$; but $C A$ is a comfant and given quantity, therefore $C D$ $x \mathrm{DF}$ is a max. Put $x=\mathrm{CE}, b=\mathrm{CA}, a \neq \mathrm{CH}$, then $\sqrt{b x-x^{2}}$ $=\mathrm{DE}$, and $\sqrt{a x}-x^{2}=\mathrm{EF}$, alfo $\sqrt{b x}=\mathrm{CD}$; confeq. $\sqrt{\overline{b x}} \mathrm{x}$ $\sqrt{b x-x^{2}}+\sqrt{b x} \times \sqrt{d x-x^{2}}$ or $\sqrt{b x^{2}-x^{3}}+\sqrt{a x^{2}-x^{3}}=$ 2 max. this in fluxions, and reduced, gives $3 x^{2}=\overline{a+b} \times 4 x-4 a b$, an equation fimilar to Sanderfon's folution to queft. 800 in the Diary. Hence the conftruction will be fimilar, and ne dlefs to repeat here:
Conffructions to this quefion wocre alfo given by Meffrs. Campboll, Gompersx, Hosvard, Nicboljon, and Wallace. Others were atiempted, Iut not rigbt. And ingenious Algërraical Solutions by Meffrs. Adiams, Barrett, Burdon; Carr, Coultberd, Davies, Dowden, Eaton, Ewwank, Facer, Gee, Gougb, Hartley, Hawkes, Hewitt, Honey, Hornby, Henter, Lom don, Mariat, Middleson, Mowifdale, Mulcafier, Pritty, Rees, Robarts, Rowe, Ryley, Saint, Surisb, Tboubren, Turntr, Wiljon, $\mathcal{E}^{\circ} \mathrm{fo}$

The Ladies' Diary.

## 

## NEW QUESTIONS.

## 1. Questrion (1044), by Mr. Rob. Langdon, of Alow.

On a given right line, as a bafe, to conitruct a triangle fuch, that if a perpendicular be let fall on the bafe from the vertical angle, it may be a mean proportional between the fegments of the bafe; the other two fides being in the ratio of 5 to 4.

## II. Question (1045), by Mr Geo. Boulby of Ack worth.

The fum of the vibrations made by three pendulums in one minute is $25^{2}$, and the ratios of the number of vibrations made by each, as $5,7,9 ;$ required the lengths of thofe pendulums, fuppofing the length of the feconds pendulum to be $39 \frac{1}{3}$ inches. III. 'Question ( 1046 ), by $M r T h o$, Kirton, Peterboroughon

On April $25^{\text {th }}$ at noon $179^{8}$, a ftraight cane of 3 feet long being placed on the horizontal plane, in fuch pofition that its fhadow might be the longef poffible; and at the fame initant a perpendicular being let fall from the upper end of the cane was obf-rved to cut the fhadow at is 584 feet from the end remotef from the cane: Query the latitude of the place, it being $\xi_{a}$ of the fame name as the declination.

## IV. Question $(1047)$, by $M r$ Rd. Bennett, Officer ef Excife. Abiburn.

A cafk'silength being 40 inches, and content 122 ale gallons, 'al'owing es the torm to be a nilddle fruftum of a fpheroid; but if a middle fruftum $\rho$ fo a parabolic fpindle, ohly 100 gallons: query the head and bung diametersto at V. OuEsTion (1048), by Mr Geo. Cbapman, Frofferly.

The entrance into Frofterly fchool meafures $6 \frac{1}{2}$ feet by $3 \frac{\pi}{2}$, and is in the front of the houfe, which declines $16 \frac{1}{2}$ degrees from the fouth towards the weft; I defire to know how many fquare feet the fup sill enlighten on the floor of the \{chool, which is perfectly horizontal, on the 21 it of June 1798 , at eleven $b^{\prime}$ clock trae time in the morning 5 fuppofing the rays to meet with no obifruction, but from the outer edge of the entrance, and the bafe of the part enlightened to be in the fame ftajght line with the outfide of the houfe ; the latitude of Froiterly being $64^{\circ}{ }^{\circ} 5^{\prime} 9^{\prime}$ one V1: Question (1049), by Mr Tho Squire, of Affobik :
In latitude $36^{\circ}$ degrees, the fun was obferved to be due eaft, ivhient She number of degrees from noon was double his altitude. Required the sime of obferyation,
VM. Question ( 10 弓a), by Mr Yames Wilding, High-Ercall.
In the play ground Delonging to the fchool at Wigh-Ercall', is a tematkable fise beech tree, whofe braaches afford a pleafant fhade in the fummers

## No. 96.

feaipon; around which tree I intend making a hexagenal or fix-fided feat; for which purpofe I hive procured a deal plank $16 \frac{1}{2}$ feet long and $I x$ inches broad ; I fhould be glad therefore to know, as a direction to my workman , the inner and the outer lengths of each fide, fo as to occafion the leaft lofs in cutting.

## VIII. Question ( 1051 ), by Mr Tho. Hind, at Mr- Shepherd's Boarding School, Layton, Efex.

My clock, which ought to beat feconds, gains at the rate of 30 mi nuces per week; I Thould therefore be glad to know how many revolutions I muit turn the nut of the ferew part of the pendulum, downward, to reduce it to keép true time, fuppofing there be 40 rounds to an inch. .ilis
IX. Quésion (io52), by Mr F. Refffir, Deptford.

Admitting a right cone to be full of water, ftanding on a plane; whereabouts in the fide muft a hole be bored, fo that the water may foout juft to the circumference or edge of the cone's bafe; fuppofing its axis 24 feet, and diameter of its bafe 20 feet.
X. Question ( $10_{53}$ ), by Mr $W_{m}$. Burdon, Acafier Malbis.

Two gentemen bought a triangular eftate, the fides of which are 2160 , 3840 , and 4750 links, which they have divided between them by a tiraight fence 1800 links long, drawn through the centre of its infcribed circle, and kerminited by the two longeft fides of the triangles Query how much of the effate belongs to each perion.

## XI. Question (1054), by Mr Tho. Coultberd.

On Lammas Day 1797, at $100^{\circ}$ 'lock in the morning, in the latitude of $34^{\circ}, 40^{\alpha}, 1$ obferved a boy fetting his kite up into she air with a cord of 80 fathom, Now admitting the ftring when at its full ftretch, to make an angle of 60 degrees with the plane of the horizon, the boy's hand to be \& feet above the fase, and the wind to blow from the fouth-fouth-welt; $\frac{1}{3}$ defire to know what diftance the boy would be from the extremity of the thadoy, which the kite would make on the ground when in a vertical pofition, and its top 3 feet above the cord, allowing the earth to be perfectly level:

## XII. Question (1055), by the Rey. Mr Furnafs, Heddom-on-the-Wall.

A gentleman has a circular plantation, in which are two walks; the ane the chord of an arch of the fence, the other the verfed fincion height of the fame perpendicular from the middle of the chord, whofe lengths are 4 chains and $x$ chain refpectively. Now the gentleman, wifhing to have a. ditch made round on the outfide of the fame, of 6 feet in breadth and $4 \frac{1}{2}$ feet in depth, the infide coinciding with the circumference of the plantation, has two propofals for this undertaking, the one at ad the folid yard, and the athet at od per yard running equitable circumference, or along in the middle:of she ditche. It in required to thew whish is moit in favour of the


[^3]XIII. Questiox

## XIIL: Qyestion (ios6), by Mr Wm. Firencis, junr.

 A caft-iten ball, of 4 inches in diameter, is put into a cylindrical oopper veffel, open at top a the veffel and ba'l then together weighing Iflb.; but the remainder of the veffel being then filled up with water, the whole was found to poife with 60 lb . Now the infide diameter of the veffel being double its depth, all its dimenfions may be hence found: Query how?XIV, Question $(1057)$, by Mr Fohn Sowerby, of Dudley, If a grinding ftone, 36 inches in diameter, and weighing 5 cwt . mike 750 revolutions in poe minute; what is the cencrifugal force, or tendency it has to burft::

Dr. Hution zoould be glad of tbe communication of tbe memoirs of the life if this'gentlenan's uncle, wbich foall bave all due attention paid to them.
N. B. D... Hutton's new Courfe of Matbematics is jupi iffued from the Prefs, It is comprijed in 2 vols. oezavo, and is pecuitarly adapted to the ufe of Scbocls and al fenina ies of tearning. Tbe price ofabe io woisi fil in experienss will be about 16 s. bound.
 Newrafle.
To conftruct the great circle triangle $A V B$, having given the vertical angle $V$, and the difference between each fide and its adjacent fegna-nt of the bafe, made by a perp, let fall on it from the yertical angle, viz. AY $-A P$ and $B V-B P$

- The prizee for tbe feveral folutions bave been determined by Let as for. luzes: Eir/t, for sbe Prize Quefion, to Mr $\mathcal{F}$. Howuard and Mr Fo. Sutsics, each 10 Diaries:-2d, for the Prixe Enigme, is Mifs Eriza Sill-and Mivs A.T. aich 8 Diaries. - 3d, for the Gencral Injuersto tbe Enighias, to Mr W. Butse man and Mr R. Waller, each 8 Diaries. - $4+b$, for thb Rebytes, Queries, $\mathcal{E}^{3} c, 7$-Bayley and Wm. Saint, eatb 6 Diarier: Alp of whoms will pleage to fend fome parfon in London to call for tb-in, on tbirit account, at itationcrs Hall.

Pieces for the ufe of the Diary, to be direfted tous, viz. To the Authors of the Ladies" Diary, Stationers Hall, Londons: Tbe letters to be all pofs-paid or franked, otberwife tbey will not be reccived; and tbe laf of them to be fent, at the lateft, bs fore tbe and of April, otberwwife tbey cannog be inforted; but tbofe for the folution of tbe Prize Enigma and Prize quefios, before Candienas Day. And aiung with all nesv Qssfions, Enignat, Rsbyoss, and Gbarades, sberir anfzuars muft be fons.


 vonesup NIt

# STELLARUM: OR, A LOYAL ALMANACK 

 For the Year of Human Redimption 1799, Being the Third after Brssextile, or Lear-Yeak. In which are contained All TIINES fitting for fuch 2 wORK; as, A. TABLE of TERMS and cheir RETURNS3 The Full, Changes, and Quarters of the MOON ; The Rifing, Southing, and Setting of the SEVEN STARS; and other fixed Stars of Note; the MOUN's Age, and A TIDE TABLE fited to the fames. The Rifing and Setting of the SUN; the Rifing, Southing, and Seting of the MOON; Mutual Alpects; Monthly Obfiervations; and many other Things, ufeful and profitable.
## UNTO WHICH ARE ADDED

Aftrological Obfervations on the Fous Quariess of lie Yearo
A remarkable CHRONOLOGY; the ECLIPSES; And other MATTE\&S, both curious sand profitable With farther Obfervations on the Weather, Rain, \&e. And an HIEROGLYPHIC adapted to the TIMES.


| Roufe up, Minerva, and direct my Pen, That I may tell how Things will be, and when : When Starry Fate our Harm will lefs confpire, And War, that Scourge of Nations, will expire. All Hands aloft, ward off that fecret Hate, That feeks to overturn our Church and State. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | ( Fafts and | $\bigcirc$ |  |  |  |  |
|  |  |  | Hs | Sigus | A | and fets |  |
|  | Iv | - Circumcifion | 11 |  |  |  | The year |
|  | W | Day break $55^{8}$ | 12 | memb. | 26 |  | begins with |
|  |  | ${ }_{4}$ Twi, ends 62 | 13 | hips |  |  | favourable |
|  | F | Day 754 long | 14 | 4 thighs | 28 | $6 \quad 48$ | $\triangle 4 \%$ |
|  | S | Old Chrif. Day | 15 | knees |  |  |  |
|  |  | \% EpiphTw.Day |  | hams |  |  | © 4 |
|  | M | 1 Plough Monday |  | legs |  | 5 a 8 | or |
|  | Tu | Lucian. |  | and |  | 6 | fhowers. |
|  | W | $\checkmark$ Night 15561. | 19 | ancles | 3 |  |  |
|  | 2h | ${ }^{1}$ Day incr. 022 |  | feet |  | 8 | Op, 8h q |
|  | F | h fets 836 m . | 21 | 1 toe |  | $9 \quad 56$ | Cold winds, |
|  |  | Old N. Y's. Day | 22 | head |  |  | $80 \%$ with |
|  |  | \% ESatiripo Hil. | 23 | C. T. 6 |  | morn | प ${ }^{2}$ \% \% froft |
|  | M | 1 Oxf. Term beg. | 24 | face |  | 0 | $\triangle \psi$ \% |
|  | TV | 4 fets 240 m . |  | neck |  | $1 \begin{array}{ll}1 & 23\end{array}$ | f |
|  | W | W ofetso 3 m . | 26 | throat | 10 |  |  |
|  |  | 9. Old T welfit Day |  | arms | II |  |  |
|  |  | Q Q. Chat, b. |  | ${ }^{\text {Prica }}$ | 12 | 5 | Cloudy dult |
|  |  | of fets 435 aft . |  | breaft | 13 |  |  |
|  |  | Septuagef. Sund |  | Fabia |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  | $\square$ - ince |  | hear |  | $5_{6}{ }^{\text {a }}$ |  |
|  |  | W Term begins. |  | ba | 17 |  | weather, but |
|  |  | H Day break 540 |  | bowels | 18 |  | open for the |
|  |  | Conv. St, Paul |  | 6 belly |  |  | moft part. |
|  |  | Twi. ends 622 |  | 7 reins |  |  |  |
| 27 |  | Serag. |  | 8 loins |  | mor |  |
|  |  |  |  | 9 fecret |  |  | Cold winds, |
| 39 |  | T. Day 856 tong |  | ofmemb |  | 3183 | with fleet |
|  |  | W | 11 | 1 hips | 24 |  | 口 4 ? |
|  |  | ghe 4 |  | 2 \|thighs |  |  | or fhower |



## 4. EEBRUARY XXYIII Days.

Take Courage, Britain, God's great Providence Does you protect, will ftill be your Defence ; Your Sons unite ; conduct your Meafures well, And Britons ftill fhall o'er their Foes prevail.But, hold! methinks I'm interrupted here, And bid for fome unwelcome News prepare.


## MOORE. FEBRUARY, $1799^{\circ}$

The 2 day, at 4 aftern. Mercury The 5 day, at 3 aftern. Venus The 11 day, at 12 noon, Mars
The 13 day, at 1 aftern. Jupiter
The 17 day, at 8 morn. Saturn
is with the Moon.



## MOQRE. MARCH, $1799^{\circ}$ <br> The 5 day, at 7 morn. Mercury The 7 day, at 12 night, Venus The 12 day, at 3 morn. Jupiter The 12 day, at 10 morn. Mars The 16 day, at 4 aftern. Saturn

| $\mathrm{D}$ | xies | $\begin{aligned} & \text { Sup } \\ & \text { fets } \end{aligned}$ | Moon South | nthly Obfervation |
| :---: | :---: | :---: | :---: | :---: |
|  | 34 | 526 | 8 m |  |
| 2 | 632 | 528 |  | don, was 0,85 Inches. |
| F | 630 | 530 |  | Rain or Snow, more or lefs, on the |
| 4 | 629 | 531 |  | 6th, 19th, $21 \mathrm{ft}, 25$ th, and 30 th Days of this Month, the Day beform or the |
|  | 27 | 533 |  | of this Month ; the Day before or the NEW Moon 6 day, at 3 aftern. |
|  | 625 | 535 | O | NEW Moon 6 day, at 3 aiterm. |
|  | 23 | 537 | - 45 |  |
|  | 21 | 539 | 25 | Day after ; nameiy within the Triduum of three Days. |
|  | 19 | 541 |  |  |
| F | 17 | 5.43 | 45 | as it will be very ufeful to him in Hay. |
| 11 | 15 | 545 | 28 |  |
|  | 13 | 547 | 13 | ec to.-But I mult now h |
| 13 | 11 |  | 52 | Particulars. |
|  | 69 | 551 | $5 \quad 51$ |  |
|  |  | 553 | $6 \quad 50$ |  |
|  |  |  |  |  |
|  | F 63 | 557 | $8 \quad 47$ |  |
| 18 | 6 | 559 | 9.44 | Mundane Affairs. |
| $19$ | 59 |  | $10 \quad 39$ | WE are by Divine Permiffion arrived to this Year 1799, in which many |
|  | 557 |  | 1133 | rived to this Year 1799, in which many |
| 21 | 555 |  | morn. | onat day, at |
|  | 55 |  |  | great and eminent Tranfations may |
| F | 3.551 |  | 19 | be expected-Mankind tremble, foipe |
| F | F 5 | 6 in | 213 | Nations begin both to fear and feel |
|  | 547 | 613 | 38 | their approaching Deftiny. - The moft |
|  | 545 | 615 | 45 | aterial Afpect of Violence amongtt |
|  | 543 | 617 | 5.4 | Planets that happen in this Mon |
|  | 541 |  | 6 | Laft Quazt. 88 day, it 3 meme |
|  | 29539 |  | 659 | fupiter |
|  | 537 | 623 |  | it fhews the Motion and Engaging of |
|  | 535 | 625 |  | rmies, |

## 8

Great Things approach, fwift Time prepares the Way For mighty Works, we Mortals muft obcy; When the Eternal Power fpeaks aloud,
Kings muft fubmit, and fo muft all their Crowd. Slowly Fate moves, but certainly will come, As fure as Day attends the tifing Sun.




The 5 day, at 8 morn. Mercury The 6 day, at 2 aftern. fupiter The 7 day, at 6 aftern. Venus The 8 day, at 8 night, Mars The 10 day, at 10 morn. Saturn


## 12

Behold here's a new Crowd of Caufes met, Nor have the Planets done their Errand yet. Confider well the Acts of fome paft Years, New Matter now for a new Scene prepares; We've Caufe to fear fome lurking Knaves there be, That ftill are hatching of more Villainy.



## I 4

 JUI XXXI Days.Gladly I would of Europe's peaceful Fate
Once fing; but find all Kingdoms, ev'ry State, Infected with Frencb Guilt; Counfels betray'd,
Defigns defeated, fome too long delay'd.
Some blindfold run upon fuch dang'rous Shelves,
Ruin their Neighbours firft, and then themfelves.


The 1 day, at 4 morn. Jupiter
The 2 day, at in night, Mercury
The 4 day, at 8 morn. Saturn
The 5 day, at 1 morn. Mars
The 6 day, at 2 aftern. Venus
The 29 day, at $=$ morn. Jupiter
$\left\{\begin{array}{l}\text { is with } \\ \text { the Moon. }\end{array}\right.$


## 16 <br> A UG UST. XXXI Days.

From all Parts, Sea and Land, methinks, I fee The dreadful Signs of Death and Defliny :
View well the Rays, the angry Stars prepare
All forts of Cruelty, the Rage of War.
Here's Anger, Difcord, Fury, Fear, Mittake, And all befides that can Man's Ruin make.


The 2 day, at 4 aftern. Mars
The 3 day, at 12 noon, Mercury 3 ) 3 . 310 The 5 day, at 1 morn, Venus (is with The 25 day, at 7 aftern. Jupiter (the Moon. The 28 day, at 3 aftern. Saturn The 31 day, at 8 morn. Mars


## 18

Near to this Time a mighty Scheme is laid， But he that doth his Neighbour＇s Peace invade， Will，in fhort Times meet a revengeful Hand， With Blows on ev＇ry Side，by Sea and Land； Thus will he fare who lately look＇d fo high， And all his Glory in the Duft will lie．

| $\begin{array}{\|c\|c\|} \hline M & W \\ D & D \\ \hline \end{array}$ |  |  |  |  | and fers | JK. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | A | and lets |  |
| 1 良 | ${ }_{15}$ S，2，T，Giles． | 9 | reins |  | 7 a 38 | Tolerable |
| 2 M | Lond．b， 1666 | 10 | and | 3 | $7 \quad 54$ | weather for |
| 3 Tu | Day break 313 | 11 | loins | 4 | 8 11 |  |
| 4 W | Twi．ends 843 | 12 | fecret |  | $8 \quad 30$ |  |
| 5 TH | Day $13 \times 16$ long | 13 | memb． | 6 | $8 \quad 55$ |  |
| 6 F | Night 1048 lo | 14 | hips | 7 | $9 \quad 28$ | Windy，with |
| 7 S | Enurchus | 15 | thighs | 8 | 1014 | fome fhow－ |
| － | 165.3 fior ${ }^{\text {a }}$ Nat． | 16 | knees |  | 118 | ers near |
| M | of $V . M$ ． | 17 | hams | 10 | morn． | 6 ¢ \％\％ |
| $10 . \mathrm{Tv}$ | Day decr． 337 | 18 | legs | 11 | － 31 | ¢ 0 |
| 11 W | 5 rifes 127 mo ． | 19 | ancles | 12 | 150 | this time． |
| $12 . \mathrm{TH}^{\text {r }}$ | 4 rifes 1017 a ． | 20. | feet | 13 | $3 \quad 7$ |  |
| 13 F | ${ }^{3}$ fets 629 aft ． | 21 | am | 14 | 4.25 |  |
| 14 S | Holy Crofs | 22 | to | F | rifes | Fine for the |
| 15 退 | 2\％S．aft．Trima | 23 | head | 16 | 7 a | $\delta \odot \delta^{*}, \triangle 4 ?$ |
| M | \％fets 638 aft ． | 24 | face | 17 | $\begin{array}{ll}7 & 13\end{array}$ | feafon，per－ |
| 17 Tu | Lambert | 25 | neck | 18 | $\begin{array}{ll}7 & 25\end{array}$ | haps thun－1 |
| 18 WH | Ember Week | 126 | and | 19 | $7 \quad 40$ | der in fome |
| 19 TH | Day break 352 | 27 | throat | 20 | $7 \begin{array}{ll}7 & 59\end{array}$ | s． |
| 20 F | Twi．ends 85 | 27 | arms | 21 | $8 \quad 25$ |  |
| 21.5 | St．Matchew | 28 | fhould． | 22 | $9 \quad 0$ |  |
| 22 \％ | 18S，2，T．K．Geo | 29 | breart | 23 | $9 \quad 46$ | Frequent |
| 23 M | ［1M，cre | $\stackrel{ }{ }$ | and | 24 | $10 \quad 51$ | －$\odot 4$ |
| 24 Tv | Day 122 long |  | flom． | 25 | morn． | fhowers near |
| W | Old Holy Rood |  | heart | 26 |  | this time． |
| 26 TH | St．Cyprian |  | back | 27 | $13^{1}$ |  |
| 27 F | Night 12 10 lo． |  | bowels | 28 |  | ㅁ4 ${ }^{1}$ |
| 28.5 | Day decr． 448 |  | belly | 29 |  | Fine for the |
| 29 | S．aft．Tr． |  |  | N | fets |  |
| 30 M | Ferome［Sk．Mic． | 7 | reins | 1 | 6a 24 | ＊© 万 |

## M OORE. SEPTEMBER, 1799.

The 1 day, at 5 morn. Mercary
The 3 day, at 1 morn. Venus
The 22 day, at 10 morn. Jupiter
The 25 day, at 6 morn. Saturn
is with
The 27 day, at 12 night, Mercury
The 28 day, at 12 night, Mars


## 20

## OCT OBER XXXI Days,

Ye bold Difturbers of Mankind, be warn'd!
Dear cofts the Glory which your Guilt has earn'd ;
Fortune awhile deceitfully may fmile
And with fmooth Hopes your fecret Fears beguile ; But Horror will fucceed and dire Remorfe, The fure Attendants of a factious Courfe.



## 22

 NOYEMBER XXX Days.Old Cbronus now does with much Craft difplay, At fiery Mars, a treach'rous Quartile Ray :All Men impatient are, and want to fee
What the Event of thefe fad Times will be;
Some great Defign in Harrd, England beware, -
I fear Commotions and diftemper'd Air.


## $\frac{\text { MO OR E. NOVEMBER }}{\text { The } 15 \text { day, at ir night, Jupiter }}$ The ig day, at 3 morn. Saturn The 24 day; at 5 morn. Venus The 25 day, at 12 noon. Mars The 28 day, at 11 morn. Mercury <br> is with the Moon.

| $\left\lvert\, \begin{gathered} M \\ D \end{gathered}\right.$ | $\left\|\begin{array}{l} 8 \mathrm{un} \\ \text { vifes } \end{array}\right\|$ | $\begin{aligned} & \text { Sual } \\ & \text { fexal } \end{aligned}$ | Moon South. | Monthif Obiervations? |
| :---: | :---: | :---: | :---: | :---: |
| F | 716 | 4 | $\begin{array}{ll}4 & 5 \\ 5\end{array}$ | Rain or Sleet (more or lefs) on the |
| 4 | 1 | $44^{2}$ | 40 |  |
| 5 | 19 | 441 |  |  |
| 6 | 721 | 439 | 811 |  |
| 7 | 723 | 437 | $8 \quad 52$ | or the Day after; namely, within the |
|  | 7 | 434 | $9 \quad 32$ | three Days. |
| F | 726 | 434 |  |  |
| 1 |  | 4 4 4 4 4 |  |  |
|  |  | 4 30 | morn. | EULI |
| 13 | 733 | 427 | 18 | Lips that |
| 14 | 7 | 426 | 14 | xxxiv. 1 |
| 1 |  | 424 | 154 | This aphoriftical Affertion of the |
| 16 | 3 | 423 | 46 |  |
| F | 739 | 421 | 39 | mand our Obedience as our Memory; and I would to God it were practifed |
| 18 | 7 | 420 | $\begin{array}{ll}4 & 32\end{array}$ | in all the Courts and Dominions in |
| 19 | 742 | 418 | 23 |  |
| 20 |  |  | 13 |  |
| 21 |  |  |  |  |
| 22 |  | 414 | 50 | mong the Configurations of the |
| 2 | 747 | 413 | 38 | Planet this Month, that of the Square |
| F |  |  | 928. | of Saturn and Mars is the moft con- |
| 2 | 750 | 410 | $10 \quad 21$ | fiderable; which inplies the High |
|  |  |  | $11 \quad 18$ |  |
|  | 75 |  | O 2 |  |
|  | 754 |  | 24 | ways will be infefted with Villains and |
|  |  |  | 28 | Thieves, whence will proceed Murders |
|  | 7 |  | 3.29 |  |

## 24 DECEMBER

And now, my Book, fince from me thou muft go,
Thy Progrefs take, and vifit thofe you know
To be thy Friends; to fuch thou wilt be kind a But let not carping Scofiers know thy Mind,
Thy Outfide may fuffice, too good for fuch
Who poifon all they fee, foul all they touch.

The 12 day, at 10 night, Jupiter The 16 day, at 7 morn, Saturn The 23 day, at 5 morn. Venus The 24 day, at 5 morn. Mars The 26 day, at 2 aftern. Mercury
is with the Moon.

| $D$ |  |  | Sun fets | Moon <br> South |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| F | 7 57 <br> 7 58 <br> 7 59 <br> 8 0 <br> 8 1 <br> 8 2 <br> 8 2 <br> 8 3 <br> 8 4 <br> 8 4 <br> 8 5 <br> 8 5 <br> 8 6 <br> 8 6 <br> 8 7 <br> 8 7 <br> 8 7 <br> 8 8 <br> 8 8 <br> 8 8 <br> 8 8 <br> 8 8 <br> 8 8 <br> 8 8 <br> 8 8 <br> 8 7 <br> 8 7 <br> 8 7 <br> 8 6 <br> 8 6 <br> 8 5 |  | 43 |  | Rain fallen in Dec. 1797, at Lon- |
| 2 |  |  |  |  |  |
| 3 |  |  |  |  | or Snow (more |
| 4 |  |  |  |  | FIRST Quart. 4 day, at 3 mom. |
| 5 |  |  | 359 | 24 | the 6th, 12th, 88 th and 26th Day: |
| 6 |  |  | 358 |  | of this Month; the Day before |
| 7 |  |  | 358 |  | Day after; namely; within the thre |
| F |  |  | 57 | 23 |  |
| 9 |  |  | 356 |  |  |
| 10 |  |  | 56 | 1051 |  |
| 11 |  |  | 355 |  |  |
| 12 |  |  | 355 | morn. | FULL Moon, 12 day, at 9 |
| 13 |  |  | 354 | - 32 | yet at this Time you |
| 14 |  |  | 354 |  | public and notoriou |
|  |  |  | 353 |  | gives us but li |
| 16 |  |  | 353 | 310 | but what was |
|  |  |  | 353 | 4 |  |
|  |  |  | 52 |  |  |
| 19 |  |  | $5^{2}$ | 34 | LAST Quart, ig day, at II night |
| 20 |  |  | 352 | $6 \quad 21$ |  |
| 21 |  |  | 52 | 7 | Word of Advice; that is, |
| $F$ |  |  | 352 |  | Man he careful of his own |
| 23 |  |  | 352 |  | fince Health of Body and |
| 24 |  |  | 352 | $9 \quad 47$ | lity |
| 2 |  |  | $35^{2}$ | $10 \quad 49$ |  |
| 26 |  |  | 353 | 1153 |  |
|  |  |  | 353 | $\bigcirc{ }^{2} 57$ |  |
|  |  |  | 53 | 156 |  |
| F |  |  |  |  |  |
| 30 |  |  | $6{ }^{6} 54$ | $3 \quad 48$ |  |
|  |  |  |  |  |  |

## 26 Common Notes and Law Terms.



A Table of Terms and Returns for the Year 1799. Hilary Term begins Jan. 23, ends Feb. 12. Returns, or Effoign Days. |Ex. $\mid$ Ret|Ap. W. D. In eight Days of St. Hiary _- Jan. 20 21 2223 Wednefd. In fifteen Days of St. Hilary - $\quad 2728 \quad 29.30 \begin{array}{llllll} & \text { Wedserf. }\end{array}$ | On the Mor. of the Pu if. of the BI, V.M.Feb. 3 | 4 | 5 | 6 | Wednefd. |
| :--- | :--- | :--- | :--- | :--- | In eight Days of the Purif. of the BI. V. M. 9 Io $\left.11\right|_{12} \mid$ Twerday

Eafter Term begins April Io, ends May 6.


Trinity Term begins May 24, ends June 12. On the Morrow of the Holy Trinity May $20 ;\left.23\right|^{22}|24|$ Friday In eight Days of the Holy Trinity - $\quad 26|27| 28 \mid 29$ Wednerd. In fifteen Days of the Holy Trinity June $22_{3}$ From the Day of Holy Trin. in 3 Weeks $\quad 9|10| 11|12|$ Wednefd.

Michaelmas Term begins Nov. 6, ends Nov. 28. On the Morrow of All Souls - - Nov. $3 \mid$ 4 5 5| 6 Wednefd.
 In eight Days of St. Martin - - $\quad 18$ I9 20 21 Thuffay In fifteen Days of St. Martin - - $\quad 25|26|_{27} 1_{28}$ Thurfday
N. B. No Sittings in Weftminfter Hall on the Second of February, Afcenfion Day, and Midfummer Day.
The Exchequer opens eight Days before any Term begins, except Trinity, before which it opens but four Dajs.
Note, The firft and laft Days of every Term are the firf and laft Days of Appearance.

$$
\mathrm{M} O \quad \mathrm{O} \text { R E, } 1799 \quad 27
$$

A TABLE of the Equation of Time for regulating Clocks and Watchee for 1799. Note, fa. Clock too faft, that is, your Clock, to be fet right, muft be fo much fatter than the Sun Dial. flo. Clock tod flow, that is, your Clock muft be fo much flower than the Sun Dial.

D. 1 Juty 1 Auguft i Septemb. 1 October 1 Novemb. $\mid$ Decemb.

| 1. | $3^{\text {fa. }} 22$ | $5 \mathrm{fa} \cdot 55^{\circ}$ | $0^{\prime} \mathrm{fl} \cdot 15^{\prime \prime}$ | 10'fl, $24^{\text {d }}$ | $16^{\prime} 11.14^{*}$ | $10 \cdot 1$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3 | $3 \quad 45$ | $5 \quad 47$ | - 53 | 11 | 16 15 | $9 \quad 46$ |
| 5. | 47 | $5 \quad 37$ | $1 \quad 32$ | $\begin{array}{ll}11 & 37\end{array}$ | 1522 | $8 \quad 57$ |
| 7 | $4 \quad 27$ | $5 \quad 24$ | 212 | $12 \quad 11$ | $16 \quad 6$ | 8 |
| 9. | $44^{6}$ | 5 ? | 52 | $12 \quad 44$ | $15 \quad 5^{6}$ | $7 \quad 12$ |
| 17 | $5 \quad 2$ | $4 \quad 51$ | 34 | 13 is | -5 43 | 6 |
| 13 | $5 \quad 18$ | 31 | 416 | 1344 | $15 \quad 27$ | $5 \quad 21$ |
| 15 | $5 \quad 31$ | 8. | 458 | 14 | 158 | 4.23 |
| 17. | 542 | $3 \quad 44$ | 542 | $14 \quad 36$ | 1445 | $3 \quad 27$ |
| 19. | $5 \quad 51$ | $3 \quad 17$ | $5 \quad 22$ | $14 \quad 58$ | $14 \quad 19$ | $2 \quad 25$ |
| 21 | $5 \quad 5^{8}$ | 49 | $7 \quad 4$ | $15 \quad 18$ | 1349 | 125 |
| 23 | 6 | 19 | $7 \quad 46$ | $15 \quad 35$ | 1316 | - 24 |
| 25 | $6 \quad 5$ | 47 | $8 \quad 26$ | $15 \quad 49$ | 1240 | faft. |
| $27$ | $6 \quad 5$ | 14 | 9 | 160 | 120 | 36 |
| 29 | $6 \quad 3$ | 40 | $9 \quad 46$ | 168 | II 18 | 35 |
|  | $5 \quad 58$ | 4 |  | $16 \quad 13$ |  | $3 \quad 33$ |

How to fet a Ctock or Watch by this. Tabie. Fwor example, Jan. the It, I find, by looking into the Table, that a Clock to be right mutt be 4 Minutes 8 Seconds fafter than a Sun Dial; therefore I fet it fo much faiter accordingly. A ed fo of the reft. Twelve o'Clock is the beft Time to fer a Clock or Wateh by a Dial.

Note, A Sun Dial fhews Solar or A pparent Time; but a Clock, \&ce. hould be fet to Equal or Mean Time, as the Table diests, to goitrue,
23 M O O R E, 1799.

The Dominion of the Moon in Man's Body, Paffing under the Twelve Zodiacal Conftellations. $r$ Aries Head and Face $\bumpeq$ Libra Reins and Loins \% Taurus Neck and Throat $m$ Scorpio Secret Members II Gemini ArmsandShoulders $\hat{f}$ Sagitary Hips \& Thighs 20 Cancer Breaft and Stomach if Capricorn Knees \& Hams $\Omega$ Leo Heart and Back $\approx=$ Aquarius Legs \& Ancles ny Virgo Bowels and Belly $\rightarrow$ Pijees Feet and Toes. The Names and Characters of the Planets, With Dragon's Head and Tail.
$\left.\begin{array}{lll}\text { h } & \text { Saturn } \\ \text { I } & \text { Jupiter } \\ \text { of } & \text { Mars }\end{array}\right\} \odot$, or the Sun $\left\{\begin{array}{lll}\text { o } & \text { Venus } \\ \text { o } & \text { Mercury } \\ D & \text { the Moon }\end{array}\right.$
\& Dragon's Head. - \& Bragon's Tail.
The Characters of the Aspects. $\left.\begin{array}{l}\text { ó Conjunction } \\ * \text { Sextile }\end{array}\right\} 8$ Oppofition $\left\{\begin{array}{l}\Delta \text { Trine } \\ \text { a }\end{array}\right.$ Upon the TWELVE SIGNS. $\checkmark$ The Head and Face the Ram doth always rule: \% The Neck and Throat are govern'd by the Bull. II O'er the Arms and Shoulders flill the Twins prefide: er Breaft, Stomach, Ribs, the crooked $C_{\text {RAB }}$ doth guide.
$\Omega$ The noble Lion rules the Back and Heart:吹. The baffful Virgin claims the Belly Part. $\propto$ The Reins and Loins the equal Balance weigh: m The Scorpion o'er the Secret Parts doth Sway.
f The curious Archer doth the Thighs affect:
vo So doth the Goat our bended Knees protect.
= The Legs unto Aguarius' Lot do fall:

* The Fish our active Feet their Partion call.



## 30 REGAL TABLE.

Kings and Queens from the Conquest.

| Kings <br> Names. |  | Began their Reign. | $\left\lvert\, \begin{aligned} & \text { Reigned } \\ & \text { Y. M. D. } \end{aligned}\right.$ | Since their Reign. | Buried at |
| :---: | :---: | :---: | :---: | :---: | :---: |
| W. Conq. |  | 1066 OEt. 14 | 201026 | 712 Sept. | Caen, Norm. |
| W. Rufus |  | 1087 Sept. 9 | $12 \begin{array}{lll}12 & 10 & 24\end{array}$ | 699 Atig. 1 | Winchefter |
| Henry | 1 | 1100 Aug. 2 | $\begin{array}{llll}35 & 3 & 29\end{array}$ | 664 Dec. I | Reading |
| Stephon |  | 1135 Dec. I |  |  | Feverfham |
| The Saton Line reftored. |  |  |  |  |  |
| Henry | 2 | 1154 Oct, 25 | 34811 | 610 July | Fontevrault |
| Richard | 1 | 1189 July 6 | $9{ }^{9} 960$ | 600 Apr. 6 | Fontevrault |
| K. John |  | 1199 Apr. 6 | $\begin{array}{lll}17 & 6 & 13\end{array}$ | 583 Oct. 19 | Worcefter |
| Henry | 3 | 1216 Oet. 19 | $\begin{array}{llll}56 & 0 & 28\end{array}$ | 527 Nov. 16 | Weftminfter Wefminfer |
| Edward | 1 | 1272 Nov. 16 | $34 \quad 721$ | 492 July 7 | Weimminfter Gloucefter |
| Edward | 2 | 1307 July 7 | 19618 | 474 lan. 25 | Gloucefter Weftminfter |
| Edward | , | ${ }^{1} 327$ Jan. 25 | $50 \quad 427$ | 422 June 21 | Weftminfter |
| Richard |  | 1377 June 21 | $22 \quad 3$ | 400 Sep |  |
| The Line of Lancafter. |  |  |  |  |  |
| Henry |  | 1399 Sept. 29 | 13520 | 386 Mar .20 | Canterbury |
| Henry |  | 1413 Mar. 20 | 98 | 377 Aug. 31 | Weffminfter |
| Henry |  | 1422 Aug. 31 | $38 \quad 6 \quad 4$ | 338 Mar 4 |  |

## The Line of York.



The Families United.
Henty $\quad 7 \mid 1485$ Aug. $22 / 23$. 8 ol 290 Apr. $22 \mid$ We fiminfter

Henry
Edward $6{ }_{1547}$ Jan, 28
Q. Mary 1553 July 6
Q. Wlizabeth $155^{8}$ Nov. 17
$\begin{array}{ccc}37 & 9 & 6 \\ 6 & 5 & 8 \\ 5 & 4\end{array}$ 252 Jan. 28 246 July 6 241 Nov, 1 ? Weftminfter Wefiminfer Weftminfter

The Union of the Two Crowns.

 Chailes $\quad 2=1649$ Jan. 30 36
 Will. \& Mas. 1689 Feb. 13 I3 13023 I 97 Mar. \& Wefminfer

## Q. A The Union of the Two Kingdoms.

Q. Anne

George
George $\frac{1}{2}$
Gearge 3
 1714 Aug. 11210 10 72 June 11 ${ }_{1727}$ Juñe Ir $\quad 33 \quad 414 \begin{array}{llll}129 & \text { Oct. } 25\end{array}$

Weffminfter 1260 Uet, 25 Crowned Sept $222_{2}^{176 \mathrm{x} \text {. }}$ Vivat Rex.

## (3r) CHRONOLOGY <br> OF MANY <br> REMARKABLE OCCURENCES.

Years of Chril. Years fince.

## 1066 ILLTAM (the Norman) conquered England

 7331116 Firft Parliament of Lords and Commons 683 1185 Ireland conquered by the Englifh - - 614 1299 Windmills invented - - - $\quad 500$ 1302 The Mariner's Compafs invented - $\quad 497$ 1304 Edward I. reduced Scotland - - - 495
1330 Grnpowder difcovered by a Prieft - - 469
1369 Wickliff firf began the Reformation - - $43^{\circ}$

1441 Prinfing invented by a German - - $35^{9}$
1483 Martin Luther, the Reformer, born - $3^{56}$
1493 Columbus difcovered America - 307
1521 Engraving on Wood invented by Albert Durer
1535 Cannon firft ufed - - 264
I $5^{84}$ Virginia difcovered by Sir Walter Raleigh - 215
1590 Telefcopes invented by Jarfen, a Dutchman - 209
1603 A great Plague in London, died 56,570 - 196
1605 The Popin Gunpowder Plot, November 5 - 394
1610 Jupiter's Satellites firft difcovered - - $\quad 389$
1611 New Tranflation of the Bible -- - 188
1614 The New River brought to London - $\quad 185$
1616 Shakefpeare the Poet, died
1625 A great Plague in London, died 34,517 - $\quad 174$
1632 A great Fire on Londun Bridge, Feb. 11 - 167
1634 Old Parr died, aged 152 , he lived in Ten Reigns 165
1641 The Earl of Strafford beheaded, May 12 $\quad 15^{8}$
164 I The cruel Irifh Maffacre, began OStober 23 - $\quad 15^{8}$
1642 Edgehill and Brentford Fight - $\quad 157$
1642 Sir Ifac Newton born, December 25 - 15 ?
1649 King Charles I. beheaded, Jan 30 - 150
1651 The bloody Fight at Worceiter - 148
165 The bloody Fight at Worcefter - $\quad 148$
1655 George Fox, the firit of the Quakers $\quad 344$
1658 Spring Pocket Watches, invented by Dr. Hook
1658 Oliver Cromwell died, Sept. 3 - 141
1660 King Charles II. reitored, May 29
339
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A TABLE of pir 34 )
A TABLE of the Rifing, Southing, and Setting of the Pleiades, or Seven Stars, for every 4th Day in the Year, of excellent Ufe to find the Hour of the Night.


TABLE of fome principal fixed Stars, with the Time they Rife, South and Set, either before or after the Seven Stars; as alfo their Colour, Magnitude, and Meridian Altitude, by which they may be readily diccovered.

| $\begin{aligned} & \mathrm{Co}-1 \\ & \text { Iour } \end{aligned}$ | $\left\|\frac{\dot{4}}{\mathrm{c}}\right\|_{\Sigma^{0}}^{\infty}$ | - | $\begin{aligned} & \text { Rife } \\ & \text { h m } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { South } \\ & \text { h m } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { Sets } \\ & \mathrm{h} \mathrm{~m} \\ & \hline \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ¢ |  | 1 Aldebaran, or Bull's Eye | 1334 | Oa48 | ob o |
| 万 4 | 291 | 1 Left Foot of Orion | 431 |  | 134 |
| 4 h | 362 | 2 Middle * in Orion's Belt | 413 | 51 | - 35 |
| ช\% |  | 1 Right Shoulder of Orion | 323 | 28 | - 8 |
| \% ${ }^{\text {\% }}$ |  | 1 Syrius, the great Dog | 641 | 31 | - 48 |
| ${ }^{\circ}$ |  | 2 Procyon, the little Dog | 533 | 353 | $2 \mathrm{2a}$ |
| 5 ? | 301 | 1 Heart of Hydra | 839 | 541 | 244 |
| b. ${ }^{\text {a }}$ |  | 1 Regulus, Lion's Heart |  |  | 516 |
| ¢ |  | 1 The Lion's Tail, Denab | 842 | 754 | 7 |
| $\bigcirc$ | 28. | 1 Virgin's Spike. | 1246 | 938 | 636 |
| $\text { 8) } 4$ |  | 1 Areturus | 1047 | 10301 | 012 |
| $\hat{0}$ |  | Antares, the Scorp. Heart |  |  | 742 |
| 万 ¢ | 462 | 2 Bright * of the Valture | 1738 | $16 \quad 3$ | 9 b 27 |
| ¢ $\%$ | 61 | 1 Fomelhaut | 1114 | 19 I1 | 1037 |
| 94 | 5612 | 2 Head of Andromeda | 1042 | - | 256 |

THE brightelt of the feven Stars is of the third magnitude, and hath 61 degrees of meridian altitude, and in colour participates of the $D$ and $\%$.

The fixed Stars all rife, fouth and fet, about four minutes fooner every night than they did the night before; this confidered, the exact time of rifing, fouthing, and fetting for any intermediate night, not herein noted, may be very eafily deduced from thefe Tables by infpection only.

To know the Time of rifing, fouthing, and fetting of any ftar in this Table, for any day required, it is but confidering how many hours and minutes that far rifes, fouths, or fets, either before or after the feven ftars on that day, and you will have your defire; obferving that in this Table, a ftands for after, and $b$ for before.

## 48: ( $3^{6}$ ) 1.20$)$ <br> - ther nic noswod has AN <br> ACCOUNT of the ECLIPSES

# AND OTHER CELESTIAL APPEARANCES, In the Year 1799, 

Calculated from New TABLES of the Motions of the Planets, founded on the lateft Objervations, according to the Newtonian Syfem of Gravitation,

> By HENRY ANDREWS, Aftonomer, At Rayjon, in the County of Hertford.*

ASTRONOMY, for its Excellency, jufty challengeth the higheff Place of all human Sciences; it lifteth the Heart of Man above the Heavens by invifible Lines and immortal Beams; meeteth with the Reflection of Light incomprehenfible, and procureth Delight and Satiofaction unfpeakable.
Sacred Urania! with whofe Beauty fird,
My Soul is ravih'd, and my Brain infpir`d;
0 , teach me how thy wondrous Works to trace,

- In ev'ry Part of Univerral Space;
at sive me the Way of wand ring Stars to know,
The Height of Heav'n above and Depth of Earth below.
Within the Limits of this Year there will be only two Eelipfes of the SUN; and, as they fall about fix Months' Diftance from each other, we mult expect no Beclipfes of the Moon, for the following Reafon, in the Words of the great Kepler, Novilutia duo centralious propinqua; Ergo, Circumffantia Pienilunia illibata Eclipfu Lunce toto Avno nullo; for which Reafon alfo, fuch Ecliples of the SUN are feldom vifible in thefe Northern Parts of the Earth, although the Sun were above the Horizon and fhone ever fo bright; for the Situation of us Eurofzans upon the Globe, requireth the Moon to have confiderable North Latitude, to counterbalance her Parallax occa-

[^4]
## ECLIPSES, \& $\quad$ c.

fioned thereby, in order to bring fer between the Sun and us. The firt of there Eclipfes is on Sunday the $5^{\text {th }}$ Day of May, at 46 Minutes before our One o'Clock in the Morning; therefore, was the Moon's Latitude ever fo favourable, it muft in confequence be invifible to us: But in the great South Sea, or Pacific Ocean, it will be a very great Eclipfe, not total but annular; for along the Track of Central Appearance, the Spectators will be entertained with a beautiful Ring of Light quite round the Moon's dark Body ; and in 8 Degrees of North Latitude, and 177 Degrees 37 Minutes Eaft Longitude from London, this beautiful and grand Appearance (though, in fome degree, awful to behold) will fall upon them precifely at their 12 $0^{\prime}$ 'Clock at Noon. This Eclipfe will partially (more or lefs) be vifible at the Sandwich Iflands, at Otabeite, and the reft of the Society I/les, at the Friendly I/fands, the Neru Hebrides, New Caledonia, and as far as Nerw Zealand in the South Sea. It will alfo extend itfelf to the Weftward, as far as the extenfive Ealtern Coaft of Nerw Holland, and the fmall Iflands thereabout; alfo to Nerv Guinea, the Ladrone Ifands, and as far North from thence as the Illand of Japan:

The fecond of there Ecliples is on Monday the 28th Day of October, at 36 Minutes paft our Five $0^{\prime}$ Clock in the Evening; invifible to us; at which Time the SuiN is: vertical in the great South Sea or Pacific Ocean, near tothe Weitern Coatt of Peru in South America, in 5 Degrees. 15 Minutes South Latitude, and 82 Degrees 45 Minutes of Wef Longitude from London, where the SUN will be, centrally and totally eclipfed at Noon-Day, and that for the Space of two Minutes at leaft; which will be an awful and terrific Sight to thofe unacquainted with the Prin-, ciples of Afronomy. This Eclipfe will be vifible in a partial Manner (more or lefs) to the whole Continent of South America; it will extend itcelf to the Illand of $\mathcal{F}_{a-1}$ maica, to the Mand of Cuba, and all the reft of the Wiff Thdia Ifands; alfo into Floride, Georgia, and Corolina, on the Continent of Nortb America; it will alfo extend itfelf to the Weilward as far as Otabeite, one of the Society lfes, and Eaftward as far as the Cape Vord iflands, on the Coaft of Africa.

Comserning

Concerning the famous Transit of the Planet Mercury over the SUN's Difk, which bappens on Tueflaye the 7 th Day of May, 1799, and vifible (if Clouds interpofe not) from the Beginning to. the End $\mathbf{N}_{2}$ both to us: and all Europe.

THE Tranfits of the Planets Venus and Mercury over the SUN's Difk are curious Appearances in Aftronomy, which do not often happen, efpecially of Ve. nus, not more than once or twice in a Century. The firft of this Kind that was ever feen fince the Beginning of the World, was a Tranfit of Venus in the Year 1639, and was predieted by Mr. Jeremiah Horrox, an Englifmman, and obferved only by him and his Friend, Mr. CRABTREE, $^{\text {R }}$ both refiding near Liverpool. The Planet Mercury, entirely divefted of its Radiancy, will this Year traverfe the Su n's Face for near Seven Hours and a Half, in Form of a round black Spot, and will be feen, if the Sky be clear at the Time, to all Places of the Earth where the Sun is up. Mercury will be vifible to fharp Eyes withont a Telefcope, only defended by the Interpofition of a dark Glafs, or a Piece of clear Window Glafs fmoked over the Flame of a Candle, but will appear much larger, and more to Advantage, with the Help of a Telefcope: But the Precaution of interpofing a dark Glafs between the Eye and the Telefcope is neceffary to be taken, without which the Sight may be deflroyed, or greatly impaired; but, thus fhielded, it will be perfectly fecure from Danger, or any Inconvenience. The Beginning of this Tranfit will be feen as far Eaft as the Ifland of Japan, Eafern Tartary, Cbina, the Pbilipine Iflands, the Iflands of Borneo, Sunda, and Fava, and alfo the Weftern Coaft of New Holkand; but the SUN will fet with them foon after. In Nerufoundland, New Britain, near the Mouth of Hudson's Straits, and on the Eaftem Coafts of the Brazils in South America, the Tranfit will juft begin as the SuN rifes: In the Ifland of Madagascar, the Weftern Parts of Persia, the Defarts of Arabia, and on the South Ealt Coaft of the Red Sea, the Tranfit begins at 12 o'Clock at Noon; but the Sun will rife at the Middle of the Tranfit at Cape Hors in Soutb America- In

## TRANSIT of MERCURY.

the Inand of Ceylon in the Indian Sea, and on the Coromandel and Malabar Coafts, and to the Eaftern Parts of Wefern Tartary, the Suir will fet with them foon after the Middle of the Tranfit ; but at the Cape of Good Hope, in Africa, the Tranfit ends as the Sun fets. This Tranfit will be feen, from the Middle to the End, to all North and South Anterica, and the Weft India Iflands; but the whole of this Tranfit will be-vifible at the Azores, the Canary, and Cape Verd Iflands, and alfo at the Ifland of St. Helena, as well as with us and all the reft of Europe. Mercury being; a fickle Planet, and thefe Appearances, very rare, I would not be too peremptory in my Affertions; but I hope the Appearances in thefe Kingdoms will not greatly deviate from the following Type and Calculations, made from new and improved Tables. The Delineation or Type-is adapted to the City of Landon, and fhows the Track of Mercury from the Beginning to the End, which will appear, according to my Calculations, to be performed in a Curve Line, Convex towards the Sun's Centre ; it alfo will be fufficient to inform the curious. Obferver, in what Part of the Sun's Periphery he may expect the Point of Ingrefs, and will tolerably ferve for the whole Kingdom at large.


# M MOOR E, 1799. 

May 7th, 1799. | Eondon. | Vork. $\mid$ Edinb. App. Time. $|$| h.m. s. | $\mathrm{h} . \mathrm{m} . \mathrm{s}$. | $\mathrm{~h} . \mathrm{m} . \mathrm{s}$. |
| :--- | :--- | :--- |

| Central Ingrefs | 9 | 1 | 31 | 8 | 57 | 4 | 8 | 48 | 42 | morn. |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Middle of Tranf. | 0 | 43 | 31 | 0 | 39 | 4 | 0 | 30 | 42 | aftn |
| Ecliptic Conj. | 0 | 58 | 52 | 0 | 54 | 25 | 0 | 46 | 3 |  |
| Central Egrefs | 4 | 25 | 31 | 4 | 21 | 4 | 4 | 12 | 42 |  |

Note, H O, an Horizontal Line; I, the Place where Mercury will enter the Sun's Difk, which will be about 59 Degrees to the left of his lowermoft Point ; E, the Egrels or Place where Mercury goes off the Sun, which will be juif at his lowermoft Point, as the Type before theweth. Under the Meridian of London, Mercury enters the Sun's Dik about $g$ in the Morning, and goes off again about 25 Minutes after $40^{\circ}$ Clock in the Afternoon; but accordingly as Places are fituated to the Eatt or Weft of the Meridian of London, juf fo mach later or fooner will the Times of the Tranfit happen at thofe Places, which will be as their Difference of Longitudes are in Time. The Time at Gambridge will be much the fame as at London.

## Some otber Celeffial Appearances.

ON January the 16 th, in the Morning, there happens a notable Occultation of the Planet Fupiter by the Moon, which, fhould the Air prove clear, will be well worth the Attention of Aftronomers: The Moon will be feen approaching this fine Star for fome Time before the Immerfion takes place, which will appear a little above the Moon to theleft, as is fhown by the annexed Type, which is adapted to London, and will, without fenfible Error,
 ferve the whole Kingdom. $\mathcal{F}_{u}$ piter will be feen to immerge behind the dark Part of the Moon at I, at 49 Min . patt $10^{\prime}$ Clock in the Morning ; and will again emerge from the bright Part of the Moon at E, at 40 Min, paft 2, apparent Time, after being hid 51 Minutes. This Occultation will make a beautiful Appear. ance through a Telefcope.

## On the BAROMETER.

Note, In the Southern Parts of this Kingdom, the Mosn will fet before the Occultation is over; but in the Northern Parts, the End will happen before the Moon fets, if iny Numbers are right or nearly right.

On Sunday, the 24 th of November, in the Morning, fonin after the Moon rifes, fhe will eclipfe the bright and refulgent Planet Venus, then our Morning Star; the Ap2.
 pearance of which will be astin the annexed Type, which reprefents the light and dark Parts of the Moon, both in Quantity and Pofition, as it is expected to be, - Venus will immerge behind the bright Part of the Moon, at I, at 5 Min. paft $40^{\prime}$ Clock; and Kenus will again emerge from behind the dark Part of the Moan at E, at 4 Min . palt $50^{\prime} \mathrm{Cloch}$, Solar Time. The Moon is expected to rife at London that Morning; at 49 Minntes paft 3 o'Clock; and in Latitude 54 Degrees North, at 52 Minutes paft 3. This will be an Occultation well worth the Attention of Aftronomers, and other curious Perfons, and will make a beautiful. Appearance through a Telefcope, though vifible to the naked Eye, as weli as that of Jupiren before-mentioned. Thefe Calculations are made for the Meridian and Latitude of London.

OBSERVATIUNS on the WEATHER GI.ASS, and the confequent Changes in the Air in this

Country, viz. Great Britain.
I. W Winter, Spring, and Autumn, the fuaden Falling of the Mercury, and that for a large Space, denotes high Winds and Storms; but in Summer it denotes heavy Showers, and often Thunder: and it always finks loweft of all for great Winds, though not accompanied with Rain; though it falls more for Wind and Rain together than for either of them alone. Alfo if, after Rain, the Wind change into any Part of the North, with a clear and

## 42 MOORE, 1799.

and dry Sky, and the Mercury rife in the Tube, it is a certain Sign of fair Weather.
II. After very great Storms of Wind, when the Quickfilyer has been low, it commonly rifes again very faft. In fettled, fair, and dry Weather, except the Mercury fink much, expeet but little Rain; for its fmall finking then is only for a little Wind, or a few Drops of Rain; and the Mercury foon rifes again to its former Station. In a wet Seafon, fuppofe in Hay. Time and Harveft, the fmalleft Sinking of the Quickfilver muft be minded; for, when the Conftitution of the Air is much inclined to Showers, a little Sinking in the Barometer then denotes more Rain, as it never ftands then very high. And if, at fuch a Seafon, it rifes fuddenly very faft, and high, expect not fair Weather more than a Day or two, but rather think the Mercury will fall again very foon, and Rain immediately to follow; the flow gradual rifing and keeping on for two or three Days, being mof to be depended on for a Week's fair Weather: And the unfettled State of the Quickfilver always denoting uncertain ands changeable Weather, efpecially when the Mercury fands any where about the Word Cbangrable on the Scale. The greatelt Heights of the Meromy in this Country arifing from Eafterly and North-Eaterly Winds, it may ofter rain on frow, the Wind being in thofe Points, though the Barometer fink little or none, or perhaps may be in a rifing State. The Mercury finks for Wind as well as Rain in all the other Points of the Compafs, but rifes as the Wind ffifts about to the North or Eaft, or between thofe Points : yet, if the Barometer fhould fink with the Wind in that Quarter, expect it foon to change from thence; or elfe, fhould the Fall of the Miercury be much, a heavy Rain is then likely to enfue, as fometimes happens. - Take Heed of buying WEATHER CLASSBS of People who hawk them about the Country, as there is a great Deal of Deception in them. - See Page 41 of my laft Year's Almanack.

Note, Good Weather Glaffes that may be depended upon, Barometers and Thermometers, properly adjufted, may always be had of Henry Andrews, at Royfton in Hertfordhiire; and Centgfafe to any Part of the Kingdom. Letters muft be Poft paid

## Gudicium Afrologicum pro Anno 1799.

Or, An Afrobogical fudg meint for the whole Near, from the Ingfux and Infiuences of the Planets (as fecont Caryfs under God) with refpers to the Affairs of the World.

## The INTRODUCTION.

Courteous Reader,

IN feveral of my former Almanacks, I have taken Notice, that the SPIRIT of GOD is now performing great Wonders in all Nations, in order to bring about fome great Work of Reformation amongft Mankind; wherein I have made it appear, by a numerous Train of Deductions, that feveral Scripture Prophecies are at this Time fulfilling in the World, tending to the Overthrow and Deftruction of Popery, Superftition, and arbitrary Power. What a Fund of Reflection upon the Fate of Nation does the Fall of Rome at this Time give Rife to! Rome, which filled the World with her Arms, and had fo long enflaved Mankind, is funk at laft into the Arms of a Conqueror; her Papal-Power, which could: have brought Kings from the furtheft Ends of the Earth to kneel before it, which could make a Monarch a folitary Being among his Subjects, and ftrip him by a few Words of all Happinefs and Authority; which could have called Millions of Swords from their Scabbards, to re-t venge a Look that threatened it with Infult, has been annihilated without a Struggle, and not a Sigh of Regret is breathed by any one at its Fate! May we not, therefore, be juftified in confidering the prefent Power of France as the appointed Inftrument of Punifiment to the corrupt Part of the Chrifian World, and of Dícipline and Trial to thofe who hold the Faith which was once delivered unto the Saints.

[^5]
## MOORE, 1799.

The HIEROGLYpHIC.


Of the Brumal Ingrefs, or Winter Quarter.

- THIS Quarter begins December 21, 1798, at 42 Mi: mutes paft $120^{\prime}$ 'Clock at Noon, when 10 Degrees of $\frac{3}{}$ ? culminate, and 25 Degrees of $\Upsilon$ afcend the Eaftern Finitor. Mars is in 4 Deg. of $\boldsymbol{\gamma}$, the Afcendant of England; he has joft rifen above the Earth; 4 in 17 Degrees; 8 retrograde, located in the Eaftern Angle; 万 in 24 Degrees ; Io retrograde; the D in 10 Degrees II, the AF cendant of London, ab $* \delta$, ad 8 of $\&$. The Planet Mars is haftening to a Zodiacal 口 Afpect of K, from Cardinal and Tropical Signs; Mars in his own Dignities, and Salurn in the Dignities of the Moon. From a View of the Planetary Configurations at this Ingrefs, fome Pofitions are for Peace and Concord, while others are for War and Bloodihed; and thus are the Nations of the Earth divided. The Pofition of the two grand Superiors, Jupiter and Saturn, will, I doubt, help but little to the Peace and Tranquillity of Ireland, as they are, from particular


## Aftrological Prediations.

particular Circumftances, very weak in the Figure ; there feems to be ftill great Impediments to Peace, and rather fix than remove our Complaints. In France, Holland, Gervnary, Italy, and Spain, there will be great Divifions, Difcontents, and Murmurings, great Lofs of Trade, and Affliction to the common People; the Flames of which will fpread far and wide, even into the United States of America; but that People will act with great Caution and Prudence. We now proceed to fay, it is more than probable the French Nation will not be always fo rampant as of late Years they have been, there being auppicious and alfo difattrous Years and Times, as well in the Government of Empires, Monarchies or Kingdoms, as in the Reigns or Annual Rulings of Princes or Republican Governments, of which France has lately had the mof remarkable Experience in the Life, Reign, and Death of their late unfortunate King, whofe proper Sins could not or did not exceed the Number of other Mens; but he perithed (as we may fay) by the peculiar Fate of France, God fo permitting, as it was the Fate of our unfortunate Charles I. King of England. Thefe are general Warnings to all Pofterity, to fhew what the Revolution of Time, their Sins, and the Sins of Nations will bring about, fo Almidhty God having decreed it:-Ale Things have a Timeto beborn, to increase, todie, andtobe extinguished! More than this cannot be faid, or may we fafely deliver. Several States and Kingdoms in Europe, we are forry to fay, are yet lamentably to fuffer by Decay of Trade, inteftine Divifions, Loffes at Sea, Tumults, and the Sword! But yet, let all thofe People whom it may concern, obferve this fhort aftrological and cabaliftical Judgment, That if any foreign Power fhall attempt an Invafion, or to bring in a foreign Army amongft us, to deftroy or bring us into Slavery, we predict they fhall affuredly fail in their Purpofe, and flall never attain their Defigns, but perifh in the very Attempt. I now haften to give you the Scheme of the Sun's Ingrefs into Aries:

SUN's INGRESS into ARIES.


## Of the Vernal, or Spring Quarter.

THE Sun now begins to difplay his genial Influence on the Earth, and this Quarter commences on the 20th of March, at 17 Minutes paft $20^{\prime}$ Clock in the Afternoon; and the Planets are configurated and difplayed as in the above Scheme. Here is Appearances of Treaties offered, Meffengers fent to and fro, great Difcourfes of Peace, in or near thefe Times, but I doubt nothing lefs is thought of but to gain. Advantages, or other Purpofes. The Pofition of Mars and Fupiter in the Afcendant of Ireland, on the Cufp of the Medium Cœli, is a fanguine and very malignant Afpee, for it implies great Calamities to Mankind, as Commotions, Wars, Seditions, Subverfions of Kingdoms and States, Alteration of Laws, Customs, and Rights, \&c. The great Heroes of the Age have now an Oppor-

## Aftrological Predictions.

Opportunity to fhew their Valour ; many eminent and extraordinary Events and Alterations will fhortly come to pafs, and flow themfelves upon the Stage of Europe; fome of the Places where the grand Scene of Affairs may be expected, are Holland, France, Germany, Italy, Spain, Portugal, to which, I fear, I muft add Great-Britain and Ireland; and, indeed, moft of the European Powers feem to be concerned in one Shape or other in the fuperlative Actions of thefe Times. Some Matters of great Importance are now hammering upon the Anvil of State, and the evil Spirit of France is ftill at work, in contriving and carrying on fome Defigns againft our Liberties, Land, and Nation, which, we hope, GOD will prevent; but there is a ftrange Spirit of Ditcord amongft Mankind, whence Wars, Devaftations, and all other Calamities ufually attending the fame, will be the fad Fate of too many Countries. Great and tremendous will be the Tranfactions of this Year; but we have this Satisfaction and Confolation, they are all under the ruling and controlling Power of God; therefore, Keep clofe to the Word of God's Patience, awa be will keep you in the Hour of Temptation, woblich foall come to try all thofe that dwell upon Earth; which Time, I affure you, is coming; nay, it is near at hand:-Be wife now, therefore, 0 ye Kings; be inftructed ye 'Judges of the Earth, - E'c. fee PJal. ii. 10, 11, and 12.

## Of the Efival, or Summer Quarter,

WHICH begins on the 2 If day of $\mathcal{J}_{\text {ure, }}$ at 3 Minutes paft 12 at Noon, when the firft Degree of gill be on the Cufp of the Medium Coeli; and the firf Degree of $\simeq$ will be on the Afcendant; $q$, Lady thereof, is in 10 Degrees of $\Omega$, on the Cufp of tha 1tth, aflitted of the Moon in An . At this Ingress, happens a notable 6 of 5 and $\sigma$, in 0 : thefe malevolent Planets are pointed in the 1oth, one in his Detriment, and the other in his Fall: they violently afflict each other; there is alfo a $\delta$ of 4 and $\gamma$, in I, the Afcendant of London; they are located in the gth Houfe of the Figure: Thus ftands the Face of the Heavens at this Ingrefs. The $\delta$ of Saturn and Mars is a. remarkable Configuration, as the meeting of thefe two malevolent मlanets is in Canser, a cardinal and tropical

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Sign ; Saturn here corrupts the Influence of the Moon, who hath her Dignities in that Sign; and Mars deftroys the Influence of $\bar{F}$ upiter, who is therein exalted. Cardinal Signs poffefs the Angles of the Figure, which thow the Effects of this Conjunction to be moft eminent, and to promote great and notable Actions. This Conjunction principally refpects Europe, and fhows moft eminent Actions to be carried on with great Refolution and CeLerity. The French Republic, and alfo Great-Britain, appear very formidable to fome of their Neighbours; and fome confiderable Changes appear in the Affairs of fome of the German Princes, \&cc. The Rulfans exert themfelves with great Valour and Prudence. Holland and Pruffia under fome Uneafinefs and Diforder, as is alfo the City of Confantinople. This Conjunction denotes fome raging Diftempers, Fevers, unufual Fires, and fiery Appearance in the Air, as alfo tempeftuous Weather, Inundations, Earthquakes, and the like. I hope we may be free!

## Of the Autumnal Quarter,

## WHICH commences on Monday, the 23d Day of Sep-

 tember, at 49 Minutes paft 1 in the Morning, when 29 Degrees of $r$ will be upon the Mid-Heaven, and 16 Degrees of $\Omega$ are afcending. The Planets are thus pofited, viz. 5,7 Degrees of $\Omega$, in the 12th Houfe; $\psi$ in the of the $3 \mathrm{~d} ; 91$ Deg. of $m$, located in the 4 th; $\% 13$ Degrees of r以, in the 2 d ; the $D$ in 9 Degrees of $\mathbb{E}$, ab of 2 et $\Delta$ 字, ad $* \underset{\sim}{\text { et }} \delta$ : Thus will fland the Face of the Heavens at this Ingrefs, and from which I infer, that notwithftanding fome Overtures have been made for Peace, yet, I doubt, the Felicity of all Europe, particularly Great Britain and Ireland, is not yet fo near at Hand; the Sufferings of this Nation, I fear, are not yet quite over, for our knemies are many. Some great Things will fhortly be brought before a great and auguit Affembly; I wifh they may tend to the Peace and Welfare of Mankind ; and I pray to GoD to protect our moft gracious King and Sovereign, and the whole Nation at large.

## Merlinus Liberatus.

 BEING AN
## ALMANACK

For the Year of our Redemption, +799,
Being the Third after Bifextile, or Leap-Year; And from the Creation of the World, according to the beft Hiftory, 5746, And the iroth of ourbeliverance by K. William From Popery and Arbitrary Government ; But the 104th from the Harrid, Popith, Jacobite Plot:
Wherein are contained all Things fitting and ufeful for fuch a Work; as an Ephemeris of the daily Motions of the Planets, with their various Configurations, Afpects, Conjunctions, Lunations, Eclipfes, A fironomical, Aftrological, MeteorologicalObfervations, the Rifing and Setting of the Sun, Moon, Planets, and fixed Stars, illuftrated with Tables of the Tides, Terms, and daily Equation of Clocks, Length and Break, Increafe and Decreafe of Days, Semidiurnal and SeminocturnalArches for feveral Latitudes, a Chronology, Remarks on the Divifions of the Heavens, with Judgments of the Eclipfes and Seafons, handled according to the Rules of the Ptolomean Aftrology, with many other Things relating to the Truth of Aftrology. And will equally ferve alfo for either Parker's or Saunders's Almanack, as it contains moft of the ufeful Parts of thofe other two Works, and, Wh. White's Ephemeris contains the reft.

Calculated for the Meridian

$L O N D O N$.
Printed for the Company of STATIONERS; And Sold by GEORGE GREENHILL, at their Hall, in Ludgate Street.
[ Price fitched Sixteen Pence.]

## PARTRIDGE． $1799^{\circ}$

A Table of the Common Notes，and Moveable Feafts，for the Year of our Lord 1799.

Golden Number－ $14 \mid$ Eafter Sunday－March 24 Epact－－－ 23 Rogation Sunday April 28 Dominical Letter－F Afcenfion Day－May 2 Cycle of the Sun－－ 16 Whit Sunday－May 12 Roman Indiction－$\quad 2$ Trinity Sunday－May 19 Number of Direction－ 3 Sundays after Trinity－ 27 Sundays after Epiphany i Advent Sunday－Dec． 1 Septuagefima Sund．Jan， 20 Year of the Julian Per． 6512 A．h Wednefday，Feb．－ 61 Year of the Dionyfian－ 122

A Table of the 12 Signs， 7 Planets，and Afpects． $\Upsilon$ Aties，Head and Face． $\mid \bigcirc$ Sol，or the Sun．
४ Taurus，Neck and T＇broat．
II Gemini，Arms and Shoulders．
§ Mercury．
कs Cancer，Breaft and Stomach．
\＆Leo，Heart and Back．
吹 Vingo，Bowels and Belly．
$\cong$ Libra，Reins and Loins．
It Scorpio，Secret Members．
\＆Sagittarius，Hips and Thighs
vs Capricorn，Knees and Hams．
$\approx$ Aquarius，Legs and Ancles．
it Pifces，Feet and Toes．
of Venus．
$\oplus$ Tellus，or Earth．
D Luna，the Moon．
o Mars．
4 Jupiter．
h Saturn．
Hi Georgium Sidus
8 Dragon＇s Head，
8 Dragon＇s Tail．
6 Conjunction，In one Sign and Degree．
＊Sextile，is 2 Signs，or 60 Degrees．
－Square or Quartile，is 3 Signs，or 90 Degrees．
$\triangle$ Trine，is 4 Signs，or 120 Degrees．
8 Oppofition，is 6 Signs，or 180 Degrees．
$\gamma \Omega \not \subset$ Hot and dry，Fiery II $\bumpeq \cdots$ Hót and moif，Airy $\Upsilon \Omega \hat{f} \pi \approx \approx$ Diar Mafcul． vぁ $\cong v \rho$ Cardinal \＆Movea． स1 坞 $\hat{f}$ XCommon Signs H．$\Omega$ in are Barren

子 moreCold \＆dry，Earthy or $m$ Cold \＆moift，Watery
 ठ $\Omega \eta$ 亿玉 $m$ ※Fruitful Signs f $I f$ © Bicorporeal

Kings Names. Reigns began. The direat Lineal Defent of Williain ConqOet. 14, 1066 His Majefty K. George III. WilliamRufusSept. 9, 1087 Henry II. K. of England had Henry 1. - Aug. 2, 1100 Stephen - - Dec. 1, 1135 Henryz.Rofam.Oet.25,1154 Richard 1. - July 6, 1189 John . . - April 6, 1199 Henry 3. - Ott. 19, 1216 Edward 1. - Nov. 16, 1272 Edward 2. - July 7, 1307 Edward 3. - Jan. 25, 1327 Ric.2.W.TylerJunez 1, 1377 Henry 4. - - Sept. 29, 1399 Henry 5. - Mar. 20, 1413 Henry 6. -- Aug. 31,1422 Ed. 4. J. ShoreMar. 4, 1461 Edward 5. - April 9, 1483 Richard 3.- Jone 22, 1483 Henry 7.- - Aug. 22, $14^{8} 5$ Henry 8. - Apr, 22, 1509 Edward 6. - Jan. 28, 1547 Mary 1. - - July 6, 1553 Elizabeth - Nov. 17, $155^{8}$ James 1. . - Mar. 24, 1603 Charles 1. - Mar. 27,1625 Maud mar. Hen. the Lion, D. of Bavaria and Saxony, had Wil. of Lun, mar. Helena, D. of Worldemer, K. of Den. had Otbo D of Brunf. and Lunen. - had Albert the Great D. of Brunf. Albert the Fat D. of Branf.
$\qquad$ Magnus D. of Brunfwick Mag.Torquat.D.ofBru.\&Lzn. Bernard D, of Brun. \& Lun. - had

Frederick Duke of Lunenb. - had

Otbo the Great D. of Lunenb. $\longrightarrow$ had
Henry Duke of Lanen, had Erneft Duke of Lunenb. had Wil. D. of Lunen. Zel. had Elizabeth, mar. Fred. K. of Bobemia, had Geo. P. of CalCharles 2. - Jan. 30, 1649 James 2. - - Feb. 6, 1685 Will.3.\&M.2.Feb. 13, 168 g Anne - . - Mar. 8, 1702 George 1. - Aug. 1, 1714 George 2. - June 11, 1727 George 3. - Oct. 25,1760 lenbar and D. of Harover, had Sopbia, mar. Ernef Augufus Bifhop of Ofnaburgh, and Elecior of Brunfwick Lunenburgh, had George, by the Grace of God, King of Great-Brilain, \&c. who had George If, who had Fred. Pr. of Wales, who had George III. his prefent Majefty, whom God preferve.

ITable of the Moon's Age for every Day throughout the Year 1799, whereby, with the Help of the next General Tide Table, the Times of High Water at all the Places inentioned above it are flewn by Infpection. | 3 |
| :---: |
| -3 |
| 0 |
| $\vdots$ |
| 0 |
| $\vdots$ |
| 2 |
|  |
| 1 |


 'Plosal CT left




$\frac{\text { PARTRIDGE. 1799. }}{\frac{\text { ROYAL FAMILY, \&c. }}{}}$

## BIRTH-DAYS of the ROYALFAMILY.

 King Gzorgeili. June 4o 1738 Prince Aug. Fred. Jan, 27, 1773 Prince of Wales, Aug. 12, ${ }_{1762} \mid$ Prince Adolph. Fred. Feb. 24, $1774 \mid$ Duke of York, Aug. 16, 1753 Princefs Mary, April $25,-1776$ Duke of Clarence, Aug. 21, 1765 Princers Sophia, Nov. 3, - 1777 Prs. of Wirtemberg Sept. 29, $1_{7} 66$ Princefs Amelia, Aug. 7, , 1783 Prince Edward, Nov. 2, - 1767 Queen Charlotte, May 19, 1744 Prs, Augufta Sophia, Nov, 8, 1768 Ducfs, of Brunfiwick, Aug. 11, 1737 Prs. Elizabeth, May 22, - 1770 Duke of Gloucefter, Nov, 25, 1743 Prince ErneftAuguftus, June 5, 1771SOVEREIGNS of EUROPE, their Acceffion, \&c.

| Kingdoms, E'c. | To whom fubject. | orn. | Began to reign. |
| :---: | :---: | :---: | :---: |
| England, sec. | George III. | June 4, 1738 | Oct. 25, 1760 |
| Rufita | Paul | Oet. 1, 1754 | Nov. 17, 1796 |
| Spain | Charles IV. | Nov. 11, 1748 | Dec. 1788 |
| Portugal | Mary | Dec. 7, 1734 | Feb. 24, 1777 |
| Rruffia | Fred.-Wm. III. | Aug. 6, 1770 | Nov. 16, 1797 |
| Denmark \& Norway | Chritian VII. | Jan, 29, 1749 | 「an. 14, 1766 |
| Sweden | Guftavus IV. | Nov. 1, 1778 | Mar. 29, 1792 |
| Germany | Francis II. | Feb. 12, 1767 | Mar. 1, 1792 |
| Poland | Staniflaus III. | Jan, 17, 17,32 | Nov. 25, 1764 |
| Holland | William V. | March 8, 1748 | OCt, 11, 1751 |
| Papedom | Pius VI. | Dec. 27, 1717 | Feb. 18, 1775 |
| Sardinia | Victor | June 26, 1726 | Mar. 20,1773 |
| Octoman Empire | Selim III, | July 17, 1761 | April 7, 1789 |
| Two Sicilies, | Ferdinand IV. | Jan. 12, 1751 | Oct. 6, 1759 |

The Full Weight of the Coins, with the Least Weight allowed to pafs of the Gold Coin.

Wt, allowed.
G OLD. dwt. gr. Guinea - 58
Half Guinea, 216 QuarterGuin. I 8

Fullwt.
dwt. gr.

According to the above proportions it appears, that the value of a lb . of
 Alfo that the $0 z$. of filver is 5 s. 2d. and the 0 . of gold 31.175 s. $10 \frac{1}{2} \mathrm{~d}$. oo that the value of the fandard gold is 15 times that of the filver, and i-14th more.

## A TABLE of Terms and Returns for $1799^{\circ}$

Hilary Term begins fanuary 23, ends February 12. Returns or Efloign Days. Exc, Ret, $\left.\vdash^{\text {App. }}\right|_{\text {W. D. }}$ In eight Days of St. Hilary, - - Fanuary 20 In fifteen Days of St, Hilary, - - 27 On the Morrow of the Puif. of b1. V, M. F:b. 3 In eight Days of the Purif. of bl. V. May, 9

| 21 | 22 | 23 | Wednef. |
| ---: | ---: | ---: | :--- | :--- |
| 28 | 29 | 30 | Wednef. |
| 4 | 5 | 6 | Wedne. |
| 10 | 11 | 12 | Tuefd. |

Eafter Term begins April 10, ends May 6.

 From the Day of Eafter in I Month, - - 21 From the Day of Eafer in 5 Weeks, - 28


Trinity Term begins May 24, ends foune 12. On the Morrow of the holy Trinity, May $\left.\left.\left.\left.20\right|^{21}\right|_{22} ^{22}\right|^{24}\right|_{\text {Friday. }}$. | In eight Days of the holy Trinity, - | 26 | 27 | 28 | 29 | Wedurf, |
| :--- | ---: | ---: | ---: | ---: | ---: |
| In |  |  |  |  |  | In fifteen Days of the holy Trinity - $\mathcal{F}_{\text {une }} 2$ From the holy Trinity in 3 Weeks.

Michaelmas Term begins Nov. 6, ends Nov. 28.
 $\begin{aligned} & \text { On the Morrow of St. Martin, } \\ & \text { In eight Days of St, Martin, }\end{aligned}, \quad-\quad 12$
13

N. B. No Sittings in Wefminffer-Hall on the ad of February, AfcenFion Day, and MTidfunmer Day.

The Exchequer opens Eight Bays before any Term begins, except Trinity, before which it opens but Four Days.

Note, That the firft and laft Days of every Term are the firft and laft Days of Appearance.

## OXFORD and CAMBRIDGE TERMS.

 Oxford Terms.Lent Term - begins fanyary 14, .. ends Marcb 16. Eafter Term - begins April 3, 二 - ends May 9. Trinity Term - begins May 22, - . ends fuiy 13. Michaelmas Term begins oefober ro, - . ends Dec. 17. The Act is fuly 8.

## Cambridge Terms.






Jupiter is an Evening Star till May 30; then a Morning Star till Dec. 17 ; after that an Evening Star to the End.


Venus is an Evening Star till Oct. 16; then a Morning Star for the reft of the Year.















$\left\{\begin{array}{|c|c|c|c|}\hline \text { M } & \text { fupiter } & \begin{array}{l}\text { Venus } \\ \mathrm{D}\end{array} & \text { South } \\ \text { South }\end{array} \quad\right.$ Partridge, October 3799. 27.


| 26 | 4 | 410 | 53 | 6 th $D$. | 7 | 22, | 11 | 22, |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | $11 \quad 38$.

M Lunar Afpects. ClockiMioon © riles


## Obfervations.





30 Decmeres hath syori days.
Poor men are little fhrubs, rich men tall trees, Thofe 'icape fequeftring forms, fo do not thefe; The man of riches, and the Potentate, Moft fabject are to bitter frowns of fate :
For in this world, all's fickle, nought is firm,
Law, Citits, Empires, have but here their 21.9264 term.
$126 \quad 9254$



## 32 Partaidan, 799.

A Compendious Chronology of the moft principal Epochass and Eras, with their Beginnings, reduced and fixed to the Years of the Julian Period, the Creation of the World, and to the Years before and after Chrift.

|  | Julian <br> Period |  |  |
| :---: | :---: | :---: | :---: |
| $\left.\begin{array}{l}\text { HE Creation of the World after } \\ \text { the Jews - - }\end{array}\right\}$ | $95^{2}$ |  | 13760 |
| The Common Epocha of the Creation | 765 |  | 13950 |
| The fame by the Greek Emperors | 787 |  | 13926 |
| The fame in Mr. Bedford's Scripture Chronology | 706 |  | 14007 |
| The fame in Bifhop Ufher's Annals | 710 |  |  |
| The Deluge, or Noah's Flood | 2302 | 1657 |  |
| Porphyrius's Caldaic Epocha | 2480 | 1717 |  |
| The Affyrian Monarchy by Nimrod | 2665 | 1960 |  |
| The Birth of Abraham | 2714 | 2009 |  |
| Jofeph fold into Egypt | 2986 | 2281 |  |
| Thelfraclites 400 Y earsServitude inEgypt | 2819 | 2114 |  |
| TheKingdom of Argosfounded by Inachus | 2857 | 2152 |  |
| The Birth of Mores | 3143 | 2438 |  |
| The Kingd of Athens founded by Ceciops | 3157 | $245^{2}$ |  |
| Thelfraclites departure out of Egypt | 3219 | 2514 |  |
| TheirEntrance into Canaan, or the Jubilee | 3258 | 2553 |  |
| The Deitruction of Troy | 3530 | 2825 |  |
| The firlt Sabbatical Year | 3260 | 2557 |  |
| The Jewifh High Priefthood | 3300 | 2603 |  |
| The Reign of King David | 3646 | 2941 |  |
| The foundation of Solomon's Temple | 3698 | 2993 |  |
| The Varronian Epocha | 3,50 | 3197 | 781 |
| The Catonian Epocha | 3,61 | 3198 | 881 |
| The Epocha of Nabonaffar | 3966 | 3261 | 1 |
| The Olympiads | 3938 | 3233 | 3.77 |
| The Building of Rome | 3962 | 3257 | 7 |
| The Deffruction of the Kingdom of Ifrael | 3992 | 3287 |  |
| The Beginning of Nebuchadonofor | 405 | 3300 |  |
| The Babylonim Captivity | 4108 | 3302 | 270 |
| The Deffruction of Solemon's Temple | 4126 | 3421 | 1 |



34
PARTRIDGE, 1799
A TABLE of HOUSES for the Latitude of 51 Degrees 32 Minutes, according to the Doctrine of Ptolemy, ferving the City of London, \&c.


A TABle of HOUSES for the Latitude of 51 Degrees 32 Minutes, according to the Doctrine of Ptolemy, ferving the City of Liondon, \&c.



A Table of HOUSES for the Latitude of 51 Degrees 32 Minutes, according to the Doctrine of Ptolemy, ferving the City of London, \&c.

38 PARTRIDGE, I799.

4 Table of HOUSES for the Latitude of 51 Degree 32 Minutes, according to the Doctrine of Ptolemy, ferving the City of London, \&cc.


A TABLE of HOUSES for the latitude of $g^{2}$ Degres: 32 Minutes, according to the Doctrine of Plolemy, ferving the City of London, \&c.


## 40 Partridge, 1799.

## Of the ECLIPSES of the SUN, 1799.

THIS year affords two Eclipfes of the SUN, beth of them nearly central; the one before his Apogee, and the other after it ; confequently we cannot exped the Moon to be eclipfed at all until the year following.

The firft of thefe Solar Eclipfes will happen on Sunday, the $5^{\text {th }}$ of May, at 15 minutes before our $10^{\prime}$ clock in the morning ; therefore, of courfe, it muft be invifible to us. This will be a very great Eclipfe in the Great Pacific Ocean; for in 8 degrees of North latitude, and 177 degrees 37 minutes of Eaft longitude from London, the Sun will be both centrally and annularly eclipfed, and that precifely at noon-day, when a beautiful and fplendid ring of light will appear all around the Moon's dark body. The Sun alfo will be partially eclipfed (more or lefs in quantity) at the Sandwich Iflands, at the So. ciety and Friendly Inands, the New Hebrides, New Ca. ledonia, and it will be feen as far as New Zealand, towards the South Pole. It will be vifible in New Holland, New Guinea, the Ladrone Iflands, and as far North from thence as the Ifland of Japan.

The other Solar Eclipfe happens on Monday the 28th of October, at 36 minutes paft our $50^{\prime} \mathrm{Clock}$ in the evening, invifible to us; for the Sun fets that day, at London, at 54 minutes paft 4 o'clock. This is alfo a very great Eclipfe, for it will be both central and total at noon day, in the Great Pacific Ocean, or Great South Sea, near the weftern coasts of Peru, in South America, in 5 degrees 15 minutes of South latitude, and about 83 degrees of Weft longitude from London. This Eclipfe will be vifible (more or lefs in quantity) to the whole continent of South America; it will be feen at the Inand of

Jamaica;

$$
\text { Transiti of Mercury. } 4 T
$$

Jamaica; at the Ifland of Cuba, and all the reft of the Weft India Iflands. It will be alfo vifible in Florida, Georgia, and Carolina, in the fouthern parts of North America. It will be likewife feen to the weftward as far as Otaheite, one of the Society Iflands, on the coaft of Africa,

An Account of the Transit of Mercury over the Sun's Disk, which happens on May 7, 1799.
UPON Tuefday, the 7 th day of May, there happens a notable Tranfit of the Planet Mercury over the Sun, which will be vifible from the beginning to the end, both to us and all Europe, and that for the fpace of near feven hours and a half. The Planet Mercury, divefted intirely of its radiancy, will be feen on the Sun, in the form of a round black fpot, and vifible, if the fky be clear at the time, to all places of the Earth where the Sun is up. Mercury may be feen on the Sun by fharp eyes, only defended by the interpofition of a dark glafs, or a piece of clear window glafs fmoked over the flame of a candle; but will appear much larger, and more to advantage, with the help of a telefcope. The precaution of inter pofing a dark glafs between the eye and the telefcope will be neceflary, or otherwife the fight may be impaired, if not nearly deftroyed; but, thus fhielded, it will be perfectly fecure from danger, or any inconvenience. This Tranfit will be vifible, from the middle to the end, to all North and South America, and the Weft India Iflands; the beginning will be feen in Eaftern Tartary, China, the Philippine Iflands, the Iflands of Borneo, Sunda, and Java, and on the weftern coaft of New Holland, but the, Sun will fet with them foon after.

$$
\text { PARTRIDGE, I } 799 .
$$



At iondon, according to apparent time, the ingrefs at I, is May the 7 th, at I minute after 9 o'clock in the morning ; the middle of the tranfit will be at 43 minutes paft 12 at noon ; and the egrefs at $E$, is at 25 minutes paft 4 in the afternoon.

Occultations of the Planets by the Moon.
ON Wednefday, the 16 th of January, there happens an Occultation of the Planet Jupiter by the Moon, and vifible in thefe parts, if the air proves clear. Fupiter will be feen fome time at a little diftance from the Moor; and at 49 minutes paft 1 o'clock in the morning, will be feen to immerge behind the dark part of the Moon's Limb ; and at 40 minutes paft 2, folar time at London, he will appear again to emerge from behind the bright part of the Moon's limb; after being hid 51 minutes. Though this may be feen by the naked eye, yet it will appear the moft beautiful through a telefcope.

Alfo, on Saturday, the $24^{\text {th }}$ of November, foon after the Moon rifes in the moraing, The will eclipfe the morning Star, the beautiful Planet Venus. This fine Star will immerge behind the bright part of the Moon, at 5 minutes paft 40 'clock, folan time at London; and $V$ enus

## Astrolcgical Observa $\kappa 4$ ons.

will again be feen to emerge from behind the dark part of the Moon, at 4 minutes paft 5 o'clock; after being hid 59 minutes. This Occultation may be feen with the naked eye; but will appear much more to advantage with the help of a telefcope.

## Genethliacal Aftrology.

THE following NATIVITY was calculated and fent me by my worthy friend Mr. John Worsdale, of Spanby, near Folkingham, in the county of Lincoln, who has lately publifhed a piece upon Genethliacal Aftrology, comprehending an enquiry into, and defence of the Celeflial Science; with the method of rectifying Nativities by the Trutine of Hermies, \&c. according to the genuine fyftem of Ptolemy.

## The Nativity of $a$ Young Lady.

" Is plains of Shinor, where enlarged Kky
"Prefents valt profpects for th' admiring eye,
" The long liv'd Patriarchs, as their flocks they fed,
"Obferv'd the wand"ring glories over head;
"Trac'd all their laws and motions, and from thence,
"By fage experience, learn'd their influence."
This is the Nativity of a young lady, who was very nearly related to me; the time of her birth was carefully obferved, and the apparent time obtained by her father, by whofe permiffion I now prefent it to the public, for the pleafure of thofe who delight to employ their leifure hours in fidereal fpeculations.

I fhall begin firft with obferving, that in this geniture we find the celeftial fign $\bumpeq$ occupying the afcendant, and $q$, being lady thereof, fignifies the native, whom we find in $\sigma$ of $\not{\gamma \text {, who has dignities in the ninth houfe, }}$ the houfe of religion and fcience, thereby difpofing of the $D, \delta$ and $K_{2}$. Such a pofition gives a beautiful perfon, adorned with wit, ingenuity, and eloquence; makes the native courteous, and furnifhes her with variery of arts and learning, and is confequently a configuration of very great importance ; all which circumftances in this
nativity have been confirmed in a moft aftonifhing manner, as will évidently appear from the following authentic particulars.

The Scheme of her Nativity. R. A. $94^{\circ} \cdot 22^{\prime}$.


The Latitude of the Planets.


The Declination of the Planets.

| $\zeta_{2}$ | $21^{\circ}$ | $23^{\prime}$ | N. | 0 | $5^{\circ}$ | $2^{\prime}$ | N. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 27 | 7 | 15 | N. | $¢$ | 12 | 2 | N. |
| $\delta$ | 21 | 59 | N. | $5^{\circ}$ | $6^{\prime} \mathrm{N}$. |  |  |
| $\wp$ | 14 | 27 | N. |  |  |  |  |

When this native was only twelve years of age, the underfood the Latin language completely, to the great aftonifhment of many perfons of talents, who were acquainted with her; fle alfo at that age was perfectly able to calculate eclipfes, both folar and lunar, which amazed every regular fudent in the noble fcience of aftronomy, This native was alfo much attached to the ftudy of mufic,

## Astrological Observations.

in which fhe advanced very confiderably ; the inftruments which the played upon moft were the fpinet, organ, and harpfichord; fhe was alfo affected to the fudy of poetry, and wrote feveral very elaborate pieces which met with univerfal approbation: In fine, I prefume, her morals and abilities were perhaps equalled by few, and excelled by none. She departed this life at the age of fourteen years and eight months, to the great grief of myfelf and her parents. A few dayts previous to her death, fhe felected her own epitaph, which, according to her defire, is engraven on her tomb as follows:
"In faith the dies, in duft fhe lies;
" But faith forefees that duit fhall rife,
"When Jefus, by Almighry Word,
"Calls his dead Saints to meet their Lord."
Having faid thus much cencerning the difpofition and morals of this native, I thall in the next place take a fhort infpection of the difplay of the celeftial bodies in her figure of birth, fo far as relates to life and death. We here find both the luminaries in bylegiacal places; but according to the rules and precepts of the learned Ptolemy, the Moon is certainly the giver of Life, and to her cirection we mult look for death; the is in $\delta$ with $\delta$, the $\odot$ 's difpofitor, and applying to the body of $h$, by a fight motion in the Zodiac, and alfo to the $\square$ of $थ$; it is moreover obfervable, that the $D$ is aflicted by the body of $\delta$, which unfortunate configuration is confiderably augmented by the violent beams of Aldebaran; therefore it is obvious, from thefe confiderations, that the $D$ 's direction to the $\delta$ of $b$ in the Zodiac, deprived her of life, as the Almighty had appointed it from the begin. ning. In this figure, 4 is afficted in a violent part of the Heavens, retrograde, and in his detriment, and alfo in $\square$ of 12 ; but as 2 , by being unfortunate, could by no means break the malignant efficacy of $h$, fo we may rationally conclude that this Nativity is very weak, owing to the unfortunate pofition of the $D$, to whom the dignity of Hyleg belongs. Much more might be faid on this geniture, but I flall decline entering into particulars, efpecially concerning the quality of death, which 1 am inclined to think and believe muit have been very remark-
able; and tho' I have never yet heard any thing relative to the fpecies of the calamity of which the Native died, yet what is found difplayed in the celeftial conftitution concerning it, I do not think requifite to difclofe, but Thall leave that important fubject until a future opportunity; and conclude, by oblerving from the foregoing premifes, that there is confequently a time for every purpofe under heaven, which cannot by any means be counteracted or oppofed by the moft Ikilful of human inventions ; and alfo that we, in this flate of frailty and corsuption, are in a degree fimilar to the flowers and grafs of the field, which, when plucked up, whither, die, and return no more.

## Aftrological Obfervations for the Year $\mathbf{1} 799$.

## The Winter Quarter,

Or, The Sun's Tranfit through vo, $\quad ⿲, \mathcal{X}$.

THIS Quarter begins December 21, at 42 min . paft 120 'clock at noon, 1798 , when 10 deg, of Capricorn culminate, and 25 deg. of Aries afcend in the Eaft; $\boldsymbol{h}_{2}$ in the 4 th, in 24 degrees of $\sigma$; 4 in the afcendant, in 17 degrees of $\gamma$; $\hat{\delta}$ in $\Upsilon$, the afcendant of England; of in 28 degrees of $\hat{f}$; $\underset{\uparrow}{ }$ in 19 degrees of ho; and the $D$ in 10 degrees of II, pofited in the fecond houfe; ab * of $\mathrm{o}^{\pi}$, ad 8 of $\circ:-$ Thus ftand the Face of the Heavens at this Ingrefs.

In the firft place, I obferve the planet Mars haftening to a Zodiacal a Afpect of Saturn, from cardinal and tropical figns; Mars in his own dignities, and Saturn in the dignities of the Moon.-Here appears to be much mur. muring and repining amongt all ranks of people; fome of the pofitions of the planets are for Peace, while others imply War and Bloodfhed; thus are the Nations of the Earth divided. The pofition of the twa grand fuperiors, Saturn and fupiter, are not circumftanced to give much Peace to Ireland, though they are in a Sextile Afpeet to each other; thefe planets, in their paflage through the Zodiac, have had fome effect over the ruling paftions of mankind; for by their Trine and Sextile Afpects, firt

## Astrological Observations.

one and then another have withdrawn themfelves from the fcenes of blood and flaughter, and have made peace with France; yet other configurations (as fecond caufes under GoD) of malevolent Pianets, have had different effects on others, fo that the war, even to this time of my writing, is profecuted with great vigour on the part of Great Britain; but even fhe has more than once made an attempt to negociate a Peace. In taking a view of this Ingrefs, I find that in Holland, France, Germany, Italy, Spain, \&c. there will be great divifions, difcontents, and murmutings, by reafon of great lofs of trade, and other afflictions; the flames of which will perhaps reach America, but that people will act with great caution and prudence. The poverty of the people of France occafions them to wake many and grievous complaints againft their rulers, which will be the occafion of great contentions, infurrections, and animofities.

## The SPRING QUARTER,

 Or, T'be Sun's Tranfit through $\boldsymbol{r}, \boldsymbol{\gamma}, \mathbf{I I}$.THIS Quarter takes its beginning on the 20th of March, at 17 minutes paft 2 in the afternoon, at which time 7 degrees of $\gamma$ are on the meridian, while 21 degrees of $\Omega$ afcend in the eaft; the $D$ ad $* \zeta, \Delta$ of 4 et $\delta$. In confidering the configurations of the Planets at this Ingrefs, I find they imply many calamities to mankind, as commotions, wars, feditions, and fubverfions of Kingdoms and States ; with treafons, treacheries, \&cc. The places where the grand fcene of affairs may be expected, are Italy, France. Germany, Ruflia, Portugal, Spain, and other places nearer home; and indeed moft of the European Powers feem to be concerned in one fhape or other in the fuperlative adions of thefe times. The evil fpirit of France is fill at work, in contriving and carry. ing on fome defigns againft our liberties, land, and nation; - a frange firitit of difcord appears amongft mankind, - but Great-Britain will keep her ground amidf this din of war and ruin. If the French attempt to invade us, they will affuredly fuffer for their rafhoefs, even to a total defeat, with great lofs of men and fhips.

## The SUMMER QUARTER,

 Or, The Sun's Tranfit tbrough $\sigma, \Omega$, mi.THIS Quarter begins the 21 ft day of $\mathcal{F} u n e$, at 3 min, paft 12 at noon, when the beginning of 50 is on the M. C. and the beginning of $\Omega$ will be on the eaftern angle; the $D$ ab $8, \circ$ et $\Delta, 4$, of $h_{2}$ and $\sigma$ in $\sin _{0}$, on the M. C. is moft to be noted, as it is a conjunction of great import, and fignifies very eminent and active doings amongt mankind; it principally refpects Europe, and fhows moft eminent actions to be carried on with great refolution and celerity. The Russians exert themfelves with great valour and pradence; the Frencb Republic appears formidable; Holland and Prussia under great defertions and difturbance. The City of Confantinople is concerned in the male influences of this rugged Afpect: It denotes raging diftempers, fevers, and unufual fires, and fiery appearances in the air; and fometimes tempeftuous weather and inundations.

## The AUTUMNAL QUARTER, Or, T'be Sun's Tranfit through $\bumpeq, ~ m, f$.

THIS Quarter begins September 23 , at 49 minutes paft $t$ in the morning, when 29 degrees of $\gamma$ are on the M. C. and 16 degrees of $\Omega$ afcend in the eaft; the $D$ ab ó $\mathcal{\psi}$ et $\triangle$ 우, ad $* \nleftarrow$ et $\hat{\sigma}$. I cannot fing Peace, or fay our quietus eft is yet figned, for our enemies are many. This year will be productive of great accidents and viciffitudes, in feveral parts of Europe; va. rious and fudden mutations; but let us be content, for our condition is better than fome of our neighbours; yet there are fome hopes of another negociation for Peace being fet about. - I wifh it fuccefs. The affairs of Italy and Spain are yet in great confufion. The Germans, French, Dutch and Englifb hope for better times. 0, Ireland, thou alfo hopeft for better times. God blefs King George, and the whole Nation at large.

FINIS.

# Old 1 Haat $れ$ Rohítt. AN A L, MA A A A COMPOSD K 

(According to the modern Mode of Compofition)
A Variety of Subjects, both Ancient and Modern;
And, for the Reader's farther Entertainment,
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Let all ranks of Readers now buy? Which as full is of wit as an egg is A perpetual feaft, that by trios and dezate Wife maxims pours forth, to inftruftanis That prating at random is no fign of /wit, 16399 And that fools oft thought wife are, when filent they fit, But as this feldom happens, it therefore is faid,
That a still pair of chops make'a wife logger-head.

## I. O N D O N:

Printed for the Company of Stationers, And fold by Grorge Greenhile, Treafurer to the Companty, at their Hale, in Ludgate Street,

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THE Creation of the World - Years fince 5902
The gerreal Deluge, or Noab's Flood The Birth of Abrabam The Foundation of Solomon's Temple The Babylonifh Captivity The Birth of our Ble fed Lord and Saviour Cefus Cbris - 2504
179His Paffion and glorious Refurrection
The beginning of the Ten Perfecutions, by Nero ..... 1726
The Tower of LONDON built ..... 1227
Cambridge made an Univerfity ..... 1153
Oxford made an Univerfity ..... 927
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War againft France commencédWar began againft SpainWar againft Holland commencedA general Peace

> Let all who'd in Poor Robin look, Be fure to, firfly, buy his Book.

THE tradefman that deals for ready money only, if he could but find cuffomers, would carry on the fureft and beft bufinefs; for it is well known, that thofe who moft want truft, are the leaft fit to be trufted. No religion is like ready money, faid the canter to his brother hypocrite. Promifes and Spice-cakes were make to be broken, and the general practice of the world proves the truth of the proverb: thofe that are the readieft at promifing, are commonly the floweft in performing; but fmooth words butter nö parfneps; yet a good word, like a pill, is foon given, but it is the effeect that ftamps the virtue; and what virtue can that have, which has no meaning? And this is too often the cafe with all debtors. They will not ftay for what they want 'till they can pay for it; nay, the mifchief is, for the mort part, that they will not fay for what they do not want 'till they can ged money to pay for it. The neceffaries, nay, the comforts of life, are almoft in every one's power to come by, either for love, or money. And, God be thanked, the effect of chriftianity is not yet fo ceafed in this land, but that the poor and needy fill may find benefactors. But it is upreafonable defires, wifhes for what is unneceffary, they want to be fine, they want to be idle, all want to be gentlefolks, and to have what they neither really need, nor know how to make proper ufe of. In fhort they want content, which is what they will never find by running into debt. People are fo perverfe and felf-willed, that there is no pleafing them; they act as if they were refolved to feek, what, they know, is impoffible to be found. Even at the playhoufe they are told, ' He is not poor who hath not much, but he that would have more; want lies in wifhing; he lacks moft, that longs moff; none fo rich as he that doth not covet, but contemn.' This, I fay, they are told at the play, yet take no more notice of it, than if it were in one of the fermons preached at church on Sundays. They know all this to be wife, true, and fit to be practifed, and, therefore, go and do the contrary. The young run wild and mad, in fpite of the advice of the wife and aged, Collow their own flubborn, perverfe humours, that lead them, at jaft, to mifery and ruin. Hence it is, that faith and truth are become facir rare thipgs, and that ten men may be found, that deferve to be hanged for one that ought to be trufted. This brings to my mind a late occurreace : calling upon an acquaintance, who was a carver of grave.ftones, he told me, he was cutting one for a late friend of mine, whofe anceffors lived in the neighbourhood of my favourite town of Saffron-Walden, in Effex, and, as I knew him to be a very punctual, honeft man, I took up my pen and ink, and wrote the following lines :

At the dread judgment day, it will appear,
No querpa hypocrite lies buried here:
Kut one, whofe life was one continued plan,
To prove himfelf an upright, honeft man.
And which I meant to be placed upon the fone, by way of epitaph, but was told, that room could not poffibly be found for ir. The coune then

## PREFACE.

to ke:p the lines, and he may keep them long enough, before he has a ftone to cut for another whom they will fit. Thefe epitaphs are now become fo common, and applied by illiterate carvers fo improperly, as to be taken lefs notice of than the following one:

U, der this ftone poor Humphrey lies,
There's nobody laughs, and nobody cries; And where he's gone, or how he fares, There's nobody knows, and nobody cares.
The rich may have any thing in the world cut upon the fones for money, without the leaft regard to truth and common fenfe; and it is a known face, that they actually are generally fo cut without regard to either. As to the poor, who will cut for them, except it be here or there one, that has a fon or daughter afterwards from indigence raifd to affluence, who have a mind to have one cut, to inform the world, that they once had a father and mother, whs were born, and died. Sometimes, though but very Seltiom, an infcription, truly rharacteriftical of the deceafed perfon, is found: fuch was the following, upon an old maid, which I met with, in a country church-yard, many years ago:

Let none defpife my fingle life, A maid's oft happier than a wife; And while the fhuns the fnares of love, May turn her thoughts to things above.
But, to return, a worthy, honeft man is above all praife; the actions of his life are his beft encomium. He needs no other; and the only pafiable excufe for giving him any, is only to make his virtues as more known, fo more imitable to others, and thereby promote the fpreacing of honefty in the world, which has need enough of it. There has been no good doings, fays. Hodge, fince the pudding was put out of it's place; it ufed to be eaten firf, and it is now put of 'till the laft; it was the cuftom to get money firft, to buy good chear, and then to eat, be thankful, and work for more : but now the fafhion is, to eat the meat firft, and lorget to pay for it, 'till reminded by plaguey things, called bills, and then to have not only the meat, but the bill to pay for : tradefmen cannot afford to truif for nuthing, you therefore muft pay for $y$ ur truft, as credit is a der commodity, and they keep books to refrefh their memory, and to refocillate yours'; if bills will not do, they fend bumbailiffs, whict are more chargable than bills, and far more rude and troublefome. Sometimes they charge you only ten per cent. for billing, but fifty per cent. is cheap for bumbaillming; as to your being willing to pay, that is out of the queftion, they will oblige you to it, whether you will or not; and as to being able, the lefs able you are, the more you will be forcid to pay, and if they find you will be sruined, the lifs mercy will they fhew you, for none court the future cuftom of a ruined man. Where there are hopes of future gain, there is fome fear of lofs'; but none fear the lofs of a cuftomer that is not worth baving. B. dives like a nobleman, faid M. whilf he ftopped his guts with dainties, kept him up all night, filled his boots with punch, and gare thim a good large order for furniture in the morning. But when the time came to pay for the furniture, B. had no money, it was all fpent in rioting gand drunkennefs, and M. could not truft, having loud calling creditors of his own ; one could not pay, and the other could nos truft. So B,'s no-

## PREFACE.

bility was foon at an end, and M. was forced to fet the bailiff's on him, to keep them from his own door. This is no uncommon cafe; there are fill, though the fe be both dead gone, many B.s and M.s remaining, in fimilar circumftances. If people will mind nothing but eating and drinking, and gadding about, they w.ll make poor pitiful faces when pay-day comes, and they find themfelves penny-lefs. Sir Penurious Muckworm will either have their effates on mortgage, if any are left, or the goaler their carcafes. If you will not take care and think in time, you will be made to feel when it is too late. Cold, poverty, and nakednefs, have often withered the hand that has been ufed to be filled with dainties. To have known goor diys, as it is called, is only a mifery when they are over. And over they foon wifl be to all that take no care to prolong them. Thefe fentences have much the air of proverbs: be that as it may, they are important truths, which the fool that defpifes, muft do -it to his own ruin. Mind, thi refare, before it is too late, for it will be in vain to attempt to take care afterwards. When the day of affliction, poverty, weaknefs, and ficknefs comes, nothing is to be expected but to go to the bourne from which no traveller returns. Thefe a.e fericus truths, which, whoever illights or neglefts, dees it to his own certain jeopardy, and full often to his irretrievable undoing.

Incipe vivendi rectè qui prorogat horam, Rufticus expectat dum defluat amnis: at ille Labitur et labetur in omne volubilis arum.

HOR.
He that defers to mend from day to day, as porat Doth on a river's bring expecting ftay,
'Till that vaft ftream, that ftop'd him, fhall be gone,
Which runneth; and for ever will run on.
Many people, faid an old friend of mind, know how to get money, but they earn it like horfes, and fpend it like affes; there is but here and there one, that knows how to fave it. The belly and the back claim all, but 'tis faid, that the belly is the greater thief.

There is a goiden mean, but it
Lies in a road, that's hard to hit.
If a man however pays every one their due, and has fomething to fpare, he cannot be far from this golden defideratum. For as to the opinion of the world, let a man do what is right and fit according to the beft of his knowledge and ability; that is enough : he ought to be the beft judge in his own affairs, And it were folly in the extreme to attempt to pleafe every bady. Which matter I have with my wonted fagacity, fome years fince, illuftrated by the ancient fable of the old man, his fon, and the afs. Let a min frive to gain the approbation of his own confcience, for jt is in his own breaft thit he muff feek for happinefs : he has there a witnefs that cannot be fuborned, a true and faithful monitor, ever watchful to warn him of danger, aad to direct him into the paths of peace, without which happinefs is but a dream, the delufion of children, and the paradife of fools. Harm watch, harm catch, fays the old adage, intimating the danger of nurfing evil defigns, which if they break ont into action, raife a flame, whofe confequences frequently burn up the defignor, Thefe muff therefore

[^6]
## PREEACE.

be guarded againft by every one that wifhes to have peace within. But of all the foes to a comfortable life, none is more neceffary to be guarded againft than idlenefs, becaufe it puts on the garb of a friend, and under mafk of eafe, reft, and quiet, which are defirable things, brings on floth and difhonefty, which are very bad ones. If induftry does not employ the hands, idlenefs will corrupt the heart. The idle man is a blank in the creation, men were made to be induftrious, and do good; and the idle woman is a blank in her own family, and the plague of all the families round her, tattling and carrying about idle ftories, to the difparagement and difturbance of the whole neighbourhood. Thus provoking people to bid her mind her own bufinefs, this indeed fhe does without bidding, for her bufinefs is to hinder every body elfe. Idlenefs, in man, is the firft ftep to the gallows ; and, in woman, it is the firf ftep to the devil. Therefore mind your wheels, your needles, and your thimbles, Ladies, not becaufe you want bread, but becaufe you wifh to be kept out of the bottomlefs pit, Yet let not the matter be miftaken, by being idle is not altogether meant that people do nothing, for it is faid, that idle folks take the moft pains ; but it means that they will do what they ought not, and what they are bound in duty to do, that they are refolved to leave undone: which is truly to be idle in the proper fenfe of the word. Thefe are worfe than lazy drones, like poor old Nauny, who lived in a parifh, that to employ the poor, fou d them flax to fin at the public expence. Nanny, however, thought fpinning harder work than begging, and went to afk an alms frequently of the gentlewoman at the parionage-houfe, who took an opportunity of reprefenting to her, that if the would be induftrious and fpin, fhe might go on more comfortably, and earn a little money, Ah! madam, replies Nanny, there are many a dree-thread in a pound of feven-penny tow. Nanny was offered the ufe of a cow, but was too lazy to milk her, nor could the alumnation of her hurband laid on with a heavy hand compel her to it, fhe was indeed a drone, and had the reward of one, a hungry belly, and fore bones : but it is not fuch ás Nanny that I am here fpeaking of. She was quiet and harmlefs, and an object of pity, having a crofs and drunken hufband, that difheortened and cow'd her. It is thofe that are mifchievoully idle, and purpofely vixin, that I am here fpeaking of, who deferve to want meat, worfe far than poor Nanny. But I have no room for more about this.

It grieves me at the heart to think of the ftory I lately heard of a poor wafherwoman, who by hard labour, and frugal honefty, had faved about the fum of eight pounds; which, in hopes to get a few fhillings a year for it, fhe took it to a topping looking traderman in the town, who faid it was an odd fum of money, could the not make it up ten; the faid fhe was a poor woman, and had no more : cannot you borrow fo much, faid he? The woman went, borrowed, and made up the fum of ten pounds, which he took, though at the very time he knew in his own breaft, that he was a bankrupt. And the poor woman loft the money. As this is the greateft villain that I have chronicled this year, I fhall here end my preface with him, having run it nearly to the length of my tether.

[^7]| 1. | per Month. <br> 1. s. d. | $\begin{aligned} & \text { per Week. } \\ & \text { 1. s. d. f. } \end{aligned}$ | $\begin{aligned} & \text { per Day. } \\ & \text { s. d. f. } \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| 1 | - 18 | 0042 | - 03 |
| 2 | 034 | 0091 | 011 |
| 3 | - 50 | 0113 | - 20 |
| 4 | - 68 | - 1.6 | 0 - 3 |
|  | - 84 | -1 110 | $3 \quad 3$ |
| 6 | - 100 | 023 | - 40 |
| 7 | - 118 | 0281 | $0 \quad 42$ |
| 8 | -13 4 | - $3 \quad 0 \quad 3$ | $0 \quad 5$ |
| 9 | $\bigcirc 150$ | - 30512 | - 60 |
| 10 | 0168 | - 3100 | - $6^{2}$ |
| 11 | - 184 | - 433 | - 71 |
| 12 | 100 | - 47 | - 80 |
| 13 | $1 \quad 18$ | - 411 | - 82 |
| 14 | 134 | - $5 \quad 4$ | - 9 1 |
| 15 | 50 | $0 \quad 5 \quad 90$ | - 93 |
| 16 | 68 | - 6113 | - 102 |
| 17 | I 84 | - 66 I | 0 11 1 |
| 18 | 1100 | - 6103 | - 113 |
| 19 | 1118 | - $7 \quad 32$ | 102 |
| 20 | 13.4 | - 780 | 11 |
| 30 | 2100 | - 1160 | 173 |
| 40 | $3 \begin{array}{lll}3 & 6 & 8\end{array}$ |  | 2201 |
| 50 | $4 \quad 3 \quad 4$ | 01921 | 290 |
| 60 | $5 \quad 0 \quad 0$ | $1 \quad 301$ | $3 \quad 3 \quad 2$ |
| 70 | $\begin{array}{llll}5 & 16 & 8\end{array}$ | 1610 | $3 \quad 10 \cdot$ |
| 80 | $6 \quad 13$ 6 | 11081 | $4 \quad 4 \quad 2$ |
| 90 | $7 \quad 100$ | $1 \quad 1461$ | $4 \quad 11 \quad 2$ |
| 100 | $8 \quad 68$ | 1842 | $5 \quad 5 \quad 3$ |




1 VII III $2 \mathrm{~m} 40 / 25$ The Ot
$\begin{array}{llll}4 & 5 & 4 & 3 \\ 4 & 26 \text { ame Kuight be an evening far all this-Spring }\end{array}$ and fummer, when the figns of her influence, I mean it her two horns, may be feen by evely cuckold in the kingdom, who is bleffed with his eye figh', and can procure a telefcope, except he be wilfully blind, that is, will notfee, or is afhamed to ree, what is afhamed to be feen, but gold duft is a ftrange thing for making folks wilfully blind to their own fhame, and 'tis a mame that they fhould be fo blinded.

The planet will continue an evening ftar 'till the 16 th day of October, which is a confounded long while, mind, for cuckoldom to ride triumphant. And from that time fhe will be a morning ftar the reft of the year.

Fupiter will be evening ftar'cill the 3 th day of May, and then a morning ftar till the 18 ih of De cember, after that an evening ftar again 'till the year's end. Now as to there planetary influences, what pity it is that the world fhould be fo old, and yet know no better, than to take the dark fables of heathenifm for realities, fooled on by a dubioufiy denominated old clafs of mortals, who call themfelves Aftrologers, which word muft therefore bear the fignification of ftupid affes!


## No. 137.

## Obfervations in February.

In February, tho' the days be longer, It's often faid, the cold is ffill the fronger; Therefore warm meat and drink when ufed in reafon, Are good, and quite appropriate to the feafon.

| D | Clocks <br> bef. Sun |
| :---: | :---: |
|  | $14^{\prime}$ |
| 6 | 14 |
| 11 | 14 |
| T6 | 14.26 |
| 21 | 1335 |
| 26 | 13 |

M| ©rifes / D rifes / D/Sorry faints $D$ and fets and fets A. \&\&fadinners. - VII IV はm+incoman新


This Month bright Sol the equinoctial croffes, When feldom over full of bloom the gofs is, Yes lads and laffes think a little kifing,
Harmlefs and modeft, there's not much amifs in.

## M Clocks bef. Sun.

I VI
232
$330 \quad 30 \quad 5 \quad 5627 \left\lvert\, \begin{aligned} & \text { chronicle } \\ & \text { then was, }\end{aligned}\right.$ $428 \quad 326 \quad 2128$ Of every

 $\begin{array}{llllll}7,22 & 38 & 6 & \text { a } & 3 & 1 \\ \text { afs. } \\ \text { Of every }\end{array}$ $\begin{array}{llllll}8 & 20 & 40 & 7 & 46 & 2\end{array}$ prognofti\begin{tabular}{r|rr|rr|r|l|}
9 \& 18 \& 42 \& 8 \& 54 \& 3 cator round, <br>
10 \& 16 \& 44 \& 10 \& 5 \& 4 \& And would

 

II 14 \& 46 \& 11 \& 18 \& 5 <br>
be wife <br>
aftrologer
\end{tabular} $1212 \quad 48$ morn. 6 profound. $\begin{array}{llll}13 & 10 & 50 & 30 \\ 10 & 7 \text { Of every }\end{array}$

$-$

| 23 | 50 | 10 | 9 | 6 | 17 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| known to |  |  |  |  |  |
| 24 | 48 | 12 | 10 | 39 | 18 |
| go aftray, |  |  |  |  |  |
| And wives |  |  |  |  |  |

$2546 \quad 14$ morn. 19 A that falfe,
$2644 \quad 16 \quad 820$ jucre in the

$27 \left\lvert\, \begin{array}{lllll}2 & 18 & 1 & 30 & 21\end{array}\right.$ face of day. $\left.\begin{array}{lllll}28 & 40 & 20 & 2 & 38 \\ 29 & 38 & 22 & 3 & 31-23\end{array} \quad . \quad \right\rvert\, \begin{array}{ll}1 & 2\end{array}$ | 30 | 36 | 24 | 4 | 9 |
| :--- | :--- | :--- | :--- | :--- |

31534
but to put me out, and plague me with her yelp and clatter. O plague, replies her hufband, mine has enough of that, and as to her help and knowledge that you are dreaming about, it is not in her head, but the other extremity of her body, her toes, which, being full of corns, fpringe againft bad weather. But as it is only a few days before, can be of no manner of ufe to me, who want to know above a year before hand, that I may put it into the copy of Moore's Almanack. Nay, they do me hurt initead of good, for the makes fuch a noife, when they put forth their twangs, that fhe difturbs me of my reft for nights together. So I found I mult be filent about his wife's figns, which only hindered him from dreaming about his own prognoftications, and fpoil'd the benefit he ufed to reap from the old torn book of Noftrodamus's French Prophecies, the oracle of all the conjurers in France and England, for centuries back, foretelling things that never did, or can come to pais, to the greatedification of both countries.

| $y s$. | $\left.\right\|_{D} ^{M}$ | © Decl |
| :---: | :---: | :---: |
| New Moon 5 [ [ 7 ho. 21 m . Morn. | 1 |  |
| Firft Qaarter 13 Day $\begin{array}{lll}5 & 47 \\ \text { Morn. }\end{array}$ |  |  |
| Full Moon 19 at $\begin{aligned} & \text { II } \\ & 40\end{aligned}$ | 1 H |  |
|  | 16 | 3 |
| $\bigcirc$ enters $\gamma$ zoth Day, at $2 \mathrm{ho}$.56 min . Morn. | 2 I |  |


'Tis April, and the feather'd tribes among
All is feftivity and love and fong;
And among men, without meat, drink and kiffing,
Contentment, love and harmony are miffing.








I have known it cold in June, but in July, ${ }^{3}$ Tis feldom otherwife than hot and dry; And I'm fo hot and dry, I really think I could not live, if I could get no drink: Bring me a goblet then, and a full bowl, That I may fit and cherifh my old foul.

\section*{| M | Clock |
| :--- | :---: |
| D | aft. Sun. |}


cheer up their fpirits, for by applying to him, who has cream of violets, effence of rofes, honey-fuckle foap, and poppy water, which removestan and freckles, thofe great enemies of beauty, none need be without good hopes.
Any young Gentleman, who firt begins to perceive, by his glafs, a little down forjuging from his chin, who thinks himfelf defpifed by the Ladies for his fmooth face, and wifhes to be poffers'd of the thick rough beard of a man, let him walk in: for, by lathering his cheeks, and paffing over them with the back of my beft concave razor, he may depend on foon findipg a great T.change! ! ! Secrecy will be obferyed in this, as in all other cafes: that finith call'd the jeers and taunts of the world 15 When he fo may be avoided, which, who would 716 in his al bear!

| 58 | 9 | 47 | 16 in his al |
| ---: | ---: | ---: | :--- |
| 5 | 17 manack |  |  |

N.B. The Leicefter Journal is him maul'd. taken in for the ule of the weekly politicians- - No political debates allowed in the thop between high that will any way breed diffurbance. a For Mr. Cramp publicly avows himfelf to be, ind which he hopes every other Chriftian is - a fliend to King George, peace, and good. will.
'Tis J. Cramp, the barber, who live in this place,
Well noted for fhaving (not cuttins) the face.

NP 137. Poor Robin.






| I) | 20 |  | Remigius Bp. | October is come, let thofe who pleafe, |
| :---: | :---: | :---: | :---: | :---: |
| 2 | 21 | W | O11 St. Mathew | And can afford it, toaft their cheefe: |
|  | 22 | TH |  | But they that think it now too dear, |
| 3 | 22 | F |  | And have but little cafh to fpare, |
| 4 | 23 | F |  | Or love to hufband well their gold, |
| 5 | 24 | S |  | Faith I'd advife to eat it cold ${ }^{\text {s }}$ S |
| 6 | 25 | F | th Sun.aft. Trim. | Faith. |
| 7 | 26 | M |  | Efpecially if they find that |
| 8 | 27 | Tv |  | It is not overdone with fat; |
| 9 | 28 | W | Denys B. M. | Or fat or not, 'tis very dear, |
| 10 | 29 | $\mathrm{TH}^{\text {ch }}$ | Ox, \& Cam. T. beg. | Old Michael. Day |
| 11 | 30 | F |  | Nor will it foon be cheap, I fear. |
| 12 | Oct. | S |  | In times not half fo hard as theie |
| $\|13\|$ | 2 | $F$ | 21 fl Sun. | Trans. of K. Ed. Conf. |
| 14 | 3 | M |  | Bite of your bread and fmell of your |
| 15 | 4 | Tu |  | cheefe; |
| 10 | 5 | W |  | A proverb was, as I've been told, |
| 17 | 6 | $\mathrm{TH}_{\mathrm{F}}$ | Etheldreda Virg. | By my grandmother, wife and old, And fagely in my fapient head |
| 18 | 8 | F | St. Lu | I treafur'd up have all fhe faid; |
| 19 | 8 | S |  | Then furely, you muft all agree, |
| 20 | 9 | 1 | 22 d Sun.aft。, Trin. | He's a rare grandfon who's like me, |
| 21 | 10 | M |  | That have of memory fuch a gitt, In all that appertains to thrift |
| 22 | 11 | Tu |  | And favingnefs, that furely no man |
| 23 | 12 | W |  | E'er learnt fo muoh of an old womane |
| 24 | 13 | TH |  |  |
| 25 | 14 | F | E-Geo. III. Accef. | Crifpin. |
| 26 | 15 | S | K. G.111. Pr. -60 | Let coblers keep their holiday on |
| 27 | 16 | 5 | 23 d Sun. aft. Trin. | Mondays, |
| 28 | 17 | M | St Simon \& St Jude. | I don't allow them to get drunk on |
| 29 | 18 | Tu |  | Sunday |
| , | 19 | W |  |  |
| 3 | 20 | 1H |  |  |


| gs | 1 | $10^{\circ} 23^{\prime \prime}$ |
| :---: | :---: | :---: |
| Hanging in drooping pofture, fits and fings, | 6 | $11 \quad 54$ |
| He bye and bye will to your windows come, | 11 | 13 15 |
| That fome fair hand may throw him a bread crumb: | 16 | $14 \quad 23$ |
| The wilder fongiter tribes fly human hands, | 21 | $\begin{array}{ll}15 & 17\end{array}$ |
| And fly for fuftenance to other lands. | 26 | $15 \quad 54$ |


|  | 412 | The weather | So much for my fair royalift, whofe principles, tho 1 admire, 1 |
| :---: | :---: | :---: | :---: |
| 216 |  | to foretell <br> they try, | whofe principles, tho I admire, cannot much commend her con |
| 318 | $\begin{array}{lllll}42 & 7 & 35 & 4\end{array}$ | 4 And | duct towards this poor fowl. Her |
| 420 - | 40818 | 5 year they're | own good fenfe fhould have told her |
|  | $\begin{array}{llll}38 & 9 & 17\end{array}$ | 6 prov'd to be | that jacobin corn was better for |
|  | 361028 | 7 Th | ut |
| 726 | 3411868 | ${ }_{\text {try'd, }}$ | moft fenfe.efs things are both faid |
| $828 \quad 3$ | 32 morn. 9 |  | fpirit of party |
| 929 | 311510 | ceive them, | Ir, oppofition, and contra- |
| 1031 | 2922111 | 1 They othe |  |
| 1133 | 2735 |  |  |
| 1235 | 254.4713 | 3 bel | here thele fair one |
| 1337 | 23 D rifes | Ou | ed live, when a very |
| 1439 | 215 a 40 | 号 | had gott |
| 1541 | $19 \quad 5 \quad 5616$ |  |  |
| 43 | $17 \quad 6 \quad 1217$ |  |  |
| 1784 | 1563418 | 8 and ridicule; | hey faid he was a cock of true |
| 1847 | $13 \quad 7 \quad 419$ | $9{ }^{\text {th }}$ | they had put him on a blue wig, |
| 1949 | 1174720 |  |  |
| 2051 | $8 \quad 4321$ | 1 them | fo that he look'd like a blue d |
|  | $9 \quad 5222$ | 2 as it | On my enquiring the meani |
| 2255 | 5 If. 1123 | 3 to pris | all this, I was told that |
|  | 4 morn. | An | chufing him a Cou |
| 2458 | - 3425 |  | a fenior common-councilm |
|  |  |  | manage the affairs of the $B$ |
|  | 58.32 |  | burgefies of the place had elect |
|  |  |  | this ragamuffin, and we |
|  | $54 D$ fets N |  | him, as they call'd it, in |
|  | $5^{2} 5$ a 11 | 1 | tion to a wine m |
| - 9 |  | 2 |  |
|  |  |  | lue, riot, noile, and |



| Obfervations in November. | $\left\lvert\, \begin{aligned} & M \\ & D\end{aligned}\right.$ | Clock aft. © |
| :---: | :---: | :---: |
| For him who out muit in November | 1 6 | $16^{\prime}$ $14^{\prime \prime}$ <br> 16  <br>   |
| A warm great coat is no bad thing I And ufefully may added be, I think, | 11 | $\begin{array}{rrr}16 & 9 \\ 15 & 43\end{array}$ |
| A twiggen bottle filld withrum to drink; | 16 | 14.45 |
| Cold water drinking, I to judge have reafon, | 27 |  |
| Tho' wholefome, ill adapted to the feafon. | 26 | 1220 |





A Table of Terms and their Returns. ${ }^{1} 799$. Very neceffary for all thofe who are fo unfortunate as to bc obliged to go to Law.
Hilary Term begins Jan. 23, ends Feb. 12.
Returns or Effoign Days.



Trinity Term begins May 24, ends June 12.

| On the morrow of the Holy Trinity | May | 20 | 21 | 222 | 24 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| On triday |  |  |  |  |  |

Michaelmas Term begins Nov. 6, ends Nov. 28.

| On the morrow of All Souls, |  |  |  |  |  |  |
| :--- | :--- | ---: | ---: | ---: | :--- | :--- | :--- |
| On the morrow of St. Martin, | Nov. | 3 | 4 | 5 | 6 | Wedn. |
| On |  |  |  |  |  |  |

N. B. No litrings in Weitminiter-hall on Candiemas Day, Alcenion Day, and Midfummer Day.

The Exchequer opens eight days before any Term begins, except Trinity, before which it opens but four days.
Note, That the firftand laft days of every Term, are the firft and haf days of appearance.
WhenLawyers ceafe perverting Laws, $\dagger$ Perverting what is juf and clear, And in wife Statutes finding flaws, The laft great Judgmient will be neat.

## POOR ROBIN,

 1799.PART THE SECOND.

Containing as much Aftrology as is neceffary for a Performance of this Kind, and no more than the Truth ; which gives it by much the Preference to all other annual Prognoftications: with fuch Tables and Obfervations as (added to the Firf Part) are highly ufful to all Aftronomers, Aftrologers, Accomptants, Chronologers, and Politicians.

Golden Number $14 \mid$ Cycle of the Sun 16 The Epaet - $23 /$ Roman Indiction $2 /$

ASTRONOMICAL CHARACTERS.

Planets.
© The Sun.
D The Moon.
§ Mercury.
of Venus.
$\hat{\delta}$ Mars,
${ }_{5}$ Jupiter.
4 Saturn.
8 Afcending Node.
\% Defcending Node.
©́ Conjunction.
8 Oppofition.

Signs of the Zodiac. $\checkmark$ Aries,
४ Taurus.
II Gemini,
ए Cancer. 13 : zatita
$\Omega$ Leo.
mR Virgo.
$\bumpeq$ Libra. H, ad mivisc

1 Sagittarius.
ve Capricorn.
$\underset{\sim}{\infty}$ Aquarius. $\quad$ P Pifces.

THE ANATOMY.


## A correct TABLE of the MOON'S SOUTHING calculated one who has any thing to do with

| $\mathrm{M} .$ | $\mathrm{H} . \mathrm{M} .$ | $\begin{aligned} & \text { Feb. } \\ & \text { H. M. } \end{aligned}$ | March. <br> H. M | April. $\mathrm{H}, \mathrm{M}$ |  | $\begin{aligned} & \text { May. } \\ & \text { I. M. } \end{aligned}$ | June. H. M. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 |  |  | 8 m . | 9 m |  | $9 \mathrm{~m} \cdot 3^{8}$ | $10 \mathrm{m}$. |
| 2 | $8 \quad 35$ | 10 | $8 \quad 56$ | 101 | 110 | 17 | 1 |
| 3 | 930 | $10 \quad 5^{8}$ | $9 \quad 48$ | 10 | 210 | - 57 | $11 \quad 52$ |
| 4 | 10.26 | $11 \quad 49$ | $10 \quad 36$ | 113 | 3211 | $1{ }^{1} 88$ | Aft. 45 |
|  | 11823 | Aft. 37 | 11.22 | Aft. | 12 Af | 1 ft . 22 | 39 |
| 6 | Aft. 20 | 1822 | Aft. | - 5 | 521 | 8 | 35 |
| 8 | 14 | A | 45 | 1.3 | 341 | 58 | $3 \quad 30$ |
| 8 | 2 | $2 \quad 44$ | 25 | 21 | 192 | 51 | 4,23 |
| 9 | $25^{\circ}$ | $3 \quad 23$ | 24 | 3 | 3 | 46 | $5 \quad 14$ |
| 10 | 3 - 33 | 4 :18 | 45 | 3 | 574 | $4 \quad 41$ |  |
| 11 | $4{ }^{1} 1$ | $4 \quad 44$ | $3 \quad 28$ | 4 | 515 | $5 \quad 36$ | $6 \quad 51$ |
| 12 | 4.53 | 28 | $4 \quad 13$ | 5 | 466 | $6 \quad 29$ |  |
| 13. | 5132 | 15 | 5 | 6 | 437 | 7 | 30 |
| 14 | $6{ }^{6}$ 13 | $7 \quad 6$ | 55 | $7 \quad 3$ | 388 | 10 | $9 \quad 23$ |
| 55 | $6 \quad 55$ | $8 \quad 1$ | 50 | 8 | 339 | 9 | O 19 |
| 16 | $7 \quad 41$ | $8 \quad 59$ | 48 | 9 | 269 | $9 \quad 51$ | 18 |
| 17 | $8 \quad 30$ | $9 \quad 59$ | $8 \quad 47$ | 10 | 1810 | O 44 | Morn. |
| 18 | 9.24 | $10 \quad 59$ | $9 \quad 44$ | ri | 1011 | 1 40 | 26 |
| 19 | $10 \quad 21$ | 1156 | $10 \quad 39$ | Morn |  | Morn |  |
| 20 | 11.21 | Morn. | II 33 | 0 |  | - 40 |  |
| 21 | Morn. | - $5^{\circ}$ | Morn. | $0 \quad 5$ | 591 | $1{ }^{1}$ |  |
| 22 | - 20 | 143 | 26 | 15 | 57.2 | 2.42 | 4 |
| 23 | 1 P | 34 | 19 | $2 \quad 5$ | 57.3 | $3 \quad 41$ |  |
|  | $2{ }^{1} 12$ | $3 \quad 25$ | $2{ }^{2} \quad 13$ | 3 | 574 | 437 |  |
|  | $3_{\text {II }}$ - 3 | 418 | 3 | 45 | 575 | $5 \quad 27$ |  |
|  | 3.253 | $5 A^{12}$ | $4 \quad 5$ | 5 | 536 | $6 \quad 13$ |  |
|  | 4.42 |  | , | 5 | 456 | $6 \quad 56$ |  |
|  | 5 - 32 | 7 | 6. |  | 327 |  |  |
|  | 23 |  |  |  |  |  |  |
|  | 16 |  | 53 | $8 \quad 7$ | 588 | 55 |  |
|  |  |  |  |  |  |  |  |

## No. 137. Mid Poor Sir Robin. 35

for the YE AR of our LORD, 1799, bighly neceflary for every ker eitber by Land or Water.


Now, where's my dear lady? What pity it is, But she ftood at my back while I'm writing all this:
As true as the day, and of good fenfe as full,
As the myfteries hid in a Jacobin's ikull,
That by the fweet firelight of brimftone look blue,
A profpect delightful for devils to view.
But as my wife's abfent be patient I muft,
For the gone is to buy me a candle on truft:
If fhe bring one, her heart fure exult muft with joy,
That on fubjects fo proper my pen I employ.
Yet the errand fhe's gone on, I needs muft confefs,
Problematical is, or of doubtful fuccefs:
As every penny-lefs poet muft fee,
Who nought but his wits has to trult to, like me.
And yet when I've money to pay I pains take,
Left of credit and confcience the fhipwreck I make:
For this candle fhe pay muf, and promife to pay,
Which I, when I'm able, thall never gainfay.
Tho' poor wretches, like me, I'm full well aware, muft
Ufe humble intreaties, yet pay for their truft:
For, tho' frequently rich-folks are fqueez'd by a griper,
'Tis ever found true that the poor pay the piper.
Then, what muft become of all people in trade,
If it was not for thofe by whom pipers are paid?
But lo! the door opens, and in my wife's come,
With a whole pound of candles hung over her thumb.
Joy finild on her face, and made farkle her eyes, While fhe held up her hand and faid, fee what a prize!
A Gentleman's given, who has felt fuch delight by Your works; he has fent you thefe tapers to write by. He fays you fu nobly can handle the quill,
'Tis ten thoufand pities you e'er fhould fit fill. He, therefore, of candles has fent you a fcore, And fays, when they're done, he'll fupply you with more.
Like a man that awakes from a troublefome dream, And finds it detufion, fo lightfome I feem, Blefs the Gentleman's heart, then, I cry out in hafte; How deep is his judgment, how fine is his taite? So Ill dedicate to him thefe rare neryous lines, In which wifdom with wit and difcretion combines.

Here goes then.. $Q$ thou! whofe difcernment's fo good, As to comprehend marvels by few underfood,
And of thy great bounty, to give halt thought fit, A full pound of lights to illumine my wit, I fcorn to deceive, have of gratitude fore,

Very glad am to find how my deep lucubrations Are priz'd by the wortliy, and wife of all nations; Containing fuch tales, and fo pithily told, 5 pons suf ung The young to inftruct, and enliven the old. With care fo compactly I ftick to my text, That you may not with ufelefs digreffions be vex ${ }^{*}$, $\quad$ and C Nor with periods long be ftill run out of wind, Heqtorg A How aptly good fenfe with concifenefs I've join'd; as Jug Except now and then I put in a dead letter,
That what's brifk and lively fo tafte may the better, in if
So writing my book, I endeavour to do't, 5 sidit no 10 n 'T
That it one way or other all palates may fuit.
To buy it, let old and young maids run together, 1 ldor 9
'Tis an almanack true, that foretells no bad weather.
It's worth by deep Pitt is fo well underfood,
That he's doubled it's price for the public good, tov bra
And conferr'd on it's Author fuch vaft obligation,
For curfing his foes, and inftructing the nation, ${ }^{\text {did }} 20{ }^{\prime \prime}$
So that he in office for ever may ftay;
He has, of all authors, the moft caufe to pray:
Since his name's Robin Poor, he each year poorer makes him, So that deep rooted poverty never forfakes him.
High matters of fate thus he charmingly handles,
And with gratitude great for thefe beautiful candles, By whofe fhining light he has this dedication
So wrote, that it needs muft inftruct the whole nation. For my worthy friend, therefore, I ever muft pray, Who thus has transform'd my dark night into day. And when I've burnt thefe out, becaufe I am poor, Of his bountiful kindnefs, has promis'd me more.

But now to proceed, as I well underftand
The valt ufe of my book to each lord in this land ;
That their wits without it muft than coulters be duller,
I kindly with fenfe deep have filld it the fuller,
That gentle and fimple together may flock,
'Till I've fold all my books, and laid in a freft tock. And having cafh left then, I cannot help thinking bmA Of laying it out in good eating and drinking. So, right wifely, enjoy I the fruit of my labours, That I may not be rich, to be grudg'd by my neighbours; For riches caufe envy, and envy breeds ftrife,
Which I wifh to avoid all the days of my life.
I know he that fpends all he has in his kitchen,
Will ne"er find a parlour to fit and grow rich in.
But thefe matters of prudence ne'er enter my fkull, While my coal heap is high, and my barrels are full:

40
Poor Sir Robin.
He that over folicitous is for the morrow, Gives the prefent day more than its due fhare of forrow. Who, then, would enjoyment forego to feek care, Which is ever dirt-elieap, and abounds every where ? While I've coal and candle, and victuals and drink, The beft thing I can do, is to ufe them, I think. My coal-heap to fave 'till it's rotten is fad, And my liquor to keep 'till it's four is as bad; So I make fpecial minding, nor now the truth fmothers And ever avoid both the one and the other, That my coals over-long on a vait heap don't lie, Nor drinking leave off 'till my barrel is dry. Nor let me forget what a bleffing it is, To lave a kind wife that affifs in all this : So we fet foot to foot, like a true loving pair, And equally mind to have nothing to fpare. Give us each day to dinner, then, good boil'd and roaft, And at fupper fome nutmeg, to fice well our toaft ; With plenty of liquor that's wholefome and ftrong, Contented to live we'll be all our lives long. Unexpectedly found is a friend that will buy me My candles; who knows but that one to fupply me With fire, meat and drink, and warm cloathing befide, May be found; on my fearching well thro' the world wite. That I once more to reach my burnt-ifland may try, And in my finug caftle of indolence lie, An end put to fafting, I'll conftantly keep A feaft all day long, and all night long Ill fleep. But all this rare doing, alas! all's miftake, For I'm fober, and fafting, and dreaming awake: And fo do thoufands more, who, like me, are fach elves, To build caftles in air to deceive their own felves. And far more do fo, than can live by the pen. So fool'd on by hope and fond wifhes are men; So fond of delufion, heed not reafon's rules, They know they are cheated, and love to be fools.

Alnafebar the Perfian, the Guardian fays, Was too idle to work all his old father's days; Who one humdred drachmas, by induftry won, Of moriey of Perfia left to his fon:
Who foon proper thought it to lay out with care, In glaffes and vafes, and fire earthern ware.
In a large open bakket all thefe he pil'd up, And having made choice of a trait little fhop, That, rais'd by three fteps, was above the town fireet, With his bafket fo fill'd, with care plae'd at his feet

And with his back leaning for eafe on the wall, In this pofture expecting his cuftomers' call ; With his eyes on the bafket, he on a train fell Of thought moft amufing, that pleas'd him full well. For he was overheard by a neighbour to fay, As-he talk'd to himfelf, this here bafket to day
Coft me, at the merchant's, in drachmas five fore;
It is all that I have in the world, but before
It be long, I fhall fell it by retail, and then,
As the profits arelarge, my five foore will be ten. 1 ant T (Well done, rare Alnafchar, it is a fine trade,
By which profit of centum per centum is made.)
Thefe two hundred drachmas thus foon muft four count, Which muft quickly, of courfe, to four thoufand amount; Soon thefe four thoufand drachmas muit double, and when By this means, I fhall find myfelf mater of ten, My trade of a glafsman I then will lay bye, And the more noble one of a jeweller try.
In diamonds of all forts, and pearls that men firh for, I fhall deal, 'till I've got as much wealth as I wifh for. When I purchafe a houfe will, the beft I can find, With horfes, flaves, eunuchs, and lands to my mind. I then fhall begin to feel pleafures and joys,
That all thro the world muft needs make a great noife'
I'll continue my traffic, nor think to fop there,
'Till of drachmas I've one hundred thoufand got clear;
This will of my confequence all men evince,
When Ill natarally fet myfelf up for a Prince,
And the Grand Vizir's daughter in marriage demand,
That prime minifter firt having made underftand
What I've heard of her beavey, her wit, and difcretion,
And other high qualities in her poffeffion.
And that, on our wedding night, 1 wil make bold
To prefent him with one thoufand pieces of gold.
On our marriage, black eunuchs f'll buy for her ten,
The beft that for money can grot be. And then
To my father-in-law I a vifit muft pay,
With a long train and equipage pplendid and gay,
And when at his right hand im placid in fult-view, 10
Which, to honour his dakghter, he 11 not fail to do,
I prefent will the promifed pieces of gold,
And, to his furprize, in my other hand hold
Another purfe, equal in value to this,
Which alfo to give him, I think not amifs;
And I'll fay, worthy fir, pray don't judge it abfurd
To aceept thie; Flove to be good as my word.

## When I've brought home the princefs, IIl take fpecial pains,

Ere I to love and dalliance let loofe the reins,
To breed in her bofom a proper refpect
For my perfon, to means ufe I fhall not neglect.
I to her own room fall confine her fraitway,
Make her a fhort vifit, but little Ill fay,
Her women, of courfe, will to me reprefent, $\quad$ tharo oH
That by my unkindnefs her tender heart's rent,
And beg me, with tears, to come in, and carefs her, wlie
Or let her fit down by my fide, and fo blefs her.
But inexorable Ill fill remain quite,
And my back turn upon her will all the firt night,
Her mother will come, as I fit at my eafe
On my fofa, refolving to do as I pleafe;
Her daughter, in tears, then the to me will bring,
Who now at my feet will herfelf humbly fling,
And beg I'd receive her thus into my favour.
Then, that fhe may always do as I would have her,
To imprint in her for me a due veneration,
And be careful, thro' life, not to give me vexation;
My foot drawing up, I'll fo fpurn her withal,
That fhe many a ftep from the fofa thall fall.
Alnafchar himfelf up to fuch a pitch wrought,
As to act with his foot what he had in his thought ;
Forgetting his all in the world at his feet,
He his top heavy barket kick'd into the ftreet;
So his glaffes and vafes, both upper and nether,
Were all by the fall marh'd to pieces together.
This ftory contriv'd was to make it appear,
'Tis foolifh and vain to build caftles in air:
Idly walting that time in vain flattering fchemes,
Which, tho' we're awake, are no better than dreams:
When we might have had ufeful employment in mending,
And carefully to our own buinefs attending.
Of the loffes and croflis men misfortunes call,
Thofe we bring on ourfelves are the heavieft of all.
By our ungovern'd lafts, wills and appetites led,
We forget divine vengeance hangs over our head;
And the cup of falfe pleafure it mingles with gall, dras
To think foon or late it will certainly fall.
Dionysfus the elder proud Sicily's king,
Whofe riches and grandeur then made the world ring,
Himfelf fhew'd he ftill was an unhappy man,
For when one of his flatterers, Damocles, began
In a fet fpeech to pleafe him, his pow'r to proclaim
His forces his riches, his majefty, fame,

## No. 137.

## Poor Old Sir Robin.

With the matchlefs magnificence of his feats royal, orlWy 0 Shew'd him happiett of mortals beyond all denial. Dionyfius reply 'd, will you, therefore, Damôcles, Becaufe a king's life, as you think, muft all fo pleafe, To try all this blifs will you therefore agree $17 \%$ ym $30 \%$ To taite it yourfelf, and change fortunes with me? When he joyous agreed thus to act in his ftead, arf sxhM. He order'd the man to be plac'd on a bed Of gold, with mof beautiful furniture hung, Silver tablets, and gildings of gold fet among. Then he chofe the mof beautiful boys in the land, 15150 Thefe all round his table he order'd to ftand, To watch with attention his every nod, And him to obey, as if he were a god.
Coftly ointments and coronets now are brought in,
Golden cenfers of odours to burn foon begin ;
With exquifite dainties the tables are fpread,
And Damocles all happineis had in his head,
As he feem'd to himfelf a moft fortunate man.
Dionyfius, purfuing a regular plan,
A fharp flaming fword to a lingle horfe hair He ty'd, and let hang from the ceiling with care,
That if the hair broke, nothing more cerain than, It muft fall on the neck of this fortunate man ;
Which foon chang the face of affairs, we are told,
And the curious tables of filver and gold,
Nay, no more his fair boys to behold was he able, 213
Nor fo much as to fireteh out his hand to the table;
Of themfelves out of fight the rich coronets fled,
As he conftantly fear'd the fword's fall on his head ant?
So he beg'd to depart, he at length might be fiee, zin For he now wifh'd no longer thus happy to be.
Seems it not plain enough, Dionyfius declares, That none can be happy, who ever has fears Of what hangs o'er his hesd, as his confcience ftill bleeds Thro terror, that follow will all evil deeds? For youth to elect now a fit feene of action, swo storl2 And behave themfelves in't to their own fatisfaction, a To be frugal and honeit, and true to their truft, And this to avoid ftings of confcience they mult, $d$ bra Is no eafy matter. For when we are hoys, And have only been bufy'd in trifles and toys, whala Then by ferious counfel the mind down to bend, forl $W$ 'Tis fafeft to take the advice of a friend, Of experience $t$ ry ${ }^{\prime} d$, and of virtue approv ${ }^{\circ}$, mon And that is not by whim or caprice to be moved: The s ay

Or be led by our parents' example, to tread
In their fteps, and the way walk to which they were bred.
'Tis a danserous thing to be carry'd away
By the choice of the multitude, who ever pray
Moft, for what they like beft : and the major part chufe,
For their finery and fhew, what wife men would refufe.
While fome, by a fort of felicity led,
Or a good difpofition, that in them is bred,
By wife parents' inftruction, averfe to all ftrife, Have ever gone on in the right path of life.
Which thole that ftray out of, will find to their forrow, That if fin leads to-day, mifery follows to-morrow.

I have two friends at Athens, Antipater cries, Call'd Phocion and Demas, both honour'd and wife, But of manners as different, and tempers as wide As can well be imagin'd, their worth known and try'd. For Phocion known is to be very poor, Yet will accept nothing to increafe his fore: But to Demas whatever rich prefents are fent,
Yet he always is craving and never content.
It was in days of yore that this happen'd, I know ;
Yet, at this prefent time, things are not alter'd fo;
For a Phocion, in vain, you may fearch the world round,
Thofe like Demas in plenty are every where found.
Thofe that worthy and poor, and yet well content are,
In every town dwell not. 'Tis equally rare,
To find a rich mian that's well pleas'd, and content
With the bounty and bleffings by Providence fent.
The poor ever murmuring are, and repining,
And the rich are too blind, to behold the defign in
The prefent wife order of things, which is meant
To fhew rieh men fhould give, to make poor men content.
And not, when they've now the moft plenteous itore
Of all things, for ever be carking for more.
For their children a fuperabundance to gain,
And wear themfelves out by a life full of pain.
As it has long ago to the wife been feen clear,
That gold, pearls, and diamonds, may be bought too dear;
Bringing envy, vexation, and danger withal,
For the higher the ftation, the greater the fall.
The fimple, when this kind of itrife they're fo hot at, most Only fet themfelves up for a mark to be fiot at.

This Phocion, of Athens, whom I've above nam'd, .OT
In both field and forum was moft juftly farm'd;
And if to be richer he had been inclind,
He eafily might; for King Philip we find ice seth 12 modvel

Him ambaffadors fent, with a grent fum of gold, Which, thro' greatnefs of mind, he refus'd, and was told, That tho' fuch as he was might cafh do without,

> He ought to provide for his children, no doubt;

Since, worthy his glory, they ne'er would be able,
In the midft of deep poverty, to keep a table.
They'll the fame little farm have to keep them, fays he,
Which to this diftinction, alone, has led me;
And, if they be like me, they may do the fame; 003870
But, if not, it unworthy would be of my name,
That their madnefs and luxury's fed and increas'd, sy syff
Fecaufe money I fay'd have to make fools a feaft. disidyy
Thus Phocion reafon'd, and fince none can tell,
If the riches they leave fhall be us'd ill or well,
So, by praife-worthy actions, he gain'd a good name, $l l n 0$
And his wifdom and worth made immortal his fame. wh
Tho' gold he neglected, he knew how to rife,
And of honour and wefulnefs win the fair prize.
By Philip, and by Alexander the Great,
He was known and carefs'd, tho fo humble his ftate. nut
Whereas riches fure caufe are of envy and fluife, ayl tat 12
The banes of contentment, and an happy life.
If we leave them our children, tho' we cannot tell, do $X$
Yet, 'tis odds that they ufe them ill rather than well. rom
They're fo acceflary to their own uadoing,
One would think that fome young men in love were with ruin.
But hold! cry my readers, where is your wit flown;
Whotl believe merry Robin is ferious groivn?
To forfake his old fubjects of eating and drinking,
For dull tales, and morals requiring much thinking ?
We've enough had of this: let us laugh and be merry, dr
This is worfe than the old tune of derry down deriy. $\rho^{3}$
Place baiderdafh nonfenfe enough now before us,
All the world, never fear boy, will join in the chorus.
For as to a moral and ferious tale,
Now mankind are fo wife grown, it cannot avail. $\quad$ gew bria
Rather give us a table fpread out with rafe difhes, 3 an
That we laugh and enjoy may the loaves and the fifles. 1 dT
For, who ever withes to lit all repining trest herss yrugatil
Bewailing and falling, while others are dining ?
Remembering alfogood drink to iour meat, We'll each monvei wath down well, that more we may eat.
To the wifdom of this, I molt aptly affent,
And my company there to deny never meant: bian lyod me
Nor winh to fet poring land plaguing my brains, of ti bat
When I dine can for nothing; ofs but for the pains

## Poor Old Robin.

Of conveying my body where others are fitting,
Nay, my feat there I'm fonder of taking than quitting,
To a feaft every day, boys, I'd much rather come,
Than fit in my old elbow chair mop'd at home:
And when folks are fo good me to treat for my wit,
To act like a churl would be very unfit :
And fince nought in the world hut my wits I've to truft to,
Quite rightly them place, be attentive I muft to.
So of frequently kiffing the cup with my lip,
I a good opportunity feldem let flip.
And I cannot but think I'm-as fit for a teacher, As any new baptift, or methodift preacher.
Thele are fond of good living, to fhew folks a fample,
Sure follow I cannot a better example :
I'm not over apt to admire their long graces,
But have no objection to fit in their places,
When they're by a brother invited to dine,
In return for their preachments and fpeeches divine.
Own I muft, to my forrow, that I'm a fad finner,
Yet love well, as they do, a charming good dinner. 70
Tho' I imitate cannot their myftic grinnaces,
Nor, as I've faid before, pull out long bible faces,
As they all ftrive to kkim off the cream of the jeft,
I affirm, I can do this, as well as the beft;
And that they've much objection, I never could fee,
When their bellies are full, to be merry like me.
With my book for the year eighty-eight I begin
In this paper to fpeak, but I left off for fun:
Yet, if you will fearch well it's preface, you'll fee
A remarkable fermon, lecorded by me,
Which It then lately heard had in one of my rambles,
For I wander thro hofpitals, alleys, and fhambles,
Abeut $\mathrm{A}, \mathrm{B}, \mathrm{C}$, and the way to improve
Every letter you learn, to corroborate your love.
With my wife's complimentally true obfervation,
Which made me as mute as moft mice in the nation.
This conventicle kept was by one Mr. Kitt,
Who always to thump well his cufhion thought fit;
In order, that when words he wanted, no doubt,
1U They might, with the dult, from his cufhion fly out.
${ }^{3}$ And he thump'd to fome purpofe, and tamp'd out a fore
Of fuch phrafes and words as were ne*er heard before.
300 my dear loving lady, if I fhould be laid
2. On a fick bed, and have the right ufe of my head,

र. Tơ my life's perfecution, my love, do not add,
And in life many fore perfecutions l've had; Poor Sir Robin:
That of fending for him, by my bedfide to pray, 720
I foould think it moft cruel to live 'till that day. $y$ yals
So, my loving dear lady, mind what I've here faid, I in peace would depart, on my death-bed when laid.

But left he be worn out, in taking fuch pains,
Ever thumping his cuftion, and beating his brains, tos ot .
To get fome affiftance, at times, he will try;
Such the Alphabet-Champion, of whom above I
Have fpoken. Nor let Mr. Martin be miffed,
Whofe head had a rare emblematical twift:
For the guts of a watch he well fpiritualliz'd,
And as all underftood him, his preaching was priz'd.
So that one Mr. Lee, to invite him thought -fit,
To dine at his houfe with his friend Mr. Kitt ; wollgi rub
Who was not a man that did ever incline
To fit peeping and pining while other folks dine;
But with platesful and platesfol he well laid about him,W
Refolving no difh fhould be empty'd without himeulst at
While Martin fat piddling the leg of a rabbit, fluat K wwo
Or the bones of a pidgeon, according to habit. 2 vell to Y
Which being obferved by his hoft Mrs Lee,
He cries, Mr. Martin, I beg you'll make free;
Obferve Mr. Kitt, take him for your fample,
You're welcome as he is, fo mind his example.o 1 , miths I
Mr. Martin reply'd, my đear Sir, you mult fee ty zads binA
A vaft difference, furely, between him and me. git gailVy
A martin's a fmall bird, and feeds upon flies,
So that little and light meat it foon fatisfies : ray ac zidf लl
To ftuff it too full would be very unfit,
But it takes a great deal to fill up a huge Kitt.
Now, lelt he be laugh'd at for what is here faid, foifYy
I beg you'll fuppofe Dickey Kitt long fince dead, $n$ I 20 F


#### Abstract

Near Saffron Walden,

POOR ROBINS: P(CORTOBIN:


Aug. 20, $179^{8}$.
Aug. $20,179^{8}$.

समid ECLIPSES. Ees sloumpyios aidit
As there will beonly two Ectipses this year, both of the Sun, and both invifible here, it is not worth while to write much about what nobody withes to know. For though thofe that fit up 'till pait midnight on the 4 th $c^{r}$ May be up when the Sun is eclip (ed, no one in Great Britain can fee it. And the fame may be faid of thofe who are up betimes in the morning on the 28 th 95 UCtober; if they pore themfelves blind they will never be able to fee any thing: and as to the eclipfe, it does not happen till after fun-fet. 3हाग

## On the Divisions and Sbasons of the Year.

The molt ancient and general divifion of the year is into two parts, Summer and Winter, the former beginning at the vernal, and the latter at the autumnal Equinox. But as the longeft and Thorteft days divided each of thefe nearly into two equal parts, hence arofe another divifion of the year into four Quarters; the firft beginning when the Sun appeared to crofs the equinoctial line, or circle, from the fouth to the north, which this year happens on the twentieth day of March, at 17 minutes paft 2 in the afternoon; and ending on the longeft day, when the Sun appears to reach his moft northern boundary, which this year happens on the 2 fft day of June, at 3 minutes palt noon. At this intant, the next Quarter begins, and continues 'till the Sun appears to crofs the equinoctial line from north to fouth; which this year happens on the 23 d day of September, at 49 minutes pafl ome in the morning : when the next, or third Quarter begins, and continues till the Sun appears to have reached his moft fouthern boundary, which this year happens on the 21ft day of December, at 33 minutes paft 6 in the afternoon: when the last Quarter begins, and continues till the following equinex.

But it is here proper to be obterved and xemembered, that thefe Quarters are called the Spring, Summer, Autuma, and Winter ones refpectively, becaufe each of them begins in thofe, or during thofe feafons of the year; and not, as is fometimes miftakingly fuppofed, becaufe thofe feafons begin with the Quarters: which ufeful piece of knowledge, if you have now fuft learned, mind, and be thankful to Poor Robin for it.
The precife inftant when each of thefe Four Seafons begin, not being, like the Quarters, diftinetly marked by the heavenly bodies, Authors differ about it. The Spring begins according to the old talle of an anonymous Author, on the 6th day of February; but according to Ovid. Faftorum 2,150 , not 'till the 2 th; and according to Pliny, on the 8 th. The Summer Seafon they fuppofe to begin on or about the $33^{\text {th }}$ of May, Ovid. Faft. 5, 60r. but the other claffical Authors differ about it. The Autumn, or Harvelt and Vintage Seafon, as I obferved in my laft year's profound performance, began on the 6th day of Auguft, and lafted 'till the 6th day of November, which was reckon'd, theretore, the beginning of the Winter Seafon.
As 50 this uncertainty, and feeming irgegularity of the continuance of the Sealons, it is to be obf ved, that we had our Kalendar from the ancient Romans, who, though they boatted themfelves mafters of the world, were far interior to the eateril nations in the knowledge of the noble feience of Aftronomy.

## Speculum Anni: OR, <br> SEASON on the SEASONS

 For the Year of our Lord 1799; BEING THE THIRD AFTER BISSEXTILE, OR LEAP YEAR. Wherein you will find all Things neceffary for fuch a Work; Sun and Moon's Rifing and Setting ; Moon's Southing, Planets Places and Afpects, Eclipfes, Judgments on the Weather, and Four Quarters; Remarks about the Sun, Monthly Poetry, and other Novelties.
## By HENRY SEASON, LIGENSED Phrsician,

 And Student in the Celestial Sciences, near Devizes. With a particulas Judgment of the ECLIPSES, \&e.Omnis donatio bona, $\mathcal{E}$ omne integrum bonum Eft fuperne defcendens à patre Luminum.-JAC. 1. 17.

GoD hath granted me to fpeak according to my Mind, and to judge worthily of the Things that are given me; for he is the Leader unto Wifdom, and the Director of the Wife: How the 等nes alter, the Change of the Seafons, the Courfe of the Yeaf, and ens shivation of the Stars.

The facred Fiat was no fooner nam'd,
But Heav'n with all its Hofts were franit
Pherbus difplay'd his fiery C ar, ${ }^{2}$, 17
And Wiffom marihall'd ev'ry Star ; $1 \%$ \& 9
Sev'n Worlds around the Sun did glide,
He gave their Light, and Motions guide;
By fecret, fix'd, attractive Laws,
They all confers th' Almighty Caufe.
The AUTHOR's Sixty-Sixth Impreffion.

Printed for the COMPANY of STATIONERS, And fold by George Greenhile, at their Hall, in Ludgate-Street. Price SIXTEEN-PENCE, \#itched.

2 SEASON, 1799.

The common Notes for the Year 1799. The Golden Number - - $14 \mid$ Shrove-Sunday - Feb. 3 The Epact - - - 23 Afh-Wednefday The Cycle of the Sun - $\quad 16$ Dominical Letter - F Roman Indiction - - 2 Septuagefima Sunday Jan. 20

Eafter-Day - Mar. 24
Whit-Sunday - Mayiz
Advent-Sunday $\quad$ Dec. 1
Sundays after Trinity $=-27$

The 12 Signs. The 7 Planets, and the Afpects.


The four Quarters of the Year. Spring Quarter begins - . March $20{ }^{2}{ }^{17}$ Aftern, Summer Quarter begins - . June 21 O Aftern. Autumn Quarter begins . . Sept. 23 I 49 Morn. Winter Quarter begins - Dec. $21 \quad 623$ Aftern;

Venus will be an Evening Star till October 16, and then a Morning Star for the reft of the Year.

Jupiter will be an Evening Star sill May 30, then a Morning Star till Dec. $1 \%$, and after that an Evening Star for the reft of the Year.

## KIngS and Queens.

A TAble of the Kings and Queens of England, from the Coneuest to the prefent Year 1799.

| Names of Kings. | $\left\lvert\, \begin{aligned} & \text { Born } \\ & \text { Ann. } \end{aligned}\right.$ | Wegan to reign. |  |  | Sincetbeir Reign ended. | Buried at |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| William I | 1029 | 1066, Octob. 14 | 20 | 117 | 712, Septem, 9 | Caen, No |
| William 2 | 1057 | 1087, Sept. 9 | 12 | 116 | 699, Auguft 2 | Wincheft. |
| Henry 1 | 1068 | 1100, Aug. 2 | 35 | 4 | 664, Decemb. I | Readingo |
| Stephen | 1105 | 1135, Dec. 1 | 18 | 116 | 645, Octob. 25 | Feverfham |

The Saxon Line Reftored.
Henry $2 \mid 1133.1154$, OCt. $25 / 34 \quad 8610$, July 6 Fontevs. Richard 1 I 1561189 , July 6
 Henry 312071216 , Oct. 1956 1 527 , Nov. $16 \mid$ Weftmin. Edward 1 1239 1272, Nov, 16348492 , July 7 Weftmin. Edward 212841307 , July 71907472 , Jan. 25 Gloucefter Edward $3{ }^{1} 3121327$, Jan, $2550 \quad 5422$, June 21 Weftmin. Richard 2) ${ }^{13661377 \text {, June } 2122 \quad 3400 \text {, Sept. } 29 \text { Weftmin. }}$

## The Line of Lancafter.

Henry $\left.4{ }^{1367}\right|^{1} 399$, Sept. $\left.29\right|^{13} 6 / 386$, March 20 Canterb. Henry $5: 13^{8} 9{ }^{1} 413$, Mar. 20 9 $9 \quad 377$, Auguft 31 Weftmin. Henry $6 / 14211422$, Aug. $313^{9} \quad 6 / 33^{8}$, March $4 \mid$ Windfor

The Line of York.
Edward $41442 \mid 1461$, Mar. $\left.4\right|^{22} \quad 1 / 3^{16}$, April $9 \mid$ Windfor Edward $51471 \times 483$, April 9 - $\quad 2$ 316, June 22 Unknown Richard $3 \mid 14421_{1483}$, June $22 / 2 \quad 2 / 3^{14}$, Auguft 22 Leicefter

## The Eamilies United.

Henry 7| 1456 ) 1485 , Aug. $22 / 23$ 8/290, April 22 Weftmin. Henry 8 1492 1509 , April 22 37 9252 , Jan. 28 Windfor Bdward $6{ }^{1} 5371547$, Jan. 2865.246 , July 66 Weftmin. Qu. Mary $55^{16}$ 1553, July $6 \mid 54241$, Nov. 17 Weftmin. Qu. Eliz. ${ }^{2} 53311558$, Nov. $17144 \quad 4$ 196, March 24 /Weftmin.

The Union of the Two Crowns.
James $\left.1{ }^{1} 566\right|_{1603, ~ M a r, ~} ^{16} 24 \mid 22 \quad$ of 174, March $27 \mid$ Weftmin. Charles 1 1600 1625, Mar. $27 \mid 23$ 10| 150 , Jan. $30 \mid$ Windfor Charles 216301649 , Jan. $30 / 360114$, Feb. 6 Weftmin. James ${ }_{\text {Will }}{ }^{2} 16331685$, Feb $6 \mid 4$ 0 110 , Feb. $1_{3}$ S. Germain


The Union of the Two Kingdoms. Qu. Anne $1665 \mid 1702$, Mar. $8 / 12 \quad 5 \mid 85$, Auguft $1 \mid$ Weftmin. George 1 | 1660 1714, Aug. 1 12 io 72 , June 11 Hanover George 216831727 , June $1133 \quad 4 \quad 39$, Oct. $25 /$ Weftmin. George $3 / 1738 / 1760$, OCt. ${ }_{25}$ Crowned Sept. 22, 1761.

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4
CySEASON.1799.
A TABLE OF TERMS AND THEIR RETURNS:
```

Hilary Term begins January 23, ends February 12.
Ketorn or Eloign Days - $|\mathrm{E}| \mathrm{R}|A|$ WD. In eight Days of St. Hilary - Jan. $20 \mid 2122.23$ Ween. In $15^{\circ}$ Days of St. Hilary On the Mar. of the Purificat. of B. Y.M. Feb. 3 . 4 | 5 . 6 Wed n. In eight Days of the Purificat:of B, V.M.F $9 /$ roll| $12 \mid$ Turfed.


Trinity Term begins May 24, ends June 12.
On the Morrow of the Holy Trinity - May $20|21 / 22| 24 \mid$ Fid. In eight Days of the Holy Trinity - 2652728120 Wed,
 From Day of Holy Trinity in 3 Weeks - $9110|11 / 12|$ Wed.
Michaelmas Term begins Nov. 6, ends Nov. 28.

N. B. No Sittings in Weftminfter-Hall on Afcenfion-Day, Midfummer-Day, and the ad of February.
The Exchequer opens eight. Days before any Term begins. except Trinity, before which it opens but four Days.

Note, The fill and lain Days of every Term are the Days of Appearance.

## Bishops and Judges.

$A$ Catalogue of the Moft Reverend, Right Reverend, and Reverend, the Archbifhops, Bthops and Deans, exeercifing Ecclefiatical Jurifdiction in England, 1799.

Arcbbijbops.

Deans' Names.

Dr, John Moore
Dr. Powys Names of tbe Secs. Dr. Wm. Markham Bifops. Dr. John Fountayne Canterbury

Dr. Beilly Porteus Be. of Lircoln London
Hon. D. BrownI. North Dr . Newton Ogle Covt Winchelter
Dr. Buckner Mr. Combe Millar:
Dr. Charles Mốs 4 Lord Francis Seymour
Dr. John Douglas :i $\quad$ a Dr. John Ekinsi
Dr. Spencer Madan . Dr. Thomas Kipling
Hon. Dr. James Yorke Dr. William Pearce -
Dr. Sam. Horlley Dr.Thomas Dampier
Dr. Richard Hurd
Dr. John Butler =
Dr. John Warren ? Ho.St. Andrew St. john Dr. Nat. Wetherell Dr. Thomas Lloyd Dr. Lewis Bagot Mr. W. D. Shipley

## Dr. Richard Wation

Dr. Edward Smalwell
D. Cornwal
$\begin{array}{ll}\text { Dr. George Pretymanin } & \text { Dr. John Hallam } \\ \text { Sir Richard Kaye, Bart. }\end{array}$
Dr. E. Yenables Vernon
Dr. Wm. Cleaver
Hon. Dr. Stuart
Di. Richard Beadon

Dr.C.Manners Sutton
Dr. Courtenay

## Dr. Claud Crigan ${ }^{\text {1 }}$

Chichefter
Bath and Wells Salisbury Peterborough Ely Rochefter Worcéfter Hereford: Bangor Litchfield and Coventry St. Afaph Llandaff Oxford Briftol Lincoln Carlife Chefter St. Davidls Gloucefler Norwich Exeter
Weffminter Windfor Sodor and Man

## The Names of the Learned Judges in the Law.

Rt. Hon. Al. Lord Loughborough, Lord High Chancellor of Great Britain. Sir Rich. Pepper Arden, Knt, Mafter of the Rolls.
Sir John Scott, Knt. Attor. Gen. Sir John Mitford, Knt. Sol. Gen. 11. In the $\{$ Rt. Hon. Lard Kenyon, L. C. J. K. Bench. $\{$ Sir Wm. Henry Affhurt, Knt. $\quad$ Soutden Lawrence, Efq; III. In the $\{$ Rt. Hon. Sir J. Eyre, Knt. C. J.C.P. Join Heath, Efq; Co. Pleas. $2-$ Rooke, Efq;
IV. In the s Sir A. MiDonald, Knt, L.C.B. Sir Rich. Perryn, Knt. Exchequer. $\{$ Sir Beaumont Hotham, Knt.

A Table fhewing the Moon's Southing for Farmers and others that breed Cattle, but men and others that fail upon the Waters.

| M | $\mathrm{Jan}_{\mathrm{h} .}$ | $h \mathrm{~m}$ | Mar. hm | $\begin{aligned} & \text { April } \\ & \mathrm{h} \quad \mathrm{~m} \end{aligned}$ | $\begin{aligned} & \text { May } \\ & \mathrm{h} \mathrm{~m} \end{aligned}$ | June hmm |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 7 m 44 | 9 m 7 | 8 m | 9m 29 | 9 m 38 | 10 m 17 |  |
| 2 | $8 \quad 35$ | 10 | 8 86 | 1011 | $10 \quad 17$ | 113 |  |
| 3 | 930 | $10 \quad 58$ | $\begin{array}{ll}9 & 48\end{array}$ | $10{ }^{10} 52$ | $10 \quad 57$ | 1152 | 23 |
| 4 | $1 \begin{array}{ll}10 & 26\end{array}$ | 1149 | Io 36 | 11.32 | 11.38 | -a 45 | 54 |
| 5 | 11123 | - a 37 | $11 \quad 22$ | - a 12 | 0a 22 | 139 | 9 |
| 6 | - a 20 | 122 | Oa 4 | - $5^{2}$ | 1 | 235 | 56 |
| 7 | I 14 | $2 \quad 4$ | - 45 | 134 | 158 | $3 \quad 30$ | 0 |
| 8 | 24 | $2 \quad 44$ | 25 | 19 |  | 4 | 38 |
| 9 | $2 \quad 50$ | $\begin{array}{ll}3 & 23\end{array}$ | 24 | 36 | $3 \quad 46$ | 514 | 49 |
| 10 | $3 \quad 33$ | $4 \quad 3$ | 45 | $3 \quad 57$ | $4{ }^{4} 41$ |  | 310 |
| 11 | $4 \begin{array}{ll}4 & 14\end{array}$ | $4 \begin{array}{ll}4 & 44\end{array}$ | $3 \quad 28$ | 451 | $5 \quad 36$ | 651 | 11 |
| 12 | $4 \quad 53$ | 28 | $4{ }^{4} 13$ | 46 | $6 \quad 29$ | $7 \quad 40$ | - 12 |
| 13 | $\begin{array}{lll}5 & 32\end{array}$ | $6 \quad 15$ | $5 \quad 2$ | $6 \quad 43$ |  | $8 \quad 30$ | 013 |
| 14 | 6 |  | $\begin{array}{ll}5 & 55\end{array}$ | $\begin{array}{ll}7 & 38\end{array}$ | $8 \quad 10$ | 923 | 314 |
| 15 | $6 \quad 55$ | 8 | $6 \quad 50$ | $8 \quad 33$ | 9 | $10 \quad 19$ | 915 |
| 16 | $7 \quad 41$ | 8. 59 | 7 | $9 \quad 26$ | $9 \quad 51$ | 11.18 | 816 |
| 17 | $8 \quad 30$ | $9 \quad 59$ | 47 | 10 | $10 \quad 44$ | morn | 17 |
| 18 | 934 | $10 \quad 59$ | 944 | 11 | II 40 | - 20 | 018 |
| 19 | 1021 | 1156 | Io 39 | morn | morn | 120 | 019 |
| 20 | $11 \quad 21$ | morn | $\begin{array}{ll}11 & 33\end{array}$ | 03 | - 40 | $2 \quad 19$ | 920 |
| 21 | morn | - 50 | morn | - 59 | 141 | 12 | 2 |
| 22 | - 20 | 143 | Q 26 | 157 | 242 |  | 122 |
| 23 | 17 | 2.34 | 19 | 57 | $3 \quad 41$ | $4 \quad 46$ | 623 |
| 24 | $2 \begin{array}{ll}2 & 12\end{array}$ | $3 \quad 25$ | 13 | 57 | 4 | 27 | 724 |
| 25 | 3 | $4 \quad 18$ | 38 | 457 | $5 \quad 27$ | 6 | 25 |
| 26 | 3 3 53 | $5 \quad 12$ |  | $5 \quad 53$ | 6 | $6 \quad 47$ | 726 |
| 27 | $4 \begin{array}{ll}4 & 42\end{array}$ | 6 | 5 | $6 \quad 45$ | $6 \quad 56$ |  | 7 |
| 28 | 5 | $7 \quad 4$ | 6 | 32 | 37 |  | 8.28 |
| 29 | $6 \quad 23$ |  | $6 \quad 59$ | $8 \quad 17$ | 16 | $8 \quad 53$ | 329 |
| 30 | $7 \quad 16$ |  | $7 \quad 53$ | $8 \quad 5^{8}$ |  | $94^{\circ}$ | 0 30 |
| 31 | III |  | 842 |  | 937 |  | 31 |

all the Months of the Year, very neceffary for all efpecially and more worthy of Notice to Sea-


## JANUARY xxxi Days．

New Moon the 6th day，at 4 in the morning． Firft Quarter the $14^{\text {th }}$ day，at 4 in the morning． Full Moon the 21 ft day，at 6 in the afternoon． Laft Quarter the 28th day，at 11 in the morning．

| $\left\|\begin{array}{c\|c} \mathrm{M} & \mathrm{~W} \\ \mathrm{D} & \mathrm{D} \end{array}\right\|$ | $\begin{aligned} & \text { Remarkable } \\ & \text { Days, \&c. } \end{aligned}$ |  | D Lon－ gitude | $\begin{aligned} & \text { Drifes } \\ & \text { \& fets } \end{aligned}$ |  | $\begin{array}{l\|l\|} \hline 8 \\ i s \end{array}$ |  | Mut．Afpects and Weather |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 T | Circumciton |  | 12 T 19 | 2 m 40 | O 11 | 112 |  |  |
| $2 . \mathrm{W}$ |  |  | $26 \quad 12$ |  | 311 | 113 |  | ate weather |
| 3 T |  | 13 | $9+57$ | $5 \quad 28$ | 812 | 214 |  | begins the |
| 4 F |  | 142 | 23.34 | $6 \quad 48$ | 813 | 315 |  | $\triangle 4 \%$ |
| 5 S | Old Chrift．d． |  | 6 V959 |  | 513 | 317 |  | new year． |
| 65 | Epiph． 12 day | 16 | $20 \quad 12$ | fets | 14 | 418 |  | $\triangle$ ¢ 4 |
| 7 M | Plow Mond． | 17 | 3 mm 10 | 5 a | 814 | 4.19 | 926 |  |
| 8 T | －ucian | 181 | $15 \quad 52$ |  | 015 | 520 |  | Froft |
| 9 W |  | 192 | 2818 | $7 \quad 35$ | 516 | 622 |  | 8 万후， 6 ¢ |
| 10 T |  |  | $10 \times 31$ | 846 | 616 | 623 |  | ¢○¢ ${ }^{\text {¢ }}$ |
| 11.5 |  | 212 | 22.31 | $9 \quad 56$ | 617 | 72 |  | and fnow |
| 12. | Old N．Y．day |  | $4 r^{2}$ |  | 517 | 725 |  | 8 ¢ 万 |
| 13. | 1 S Sp．Hil． |  | Ca．T．b | morn | 18 | 827 |  | － 0 |
| 14 M | Oxford T．be． | 242 | 28 | － 12 | 219 | 928 |  | $\triangle 4$ |
| 157 |  | 251 | 108 | $1 \quad 23$ | 319 | 929 |  | may now be |
| 16 W |  |  | $22 \quad 13$ | 235 | 520 | 0 m |  | 5 expected． |
| $17 \mathrm{~T}$ | Old 12th day | 28 | $414^{2}$ |  | 020 | － 2 |  | expected． |
| 18 F | Q．Ch．i．d．t． | 29 | $17 \quad 31$ | 5 | 21 |  |  |  |
| $19 S$ | ［Prifa | m | 02045 |  | 622 | 2.4 |  | －$\square^{\text {d }}$ |
| $120$ | Sept．Fab． |  | 14 |  | 722 |  |  | Cloudy，dall |
| ${ }^{21} \mathrm{M}$ | Agnes |  | $28 \quad 26$ | rifes | 23 | 3.7 |  | weather． |
| 22 T | Vincent | $31$ | $12 \Omega 46$ | 5 a | 524 | 48 |  |  |
| ${ }^{2} 3 \mathrm{~W}$ | Term begins |  | $27 \quad 19$ | 632 | 224 | 4.9 |  |  |
| 24. |  |  | 11 收57 |  | 25 | 511 |  |  |
| $25 . \mathrm{F}$ | Conv．St．Paul |  | $26 \quad 32$ | $9 \quad 28$ | 825 | 512 |  |  |
| 26.5 |  |  | $11 \bumpeq 0$ | $10 \quad 53$ |  |  |  | Seafonable |
| 27 <br> 28 |  |  | 2516 | morn | 27 | 714 | 414 | weather，and |
|  | b． |  | 9718 | － 19 | 927 | 76 |  | not much |
|  |  | $10{ }^{2}$ | $23 \quad 7$ | 143 | 28 | 817 | 715 | － 24 ？ |
| 30. | K．Ch．1．mar． | 11 | $6 \ddagger 4^{2}$ | 38 | 829 | 918 | 816 | downfall： |
| 31.7 |  |  |  | 426 | 6129 | 919 |  |  |

SEASON. JANUARY, 1799.
Occurrences, foretold lise Weather, Shall wifely pals for Truth together:
The ruling Stars will fhew their-Force,
And eaft a Lady from her Horfe.
Another, of a great Eftate,
This Month fhall prove unfortunate.





SEASON.
MARCH, 3799.
A Lady who had lolt her Lover, This Month fhall him again recover;
The Stars difcover an Intrigue
Of fome beginning a new League,
Who fhall be mutually elated,
Till their Defire be quite completed.


| APIRIL Xexx Daysa |  |
| :---: | :---: |
|  | 1926   <br> 0 10 26 <br> 1   |
| Firft Quarter the $13^{\text {th }}$ day, at 8 in the morning. | $\begin{array}{c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|c\|} \hline 1 & 28 \\ \hline \end{array}$ |
| Full Moon the $19^{\text {th }}$ day, at midnight. | $\begin{array}{\|l\|l\|l\|} \hline 1 & 1 & 20 \\ 1 & 28 \\ 16 & 20 & 29 \end{array}$ |
| Laft Quarter the 26 th day, at 9 at night. |  |



This Month, poor Mifs fhall crack her China, And Maiden-Hearts be touch'd by many;
A Monkey fhall be taken fick,
And little Dear forbear to lick;
But Doctors, of good Skill and Parts,
Shall heal their Wounds, and eafe their Hearts.




| 18 | JUNE KxX. Days. |
| :---: | :---: |
| New Moon the 3d day, at 3 in the afternoon. <br> Firft Quarter the 1oth day, at in at night. <br> Full Moon the 17 th day, at 4 in the afternoon. <br> Laft Quarter the 25 th day, at 3 in the morning. |  |
|  |  |
|  |  |


| $\begin{array}{\|l\|l\|} \hline \mathrm{V} & \mathrm{~W} \\ \mathrm{D} & \mathrm{D} \end{array}$ |  | Remarkable Days, \&c. |  | D Longitude | D rifes \& fets |  |  | $\begin{aligned} & 81 \\ & 81 \end{aligned}$ | Mut. Alpetts |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S |  | , | 111 | 178 | 2 m 45 | 1 | , | , |  |
| S |  | atr.Tria | 122 | $29 \quad 5$ |  | 161 | 18 | 18 | Warm wea- |
| M |  |  |  | 11 I20 | fets | 17 |  |  | ther now |
| 4 T |  |  |  | $23 \quad 48$ | $9{ }^{3} 4^{2}$ | 172 |  |  | about, and |
| 5 W |  | Pr.Erb, Aug. |  | 65028 | $10 \quad 39$ | 18 | 32 | 21 | perhaps |
| 67 |  | [Boniface | 161 | 1923 | 1122 | 19 | ${ }^{2} 3$ | 22 | 6 万 |
| 7 F |  |  | 17 | $2 \Omega 31$ | IY 56 | 19 | ${ }^{2} 4$ | 23 | * h |
| 8 S |  |  | 181 | 15.53 | morn | 20 | 25 |  | thun |
| $9{ }^{-2}$ |  |  |  | $29 \quad 28$ | - 19 | 21 |  |  |  |
| 10.1 |  |  |  | 13 项17 | - 38 | 21 |  |  |  |
| 11 T |  |  |  | $27 \quad 19$ | - 53 | 22 | 229 |  | Fair and |
| $12 . \mathrm{W}$ |  | Termends |  | $1 \mathrm{I} \bumpeq 32$ | 17 | 22 | 2 |  | hot about |
| 13 T |  |  |  | $25 \quad 55$ | 1.21 | 23 |  |  | his time. |
| $1+\mathrm{F}$ |  |  |  | 10 m 26 | 137 | 24 |  |  |  |
| 15 S |  |  |  | $424 \quad 59$ | 156 | 24 | 4.4 |  |  |
| $10^{2}$ |  |  |  | 5 9131 | $2 \quad 20$ | 25 |  |  | 6 |
| 17 M |  | St. Alban |  | $623 \quad 55$ | rifes | 26. |  |  |  |
| 18 T |  |  |  | 78195 | 9 a 55 | 26 |  |  | ${ }_{9}$ Some thun- |
| 19 W |  |  |  | 82157 | $10 \quad 40$ | 27 | 78 | 811 | 1 der fhowers |
|  |  | Tr.Ed. K.W.S. | 29 | 95 mm 27 | 1 H | 27 | 7. | 913 | $364 \%$ |
| 21. |  | Longeft day |  | 11834 | 411 | 128 | 810 | ${ }^{1} 15$ | 5 now about. |
| 22.5 |  |  |  | $1{ }^{1} \times 19$ | 1148 | 829 | 912 |  |  |
| 23 |  |  |  | 21343 | 3 morn | 29 | 913 | 319 |  |
| 24.1 |  |  |  | $325 \quad 52$ | 200 | - $\Omega$ | 214 | 421 | 1 Cooling |
| 25. |  | (id |  | $47 \Upsilon 4$ | 012 |  | 115 |  | $3 * 49$ |
| 26 W |  |  |  | 51939 | 023 |  | 116 |  | 5 g gales of |
| 271 | T |  |  | 61 ४28 | $0 \quad 34$ |  | 217 | 727 | 7 |
| 28. |  |  |  | 713.20 | d 0.47 |  | 218 | 820 |  |
|  |  |  |  | $825 \quad 21$ | 113 |  | 319 |  | Showers. |
| 30 |  |  | 9 | 9) 7 플 | 31123 |  | 21 | 1 | 3 |




A Perfon, in Affection zealous, Of's Mittrefs thall this Month grow jealous, Who will her Heart 'twixt two divide, As Love and Int'reft fhall decide: Yet, by the Planetary Bodies,
A Wife fhall be ador'd a Goddefs.
about 2000 times greater than red-hot iron. By fuch heat, all vapours would be immediately diffipated. This heat of the Comet métt be retained a very long time; for a red-hot globe of iron, of an inch diameter, expofed to the open air, fcarce lofes all its heàt in an hour; but a greater globe would retain its heat longer, in proportion to its diameter, becaufe the furface, at which it grows cold, varies in that proportion lefs than the quantity of hot matter. Therefore a globe of red hot iron. as big as our earth, would fcarcely cool in 50000 years. The Comet in 1680 coming fo near to the Sun, muft have been con fiderably retarded by the Sun's atmofphere; and therefore, being attraked nearer at every revolution, it will at laft fall into the Sun, and be a frefh fupply of fuel for what the Sun lofes by its conftant emiffion of light. In like manner, fixed ftars which have been gradually wafted, may be fupplied with frefi fucl, and acquire new fplendour, and pafs for hew fars. Of this kind are thofe fixed flars which appear on a fudden, and thine with a wonderful brighithefs at firlt, and afterwards vanifh by degrees. Such is the conjecture of Sir

Ifaac

SEASON. $\quad$ AUGUST. $290 . \quad 23$

Fortune fhall be by Valour won ;
And fome this Month mu't be undone. Some by good Friends fhall be promoted, And fome for Want of Wis be noted, roingitua
A charming Belle fby the Pleides) Shall be admir'd, among the Ladies.



Pleafure now looks like Something in it, And one fhall feize the lucky Minuse; Some fhall, unfought, find many Friends, But many others lofe their Ends ; And fomewhere, near a Market-town,
A Houfe, this Month, fhall tumble down.


| OCAOBEX Xxx Days. | M h 4 <br> D S 5 <br> I   |
| :---: | :---: |
| Firit Quarter the 5 th day, at midnight. | 1 8 1 <br> 6 8 1 |
| Full Moon the 13 th day, at 7 in the afternoon. | 11 9 1 |
| Laft Quarter the 2 fft day, at 11 at night. | 1692 |
| New Moon the 28th day, at 6 in the afternoon. | $\begin{array}{l\|l\|l\|} \hline 2 \text { I } & 9 & \mathrm{~B}^{4} \end{array}$ |


| $\bar{M} \left\lvert\, \begin{aligned} & W \\ & D \end{aligned}\right.$ | Remarkable Days, \&zc. |  | D Lon-1 gitude | D rifes \& fets | 8 |  |  | Mut. Afpects and Weather |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 T | Remigius | 8 | $8 m 42$ | 6a 41 | 3 |  | 22 | $\triangle 47$ |
| 2 W |  | 9 | $23 \quad 32$ | 7 | 4 |  | 23 | Cold winds |
| 3 T |  | 10 | $8 \hat{1}-6$ | $7 \quad 35$ | 4 |  |  | near this |
| 4 F |  | 11 | $22 \quad 19$ | $8 \quad 18$ |  | 0 |  | time. |
| 5 S |  | 12 | 6 ys 9 | 917 | 6 |  |  |  |
| 6 \% | OS.af: Prin. | 13 | 1.9. 39 | $10 \quad 28$ |  | $\cdots$ |  |  |
| M | [Faith | 14 | 2 m $4^{8}$ | 1146 | 7 | 29 |  | 324 |
| 8 T |  | 15 | 1539 | morn | 7 | 29 |  | Fine for the |
| 9 W | St. Denys | 16 | $28 \quad 15$ | 1 | 8 |  |  | * ho |
| $0 . \mathrm{T}$ | Ox.\&Ca, T.b. | 17 | $10 \times 37$ | $2 \quad 21$ | 9 | 28 |  | , |
| F | [Old Mic. | 18 | $22 \quad 49$ | $3 \quad 35$ | 9 | 27 |  | * 万 \% |
| S |  | 19 | $4 \times 52$ | 4.47 | 10 | 27 | 10 | ठ 8 |
|  | rame. | 20 | 1647 | rifes | 11 | 26 |  |  |
| M | [Edw. Conf. | 21 | $28 \quad 38$ | 5 a 40 | 11 | 6 | 613 | Some wet |
| T |  | 22 | 10.826 | $5 \quad 56$ | 12 | 25 | 15 | weather |
| 16 W |  | 23 | 22 J3 | $6 \quad 12$ | 13 | 24 | 7 | $6 \bigcirc$ |
| T | E | 24 | 4 II 2 | $6 \quad 34$ |  |  |  | now about |
| 18 F |  |  | $15 \quad 56$ | 7 | 14 | 23 |  |  |
| S |  | 26 | 280 | $7 \quad 47$ | 15 | 23 |  | d 9 |
| 20 | 12S.2F. Tri | 27 | $10 \div 5$ | 843 |  | 22 |  |  |
| 21 M |  | 28 | 2249 | $9 \quad 52$ |  | 21 | 125 |  |
| T |  | 29 | $5 \Omega 43$ | 1111 | 17 | 21 | 27 | Still fhowery |
| W |  |  | 192 | morn |  | 20 |  | for the moft |
| $4{ }^{1}$ | Cr | , | 2 20 48 | - 34 | 18 | 20 | \% | $\triangle$ © $4, \triangle 4 \%$ |
| F | K. Geo. 3 | 2 | 170 |  | 19 | 19 |  |  |
| S | 5. Geo. 2 pr. | 3 | $1 \bumpeq 38$ | $3 \quad 29$ |  | 19 |  | part. |
|  | 33 S.af. Trin. | 4 | 1636 |  | 20 |  |  |  |
| M | 35. Simon and |  | $1 \mathrm{~m}^{1} 46$ | fets | 21 | 18 |  | Stormy and |
| T | [Jude |  | $16 \quad 59$ | 5 a 11 | 121 | 18 |  | $\square h_{2}$ |
| 30 W |  |  | $2 \ldots 6$ | $5 \quad 35$ |  | 17 |  | cold, nea |
| IT |  |  | 1658 |  |  |  |  | the end. |

SEASON. OCTOBER, 6x799. 27

Lawyers thall be diftrefs'd for Senfe,
And Confcience ftrain'd by Evidence;
A Perfon fhall efcape a Hurt,
Another fall into the Dirt;
A Judge and Jury be mifled,
And Truth, and Equity, ill-fped.
Observations.
pacious form; that, along with the water thus fqueezed up, upon the furface of the Earth, much flime or mud would rife; which, together with the groffer parts of the Comet's atmofphere, would, after the fubfiding of the water, partly into the fiftures, and partly into the lower parts of the Earth to form the Sea, cover all over, to a confiderable depth, the antideluvian Earth: thus he accounts for trees and bones of animals being found at very great depths in the Earth. The Tail of the Comet of 1680 extended itielf over 60 degrees, or a third part of the Heavens, from Eatt to Weft; which Tail, therefore, mult be fome millions of miles in length. Some Comets, and particularly that of 1680 , are computed to proceed, in their greatef diftances from the Sun, no lefs than four times the diftance of Saturn: yet it is found that Comets, at that amazing diftance in the etheria1 Pace, are not affected by the attraction of the fixed Stars ; but, arriving at their extreme limits, to which their projectile force will carry them, they regularly return, by the force of the S:an's attraction, acquiring new projectile force,



## 30 DECEMBER xxxi Days:

Firft Quarter the 4 th day, at 3 in the morning. Full Moon the 12 th day, at 9 in the morning. Laft Quarter the 19th day, at 11 at night.
New Mioon the 26th day, at 3 in the afternoon.

| $\begin{array}{\|c\|c\|} \hline M & W \\ D & D \end{array}$ | Remarkable Days, \&c. |  | $\begin{aligned} & \text { D lon-1 } \\ & \text { gitude } \end{aligned}$ | Drifes \& fets |  |  |  | Mút.Afpeas and Weather |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $-1 / \bar{F}$ | Advent Sund. |  |  | 8 a 27 | 3 | 326 |  |  |
| 2 M |  |  | 216 | 949 | 14 | 427 |  | $\Delta \odot$ h |
| 3 T |  | 11 | $3 \times 59$ | 117 | 15 |  |  | Dull, dark |
| 4 W |  |  | $16 \quad 29$ | morn | 15 | 528 |  | $\triangle 49$ |
| 5 T |  |  | $28 \quad 41$ | - 22 | 16 | 6 |  | eather, |
| 6 F | Nicholas |  | 10r39 | $1 \quad 32$ | 17 |  |  | ins this |
| $75$ |  |  | $22 \quad 30$ | 241 | $17$ |  |  | no |
|  | S. in Adv. |  | 4816 | $3 \quad 49$ | $918$ | $8$ |  |  |
|  | cept | 18 | 164 | $5$ | $019$ | $92$ |  |  |
| 10 T |  |  | $27 \quad 55$ |  | 20 | - 3 |  | or |
| 11 W |  |  | 9 ¢ 53 | $7 \quad 23$ | 20 | 04 | 410 | fhowers, |
| 12 T |  |  | $21 \quad 59$ | rifes | 21 | 15 | 511 |  |
| 13 F | Luc |  | 4016 | 4 a 22 | 22 |  | 611 |  |
|  |  |  | 1643 |  | 2 |  | 612 |  |
|  | 3 3, |  | 2921 |  | 23 | 3.7 | 712 |  |
| 16 M | Ca.T.e. o Sap. |  | $12 \Omega 11$ |  | 24 |  | 812 |  |
| ${ }^{1} 7 \mathrm{~T}$ | Oxf. Term e. |  | 2514 |  | 24 | 4.9 | 9 R | $8 \odot 4, \square \square ?$ |
| $18 . \mathrm{W}$ | Ember Week | $27$ | 8 项30 | 1035 | 25 | 510 |  | ther, and |
| 197 |  |  | $22 \quad 2$ | 1154 | 26 | 611 |  | * $\uparrow$ |
|  |  |  | $5 \bumpeq 49$ | morn | 26 | 612 |  | fome fnow |
| 21 S | st | 1s) | $19 \quad 54$ | 116 | 27 | 713 |  |  |
|  |  |  | $4 \mathrm{~m}_{14}$ | 240 | 28 |  |  |  |
| ${ }^{2} 3 \mathrm{M}$ |  |  | 1849 | 4.10 | 28 | 815 |  |  |
| $24 \mathrm{~T}$ |  |  | $3 \uparrow 35$ | $5 \quad 43$ |  | 916 |  | Cloudy, and |
| $25 W$ | Chrittmas day <br> St. Stephen |  | $18 \quad 24$ | 711 |  | 117 |  |  |
| $\begin{array}{c\|c} 26 \\ 27 & \mathrm{~T} \\ \hline \end{array}$ | St. Stephen |  | 35910 | fets |  | 118 |  | $6 \bigcirc$ |
|  |  |  | $17 \quad 44$ | 4 a 26 |  | 119 |  |  |
| $\begin{array}{c\|c\|} 288 \\ 20 & 5 \\ \hline 15 \end{array}$ |  |  | 1 mm 59 | $5 \quad 45$ |  | 220 |  | with fome |
| $129$ | rs. |  | 15 50 |  |  | 321 |  | roits. |
| 30 |  |  | 2914 | $8 \quad 32$ | 3 | 322 |  |  |
| 1 T | Silvefter |  |  |  |  |  |  |  |

SEASON. DECEMBER,

The Ending of the prefent Year !
Wonders that happen'd heretofore,
Shall by the Sun be feen no more.
Mars is on Venus ftill attendant,
As War on Peace; fo mark the End on't.


## Speculum Anni:

0 R ,

## SEASON ON THE SEASONS.

For the Year of our Lord, 1799.

THE SECOND PART.

Containing variety of matter in profe and verfe, part neceflary to eomplete a performance of this kind, part colle? ied or compofed by the author, for the inltruction and improvement of Britifh youth, or of thofe who, in the humble vale of life, have fouls fuperior to the opportunities given them, to improve in the various branches of fcience; and concluding with the kind contribations of his learned and ingenious correfpondents, to whom he once more returns his fincere thanks for their favours and generous affiltance in a work defigned at leaft
"To raife the foul by tender ftrokes of art,
"To wake the genius, and to mend the heart;
"T To make mankind in Nature's.ftudy bold ;-
"Look o'er each fcene, and mark what they behold."
Of the ECLIPSES of the SUN and MOON that will happen in this Year, 1799.

IN this year, there will happen only two Eclipfes, and they both of the Sun ; therefore no Ecliples of the Moon will happen this year.

The firf of thefe Solar Eclipfes will happen on Sunday, the 5 th day of May, at a quarter before our one o'clock in the soorning ; therefore, of courfe, it muf be invifible to us. This

Eclipfe

## On the Eclipses.

Eclipfe will be both central and annular in the great South Sea, and particularly under 8 degrees of North Latitude, and 178 degrees of-Eaft Longitude from London, where this beautiful central appearance will fall upon them precifely at 12 o'clock at noon:-This Eclipfe, more or lefs partially eclipfed, will be vifible at the Sandwich Iflands, at the Society and Friendly Iflands, the New Hebrides, New Caledonia, and as far as New Zealand, towards the South Pole.It will be feen in New Holland, New Guinea, the Ladrone Ilands, and as far North from thence as the Ifland of Japan.

The other Solar Eclipfe happens on Monday, the 28 th day of October, at half an hour paft our $50^{\circ}$ 'olock in the evening invifible to us; for the Sun fets that day, at Loirdon, at 54 minutes paft 4 o'clock. This is alfo a very great Eclipfe, and will be both central and total at noon-day, in 5 degrees is min. South Latitude, and near 83 degrees of Longitude Weft from London; which is in the great Pacific Ocean, or great South Sea, near the weftern coaft of Peru in South America. This Eclipfe will be vifible, more or lefs in quantity, to the whole continent of South America; it will be feen at the inand of Jamaica, at the ifland of Cuba; and all the reft of the Welt India iflands; it will alfo be feen in Florida, Georgia, and Carolina, in the fouthern parts of North America. I expect it will be feen to the Weftward, as far as Otaheite, one of the Society Iflands, and as far Eaftward as the Cape Verd illands, on the coaft of Africa.

Upon Tuefday, the 7 th day of May, there happens a notable Tranfit of the planet Mercury, over the Sun, and vifible from the beginning to the end, to us and all Europe! and that for the fpace of near feven houts and a half. The planet Mercury, divefted intirely of its radiancy, will be feen on the Sur, in form of a round black fpot, and vifible, if the fky be clear at the time, to all places of the Earth where the Sun is up. Mercury will be feen by fharp eyes, only defended by the interpofition of a dark glafs, or a piece of clear windowglafs, fmosked over the flame of a candle, but will appear
much larger, and more to advantage, with the help of a telefcope ; but the precaution of interpofing a dark glafs between the eye and the telefcope will be neceffary, or otherwife the fight may be impaired, if not nearly deftroyed; but, thus fhielded, it will be perfectly fecure from danger, or any inconvenience. This Tranfit will be vifible, from the middle to the end, to all North and South America, and the Weft India Iflands ; the Beginning will be feen in Eaftern Tartary, China, the Philippine Iflands, the Ifiands of Borneo, Sunda, and Java, and on the weftern coaft of New Holland; but the Sun will fet with them foon after.

The apparent time at London, of the Ingrefs at I, is May the $7^{\text {th }}$ day, at 1 minute after 9 o'clock in the morning. The Middle of the Tranfit will be at 43 minutes pait 12 at noon; and the Egrefs, at E, is at 25 minutes paft 4 in the afternoon. The whole Duration of the Tranfit is 7 hours 24 minutes.

The TYPE.


An Oceultation.

The following is an Account of Two Occultations of the Planets by the Moon.

On Wednefday, the 16 th of $\mathcal{F}$ anuary, there happens an Occultation of the Planet Jupiter by the Moon, and vifible in thefe Parts, if the air prove favourable. Fupiter will be feen to immerge behind the dark part of the Moon, at 49 minutes paft 1 o'clock in the morning; and will again be feen to emerge from the bright part of the Moon, at 40 minutes paft 2 , apparent time, at London, after being hid 51 minutes. This Occultation will appear very beautiful through a telefcope, fhould it prove a clear morning.

On Safurday, the $24^{\text {th }}$ of November, foon after the Moon rifes in the morning, the will eclipfe that bright refulgent planet Venus, then the Morning Star. Venus will immerge behind the bright part of the $M_{\text {oon }}$, at 5 min . paft $40^{\prime}$ clock; and $V$ enus will again be feen to emerge from behind the dark part of the Moon, at 4 minutes paft 5, apparent time, after being hid 59 minutes. This Occultation will make a pretty appearance through a telefcope. Thefe two Occultations (if clouds interpofe not) may be feen with the naked eye.

fudicium Aftrologicum pro Anno Redemptionis, 1799.

The SPRING QUARTER, or the SUN's INGRESS inte ARIES.


This Quarter commences when the Sun begins to difplay his genial influence upon the Earth, and happens, this year, on the 2oth of March, at 17 min . paft 2 in the afternoon, when the Planets difplay themfelves as in the above Scheme.

Here appears to be much murmuring and repining amongft all ranks of people. Some of the Planetary Configurations are for peace, whilft others imply war and bloodhed ; and after this manner we fhall find the nations of the earth difpofed.The two grand fuperiors, Saturn and Jupiter, are not circum. flanced to give much tranquillity to Irelard, though they have lately been in a Sextile afpect to each other : thele planets, in their paffage through the Zodiac, have fome effect over the ruling paffions of mankind; for, by their Trine and Sextile afpeets, fifft one and then another have withdrawn themfelves from the fcene of blood and flaughter, and have made peace with France; yet the other configurations (as fecond caufes under God) of the malevolent Planets, have had, according to their Afeendants, different effects on others, fo that war, cruel war,even to the time of my writing, has been neceffarily profecuted on the part of Great Britain, though fhe has more than once made an attempt to negociate a peace with France, to no effect. In taking a proper view of this Ingrefs, I fifd there is fome appearance now of treaties offered, and ambaffadors employed; yet I doubt it will come to nothing; for here is a Conjunction of Jupiter and Mars in the M. C. in the Afcendant of Ireland, which is a fanguine and very malignant Afpeet, denoting great calamities to mankind, as commotions, wars, fubverfion of kingdoms and fates; alterations of laws, cuftoms and rights, with treafons and treacheries not a few. The great heroes of the age have now an opportunity to fhew their valour : many eminent and extraordina $y$ events and alcerations are very likely fhortly to come to pafs, and fhew themfelves upon the Itage of Europe; fome of the places whence the grand fcene may be expected, are, France, Germany, Spain and Portygat, Holland, and I fear I muft add, Great Britain and Iretand; for indeed mof of the European Powers feem to be concerned, in one fhape or other, in the fuperlative actions of the times. The evil fpirit of France is Itill at work, in contriving and carrying on fome defigns againft our liberties, land and nation; a ftrange fpirit of difcord appears amongt the ruling powers of mankind, both in Europe and America; whence wars, devaltation, and all other calamities ufally atterding the fame, will be the fad fate of many
countries.-The German and Roman empires greatly molefted by divifions, fchifms, and pernicious councils, \&cc. -The powers of Italy in dire confufion and diftrefs.

On the SUN's ENTRANCE into CANCER, which introduces the SUMMER QUARTER.

This Summer, or Eftival Quarter, begins the 2Ift of ${ }^{\prime}$ une, at 3 min , paft $120^{\prime}$ clock at noon, when the firft degree of os will be on the Cufp of the roth Houle, and the firft degree of $\Omega$ will be on the Afcendant-Venus is Lady thereof, on the Cufp of the IIth, afflicted by an 8 of the Moon from mi ; allo at this Ingrefs, there is a remarkable of of $h$ and $\hat{\delta}$ in or, pofited in the Medium Cœli; and their effects are fuch, that they violently aflict each other. From a proper confideration of the Figure, I infer that this will be a very eminent and active Quarter-it denotes raging diftempers, fevers, and fiery appearances in the air; inundations, earthquakes, and tempeftuous weather, are often concomitants upon fuch Conjunetions. - This Conjunction happens in a Tropical Sign, and Cardinal Signs poffefs the Angles of the Figure, which fhews the effects will be very eminent, and will influence to great and notable actions, which will be carried on with great refoIution and celerity. The French Republic appears formidable to their neighbours; and fome confiderable changes appear in the affairs of the German Princes. The Ruffians exert themfelves with great valour and prudence.-A frange and turbulent fpirit appears in France; but Gieat Britain will keep her ground, amidft this din of war and ruin; fo that, if the French attempt to invade us with their armies, we predict they fhall afturredly fuffer for their raflanefs, cven to a total defeat. -The tranfit of the malevolent planet Saturn through the Tropical Sign Cancer, has already, and will flill, fhed unpleafing
unpleafing influences on the affairs of Holland, Genoa, Switzerlond, Italy and Spain, and feveral parts of Germany are ftill likely to be in a very murmuring ftate.

From all parts, fea and land, methinks I fee, The dreadful figns of death and deftiny; View well the rays the angry flars prepare, All forts of cruelsy, the rage of war. Here's anger, difcord, fury, fear, miftake, And all befides that can man's ruin make.

On the SUN's ENTRANCE into LIBRA, which introduces the AUTUMNAL QUARTER.

This Quarter commences the 23d day of September, at 49 minutes paft one o'clock in the morning, when 29 deg. of $\gamma$ will be upon the Mid-heaven, and 16 deg. of $\Omega$ will afcend in the Eaf. $\quad 5$ in 7 deg. of $\Omega$ in the 12th Houfe; 4 juft entering oo in the Inth Houke; $\delta^{2} 27 \mathrm{deg}$. of wh, pofited on the Cufp of the $3 \mathrm{~d} ; q 1$ deg. of $m$, located in the $4^{\text {th }}$; $\gamma 13$ deg. of m in the 2 d Houfe; the Moon in 9 deg. of $\sigma_{0}$, her own dignities, pofited in the 1 ith, feparating from a $\delta$ of 4 and $\Delta$ of $f$, and next applying to the $*$ of $\underset{\sim}{ }$ and $\delta$ Thus fand the Face of the Heavens at this Ingrefs, and from which I infer, that, notwithftanding fome overtures have been made for a general peace, yet I doubt the felicity of Europe is not fo near at hand; there feems to be fome farther work to be done. - The fufferings of this nation, as well as of Ireland 2 1 fear, are not completely at an end. I cannot fing Peace, or fay our 2uierus of is yet figned; for our enemies are many. This year will be productive of great accidents and viciffitudes, in feveral parts of the world ; various and fudden mutationsYet this year gives fome hopes of a peace too, but I believe not a fubftantial and general one, perhaps a truce only, or a fufpenfion of arms for a-fhort time. The Turks are in danger of Belfhazzar's judgment; great will be the actions

## 40 Astrological Observations. Season,

and difturbances both to the Eof and Weft of us.- The Frencb, Dutch, and Englijh, hope for better times; but their troubles are not yet at an end; it would be well if they were.

> On the SUN's ENTRANCE into CAPRICORN, which introduces the WINTER QUARTER.

The Winter Quarter commences on the 2 If of December, at 33 min . paff 6 at night. - This is a feafon not fit for action, but rather council and confultation, as all men know; and doubtlefs there will be enough of that, in regard there are fo many remarkable. Afpeets in this and the nest Quarter, and I hope to good purpofe, and the general confent of the whole nation; though at the fame time we muft expect various and uncertain rumours divulged, and fome very notable defign in agitation, perhaps not thought of by the major part. This Quarter is naturally cold and moift; young and choleric peopleare now beft in health, but aged and phlegmatic people the contrary. In thefe months, melancholy and phlegm do much increafe. It is now good to keep warm, and to eat fuch meats as are of an hot quality. It is now not good to bleed and purge, unlefs there be great occafion. To drink wine fometimes, and to ufe fpices in your diet, is very good.The fane oblerve in Fanuary; but in February, you may take pills to purge the head, and bathe or bleed, if there be occafion.- I now end, praying God to defend our Sovereign Lord King George, and all his offispring, and to endue him, and them, with wifdom, and profper all thofe that with and act for the welfare of this kingdom, and all other his Majefty's dominions.

Some readers will deride what's here recited, As heretofore they other truths have flighted;
swe 1 Yet fome of my prefages, you've beheld, Already have exactly been fulfill'd; Others in their appointed times you'll fee, And fooner too than they will weicome be.

[^8]ANSWERS

ANSWERS to the ENIGMAS, CHARADES, REBUSES, \&c. in our lat.

Enigma 1. War.
Do. 2. A Bed.
Rebus 1. Prudence.
Do. 2. Harrowgate.

Rebus 3. A Friend.
Do. 4. Money.
Charade 1. Armftrong.
Do. 2. Friendflip. Paradox, Hague.

A GENERAL ANSWER to the ENIGMAS, \&c. By Mr. David Lewis *, of Knarefborougb.

## On Spring.

 Now Winter affails us no more,The birds they are proud to endear, The zephyrs now fan the fields oder, And Beds of feet cowflips appear.

2 Enid.
To Bath, Tunbridge, or Harrowgate,
His lordfhip repairs with his Friend, In equipage, grandeur, and fate, The livery'd fervants attend.
But let me contented abide, Since fuch hath not fell to my lot; Let virtue be always my guide, And Prudence be found in my cot:
I ak k not what's done at the Hague, Parda. I envy no ftatefman his wealth; For Money is nought but a plague, So let me read Armstrong on health.

1 Enif. Sin or war. 1 Red.
$=4$ Neb. 1 Char.

* This gentleman has compiled a defriptive poem of Harrowgate and Knarefbro, containing about 400 lines.


## A GENERAL ANSWER to ENIGMAS, \&c.

 By Mr. John Smith, of Alton Park, Stafordßire.Prudence, Harrorvgate, Money, War, Armfrong, Bed, Friend,
With Frienthbip, and Hague, will difclofe
The puzzles which were fo myfterioufly penn'd,
The readers of Season to pofe.
The FIRST CHARADE by Mr. Smith, anfwered thus by Mr. John Coles, of Weedon, Northamptonfoire.

Mr . Smith, you are an ingenious man, And much praife to you does belong; Your Charade I will name, if I can, I think it to be the Poet Armflrong.

ANSWER to the ENIGMAS, \&cc.
By Mr. Wm. Waring, of Leicefier.
O lovely Prudence! Heaven-born maid!
Affift kind Friend/bip with thy aid,
That War may ceafe, that curfed plague, And all te Friends again with Hague.
Then chant the numbers of Amplrong,
As to Harrowgate we walk along, And may no Monkey : intervene, But go to Bid at night furene.

The QUERY anfwered by Mr. David Lewis.
That Jepthah was afpiring, haughty, and inconfiderate, appears by the conditions he impofed on his countrymen when he took the command, his impericus meflage to the King of Ammon, and his rafh vow on the event of fuccefs. Though it might feem, and actually was, a great infringement upon paternal tendernefs, to faerifice his only daughter; yet, when we confider his private characier, the folemnity and publicity

[^9]of his vow, the magnitude of his victories, and having Abraham, the head of the nation, for a precedent, there can be little doubt but the Atrength of his oath overcame the ties of natue ; as it is pofitively faid, in the $39^{\text {th }}$ verfe of the 11 th chapter of Judges; elfe why did the daughters of Iftael make an annual mourning for the untimely death of the devoted virgin?

Mr. John Coles obferves, that the late Rev. Mr. Romaine fays, Jephtha's vow did not oblige him to facrifice his daughter, nor did he; His vozu was kept by her being the Lord's, and a virgin reclufe.

NEW ENIGMAS, \&c. for the Year 1799. first enigma, by Mr. Henry Andrews, Royfon, Herts.

O Eve! of females once the beft,
Cars'd be the hour when thou transgrefs'd;
Had wifdom guided thy unfully'd will,
Eden had bloom'd, and man been happy ftill.
This wond'rous globe, how curs'd by Heaven's decree!
How loft to rectitude, in all we fee!
A field of blood, where defolation reigns,
And various vices deluge all its plains.
Transgreffion- the caufe of every woe-
Angels has damn'd, and curs'd mankind below ;
To me a friend-her fons are all my care,
Difgrace their lot, and wretchednefs their fare.
Some Popes of Rome, with Peter's baftard keys,
Boaft of great pow'r, annexed to their Sees.
But I, more fouls have punifh'd in the cell,
Than all the Popes of Rome e'er pray'd from hell.
Saint Peter's Vicar, in a judgment day,
Abafh'd may ftand, and not a word can fay ;
My pris'ners too, o'erwhelm'd with grief and fhame, Arraign'd, like him, muft anfwer to their name.
The Judge, in judgment, plac'd above the crow ${ }^{\dagger} d$, The finner caft, his fentence fpeaks aloud;
"Thy name no more muff foil the Book of Life,
"And all thy pleas are wretchednefs and frife.
" No mercy here thy guilty foul can thare,
"Thy character's lont, to meet thy doom prepare;
"In other worlds, beneath fome brighter fun,
"Grace may reverfe what I've in juftice done."
Confign'd to me, th' unhappy victim raves,
Sighs without hope, yet mercy, mercy craves !
Unheard his cries, his groans have no avail,
His warrant's feal'd, and death's the dread detail.
This, like an herald, impowered from above,
Should teach mankind repentance, faith, and love;
To feek from God, true wifdom to obtain,
Then Chritt is their's, and death's eternal gain.
SECOND ENIGMA, by Mr. John Smith, Alion Park, Stafordjbire.
Ye learned gents, who mylteries explain, Vouchfafe to liften, with attentive ear, Unto my artlefs tale, and fhew my name. Know ye, to mother Earth's prolific womb, Like many other things, my birth I owe :
But now my fate is widely different
To what 'twas then-as well may be fuppos'd -
For I've fevereft hardfhips undergone.
I, in my priftine fate, was unrefin'd
And rude; nor can I now of beauty boaft;
Yet this I'll fay, I very ufeful am
To each mechanic-yes! to all mankind:
But-fad to tell-my ufe has been perverted,
And mortals, wicked mortals, have employ'd me
To execute the moft inhuman deeds.
A woman once, as holy writ, relates,
With me committed murder-O how cruel!
I alfo was concerned in a clime
Far worfe-the erucifixion of our Lord.
And yet by fome I now am fo mueh valu'd,
They have me with them in their graves interr'd,
There to confume and pulverize with them.
My form's not complex; and yet it would be,

In fome'degree, difficult to defcribe The various fhapes in which I do appear ;
Howe'er you'll moftly find me with a head.
My fize depends quite on my maker's will,
Fbr I fometimes am half a foot in length;
Son etimes fearce half an inch, although 'tis faid,
My juft length is two inches and a quarter.
My lineage may be trac'd thro' feveral ages;
And, with good reafon, it may be conjectur'd,
That I in Noah's days was not unknown ;
For, certainly, 'twould have been difficult, Without my friendly aid, t' have made his ark. Now, O ye bards! whofe names grace Seafon's page, Methinks, you eafily may find me out.
For, I prelume, none of you are without me.

THIRD ENIGMA, by Mr. David Lewis, of Karefbro'.
Seafonian bards, a moment fpare, While I my ufe and form declare; A rieck, a mouth that fpeaks great things, As life, or death, or laws of leings! A fpur to courage, caule of fears; Proclaimeth peace, fets th' world by th' ears; When hoffile armies top the hills, Am bufy théere, but never kills:
A city's walls I have brought low,
And flrucik a panic through the Foe;
But, notwithftanding my abufe,
I was ordain'd for facred ufe;
Though dead, I fpeak with living breath, And fhall at laft difcomfit death.

## FOURTH ENIGMA, by Mr.H. K E Nwor thy, Saddleworth.

When fpring adoms the verdant plaing, And fmiling herbs and flow'rets bloom; When fields are moilt with vernal rains, In fine array from earth. I came.

Productive of my mafter's gain,
l'm guarded round on ev'ry fide;
Protected ftill by fome fond fwain, That no difafters me betide-
And thus beneath fuch foftering care, I joyfully a while remain!
But ah! my mufe, who can declare The ills I bear, yet ne'er complain.
Beneath my guardian's cruel hands, A lifelefs victim I do fall;
From thence my mafter oft commands Me to fome dark and lonely hall.
Within its gloomy walls confin'd, Until fome fwains by lucre led;
Approach to treat me more unkind, And from my body beat my head.
Thefe hardfhips due for all mankind, I'm always doom'd to undergo;
And am a lafting friend, you'll find, To all the world, both high and low.
Although a friend by all confeft, A cruel.foe I fometimes prove;
Deprive my mafters oft of reft,
And caufe thein pain whene'er they move.
So now, ye learned wits of fame, Who read kind Seafon's page this year;
Be pleas'd to tell my myftic name, And let it in the next appear.

FIRST REBUS, by Mr. G. Sim-N, of Thingdon,
Nortbamptonfbire.
Three fifths of a term oft apply'd to high birth, Four-fifths of a mineral dug from the earth, Thefe, when connected, name a Hertfordfhire town, Where I drew my firf breath, my mother doth own.

SECOND REBUS, by Mr. Jонn Smith, Alton Park.
Two-fifths of a perfon that's grown to full fize, And what all will fhun, who are virtuous and wife, When rightly connected together, will make, What mof people are readier to give than to take.

THIRD REBUS, by Mr. David Lewis. Three-fifths of one on whom few will depend, Three-fourths of what toil doth require ;
A place then join'd, that doth two members fend, Shews a market-town in Yorkfhire.

FOURTH REBUS, by Mr. Wm. Waring. To three-fifths of what travellers chielly require, Add three-eights of what ladies in drefs fhould admire; And you plainly will fee what the mifer does crave, And what every poor man would wifh for to have.

Fifth Rebus, by Mr. Joun Savage. To three-fifths of a cardinal point, pleafe to join One-third of a number, and part of a fivine; One fourth of a fruit, and the name of a weight ; Thefe joined, a pleafant town's name will complete.

FIRST CHARADE, by Mr. David Lewis.
My waving firf, proteets our happy ine,
My playful fecond makes a father fmile; My changing whole, will foon exhibit clear, An author's name, whom myftic bards revere.

SECOND CHARADE, by Mr. John Smith.
When Phoobus hath withdrawn his ray, My firft can make each fcene more gay; My next, though fome it fcourge, behold! It gives affiftance to the old. Were it not for my whole, I trow, My firn would ill its duty de.

My firf you may quite eafy fcan, For I am part of mortal man, My fecond will difplay to view, What gambling knaves too frequent do. My whole compounded you may fee, What oft my neighbours do to me.

## A PARADOX, by Mr. John Smith.

A word in Englifh you may fee, Which feven letters doth contain ; From which if two be ta'en away, Exactly eight there will remain.

## FIRST QUERY, by Mr. G. Sim-n.

Seafonian bards, to the world pray declare, From whence rofe the cuftom of powdering hair.

SECOND QUERY, by Mr. John Smith, Alton-Park.
What is the meaning of St. Paul, when he fays, "For "I could wifh that myfelf were accurfed from Chrift for my "brethren, my kinfmen according to the flefh ?"-Romans, chap. ix. verfe 3.
** The Author, HENRY SEASON, humbly thanks all his Contributors, and begs they will fend their Letters, as ufual, directed for him, at Stationers'-Hall, London (Poft paid), by the firit of May ; -and that they will inclofe Anfwers to whatever they fend.

## FIN I S

'Оли́ OR, AN

## ALMANACK

 For the YEAR of
## Our Lord God, r799;

Being the Third after BISSEXTILE, or LEAP -YEAR, And from the World's Creation, 5803 . Wherein are Contained the Lunations, Conjunctions Aspects, and Effects of the Planets ; the Increase, Decreate, and Length of the Days and Nights; with the Riling, Southing, and Setting of the Planets and fixed Stars throughout the Year; whereby may be known the exact Hour of the Night at all Times, when either the Moon or Stars are feen.
 of the ancient and renowned Botyots arctic of Star-
 $52 \mathrm{Deg}, 20 \mathrm{Min}$. fitting all the mg . Ne. forinties of ENGLAND, and, without fenfione Error, the whole Kingdom.

Non eft e Ferris mollis ad Aftra Via.

By T Y C H O WI N G Pbilomath.

$$
\text { I } O N^{1} D O N \text { : }
$$

Printed for the Company of Stationers, and fold by G. Greenhill, Treasurer to the Company, at their Hall, in Ludgate-Street.
[Price, flitches, Sixteen-Pence.]

Common Notes and Moveable Feasts. Dominical Letter $\quad$ - F Septuagefima Sund. Jan. 20 Golden Number - 14 Shrove Sunday Feb. 3 Epact - - 23 Cycle of the Sun $\quad-16$ Roman Indiction - $\quad 2$ Trinity Sunday May 19 Number of Direction 2
A Catalogue of the Moit Reverend, Right Reverend, and Reverend, the Archbifhops, Bifhops, and Deans, exercifing Ecclefiaftical Jurifdiction in England, 1799.

Arcbbiloops. Deans Names.
Dr. John Moore
Dr. Wm. Markham Bibops.
Dr. Beilby Porteus Hon. Dr.S.Barrington Hon. Dr. Br. North Dr. Buckner
Dr. Charles Mofs Dr. Spencer Madan Hon. Dr. James Yorke Dr. Richard Hurd Dr. John Butler Dr. John Warren Hon.Dr. Js Cornwallis Dr. Lewis Bagot
Dr. Richard Watfon
Dr. Edward Smakwell Dr. Geo. Pretyman Dr. John Douglas Dr. William Cleaver Dr. Samuel Horfley Dr. Richard Beadon Dr. E. V. Vernon Dr. Char. M. Sutton Dr. Cornwall
Dr. Regin. Courtenay Dr. Stuart

Dr. Cornwall
Dr. John Fountayne Bifhop Pretyman Bifhop Cornwallis Dr. Newton Ogle Mr. Combe Miller Lord Fran, Seymour Dr. Kipling Dr. Pearce Dr. Onflow
Dr. Nat. Wetherell Mr. Warren Dr. Baptift Proby Dr. W. D. Shipley Dr. Rob. Price, Prec. Dr. Cyril Jackfon Dr. SirRich. Kaye, Bt. Dr. John Ekins Dr. George Cotton Dr. Thomas Dampier Dr. Jofiah Tucker Dr. Ifaac Milner Dr. Jofeph Turner D1. John Hallam Dr. Charles Harward Mr. Wollafton, Prec. Bifhop Horfley Bifhop Sutton

Sees Names. Canterbury York

Lonàon Durham Winchefter Chichefter Bath \& Wells Peterborough Ely Worcefter Hereford Bangor Litchf. \& Cov. St. Afaph Landaff Oxford Lincoln Salifbury Chefter Rochefter Gloucefter Carlifle Norwich Briftol Exeter St. David's Weftminfter Windfor Sodor \& Man

> LAW TERMS \&

A Table of Terms and Returns for the Year 1799.
Hilary Term begins fantuary 23 , ends February 12.


Easter Term begins April io, ends May 6. In fifteen Days of Eafter - April From Eater Day in thice Weeks From Eafter Day in one Month Fiom Eafter Day in five Weeks


Trinity Term begins May 24, ends June 12 . On the Morrow of the Holy Trinity $\quad$ May $20121|22| 24 \mid$ Friday

 | in fifteen Days of the Roly Trinity |
| :--- | :--- | :--- | :--- | :--- | From the Day of the Holy Trinity in 3 W . $\quad$ of 10

Michaelmas Term-begins November 6, ends November 28. On the Morrow of All Souls - Nov. 3 年 $4 |$| I |
| :---: | |Wedn. On the Morrow of St. Martin Th eight Days of St. Martin (5) fifteen Days of S:. Martin


N. B. No Sittings in Weftminfter-Hall on the Second of February, Afcenfion-day, and Midfummer-day.
N The Exchequer opens eight Days before any Term begins, except Trinity, Sefore which it opens but Four Days,
Note, The firt and laft Days of every Term, are the firt and laft Day of Appearance.

The Names of the Learned Judges in the Law.
J. Right Hon. Alexander Wedderburne Lord Loughborough, Lord High Chancellor of Great Britain.

Right Hon. Sir Richard Pepper Arden, Knt. Mafter of the Rolls. III. In the $\{$ Rt. Hon. Lord Kenyon, Lord C. J. Sir Nam Grofe, Knt, K. Bench. \{ Sir ${ }^{\top}$ Wm. Henry Afhhurf, Knt. Sir Soulden Lawrence, Kt. Hil. In the S Sir James Eyre, Knt. L. C. J. Co. Pleas. $\{$ John Heath, Efq. Sir Ciles Rooke, Knt. Sir Francis Buller, Bart. VV, In the $\{$ Sir Arch. MPDonald, Knt, L, C, B. Sir Alex. Thompfon, Kt. Pxchequer. Sir Beaumont Hotham, Knt.

Sir Rich. Perryn, Kt.
Sir John Scott, Knt. Attor. Gen. Sir John Mitford, Knt. Solic. Gen.

## 4 <br> W I N G 1799. <br> The Regal Table.

The Year, Month, and Day, when each King and Queen began to reign, accounting the Year to begin January 1.
Kings Names began to reign

William I.
William If. Henry I. Stephen Henry II. Richard I. John
Henry III.
Edward I.
Edward II. Edward III.
Richard II. Henry IV.
Henry V. Henry VI.
Edward IV.
Edward V.
Richard III.
Henry VII.
Henry VIII.
Edward VI.
Q. Mary I.
Q. Elizabeth James I.
Charles I. Charles II. James II. Will. 3. \& M. Q. Anne George I. George II. George III.

| 1066 | Oct. | 14 | 20 | 10 | 26 | 712 | William |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1087 | Sept. | 9 | 12 | 10 | 24 | 699 | William |
| 108 | 2 |  |  |  |  |  |  |

1100 Aug. $2353 \quad 39604$ Henry I

1154 Oct. $2534 \quad 8 \quad 11610$ Henry 1189 July 6 1199 April 6 1210 Oct. 19 1272 Nov. 16 1307 July 7 1327 Jan. 25 1377 June 21 1399 Sept. 29 1413 Mar. 20 1422 Aug. 31 1461 Mar. 4 1483 April 9 1483 June 22 $14^{8} 5$ Aug. 22 1509 April 22 1547 Jan. 28 1553 July 6 1558 Nov. 17 1603 Mar. 24 1625 Mar. 27 1649 Jan. 30 685 Feb. 6
1689 Feb. 13 1702 Mar. 8 1714 Aug. 1727 June 11

34 $\begin{array}{ll}7 & 21 \\ 6 & 18\end{array}$ $\begin{array}{lll}50 & 4 & 27 \\ 22 & 3 & 8\end{array}$ $22 \quad 3$

| 492 | Edward |
| :--- | :--- |
| 472 | Edward |

422 Edward 400 Richard 20386 Henry
$\begin{array}{rrr}9 & 5 & 11 \\ 38 & 6 & 4 \\ 22 & 1 & 5\end{array}$
$0 \quad 2 \quad 13$

377 Hen
338 Hen
316 Edward

$$
\begin{array}{l|ll|l|l}
5 & 1 & \text { Edward } \\
3 & 3 & 1 & \text { Edward }
\end{array}
$$

$$
0.314 \text { Richard }
$$

$$
\begin{array}{l|l|ll}
0 & 3 & \text { Rec } \\
0 & 29 & \mathrm{He}
\end{array}
$$ |i>60 OCt. $25 \mid$

Length of each Reign,
 expired fince their Reigns ended.

Number of Years

527 Henry $5^{6}$

## Ufe of the following Table.

The Ufe of the following T A ELE of the Moon's Soutbing, to find the Time of High-Water, and the Hour of the Night.
I. To find the Time of High-Water in molt Parts of E N GLAND.
Take the Time of the Moon's Southing for the Day propofed, and to that add the Hours and Minutes which ftand againft the Place required in the following Table of SeaCoafts, and the Sum will be the Time of High-Water at the Place required on that Day.

A Table of the Sea Coafts.
Portfinouth, 2ueenborough, Southampton, - - 00
Rochefler, Winchelfea, Flufbing, - - 045 Downs, Gravefend, Ramkins, Guernfey, Denbeigh, Bell-Ifle, Hily-Ifle, Downs-Road, London, Tinmouth, Wbitby, Hartlepool, Scarborough, Berwick, Flufbing, Staples, Flamborough, Humber, Bridlington-Bay, P'smow' h, Rainfay, Newicafle, Severn, Lynn, Fofdyke, Hull, Weymouth, Dartmoutb, Crofs-Keys, Bofon, Start-Point, Foulnefs, Brijtol-Key,
Bridgervater, Milford Haven, Lizard, Wintertorwn,
Yarmouth, Ifle of Wight, the Needles, - $\quad \begin{array}{lll}7 & 30 \\ 8 & 15\end{array}$
IJle of Man, Orkney, Pool, South-Foreland, - 910

| Dover, Harwich, Orfordnefs, Bullein, | - | 10 |
| :--- | :--- | :--- |
| Rye, Soltbay, Margate-Road, | 10 |  |

iI. To find the Hour of the Night by the Shadow of the Moon on a Sun-Dial.

1. When the Shadow falls precifely on the Hour 12, then the Time of the Moon's Southing, found in the preceding Table, is the exact Time of Night. But in other Cafes,
2. If the Shadow wants of 12 , fee how much it wants of it ; which Time, fubtracted from that of the Moon's Southing, leaves the Time of Night. Note, You muft add 12 Hours to the Moon's Southing, if Need be.
3. If the Shadow has paft 12, add the Time that it has paft it to the Time of the Moon's Southing ; the Sum will be the Time of Night required; abating 12 Hours from that Sum, if Need be.

find the Time of High-Water, and the Hour of the Night.


Venus is an Evening Star till Oetoher $\mathbf{x}$; and then a Morning Star for the reft of the Year.
Jupiter is an Evening Star till May 30 ; then a Morning Star till December 17 ; after thit an Evening Star.

| January xxxi Days． |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Lunations． |  |  |  |  |  | $\left.\left\lvert\, \begin{array}{c} M_{1} \\ D \end{array}\right.\right]^{\prime}$ | Jupiter fers | Venus fets |
| New Moon 6th day，at 4 morningFirft Quarter 14th day，at 4 morningFull Moon 21t day，at 6 afternoonLaft Quarter 28：h day，at 11 morning |  |  |  |  |  | $\left.\begin{array}{r} 1 \\ 7 \\ 7 \\ 13 \\ 19 \\ 25 \\ 25 \end{array} \right\rvert\,$ | $\begin{array}{lll} 3 m & 40 \\ 3 & 14 \\ 2 & 48 \\ 2 & 23 \\ 1 & 58 \\ \hline \end{array}$ |  |
| M $W$ Holy Days， $D$＇s D＇s $D$ rifes <br> Afpects and      D D $\odot$ riles \＆fets Longit．Declin．\＆fets Weather |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  | W |  | $\begin{array}{llll}14 & 5 & 33 \\ 19 & 30\end{array}$ | $\begin{array}{rrr}2 & \text { m40 } \\ 4 & 3\end{array}$ | Weather rather fiofty now about． $\triangle 49$ <br> Sleet or fhowers． <br> Twe，day $\triangle \odot 4$ |  |  |
|  |  | TH．$\bigcirc$ rifes 8 h 3 m | 9 15 ： | $23 \quad 22$ |  |  |  |  |
|  |  | F | $23 \quad 34$ |  | $6-48$ |  |  |  |
|  | 5 S | S Old Cbrift．day | 6ivf 59 |  |  |  |  |  |
|  |  | Epiphany | $20 \quad 12$ |  | $D$ fets |  |  |  |
|  |  | M Plough Monday | 3 min 10 |  | d |  |  |  |
|  |  | Tu Lucian | $15 \quad 52$ | 20 | 20 |  |  |  |
|  |  | W | 2818 |  | $7 \quad 35$ |  | 万 | f |
|  |  | $\mathrm{H} \odot \mathrm{fets}^{\prime} 4^{\mathrm{h}} 3 \mathrm{~m}$ | $10 \times 31$ | 127 | 846 | ó © | $\bigcirc$ | ＋ |
|  |  | F | $22 \quad 31$ | 7 | $9 \quad 56$ |  | Cold wrin | nds， |
|  |  | S O＇d N．Vear＇s d． | $4{ }_{4} 24$ | 1.45 |  |  |  |  |
|  |  | 1S．aft．Epiph． 1 | 1613 |  | mo | Hila | a．C．T | beg． |
|  |  | M Oxf．T，begins 2 | 284 | $48$ | － 12 | $\triangle 2$ | 4 | ロठิ |
|  |  | $\bigcirc$－rifes 7 h 52 m | 10831 |  | $1 \begin{array}{ll}1 & 23\end{array}$ |  |  |  |
|  |  | W | $22 \quad 131$ | 18 | $2 \begin{array}{ll}2 & 35\end{array}$ |  | with frof |  |
|  |  | Hi Old T welfib－ | 4 II 4.2 |  | $3 \quad 50$ |  |  |  |
|  |  | F Q．Chib．day k． 1 | $17 \quad 31$ | 24. |  |  | Cloud |  |
|  |  | S［Prica | O¢4： |  |  |  |  |  |
|  |  | Sepruagefr．Su． 1 | 1424 |  |  |  |  |  |
|  |  | 4）Agnes［Fabian 2 | 282 |  | D）rifes |  |  |  |
|  |  | U Vincent | $12 \Omega 4$ |  | 5 a |  | indy | not |
|  |  | W Hil．Term be． 2 | $27 \quad 19$ |  |  |  | bad w | ther． |
|  |  | ${ }^{\text {H }}$ | 11 物 5 | 11 | 8 |  |  |  |
|  |  | F Conv．St．Paui 2 | $26 \quad 32$ | 5 | 9 |  |  |  |
|  |  | $\stackrel{\text { S }}{ } \bigcirc$ fets 4 ¢ 223 m | $11 \bumpeq$ | 15 | 10.5 |  |  |  |
|  |  | $1{ }^{\text {［ }}$［Fred．b．$]^{2}$ | 25 161818 |  | rn |  |  |  |
|  |  | \％$\odot$ rifes $z^{\text {h }} 3 \mathrm{zm}$ |  |  | 1183 |  |  |  |
|  | W | Wha．Ch，I，mar： | $6742$ | $22$ | 3 |  |  |  |
|  |  | $\mathrm{H}^{\circ} \odot$ fets 4 h 32 ml |  | $\left\lvert\, \begin{array}{ll} 25 & 40 \\ \mid \end{array}\right.$ | 1 <br> $+\quad 26$ |  |  |  |



Io February xxviii Days.



12 March xxxi Days.

| Lunatione. |  |  |  |  | $\left.\int_{\text {M }}^{\text {M }}\right\|^{\text {Jupiter }} \text { fets }$ | venus |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| New Noon 6th day, at 2 afternoon Firtt Quater 14 th day, at 6 afiernoun Full Moon 2 ift day, at 3 afternion Laft Quarter 28th day, at 8 morning |  |  |  |  |  |  |
| $\begin{array}{\|c\|} \mathrm{M} \\ \mathrm{D} \end{array}$ |  | Holy Days, Orifes \& fets | $\begin{array}{\|c\|c\|} \hline D ' s & D \text { 's } \\ \text { Lungit } & \text { Declin. } \end{array}$ | $\begin{aligned} & \text { D rifes } \\ & \text { \& fers } \end{aligned}$ | Afpects and Weather |  |
|  |  | DavidCbadtor Midl. Sun. |  | $4 \mathrm{~m} 3^{6}$ | Teinperate |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  | $\text { * } 5 \%$ <br> Brijk winds. |  |
|  |  |  | $20 \quad 5719.15$ |  |  |  |
|  |  | (-rifes 6 h 27 m | $3 \times 1.14$ | $\left\lvert\, \begin{array}{ll}5 & 40 \\ 0 & \text { rets }\end{array}\right.$ |  |  |
|  |  |  |  |  | Brijk winds. |  |
|  |  | Perpetia ${ }^{2}$ | $\|$27 13 <br> $9 \times r$ 5 | 6 a 36 | ¢f. 24 or |  |
|  |  |  |  |  |  |  |
|  |  |  | $20 \quad 53$ |  | Fire March $\Delta \odot h$ weather. |  |
|  |  |  | 284011 |  |  |  |
|  |  | S Sun. in Lent | $1 \begin{array}{ll}14 & 29\end{array} 15$ |  | weather. |  |
|  |  |  | $\begin{array}{llll}26 & 25 & 20 & 11\end{array}$ | morn | * $\bigcirc 24$ |  |
|  |  | GregryOrifes 6 h 1 mm | 8 \#131 2336 |  | Fine for thefeafon. |  |
|  |  |  | $20 \quad 53 / 26$ |  |  |  |
|  |  | Cam. T. ends | $\left\|\begin{array}{ll}13 & =5 \\ 16 & 35\end{array}\right\|^{2}$ | 9 | $\triangle \text { 万 }$ |  |
|  |  |  |  | 9 3 4 <br> 4 34  |  |  |
|  |  |  | $0 \Omega 212454$ |  | $\int_{\text {St.Pair. } * 24}^{\text {S me cold }}$ |  |
|  |  | Edw.K.W.S. |  |  |  |  |
|  |  | © fets 6 h 3 m | 29 2 16 3 <br> 3 收59 10 3  | 1 |  |  |
|  | - |  |  | $8{ }^{1} 85 \begin{gathered}5 \\ \text { Dries }\end{gathered}$ |  |  |
|  | TH | Bened. Maun. $T$ | 29 11 3 48 |  | $\delta$ © ftorms now |  |
|  |  | Good Friday | $14 \bumpeq 26$ 3-510 7 |  |  |  |
|  |  |  |  |  | about. |  |
|  |  | Eafter Day Ladyday.E.M. |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  | Eafter Tueiday | 13 1 6 24 <br> 26 47 26  <br> 10 20 3 27 <br> 2 59 26  <br> $5 m$ 36 23  <br> 17 59 23  | 43 0 8 <br> 47 1 30 <br> 15 2 38 <br> 12 3 31 <br> 5 4 9 <br> 23 4 35 | Nights rather |  |
|  |  |  |  |  |  |  |
|  |  | ©rifes $5^{\text {h }} 4 \mathrm{~mm}$ |  |  | day |  |
|  |  |  |  |  |  |  |
|  |  | © fets 6 h 23 m Low Sunday |  |  |  |  |
|  |  |  |  |  |  |  |

W In G, March 1799.

| Saturn | Jupier |  | Mars |  | Venus |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Longit. Declin. | Longit | Declin | Longit. | Decli | Longit. | De |
| 19933 |  | 17 n 17 | 7178 | 17 n 5 | 5 |  |
| 19 |  |  | 3210 |  |  |  |
| 19 166:2 13 | $22 \quad 19$ |  | 025 |  |  |  |
| 19 13 222.14 |  |  |  |  |  |  |
|  |  |  | 아 2 II 36 |  |  |  |


| M | $\odot$ 's | 's |
| :--- | :---: | :---: |
|  |  | Obfervations |


|  |  | $\stackrel{\odot}{\circ} \mathrm{s}$ | Obfervat |
| :---: | :---: | :---: | :---: |
| D | $\frac{\text { Longit. }}{1035}$ | $\frac{\text { Dectin. }}{7525}$ |  |
|  | $10 \times 58$  <br> 11 $5^{8}$ <br> 12  | $\begin{array}{\|cc} 7 & 5 \\ 7 & 25 \\ \hline \end{array}$ | toge:her in the weft after fun-fet |
| 2 | $12 \quad 1 \begin{array}{ll}12\end{array}$ | $6 \quad 42$ |  |
|  | $\mathrm{H}_{1}^{13} 588$ | 6 1 | Day irh. and 2m. long |
|  | 514 | 5 56 |  |
|  | $0.15 \quad 58$ | $5 \cdot 32$ | Days have increared 3n. 27 m . |
| 7 | 71658 | 5 |  |
|  | 8178 | $4{ }^{4} 46$ |  |
| 9 | $9{ }^{18} 588$ | $4 \begin{array}{ll}4 & 22\end{array}$ | Mars fhines till |
|  | $\begin{array}{ll}19 & 58 \\ 18\end{array}$ | $\begin{array}{ll}3 & 59 \\ 3 & 35\end{array}$ | Mars is getting eaft of Jupit |
| 11 | 12058 | $3{ }^{3} \quad 35$ |  |

Day break at 15 m . paft 4 morning Saturn fouth, 39 m . paft 7 at night Twilight ends about 8 at night
Sun enters $\vee$ at 17 m . paft 2 afternoon Sa:urn ilationary, as feen from the earth Mercury under the fun-beams
The Georgian Planet fouth, 15 m . paf 11 at night
Dây increafed 4 hours and 51 minutes Saturn fhines till 3 in the morning
14 April xxx Days.



16 May xxxi Days.

D Saturn I Jupiter I Mars I Venus,

M Long.|Declin. Long.|Declin.|Long|Declin.|Long.|Declin.


Lunations

Full Moon 17 th day, at 4 afternoon. Laft Quarter 25 th day, at 3 morning.

| 1 | 3 | m 52 | 11 | a |
| ---: | :--- | :--- | :--- | :--- |
| 7 | 5 | 34 | 11 | 1 |
| 13 | 3 | 15 | 10 |  |
| 19 | 2 | 54 | 10 |  |
| 25 | 2 | 31 | 10 | 37 |








$$
\begin{array}{|c|c|c|}
\hline \mathrm{D} \text { Sun's } & \text { Sun's } & \text { Observations } \\
\mathrm{M} \mid \text { Longit. } & \text { Declin. } & \\
\hline
\end{array}
$$

19 9818 n 0

| 2 | 10 | 5 | 17 |
| :--- | :--- | :--- | :--- |
| 3 | 44 | Day breaks at 27 min . part $10^{\prime}$ clock. |  | $\begin{array}{llll}3 & 11 & 3 & 17 \\ \mathrm{~F} & 12 & 29 & \text { Twilight ends at } 28 \mathrm{~min} \text {. pat } 100^{\prime} \text { clock. } \\ 12 & 0 & 17 & \end{array}$ $\begin{array}{cccc}12 & 0 & 17 & 13 \\ 5 & 12 & 58 & 16\end{array}$ The planet Mars is now very near Re$613 \quad 5516 \quad 40$ gulus, and fats after the Sun.

$\left.\begin{array}{llll}7 & 14 & 53 & 16 \\ 8 & 15 & 23 \\ 15 & 16 & 6\end{array} \right\rvert\,$ Venus's greateft elongation from the Sun, $9 \begin{array}{llll}16 & 48 & 15 & 49\end{array}$ as seen from the earth.
$\begin{array}{llll}10 & 17 & 46 & 15\end{array} 3^{2}$
$\begin{array}{lllll}\text { F } & 18 & 43 & 15 & 14 \\ 12 & 19 & 41 & 14 & 56\end{array}$ Shining Harp forth, at 9 at night.
$14^{21} \quad 3614 \quad 0$ as feen from the earth.
$\begin{array}{llll}15 & 22 & 34 & 3^{2} \\ 16 & 23 & 4^{2} \\ 17 & \text { Days have decreafed } 2 \text { hours } 5 \mathrm{~min} \text {. }\end{array}$
$1724 \quad 2913 \quad 22$ Days have decl

$\left.$|  | 25 | 27 |
| :---: | :---: | :---: |
| 19 | 13 | 3 |
| 19 | 25 | 12 | $4_{4} \right\rvert\,$ Saturn rife 30 min. pat 2 morning. $2027 \quad 2312 \quad 24$ Jupiter riffs 24 min . pat 11 at night. $2128 \quad 20 \quad 12 \quad 4$ Mars rets 26 min . pat 7 at night.


$\begin{array}{lllll}22 & 29 & 18 & 11 & 44 \\ 20 & 0 & 16 & 11 & 23\end{array}$ Sun enters 收 at 17 min . pat 5 morning. | 23 | 0 | m 16 | 11 | 23 |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 24 | 1 | 14 | 11 | 3 |


| F | 2 | 12 | 10 | 42 | Day breaks 50 min . paft 20 'c |
| :---: | :---: | :---: | :---: | :---: | :--- |
| 26 | 3 | 10 | 10 | 21 | Day |
| 27 | 4 | 8 | 10 | 0 | Mercury ftationary, as fees from |
| 28 | 5 | 6 | 9 | 39 |  |
| 29 | 6 | 4 | 9 | 18 |  |
| 30 | 7 | 2 | 8 | 56 | Day 13 hours 40 min . long. |




Lunations
Firlt Quarter $5^{\text {th }}$ day, at midnight. Full Moon $13^{\text {th }}$ day, at 7 afternoon. Laft Quarter 21 ft day, at 11 night. New Moon 28 th day, at 6 afternoon. M W Holy-Days Moon's Moon's D rifes Afpects and D D ® rifes \& fets Longit. Declin. \& fets





|  | Obfervations |
| :---: | :---: |





The Eclipfes of Jupiter's Firft

| Fanuary | February |
| :---: | :---: |
| Emerfions. | Emerfions. |
| h. $m$ s. | d. h. m, s. |
| $2 \begin{array}{lllll}2 & 2 & 55 & 15\end{array}$ | 145710 |
| $\begin{array}{lllll}3 & 21 & 23 & 18\end{array}$ | 2232555 , |
|  | 4 II 54431 |
| $7 * 101930$ | $\begin{array}{llllll}6 & 12 & 23 & 32\end{array}$ |
| $\begin{array}{lllll}9 & 4 & 47 & 37\end{array}$ | 8* 65224 |
| $10 \begin{array}{lllll}10 & 23 & 15 & 51\end{array}$ | 10121 |
|  | 111950 |
| $14^{*} 121219$ | 13144919 |
| 6* 64036 | $15 * * 4^{*} 821$ |
| $18 \quad 18 \quad 56$ | $\begin{array}{lllll}17 & 3 & 17 & 27\end{array}$ |
| $1919 \begin{array}{lllll}19 & 19\end{array}$ | $\begin{array}{lllll}18 & 21 & 46 & 33\end{array}$ |
| $2114 \quad 5.43$ | $\begin{array}{llllll}20 & 16 & 15 & 40\end{array}$ |
| 23* 83411 | 22*10 4453 |
| $\begin{array}{lllll}25 & 3 & 2 & 42\end{array}$ | 24.5151411 |
| 26213115 | $25 \cdot 2318321$ |
| 28595051 | $\begin{array}{llllll}27 & 18 & 12 & 39\end{array}$ |
| $30 * 10 \quad 28 \quad 29$ |  |

## Marcb

 Emerfions. d. h. m. s.I $124^{1}=6$
3*7.11 17
5
6
8
10 * 9851
$\begin{array}{llll}12 & 3 & 38 & 16\end{array}$
$\begin{array}{llll}13 & 22 & 7 & 44\end{array}$
$\begin{array}{llll}15 & 16 & 37 & 10\end{array}$
$1711 \quad 635$
$\begin{array}{llll}19 & 5 & 36 & 6\end{array}$
$210 \quad 5 \quad 32$
$\begin{array}{llll}22 & 18 & 35 & 4\end{array}$
$\begin{array}{llll}24 & 13 & 4 & 31\end{array}$
26* 734
$28 \quad 2 \quad 3 \quad 28$
$\begin{array}{rrrr}29 & 20 & 32 & 59 \\ 31 & 15 & 2 & 27\end{array}$

Emerfions.
d. h. m. s.

2* 9 31 53 $\begin{array}{llll}4 & 4 & 1 & 19\end{array}$ $\begin{array}{lllll}5 & 22 & 30 & 44\end{array}$ $\begin{array}{rrrr}7 & 17 & 0 & 10 \\ 9 & 11 & 29 & 32\end{array}$
$\begin{array}{llll}11 & 5 & 5^{8} & 59\end{array}$
$\begin{array}{llll}13 & 0 & 28 & 18\end{array}$
$\begin{array}{llll}14 & 18 & 57 & 4^{2}\end{array}$
$\begin{array}{llll}16 & 13 & 26 & 59\end{array}$

18* $7 \quad$| 6 |
| :---: |

$20 \quad 2 \quad 2534$
$2120 \quad 5450$
$\begin{array}{llll}23 & 15 & 24 & 1\end{array}$
$\begin{array}{llll}25 & 9 & 53 & 15\end{array}$
$27 \quad 4 \quad 22 \quad 22$
$\begin{array}{llll}28 & 22 & 5^{1} & 31\end{array}$
$30 \quad 17 \quad 20 \quad 38$

May

The Eclipfes of Jupiter's Satellites are not vifible this month, Jupiter being too near the Sun.

| 7 fuly |  |  |  |
| ---: | ---: | ---: | ---: |
| Immerlions. |  |  |  |
| 1 | 13 | 50 | 46 |
| 3 | 8 | 19 | 3 |
| 5 | 2 | 47 | 20 |
| 6 | 21 | 15 | 38 |
| 8 | 15 | 43 | 58 |
| 10 | 10 | 12 | 17 |
| 12 | 4 | 40 | 35 |
| 13 | 23 | 9 | 0 |
| 15 | 17 | 37 | 23 |
| 17 | 12 | 5 | 47 |
| 19 | 6 | 34 | 12 |
| 21 | 1 | 2 | 42 |
| 22 | 19 | 31 | 9 |
| 24 | 13 | 59 | 40 |
| 26 | 8 | 28 | 12 |
| 28 | 2 | 56 | 46 |
| 29 | 21 | 25 | 18 |
| 31 | 15 | 53 | 55 |


| Auguff |  |  |  |
| :---: | ---: | :---: | :---: |
| Immerlions. |  |  |  |
| 2 | 10 | 23 | 31 |
| 4 | 4 | 51 | 9 |
| 5 | 23 | 13 | 50 |
| 7 | 17 | 48 | 33 |
| 9 | 12 | 17 | 13 |
| 11 | 6 | 45 | 57 |
| 13 | 1 | 14 | 46 |
| 14 | 19 | 43 | 30 |
| 16 | 14 | 12 | 21 |
| 18 | 8 | 41 | 12 |
| 20 | 3 | 10 | 2 |
| 21 | 21 | 38 | 55 |
| 23 | 16 | 7 | 50 |
| 25 | 10 | 36 | 43 |
| 27 | 5 | 5 | 39 |
| 28 | 23 | 34 | 35 |
| 30 | 18 | 3 | 32 |
|  |  |  |  |


| St | Octuoel |  |  |
| :---: | :---: | :---: | :---: |
| mmerfions | Immerions |  | m |
|  | 45 |  | *13 17 |
| $\begin{array}{llll}12 & 32 \quad 29\end{array}$ | 14 | 1121 i5 | 45 |
| 28 | 42 | 4937 | 13 |
| 130 | $\begin{array}{lllll}6 & 22 & 11 & 48 \\ 8 * & 6 & 40 & \end{array}$ | 17.54 | 41 |
| 6195925 | 8*1640 36 | 8 |  |
| $8^{* 14} 42827$ | * 11926 | 22 | $1{ }^{*} 9{ }^{26} 31$ |
| $10 \quad 8 \quad 5725$ | $\begin{array}{lllll}12 & 5 & 38 & 13\end{array}$ | $\begin{array}{lllll}11 & 7 & 42 & 36\end{array}$ | 13 |
| $\begin{array}{llll}12 & 3 & 26 & 27\end{array}$ | $14 \quad 0 \quad 7$ | $\begin{array}{lllll}13 & 2 & 10 & 43\end{array}$ | 142231 |
| $1321 \begin{array}{lllll}13 & 5 & 23\end{array}$ | $15 \quad 18 \quad 35 \quad 45$ | $1+2038 \quad 51$ | $16 * 16 \quad 59 \quad 31$ |
| $15^{*} 162425$ | $17 * 134829$ | $16^{*} 15 \quad 6 \quad 54$ | merlions |
| 7105325 | 19733 | 18* 934 |  |
| 19552225 | 21.20197 | $20 \quad 4 \quad 2 \quad 58$ | $20^{*} 8606$ |
| 20235124 | $22 \quad 20 \quad 30 \quad 22$ | 21223056 | $22 \quad 2 \begin{array}{lllll}23 & 42\end{array}$ |
| $22 \quad 18 \quad 2023$ | $24^{*} 14 ; 8$ | $23 * 165850$ | $23.21 \quad 1 \quad 22$ |
| $24^{*} 124922$ | $26 * 92729$ | $25^{*} 1112643$ | $25^{*} 15 \quad 29 \quad 1$ |
|  | $28 \quad 3 \quad 56$ | $27 \quad 5$ | $27^{*} 95646$ |
| $\begin{array}{llllll}28 & 1 & 47 & 17\end{array}$ | $29222+27$ | $\begin{array}{llllll}29 & 0 & 22 & 23\end{array}$ | $29 \quad 42429$ |
| $29 \quad 20 \quad 16 \quad 12$ | 31*6 5 52 | $30 * 18 \quad 50 \quad 12$ | $30 \quad 22 \quad 52 \quad 15$ |

N.B. Thofe marked with an a terik are vi ible at Greenwich.

Toilluftrate the Ufe of the preceding Table by an Example: -Sup: ofe on the 28th Day of September this Year, the Time of the Inmerfion of Jupiter's firt Satellive be obferved by a Teiefcope, in an unknown Meridian, to happen at 3 h .35 min . 37 feconds; I find by the Table, that the I ime of hi, Immerfion will happen at the Brivin Ubfervatory at 1 h .47 min 17 lec. the fame Day: The Difference of the fime is 1 h .48 min , 20 fec . which being converted in:o Degrees and Minutes of the Equator, at the Rate of 15 Degrees per Hour, will make 27 deg . 5 min . the Longitude of the Place of Oblervation to the Eaft; becaufe the Time is more than that at tae Britifh Obfervatory.
Immerion obferved $\ldots \ldots \ldots$

Mercury's Longitude and Declination for 1799.


EQUATION of TIME to the neareft Minute.


If the equal or clock time be given, add or fubtract the tabular numbers to or from it, as directed in the table; the fum or difference will be the apparent or folar time. But do the contrary to reduce the apparent to equal time. fince the Creation to this prefent Year.
A.P.J. before

Cbrift.
710 1766 2366 2481 2718 2986 3143 3223 3530 3710 4126
4176 4198
4391
4710
4714
A. D.

The Paffion and Refurrection of $\mathcal{F} e$ us Cbrift of the Church
A.D.

1463 The Perfians conquered by Tamerlane Rome plundered by the Duke of Bourbon Martin Luiber firft difpúted againft Popery England feparated from the Church of Rome The Spani/h Armada defeated by the Engli/h Q. Eliz. dies March 24, and K. James I. began Died of the Plague in London, in 2 Years, 68,596. Gunpowder Treafon, Now. 5. The New. River Water brought to London The excellent Sir Waiter Raleigh beheaded K. James I. died, K Charles I. began Mar. 27. 35,417 Perions died of the Plague in London The cruel Iriß Maffacre began, Ocfober 23. Burleigh Houfe ftormed by Cromzell, July 24. K. Cbarles I. beheaded, January 30. Oliver Cromweil died.
K. Cbarles II. reftored, May 29. 68,5 86 Perfons died of the Plague in London London burnt, and a great Sea-fight with the Dutcb War declared againit the Dutch, March 17. A great Snow for in Days together The Town of Northampton burnt, Sept. 3. A great and fplendid Comet appeared The great Froft that held 13 Weeks K. Cbarles II. died, Feb. 6, and K. Fames II. began The Duke of Monmouth beheaded, July 15. Seven Bifhops fent to the Tower, Fune 8 . K. Fames II. abdicated, December 12. K. William and Q. Mary crowned, April I1.

1698 Whitehall Palace deftroyed by Fire
1702 K. William died, March 8, and 2. Anne began
1702 Q. Anne proclaimed War againft France, May 4.
1703 A great and terrible Wind, No.v. 26 and 27.
1704 Gibraltar taken by the Engli/h
1707 England and Scotland united, May 1.
1710 Riots and great Difturbances in England
1714 Q. Anve died, Auguft 1, and K. George I. began $C_{3}$18 , in $\gamma$
3744 Mar. 4, France declar. War againft England; andMar. 31, England declared War againft France
1745 Cape Breton taken from the French, Fune. 161746 The Scotch Rebels defeated by the Duke of Cum.berland, at Culloden, near Inverne/s, April 16

$$
\text { A general Peace figned OEzober } 7
$$

Cape Breton reflored to the French
The Britifo Fifhery eflablifhedThe Date and Calendar altered
Lifbon deftroyed by an Ear hquake, Nov. I
England declared War againft France, May isMinorica taken by the French, Juune 27.Count-Brown defeated by the King of Pruiffa, nearPrague, May 6.
The King of Prufra defeated by Count Daun, at
$175^{8}$Collin, wine 1841repulfed at Ticonderoga, Fuly 8
A.D. 1758

1759
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1767
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7771
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1776
${ }_{177} 6$ The Americans declare themfelves independent
1777 Princefs Soplia born Nov. 3.
1778. The French fign a Treaty with the Americans

1778 War begun againf the French
1779 War commenced againft the Spaniards
1780 War againft the Dutch begun
1783 A general Peace
${ }^{1783}$ Princefs Amelia born Aug. 7.

# Years <br> fince. <br> The Ifland of Guadaloupe taken by Gen. Barring- ton and Commodore Moore, May \& <br> Frencb defeated at Minden, by Pr. Ferdinand, Aug. 1 <br> ..... 40 

Quebec taken, Sept. 18, by Gen. Townfloendand Adm. Rodney, Feb. 14The Havannab taken by Lord Albemarle and Sir George Pocock, Auguft 12

Princefs Cbariotte-Augufa Matilda born Sept. 29
Prince Edward born Nov. 2
Princefs Augufta Sopbia born Nov. 8
Princefs Elizabeth born May 22
Pince Ernef-Auguftus born fore 5
Srwedes refign their Liberties to the King
Prince Augufus-Frederick born fan. 27
The Light Gold recoined
Prince Adolpbus Frederick born Feb: 24
War commenced againft the Nortb-Americans 1. 24

33
40 CHRONOLOGY.
A.D.
1783 New Volcanic Ifland appeared near Iceland
$27^{8} 3$ More than 40,000 People perinh by Earchquakes in Italy ..... 16
1783 Peace with France, Spain, and America, concluded Sept. 3. ..... 16
1784 A general Peace concluded, $\mathcal{F}_{u}$ ly 2.
1784 Seventeen Diffricts in Ictland delolated, by a fub terraneous Fire ..... 15 ..... 15
1786 Commercial Treaty with France figned Sept. 26.
13
1788 His Majefty George 111. feized with a dangerous Diforder ..... 11
$17^{8} 9$ April 2 , the King, Royal Family, \&c, went in state to St. Paul's, being a Day of General Thankfgiving for His M. jefty's Recovery ..... 10
1789 Revolution in France, the Baftie demolifhed, and arbitrary Government dettroyed ..... 10
1790 Fofepb II. Emperor of Germany died Feb, 20. ..... 9
1790 Henry Frederick, Duke of Cumberlana diet Sept. 18.
1792 Leopold, Emperor of Germany, died March :. ..... 7
1792 Guftawus, King of Sweden, fhot by Ankerflrom,
March 16. , died March 29. 10 March 16. , died March 29. ..... 7 ..... 7
1792 War declared by France againtt the King of Bo- bemia and Hungary, April ..... 7 ..... 7 ..... 7
1792 The French Munarchy altered to a Republic, Sept. ..... 7

1. 93 The French $\sqrt{ }$ ing, ouis XVI beheaded. Jan. 21.
1794 The French deieated by Lord Howe, June 1. ..... 5
1796 Prince of Wales married, Lipril 8. ..... 4
1797 Ppanifh flee defeated by Eart St. Vincent, Feb. ..... 21.3797 Princefs Royal married to the Duke of Wirtem-2berg, May 8.
${ }^{77} 97$ Dutch flett dereated by Lord Duncan.2

## AN

## ACCOUNT OF THE ECLIPSES,

AND SOME OTHER
CELESTIAL APPEARANCES,

## In the Year 1799.

IN this Year there happens only two Eclipfes, and they both of th SUN.

The firft of thefe Eclipfes happens on Sunday, the 5th of May, at 14 minutes before our one 0 'clock in the morning; therefore muft in confequence be invifible to us. This will be a very great Eclipfe in the Great Pacific Ocean; for in 8 degrees of Nor h Latitude, and 177 degrees 37 minue of Eaft Longitude fom London, the Sun will be central and annular, precifely at noon day, when a beautiful and fplendid Ring of Light will appear all round the Moon's dark body. The Sun will be partially eclipfed (more or 1 fs) at the Sandwich $1 f$ ands, at the Society and Friendly IAand, the New Hebrdes, New Caledonia, and it will be feen as far as New Zealand, towards the South Pole. It will be vi..ble in New Holland, New Guines, the Ladrone Jilands, and as far North from thence s the Ifland of Japan.

The other Solar Eelipfe happens on Monday, the 28th day of October, at 36 minites $p$ ft our $5^{\prime} 0^{\prime} \mathrm{clock}$ in the evening, invifible to us; for the Sun fets that day at London, at 54 ninuts palt $40^{\prime}$ 'clock. This is alfo a very great Eclipfe; for it will be both central and to:al, at noon-day, in the G eat Pacific Ocean, or Great South Sea, near the weltern coafts of

Perv in South America, in 5 degrees 15 minutes South Latitude, and near 83 degrees of Weft Longi ude from London. This Eclipfe will b- vifible partially, more or lefs, to the whole continent of South America; it will be feen at the Inand of Jamica, at the Inand of Cuba, and all the eft of the Weft India Iffnds; it will alfo be feen in Florida, Georgia, and Carolina, in the Southern parts of North America. It will alfo be feen to the weltward, as far as Otaheite, one of the Society Illands, on the coaft of Africa.

## 0 cose

## Other Celeftial Appearances.

Upon Wedn day the 16 ch of January, there happens an Occuitation : $f$ the Planet Jupiter by the Mo.n, and vifible in thefe parts, if the air prove favourable. Fupiter will be feen to immerge behind the dark part of the Moun, at 49 minutes paf I o'clock in the morning; and will again be feen to emerge from behind the briglt part of the M100n, at 40 minutes palt $20^{\prime}$ clock, according to apparent time at London, a'ter being hia $5^{1}$ miuutes. 1 his Occultation of Jupiter by the Moon will aipear very beautiful through a telefcop, flould it be a fine clear morning.

Upon Tuefday, the $7 \%$ h of May, there happens a notable Tranfit of the Planet Mercury over the Sun ; and it will be vifible, from the beginning to the end, to us and all Gurope, and that for the fpace of near 7 hours and a half. The Planet Mercury, diveited enticely of its radiancy, will be feen on the Sun, in the form of a round black foot, and vifible, if the fky be clear at the time, to all places of the earth where the Sun is up. Mercury will be feen on the Sun by fharp eyes, only defended by the interpofition of a dark glafs, or a piece of clear window glafs fmoked over the flame of a candie, but will appear much larger, and more to advantage, with the help of a telefe pe; but the precantion of interpofing a dark glafs beiween the eye and the telefcope will be neceflary, or otherwife :he fight may be impaired, if not nearly deftrayed; but,
thus fhielded, it will be perfectly fecure from-danger, or any inconvenience. This tranfit will be vifible, from the Middle to the End, to all North and South America, and the Welt India Iflands; the Beginning will be feen in Eaftern Tartary, China, the Philippine Iflands, the Iflands of Borneo, Sunda, and Java, and on the Weftern coaft of New Holland; but the Sun will fet with them foon after,


At London, according to apparent time, the Ingrefs at 1 , is ${ }^{1}$ May the 7 th, at i minute after 90 'clock in the morning; the Middle of the Tranfit will be at 43 minutes paft 12 at noon; and the Egrefs at E, is at 25 minutes pait 4 in the afternoon.

Upon Saturday, the $24^{\text {th }}$ of November, foon after the Moon rifes that morning, fhe will eclipfe the Morning Star, the beautiful Planet Venus. This fine Star will immerge behind the bright part of the Moon at 5 minutes paft $40^{\prime}$ clock in the morning; and Venus will again be feen to emerge from behind the dark part of the Moon, 4 minutes paft 5, apparent time, after being hid 59 minutes. This Occultation will make a pretty appearance through a telefcope, thongh it may be feen (as well as that of Jupiter) by the naked eye.

44 Astrological ObsERyATIONS. WING.

# Of the FOUR $2 U A R T E R S$ of the YEAR 1799 ; 

WITH A SUMMARY

## VIEW OF THE POSITION AND INFLUENCE

OF THE
PLANETS therein,

Of the Spring Quarter:
This Quarter begins on the 20th of March, at 17 min , paft 2 o'clock in the aftern on, when the Planets are difplayed in the Heavens, as in th: Scheme following :-


Here

# 1799. Astrological Observations. 

Here is an appearance of treaties offered, ambaffadors employed, and fent to and fro, on important bufinefs; I wilh it may be for peace. The pofition of 4 and $\hat{\delta}$ in the M.C. in the afcendant of Ireland, is a fanguine and very malignant afpect, and implies great calami ies to mankind, as commotions, wars, and bloodfhed. The great heroes of the age have now an oppor unity to fhew their valour. Many eminent and extraordinary eyents and alterations will fh rtly come to pafs, and fhew themfelves upon the ftage of Earope; fome of the places whence the grand fcene of affairs m>y be expected, are, France, Germany, Italy, Spain and Portugal, with Holland, Great Britain and Ireland-indeed moft of the European Powers feem to be concerned, in one fh pe or other, in the fuperlative actions of thefe troublefome times. Some matters of great importance are now hammering upon the anvil of State ; and the evil fpirit of france is fill at work, in contriving and carrying on fome defigns againft our liberties, land and nation; a ftrange fpirit of difcord appears amongit mankind, both in Europe and America: whence wars, devaltations, and all other calamities ufualiy attending the fame, will be the fad fate of many countries. The Getman and Roman empires greatly molefted by divifions, fchiims, and pernicious councils, \&c, Great-Britain, I hope, will keep her ground, amidit this din of war and ruin; and fhould the French, with their armies, attempt to invade us, we predict they will fuffer for their rafhnefs, even to a total defeat. The Tranfit of the malevolent planet Saturn through Cancer, has already, and will ftill fhed unpleafing influences on the affdirs of H:bland, Prufia, Gei.oa, Switzerland, Italy, and Spain, and feveril parts of Germany, are in a very murmuring mood.

## The Summer Quarter.

This Quarter begins the 21 ft of $\mathcal{F}_{\text {une, }}$ at 3 min . paft 12 $0^{\prime} \mathrm{d}$ ck at noon, when the firt degree of will be on the cufp of the 10 'h Houfe, and the 1 it degree of $\bumpeq$ will be on the afcendant. The $D$ ab 8 of et $\Delta u$, \& 후, \& $\bigcirc$. Alfo at this Ing efs happens a remarkable $\delta$ of $h$ and $\delta$ in 5 , in the Medium Coeli. This vi. 1 nt $\delta$ of $h$ and $\delta$ will have haty and violent effects; and there will be very eminent and active

## 6 As trological Observations... Wing.

doings this Quarter ; and here is an appearance of abundance of treachery amongit mankind; there feems to be fome great work at, or near at hand; the puials of judgment are yet not all poured out; here are potent Afpects and Pofitions in this Ingrefs, which will make warm work among the military gentlemen in feveral parts of Europe. It denotes fome raging diftempers, fevers, and unufual fires, and fiery appearances in the air. This Conjunction principally refpects Europe, and fhews mo't emirent aetions to be carried on with great refolution and celerity. The French Republic appears formidable to fome of their neighbours; and fome conniderable changes appear in the affairs of the German Princes. The Ruffians exert themfelves with great valouf and prudence. Holland and Pruffa are under fome uneafinefs; and the city of Confantinople is fomewhat concerned in the male influences of this important Conjunction,

## The Autumn Quarter.

This Quaiter begins the 23 d of September, at 49 minutes paft one in the morning, whien 29 deg. of $\Upsilon$ will be upon the Mid-heaven, and 16 deg. of $\Omega$ are afcending. The $D$ is in 9 deg. of $\sigma$ in the ith Houfe, feparating from a $\delta$ of 24 , and $\Delta$ of $q$, and next applying to the $*$ of $\vartheta$ and $\hat{\delta}$. I infer from this Ingrefs, that fome overtures for peace may be made; but I doult the felicity of Europe is not fo near at hand; there feems to be fome farther work to be done fitt ; and the fufforings of this nation, I fear, are not yet quite over. This year will be productive of great accidents; various and fudden mutations in feveral parts of the world.- But let us be content ; for our condition is better than our neighbours : however, we hope for better times. The Empire and the illuftrious Houfe of Aufria will yet flourifh, but not with that vigour it hath formerly done; great will be the affictions and loffes that ftately family will undergo, but not fuch as fhall bring it to its final period. The French have been, and are, affiduous in their applications to fubject the United States of America to their meaftures; they ftand in need of good advice; for if they give into French delufion, their. circumftances will be moft unhappy.

## The WInter QuARTER.

This Quarter begins the 21ft of Derember, at 33 min . palt 6 at night. The Pofitions and Afpects at this Ingrefs, are, moft of them, of a malevolent nature, and thew that fuch nationis and countries as are fubjeft to their imflience, are under . very uneafy and melancholy circumftances. They will aflict feveral parts of France, with notable accidents, and unexpected commotions.

Cold winter now at laft doth end the year;
The ea th and tree ftript of their fummer wear;
Cold and dark air finall comfori to us yield ;
Cold rain, fruft, foow duth now adorn the field.

## Farther Obfervations on COMETS.

AS to the deftina ion or purpofe of Comcts, whether they were worlds formerly inhabited, and reducec to a chans, or whether they are fatue worlds not yet reduced to a habitable fate, or whether they are m fies of combulible matter made to move periodically round the $S_{\mathrm{nt}}$, for the conveyance of $h$ at and light to remote and dark re iins; and afcer a number of revolutions (approaching every revolution nearer and nearer, as it is fupp.fed fome of them do) they at laft drop into the Sun, to fupply his exhaufted fuel, and continual wafte of his heat and light; or whether they are defigned to impregnate the regions of the Planets with falutary particles, and make up the decay or wafte of thofe elementary principles; or whether they are formed to bring about deluges or conflagrations, or to put a period to, or produce a change in other worlds, is not eafy to determine. But the extreme vicifitides the Comets inhabitants undergo, of heat and cold, (and fuch thole inhabitants may be adapted to endure) with the opp rtunity they have of feeing the works of creation in fuch variety of views and appearances (in travelling from the farthelt to the neaielt part of their orbits in refpect of the $S u n$,) mutt be as aftonifhing as unfpeakably magnificent! Some Comets, and particularly that of 1680 , are compated to proceed in their gicateit
greateft diftances from the Sun, no lefs than four times the diftance of the Planet Saturn; and Saturn is not lefs than 777 millions of miles from the Sun: yet 'tis found t at Comets, at that amazing diffance, in the etherial fpace, are not affected by the attraction of the fixed Stars; but, arriving at their extreme limits, to which their projectile force will carry them, they regularly return, by the force of the Sun's attraction, acquiring new projectile force, by accelerating their velocities all the way back in their approach to the Sun, and then read their motion in their retreat every where from him ; and fo on, periodically and perpetually-We may therefore obferve, that the e is a fpace of 6 or 7 thoufand millions of miles over, at leaft, (and who can tell how much more?) wherein the Planets and Comets revolve round the Sun, as the centre of that face, independent of the attraction of the tixed Stars, reaching, in all probab lity, like our Sun's attraction, 3 or 4 thoufand millions of miles round each Star; and we may reafonably fuppofe, that there are infinite Syltems in the infinite Space, and a fixed Star placed in the midft of each Syftem, as a Sun, to the refpective revoiving Bodies; and all thefe Syftems kept in fufpenfion, and at due diftances from each other, by certain properties: Hence we may fuppofe, that no two fixed Stars are nearer to each o her than 6 thoufand millions of miles, however they appear to us fo crouded, and near one another, at their vait dittance ; for, though we are nearer fome of them at one time of the year than another, by the whole breadth of the Earth's orbit, or about 160 millions of miles, their appearances, magnitudes, and diffances from one another, are feen to be always the fame-How wonderful!

At his command, affrighting human kind, Comets drag on their blazing lengths behind:
Nor, as we think, do they at random rove, But, in determin'd times, through long Ellipfes move; An 1 , though fometimes they near approach the Sun, sometimes beyond our Syftem's orbit run, Throughout their race, they act their Maker's will, His power declare, his purpofes fulfil.

## F I N I S。

The Heliocentrick and Geocentrick Places of the Planets, the Eclipses of the Luminaries, and other remarkable PhenoMENA that will happen this Year. Carefully computed
From the genuine Tables of Dr. Edmund Halley, thole of Profeffor MAYER, and other the latest and mort correct Astronomical Tables.

A Complete Almanack, containing the Feasts and Fasts of the Church of England; the Times of the Lunations; the Rifing and Setting of the Sun, Moon, and Planets, \&cc.

> Adapted to the

Meridian and Latitude of the Royal Obfervatory of GREENWICH.

To which are added
Several ufeful Tables: As, a Table of the Sun's femi-diurnal Arcs, by which the Times of the Sun's Rifing and Setting may be known by $\ln$ fpection, on every Day in the Year, and in any Part of Grzat-Britain or Ireland; a Tide-Table, and a very correct one of the Eclipfes of JUPITIR's fife Satellite; a TAELX of the Sun's Right-Afcenfion; various exalt? the mot remarkable fixed Stars, corrected from $M=$ Catalogue; and, laftly, a correct Table of t rater tuxes of the mot remarkable Places in the Wort

## By ROBERT

Teacher of the Mathematics) $-5^{\circ}$

The FIFTIETH IMPRESSION.

## IO N DO Ns

Printed for the Company of Stationers; and fold by George Greenhill, at their Hall, near LudgateAten.
[Price Eighteen Pence ftitched.]

## Chronological Notes for the Year 1799.

Golden Number - $-14 \mid$ Septuagefima Sund. Jan. 20 Cycle of the Sun - - 16 Shrove Sunday - Feb. 3 The Epact - - 23 Eatter Day - Mar. 24 Dominical Letter - F Whit Sunday - May 12
Number of Direction - $3 \mid$ Trinity Sunday - May 19 Roman Indiction - - $2 \mid$ Advent Sunday - Dec. I

## Aftronomical Characters explained.

| $\bigcirc$ Aries | \% Cancer | $\cong$ Libra | 50 |
| :---: | :---: | :---: | :---: |
| \% Tauru | $\Omega$ Leo | m Scorpio | 2 m |
| Gemi | 放 Virgo | \& Sagittary | \% Pifces |

b Saturn $1 \circ$ Sol (theSun) D Luna(the Moon) $\mid$ HI Herfchel,
 \% Conjunction when Planets are in the fame Sign, Deg. Min. \&cc. $*$ Sextile when 2 Signs dift. $\mid \Delta$ Trine when 4 Signs dift.

- Quartile when 3 signs dift. 18 Oppofition when6Signs dift.

Of the Four Quarters of the Year 1799.


THE beautiful Planet Venus will be an Evening Star till Oetob. the 16 th ; and after that Time fhe will be a Morning Star to the Year's End.
Jupiter will be an Evening Star till May the 3oth; then a Morning Star till the $17^{\text {:h }}$ Day of December, at which Time be becomes an E. vening Star, and fo continues to the Year's End.

The NAmes of the Learned JUDGES of the LAW. I. Right Hon. Alexander Wedderburne Lord Loughborough, Lord High Chancelior of Great Britain.
Right Honourable Sir Richard Pepper Arden, Knt, Mafter of the Rolls. II. In the 2 Righ: Hon, Lord Kenyon, L. C. J. Sir W. H. Aff urft, Knt. K. Bench. I S.r Soulden Lawience, Knt. Sir Nafh Grofe, Knt. III, In the ? Sir James Eyre, Knt. L.C. J. Sir Giles Rooke, Knt. C. Pleas. $\int$ Join Heath, Efq. Sir Francis Buller, Bart.
IV. In the ? Sir Arch. Mactonald, Kt. L. C. B. Sir Beaumont Hotham, Kt. Exchequer $\{$ Sir Richard Perryn, Knt. Sir Alex. Thompfon, Knt.
Sir John Scott, Knt. Attor. General; Sir John Mitford, Knt. Solic, Gen.
A Table of Terms and Returns for the Year 1799.
Hilary Term begins Jan. 23, ends Feb. 12. Returns or Effoign-days. |Exc. $\mid$ Ret
 In fifteen Days of St. Hilary.
On the Mor, of the Purif, of the BI, V.M. Feb, ${ }_{3}^{27}$ In eight Days of the Purif. of the BI. V. M. ${ }_{9}$

Eafter Term legins April io, ends May 6.

| In fifteen Days of Eafter | - | April | 7 | 8 | 9 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Wedn. |  |  |  |  |  |  |
| From Eaffer Day in in |  |  |  |  |  |  |
| From Eater Day |  |  |  |  |  |  |



Michaelmas Term begins Nov, 6, ends Nov, 28.

 On the Morrow of St. Martin - - - 12 I3 14 I 15 Friday | In eight Days of St. Martin _- - $\quad 18$ | 19 |
| :--- | :--- | 20 21 Thurfd.

In fifteen Days of St. Martin - $25126 \mid 27$ Thurio.
N. B. No Sittings in Weftminfer-Hall on the Second of February, Afcenfion-day, and Midfummer-day.
The Exchequer opens eight Days before any Term begins, except Trinity, before which it opens but four Days.
Note, The firft and laft Days of every Term, are the firtt and laft Days of Appearance.

```
4
```


## BIRTH-DAYS of the ROYAL FAMILY.

King George III. June 4, 1738 Prince Aug. Fred. Jan. 27, 1773

Prince of Wales, Aug. 12, $\quad 1752$ Duke of York, Auguft 16, $\quad 1763$ Duke of Clarence, Aug. 2 $1, \quad 1 ; 65$ Prs, of Wirtemberg, Sept. 29, 1766 Prince Edward, Nov. 2, - 1767 Prs. Augufta Sophia, Nov. 8, 1768 Prs. Elizabeth, May 22, - I770 Prince Erneft.Auguftus, June 5, 1771

Prince Adolph. Fred. Feb. 24, 1774
Princefs Mary, April 25, - 1776
Princefs Sophia, Nov. 3, - 1777
Princefs Amelia, Aug. 7, -1783
Queen Charlotte, May 19, 1744
Duchefs of Bruniwic, Aut. II, 1737
Duke of Gloucefter, Nov. 25,1743

| Kingdoms, stc. | To whom fubject. | When born. | Began to reig n |
| :---: | :---: | :---: | :---: |
| England, \&sc. | George III. | June 4, 1738 | $\overline{\text { Oct. } 25, ~ 1760}$ |
| Ruffia | Paul 1, | Oct. 1, 1754 | Oov. 17 |
| Spain | Charles IV. | Nov. 11, 1748 | Dec. , 1788 |
| Portugal | Mary | Dec. 7, 1734 | Feb. 24, 1777 |
| Pruflia | Frederic Wm. III. | Aug. 6, 1770 | Nov, 16, 1797 |
| Deamark \& Norway | Chritian VII. | Jan. 29, 1749 | Jan. 14, 1766 |
| Swueden | Guftavus IV. | Nov. 1, 1778 | Mar. 29, 1792 |
| Germany | Francis If. | Feb, 12, 1767 | Mar. I, 1792 |
| Poland | Staniflaus III, | Jan. 17, 1732 | Nov. 25, 1764 |
| Holland | William V. | March 8, 1748 | Oct. 11, 1751 |
| Poperom | Pius VI, | Dee. 27, 1777 | Feb, 18, 1775 |
| Sardinia | Victor | June 26, 1726 | Mar. 20, 1773 |
| Ottoman Empire | Selim III. | July 17, 1761 | $\mid$ April 7,1780 |

The Full Weight of the Coins, with the Least Weight allowed to pafs of the Gold Coin.

Wt. allowed.
GOLD. dwt. gr. Guinea, - 58
Half Guinea, - 216
Quarter Guinea, 18
$216 \frac{64}{89}$
x. $8 \frac{32}{8} 9$


According to the above proportions it appears, that the value of a $l b$. of filver is 62 s . or 31.2 s . and of a 1 b . of gold is $44 \frac{\mathrm{~T}}{2}$ guineas, or 46 l . 14 s . 6d. Alfo that the oz, of filver is 5 s .2 d . and the 0 . of gold 3 l .17 g . $10 \frac{\pi}{2} \mathrm{~d}$. So that the value of the ftandard gold is 15 times that of the filver, and $\mathrm{x}-14^{\text {th }}$ more.

A Table of the Kings and Queens of England fince the Coneuest.


Above you view the Rife and Fall of Kings,
Whofe Fate fometimes a ufeful Leffon brings. Well if all Men could profic from the paft ! Each know his Duty, each excel the laft, And juftly execute his ftated Tafk.

A TABLE or the mont Reverend, Right Reverend, and Reverend, me ARCHBISHOPS, BISHOPS and DEANS, exercifing Ecclefiaffical Jurifdiction, 1700 .
Bishops. Sees. Date. Succeeded. DEANs. Dr. John Moore $\{$ Bangor 1775 Ewer ceceafed Arch-Bifhop $\quad\{$ Canterb.A.B 1783 Cornwallis dec. Dr. Powys Dr. Will. Markham $\{$ Cbefter 1771 Sene tranflat.

Arch-Bifhop $\quad$ York A, B. 1777 Drummond de. Dr. J. Fountayne Dr. Beilby Porteus $\quad \begin{cases}\text { Cbiffer } & 1776 \\ \text { London Markham tran. }\end{cases}$ Ho.Dr.S.Barrington $\left\{\begin{array}{l}\text { Landaff }\end{array}\right.$ 707 Lowth deceaf, Bifhop Erctyman 1769 Shipley tranfl.d
Ho.Dr.S.Barrington Hon. Dr. B. North

Dr. Charles Mors


In the courfe of this year there will happen only two eclipfes, and thofe both of the fun, but neither of them vifible in thele parts.
I. May 5, the Sun is eclipfed, but invifible here. The conjunation is at $45 \frac{1}{2}$ minutes before 1 in the morning, in longitude 15 $14^{\circ} 27^{\prime}$, the moon's latitude being $7^{\prime}$ fouth. The Sun will be centrally eclipfed on the meridian, at oh $9 \frac{\pi}{2} \mathrm{~m}$, in longitude $177^{\circ} 37^{\prime \frac{1}{2}}$ eaff, and latitude $8^{\circ}$ north.
II. OEtober 28, the Sun is eclipfed, but invifible here. The conjunction is at $5 \mathrm{~h} 35^{\frac{3}{4}} \mathrm{~m}$ afternoon, in longitude $7^{\circ} / 5^{\circ} 19^{\prime}$, the moon's latitude heing $7 \frac{3}{4}$ north. The Sun will be centrally eclipfed on the meridian, at $5^{\mathrm{h}} 3 \mathrm{Im}$, in longitude $82^{\circ} \frac{3}{4}$ welt, and latitude $5^{\frac{2}{7}}$ fouth.
There will alfo happen this year, two remarkable occultations, or eclipfes, of Jupiter and Venus by the moon, and a tranfit or pafrage of the planet Mercury over the face of the fun. The particulars of all which are às follow:

May 7, the planet Mercury will tranfit or pafs over the fun's difk. The tranfit begins about half paft 8 in the morning, and ends about 3 quarters paft 3 afternoon; the planet paffing over the lower part of the fun, ending at the very loweft point of the fun's d ff , and beginning about $60^{\circ}$ above the fame on the left hand fide, when looked at direetly with the naked eye; but will appear to begin on the contrary fide when looked at through a telefcope which reverfes.
Yune 16, Jupiter is occulted or eclipfed by the moon. Begins at ih 49 m in the morning, and ends at 2 h 4 mm . The latitude of Jupiter being $5 \frac{1 \pi}{4}$ north of the moon's centre.
November 24, Venus is occulted by the moon. The begiming is at $4 \mathrm{~h} 4 \frac{1}{2} \mathrm{~m}$, and end at $5^{\mathrm{h}} 3 \frac{1}{2} \mathrm{~m}$, in the morning. The latitude of Venus being, at beginning $\mathbf{x}^{\prime \frac{1}{3}}$ fouth, and at the end $4^{\prime \frac{1}{3}}$ north of the moon's centre.

Obliquity of the Ecliptic. $\quad 1799$. Equation of Equinoctial Points.

8 January hath xxxi Days. White.

## The Lunations.

54. New Moon the 6th day, at 14 minutes paft 4 morning. Firft quarter the 14 th day, at 58 minutes paft 3 morning. Full Moon the 21 if day, at 41 minutes paft 5 afternoon. Laft quarter the 28 ih day, at 50 minutes paft 10 morning.







## 14 April hath xxx Days. White.

## The Lunations,

New Moon the 5 th day, at 21 minutes paff 7 morning. Firft quarter the $13^{\text {th }}$ day, at 47 minutes paft 7 morning. Full Moon the 19th day, at 40 minutes pait Ix night. Lait quarter the 26 th day, at 30 minutes paft 8 night.

|  | Sundays \& other remark days | $\odot$ rifes | $\stackrel{\odot}{\text { fets }}$ | $\begin{gathered} Q \text { 's } \\ \text { declin. } \end{gathered}$ | D's declin. | $\begin{aligned} & \text { D) rifes } \\ & \text { \& fets } \\ & \hline \end{aligned}$ | South | Clock bef. © |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} -1 \\ 2 \\ 3 \\ 4 \\ 5 \end{gathered}$ | Ox. \& Ca.T tmorote Od La y | $\begin{array}{ll} 5 & 33 \\ 5 & 32 \\ 5 & 29 \\ 5 & 27 \\ 5 & 25 \end{array}$ | $\begin{array}{ll} 6 & 27 \\ 6 & 29 \\ 6 & 31 \\ 6 & 33 \end{array}$ |  | $2\left\|\begin{array}{rrr} 16 & s & 8 \\ 1 r & 18 \\ 6 & 5 \\ 0 & 42 \\ 4 & 4 & 43 \end{array}\right\|$ | 4 $m$ <br> 5 11 <br> 5 23 <br> 5 35 <br> a rets  | $\left\|\begin{array}{cc} 9 & \mathrm{~m} 29 \\ 10 & 11 \\ 10 & 52 \\ 11 & 32 \\ 0 & a \\ \hline \end{array}\right\|$ | $\begin{array}{lll} \hline 3^{1} & 53^{\prime 2} \\ 3 & 35 \\ 3 & 17 \\ 2 & 59 \\ 2 & 41 \\ \hline \end{array}$ |
| $\begin{gathered} 8 \\ 5 \\ 10 \end{gathered}$ | 2 Sa, afto Eafter |  | $\begin{array}{ll} 6 & 37 \\ 6 & 39 \\ 6 & 41 \\ 6 & 43 \\ 6 & 44 \end{array}$ | $\begin{array}{\|l\|l\|} \hline 7 & 6 \\ 34 \\ 9 & 6 \\ 56 \\ 1 & 7 \\ 19 \\ 7 & 41 \\ 4 & 8 \end{array}$ | $\left.\begin{array}{ll} 4 & 9 \\ 9 & 5 \\ 9 & 54 \\ 9 & 59 \\ 19 & 17 \\ 22 & 57 \\ 3 & 25 \\ 28 \end{array} \right\rvert\,$ | $\begin{array}{ll} 8 \mathrm{Ba} & 0 \\ 9 & 12 \\ 0 & 28 \\ 18 & 42 \\ \text { morn } \end{array}$ | $\begin{array}{rr} \hline 0 & 52 \\ 1 & 34 \\ 2 & 19 \\ 3 & 6 \\ 3 & 57 \\ \hline \end{array}$ | $\begin{array}{rr} 2 & 24 \\ 2 & 6 \\ 1 & 49 \\ 1 & 32 \\ 1 & 16 \end{array}$ |
| $13$ | 3 | $\begin{array}{ll} 5 & 14 \\ 5 & 12 \\ 5 & 10 \\ 5 & 8 \\ 5 & 6 \end{array}$ | $\begin{array}{ll} 6 & 4 \\ 6 & 48 \\ 6 & 5 \\ 6 & 52 \\ 6 & 54 \end{array}$ | 8 25 <br> 8 47 <br> 9 9 <br> 9 $3 \frac{1}{1}$ <br> 9 52 | $\begin{array}{rr} 27 & 8 \\ 27 & 15 \\ 25 & 53 \\ 23 & 1 \\ 18 & 45 \end{array}$ | $\begin{array}{ll} 0 & 50 \\ 1 & 51 \\ 2 & 40 \\ 3 & 18 \\ 3 & 44 \\ \hline \end{array}$ | $\begin{array}{ll} 4 & 51 \\ 5 & 46 \\ 6 & 43 \\ 7 & 38 \\ 8 & 33 \end{array}$ | $\begin{array}{ll} 0 & 59 \\ 0 & 43 \\ 0 & 28 \\ 0 & 12 \\ \text { oaf. } \\ \hline \end{array}$ |
| $\left[\begin{array}{l} 70 \\ 17 \\ 18 \\ 19 \\ 20 \end{array}\right]$ | A | $\begin{array}{rr} 5 & 2 \\ 5 & 6 \\ 4 & 58 \\ 4 & 57 \\ \hline \end{array}$ |  |  | $\left\|\begin{array}{rr} 13 & 19 \\ 6 & 59 \\ 0 & 7 \\ 6 & 5 \\ 13 & 23 \end{array}\right\|$ | $\begin{array}{cc} 4 & 7 \\ 4 & 26 \\ 4 & 41 \\ \text { (t rifes } \\ 8 & \text { a } \end{array}$ | 9 26 <br> 10 18 <br> 11 10 <br> morn  <br> 0 3 | 0  <br> 0 18 <br> 0 33 <br> 0 47 <br> 1 0 <br> 1 14 |
| $\begin{aligned} & 22 \\ & 22 \\ & 23 \\ & 24 \\ & 25 \end{aligned}$ | $[\mathrm{Ma}$ | $\begin{array}{ll} 4 & 53 \\ 4 & 51 \\ 4 & 49 \\ 4 & 47 \\ \hline \end{array}$ |  |  |  |  |  | $\begin{array}{cc} 1 & 27 \\ 1 & 39 \\ \text { I } & 51 \\ 2 & 2 \\ 2 & 13 \\ \hline \end{array}$ |
| $\left.\begin{array}{\|l\|} 26 \\ 20 \\ 20 \\ 20 \\ 30 \end{array} \right\rvert\,$ | 5 | $\begin{array}{ll} 4 & 44 \\ 4 & 42 \\ 4 & 40 \\ 4 & 38 \end{array}$ |  |  |  |  | $\left\lvert\, \begin{array}{lll}5 & 53 \\ 6 & 45 \\ 7 & 32 \\ 8 & 17 \\ 8 & 58\end{array}\right.$ |  |
|  | $\begin{array}{\|l\|l\|} \hline \text { Day } & \text { Length } \\ \text { increaf. } & \text { of day } \end{array}$ | ifelioc. long. h | Helioc. <br> long. 2 | $\begin{aligned} & \text { c. Helioc. } \\ & 24 \text { long. o } \end{aligned}$ |  | Helioc. teng. $\frac{1}{4}$ | $\text { long. } \underset{\sim}{x}$ | $\bar{h}$ |
|  | $\begin{array}{\|c\|cc\|cc\|} \hline 1 & 5 & 11 & 12 & 55 \\ 7 & 5 & 35 & 13 & 19 \\ 3 & 5 & 57 & 13 & 4 \\ 19 & 6 & 21 & 14 & 5 \\ 25 & 6 & 43 & 14 & 27 \end{array}$ |  | $\begin{array}{ll} 3 \Pi & 47 \\ 4 & 10 \\ 4 & 5 \\ 5 & 23 \end{array}$ |  |  |  |  |  |



16 May hath xxxi Days.

The Lunations.

New Moon the 4th day, at 14 minutes paft is night. Firf quarter the 12 th day, at 9 minutes paft 5 afternoon. Full Moon the 1 th d day, at 51 minutes patt 7 morning. Laft quarter the 26 th day, at 5 minutes paft is morning.

|  | Sundayside othe remark. days | rifes | $0$ fets | declin. | $\left\lvert\, \begin{gathered} D \text { declin. } \end{gathered}\right.$ | $\left\|\begin{array}{l} D \text { rifes } \\ \text { a fets } \end{array}\right\|$ | $\begin{gathered} \text { si } \\ 5 \\ \text { South } \end{gathered}$ | Clock aft. © |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{array}{ll}4 & 37\end{array}$ | 72 | 15 n |  |  |  |  |
|  | Afcen. Holy Th | 35 | 725 | $15 \quad 28$ | 883 n 18 |  |  | $\begin{array}{ll}3 \\ 3 & 16\end{array}$ |
|  | Inven. of Crots | 33 | 727 |  |  |  |  | ${ }_{3} 22$ |
|  |  | 431 | 729 | , |  | ( fete |  |  |
|  | Sun |  | 730 | 16 | 18 | 2 23 | 30222 |  |
|  | Terme. J.Eva. | 4.28 | 32 | $3 2 \longdiv { 1 6 \quad 3 7 }$ | 3722 | 9-35 | 18 |  |
|  |  |  | 34 | 34. 16 |  | - 46 | 6 |  |
|  |  |  | 35 | 3517 |  | 11.50 |  |  |
|  | $0 \times$ | 423 | 37 | 3717 |  | mori | 346 |  |
|  |  |  | 30 | 3917 17 |  | $\bigcirc 43$ |  |  |
|  | LOIdMay |  | 40 | 40 x $\quad 57$ | $57 / 2358$ | ${ }^{1} 23$ |  |  |
|  | Whit Sunday |  | 42 | $4218 \quad 12$ | 1220 |  | 3629 |  |
|  | Whit Monday |  | 43 | 43188 |  | 3216 |  |  |
|  | Whit Tuerday |  | 45 | 45188 | 42921 | 1234 | 4810 | 359 |
|  | Ember Week | - | - | $618 \quad 56$ | $6{ }^{2} 2 \quad 51$ | 1242 | , |  |
|  | Prs, Wales b |  | 48 | 4819 | $3^{\text {s } 55}$ | 5.3 | 4.951 |  |
|  |  |  | 49 | 491924 | $2410 \quad 34$ | $4{ }^{3} 19$ | 91044 |  |
|  |  |  |  |  |  |  |  |  |
|  | TriLS, Q.C |  |  | $5219 \quad 50$ | $50,21 \quad 42$ | © rifes | morn | 353 |
|  | [Ca |  | 5 | , | 22517 | \% 2 |  |  |
|  |  |  |  | 20 | 27 | II 20 | $2{ }^{1} 41$ |  |
|  | Prs, Elizzb, bo |  |  |  |  | 2 morn |  |  |
|  | Corpus Chrift |  | 5. | $5720$ |  | $7 \mathrm{O} \quad 12$ | $\begin{array}{llll}2 & 3 & 41\end{array}$ |  |
|  | Term begins |  | 5 ? | $59.20 \quad 49$ | $4922 \quad 41$ | I $0-49$ |  |  |
|  |  |  | 8. | 021 | 0188 44 | , | 5 |  |
|  |  |  | 8 | 2181 |  | 32 | 2.6 |  |
| T | Ven.Be. [Aug | $3{ }^{3}$ | $8=$ | 2 L 21 | 218 | $1{ }^{1} 46$ | 6.5 |  |
|  |  |  | $8{ }^{8}$ | 213 | 32 317 | 1 |  |  |
| $\begin{aligned} & 28 \\ & 20 \end{aligned}$ |  |  | 8.4 |  | 1n49 |  |  |  |
|  |  |  | 8 | 2149 | 49. 7 Ir | $1 / 220$ | - 8 |  |
|  |  |  | 8 | 21 | 12 | 233 | 937 |  |
|  | Day LLeagth | Helioc. | Helioc, | c. Helioc. | c. Helis | Helioc. | Helioc. |  |
|  | increar. of day | on | ong. 24 | 2 (long. 3 |  | ong. + | $\stackrel{q}{\text { long. }}$ | fers |
|  | ${ }_{13}{ }_{14} 27$ | 2600.44 | 6 II26 | 26220 | Iim | 23 - 55 | $528=0$ |  |
|  | 2515 | 26 | 58 | 58.24 | $26 \quad 52$ | $3 \Omega 40$ | $019 \mathrm{M} / 5$ |  |
|  | 43115 | 27 If |  | $29.27-28$ | $28 / 22 \quad 39$ | $913=25$ | 5 3147 | - 20 |
|  | T | 2724 | 8 |  | $1128 \quad 25$ | 5123 - 11 | 12016 | II2 57 |
|  |  |  |  |  |  | $1{ }^{\text {amp }} 6$ |  | $611234$ |



## 18 June hath $x \times x$ Days. White.

## The Lunations.

New Moon the 3d day, at 5 minutes paft 3 afternoon. Firft quarter the 10th day, at 28 minutes paft 11 night. Full Moon the 17 th day, at 5 minutes paft 4 afternoon. Laft quarter the 25 th day, at 14 minutes paft 3 morning.



## 20 July hath xxxi Days. White.

## The Lunations.

New Moon the $3^{d}$ day, at 27 minutes paft 3 morning. Firf quarter the 1 oth day, at 12 minutes paft 4 morning. Full Moon the 17 th day, at 17 minutes paft 1 morning. Laft quarter the 24 th day, at 36 minutes paft 8 night.


|  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{array}{\|l\|l\|} \hline \text { Day lig. } & \text { Day lig } \\ \text { begins } & \text { ends } \\ \hline \end{array}$ | lig. | $\begin{aligned} & D \\ & \text { ode } \end{aligned}$ | $\begin{aligned} & \text { ritud } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { य's } \\ & \text { titude } \end{aligned}$ | latitude | titu | $\begin{gathered} Y_{\text {tus s }}^{\text {titude }} \end{gathered}$ |
|  | $\left.{ }_{45}^{\text {All }}\right\|_{\text {II }}$ | light. 3 | 12 5 <br> 12 38 <br> 12 19 <br> 12 0 <br> 11 41 <br> 1 2 | $0 n 17$  <br> 0 17 <br> 0 18 <br> 0 18 <br> 0 19 | 0 31 <br> 0 30 <br> 0 30 <br> 0 30 <br> 0 30 <br> 0 30 | 1013  <br> 1 13 <br> 1 11 <br> 1 11 <br> 1 10 <br> 1 9 | 1 4 <br> 0 40 <br> 0 12 | 0 1 58 <br> $\mathbf{1}$ 37  <br> $\mathbf{x}$ 50  <br> $\mathbf{1}$ 38  <br> $\mathbf{x}$ 8  |
|  | $\odot$ 's lonzitud |  |  | $\begin{aligned} & 5^{\prime \prime 3} \\ & \text { long. } \end{aligned}$ | $\begin{aligned} & \text { 4’s } \\ & \text { long. } \end{aligned}$ | $\begin{gathered} \mathrm{o}^{2} \mathrm{~s} \\ \text { long. } \end{gathered}$ | $\begin{aligned} & \text { q's }^{\prime} \\ & \text { long. } \end{aligned}$ | $\begin{aligned} & \text { প} ' \text { 's } \\ & \text { long. } \end{aligned}$ |
|  | 60 32 4 <br> 10 29 18 <br> 11 26 31 <br> 12 23 45 <br> 13 20 59 | 20045 <br> 1546 <br> 29 <br> 12 <br> 12 <br> 163 | 2 n 8 <br> 3 49  <br> 4 28  <br> 4 54  <br> 5 5  | 279 3 <br> 27 11 <br> 27 18 <br> 27 26 <br> 27 33 <br> 27  | $\begin{array}{ll} 16 & 32 \\ 16 & 46 \\ 16 & 59 \\ 17 & 12 \\ \hline \end{array}$ | $\begin{array}{ll} 5 & 38 \\ 6 & 16 \\ 6 & 54 \\ \hline \end{array}$ | $\begin{array}{ll} 21 \Omega(44 \\ 22 & 51 \\ 23 & 57 \\ 25 & 4 \\ 26 & 10 \\ 20 \end{array}$ | 1  <br> 5027  <br> 7 37 <br> 9 47 <br> 1 58 <br> 4 8 |
|  | 14 18 13 <br> 15 15 27 <br> 16 12 40 <br> 17 9 54 <br> 18 7 7 | $\left\|\begin{array}{ccc} 26 & 20 \\ 10 m & r_{3} \\ 24 & 12 \\ 8 & 12 \\ 82 & 24 \\ 22 & 24 \end{array}\right\|$ | 4 57 <br> 4 33 <br> 3 52 <br> 2 57 <br> 1 58 <br>  37 |  | $\begin{aligned} & 17 \\ & 17 \\ & 17 \\ & 18 \end{aligned}$ |  | 27 17 <br> 28 23 <br> 29 29 <br> 0 183 <br> 1 40 <br> 2 4 | 16 17 <br> 18 25 <br> 20 32 <br> 22 38 <br> 24 43 |
|  | 19 4 20 <br> 20 1 33 <br> 20 58 47 <br> 21 $5^{6}$ 0 <br> 22 53 13 | $6 m_{34}$ <br> 20 <br> 45 <br> 4954 <br> 19 <br> $3 k^{\circ}$ | 10 37 <br> 0 38 <br> 1 38 <br> 1 51 <br> 2 57 <br> 3 51 | 28 19 <br> 28 27 <br> 28 35 <br> 28 42 <br> 28 50 <br> 2  | 18 31 <br> 18 44 <br> 18 56 <br> 19 9 <br> 19 22 |  | $\begin{array}{rr} \hline 2 & 46 \\ 3 & 52 \\ 4 & 57 \\ 6 & 1 \\ 7 & 6 \\ \hline \end{array}$ | $\begin{array}{ll} 6 & 47 \\ 8 & 49 \\ 0 \Omega & 48 \\ 2 & 46 \\ 4 & 43 \end{array}$ |
|  | 6 23 50 27 <br> 7 24 47 41 <br> 8 25 44 56 <br> 9 26 42 11 <br> 0 27 39 27 | $\begin{array}{ll} 16 & 49 \\ 0 & \operatorname{minn}^{2} \\ 13 \\ 13 & 42 \\ 26 & 41 \end{array}$ | 3 31 <br> 4 55 <br> 5 2 <br> 4 53 <br> 4 28 | 18 28 <br> 29 6 <br> 2 29 <br> 29 14 <br> 29 22 <br> 29 30 | 19 34 <br> 19 19 <br> 120  <br> 120 0 <br> 20 12 <br> 20 12 <br> 20 25 |  | 8 10 <br> 9 15 <br> 10 19 <br> 11 23 <br> 12 27 | 6 38 <br> 8 31 <br> 10 22 <br> 12 11 <br> 13 59 <br> 1 1 |
|  | $F$ 28 36 44 <br> 2 29 34 1 <br> 3 29 31 20 <br> 4 1 28 39 <br> 5 2 26 0 <br>    23 |  |  |  |  |  | 13 30 <br> 14 33 <br> 15 36 <br> 16 39 <br> 17 41 <br> 18 4 | 15 45 <br> 17 29 <br> 19 11 <br> 20 52 <br> 22 31 |
|  | $\begin{array}{rrr} 3 & 23 & 22 \\ 4 & 20 & 45 \\ 5 & 18 & 9 \\ 6 & 15 & 34 \\ 7 & 13 & 0 \\ 8 & 10 & 27 \\ \hline \end{array}$ |  |  |  |  |  |  |  |
|  | 4 8 <br> rifes fets | $\begin{aligned} & \mathrm{o} \\ & \text { fets } \end{aligned}$ | $\begin{gathered} \gamma \\ \text { rifes } \end{gathered}$ | $\begin{array}{r} h^{\prime} \mathrm{s} \\ \text { declin. } \end{array}$ | $\begin{gathered} 2+\mathrm{s} \\ \text { declin. } \end{gathered}$ | $\begin{array}{r\|r} 8 \% \\ \text { n. } \\ \text { declin. } \\ \hline \end{array}$ | $\begin{gathered} \begin{array}{c} 9 / 3 \\ \text { declin. } \end{array} \end{gathered}$ | $\begin{array}{r} \gamma_{y}^{\prime} \\ \text { declin. } \\ \hline \end{array}$ |
|  |  |  | 5 3 mx  <br> 12 fets  <br> 58 8 a 4  <br> 42 8 5 <br> 25 8 4 |  |  | 15 20 22 <br> 23 19 2 <br> 31 18 2 <br> 37 17 1 <br> 42 16  | $\begin{array}{l\|l\|l\|} \hline 26 & 151 \\ 25 & 13 \\ 23 & 10 \\ 16 & 7 \\ 5 & 5 \\ \hline \end{array}$ |  |

22 Auguft hath $\times \times \times$ Days.

## The Lunations.

New Moon the If day, at 46 minutes paft I afternoon. Firft quarter the 8th day, at 55 minutes paft 8 morning. Full Moon the 15 th day, at 29 minutes paft noon. Laft quarter the 23 d day, at 21 minutes paft 2 afternoon. New Moon the 30 th day, at 0 minutes paft in night.



## 24 September hath $x \times x$ Days.

## The Lunations.

Firf quarter the 6 th day, at 59 minutes paft 2 afternoon. Full Moon the $14^{\text {th }}$ day, at 31 minutes paft 2 morning. Laft quarter the 22 d day, at 32 minutēs paft 7 morning. New Moon the 2gth day, at 4 minutes paft 8 morning,

| $\begin{aligned} & M \\ & D \end{aligned}$ | Sundaye \& other remark. days | rifes | $\underset{\text { fets }}{\odot}$ | O's declin. | D.'s declin. | D) rifes \& fets | South | Clock aft. $\odot$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Lond. bu. [Giles | $\begin{array}{ll} 5 & 14 \\ 5 & 16 \\ 5 & 18 \\ 5 & 20 \\ 5 & 22 \\ \hline \end{array}$ | $\begin{array}{ll} 6 & 46 \\ 6 & 44 \\ 6 & 42 \\ 6 & 40 \\ 6 & 38 \end{array}$ | $\begin{array}{\|cr\|} \hline 8 \mathrm{n} & 13 \\ 7 & 51 \\ 7 & 29 \\ 7 & 7 \\ 6 & 44 \\ \hline \end{array}$ | 2 11 5 <br> 3 5 58 <br> 10 34  <br> 16 32  <br> 21 29  | 7 1 38 <br> 7 54  <br> 8 11  <br> 8 30  <br> 8 55  | $\begin{array}{rrr} 1 & 2 & 26 \\ 2 & 17 \\ 3 & 8 \\ 4 & 1 \\ 4 & 57 \end{array}$ | $\begin{array}{cc} \hline 0^{\prime} & 15^{\prime \prime \prime} \\ 0 & 34 \\ 0 & 53 \\ \mathbf{1} & \mathbf{1 2} \\ \mathbf{1} & 3^{2} \\ \hline \end{array}$ |
| 1 O | Enurchus | $\begin{array}{ll} 5 & 24 \\ 5 & 26 \\ 5 & 28 \\ 5 & 30 \\ 5 & 32 \\ \hline \end{array}$ | $\begin{array}{ll} 6 & 36 \\ 6 & 34 \\ 6 & 32 \\ 6 & 30 \\ 6 & 28 \end{array}$ | 6 22 <br> 6 0 <br> 5 37 <br> 5 14 <br> 4 52 |  | 9 28 <br> 10 14 <br> 11 18 <br> morn  <br> 0 31 | $\begin{array}{ll} 5 & 55 \\ 6 & 54 \\ 7 & 54 \\ 8 & 51 \\ 9 & 44 \end{array}$ |  |
| II | Holy Crofs |  | $\begin{array}{ll} 6 & 26 \\ 6 & 25 \\ 6 & 23 \\ 6 & 21 \\ 6 & 19 \end{array}$ |  | $\begin{array}{rr} 20 & 1 \\ 15 & 23 \\ 10 & 12 \\ 4 & 42 \\ 0 & n 5 \\ \hline \end{array}$ | $\begin{array}{\|l\|l\|} 1 & 1 \\ 3 & 50 \\ 3 & 3 \\ 4 & 7 \\ 2 & 4 \\ 2 & \text { Cifes } \\ 5 & 7 \\ 7 & \mathrm{a} \\ \hline \end{array}$ | $\begin{array}{rr} \text { IO } & 33 \\ \text { II } & 19 \\ \text { morn } \\ 0 & 2 \\ 0 & 43 \end{array}$ |  |
| $1 \begin{aligned} & 17 \\ & 18 \\ & 19 \\ & 20\end{aligned}$ | mbe |  | 6 17 <br> 6 15 <br> 6 13 <br> 6 11 <br> 6 9 | $\begin{array}{ll} 2 & 33 \\ 2 & 10 \\ \mathbf{I} & 47 \\ 1 & 24 \\ 1 & 0 \end{array}$ | 6 26 <br> 11 41 <br> 16 31 <br> 20 43 <br> 24 8 | $\begin{array}{\|l\|ll\|} \hline 6 & 7 & 13 \\ 1 & 7 & 25 \\ 1 & 7 & 40 \\ 3 & 7 & 59 \\ 8 & 8 & 25 \\ \hline \end{array}$ | $\begin{array}{rr} 1 & 23 \\ 2 & 3 \\ 2 & 45 \\ 3 & 28 \\ 4 & 14 \\ \hline \end{array}$ | $\begin{array}{rr} 5 & 19 \\ 5 & 40 \\ 6 & 1 \\ 6 & 22 \\ 6 & 43 \\ \hline \end{array}$ |
| 3 | 28 S. 1. Tri. K. [GeorIIliteOid Holyrood | $\begin{array}{ll} 5 & 53 \\ 5 & 55 \\ 5 & 57 \\ 5 & 59 \\ 6 & 1 \end{array}$ | $\begin{array}{lr}6 & 7 \\ 6 & 5 \\ 6 & 3 \\ 6 & 1 \\ 5 & 59\end{array}$ | $\begin{array}{ll} 0 & 37 \\ 0 & 13 \\ 0 & 510 \\ 0 & 33 \\ 0 & 57 \end{array}$ | 26 31 <br> 27 42 <br> 27 28 <br> 25 46 <br> 22 34 | 1 9 0 <br> 9 46  <br> 10 51  <br> morn   <br> 0 7  | $\begin{array}{rr} 5 & 4 \\ 5 & 57 \\ 6 & 5^{1} \\ 7 & 47 \\ 8 & 42 \end{array}$ | $\begin{array}{lr} 7 & 4 \\ 7 & 25 \\ 7 & 46 \\ 8 & 6 \\ 8 & 26 \end{array}$ |
| 26 27 28 38 | St. Cyprian <br> z9 ${ }^{3}$.af. Pri. St <br> Mi, Pro, Wirebo | 6 3 <br> 6 5 <br> 6 7 <br> 6 9 <br> St. Jer.  | $\begin{array}{ll}5 & 57 \\ 5 & 55 \\ 5 & 53 \\ 5 & 51 \\ 5 & 49\end{array}$ | $\begin{array}{rrr}1 & 20 \\ 1 & 44 \\ 2 & 7 \\ 2 & 31 \\ 2 & 54\end{array}$ | $\begin{array}{rrr}18 & 1 \\ 12 & 20 \\ 5 & 49 \\ 1 & 5 & 8 \\ 8 & 5\end{array}$ | 1 31 <br> 3 0 <br> 4 29 <br>  fets <br> 5 $6 a$ | $\left\lvert\, \begin{array}{rrr}9 & 37 \\ 19 & 30 \\ 17 & 22 \\ 0 & 1 & 13 \\ 1 & 5\end{array}\right.$ | $\left.\begin{array}{rr} 8 & 47 \\ 9 & 7 \\ 9 & 26 \\ 9 & 46 \\ 10 & 5 \end{array} \right\rvert\,$ |
| M | Day Length <br> decreaf, of day | $\begin{aligned} & \text { Helioc. } \\ & \text { long. } 5 \end{aligned}$ | Helioc long. 2 | $\begin{aligned} & \text { Helioc. } \\ & \text { long. } \bar{\sigma} \end{aligned}$ | Helioc. long | Helioc. long. f | Helioc. long. $\gamma$ | $\begin{gathered} \text { h } \\ \text { ríes } \end{gathered}$ |
| 1 | 3 2 13 32 | ${ }_{1}$ SI7 | 坟这1 | 1611024 | $8 \times 59$ | $1 \mathrm{IIm}^{\mathrm{mm}} 2$ | $1{ }^{\text {m }}$ | 57 |
| 7 | $3{ }^{3}$ | I 30 | 1742 | $19 \quad 3$ | 1448 |  |  | 39. |
| 13 | $\begin{array}{llllll}3 & 48 & 12 & 46\end{array}$ | 144 | 18 I3 | 2142 | $20 \quad 38$ | O) 11 | or 48 |  |
| 19 | $\begin{array}{lllll}4 & 12 & 12 & 22\end{array}$ | I 57 | 184 | 24 |  |  | 2846 | 13 |
|  | $4 \quad 36 \mid \pm 1.58$ |  |  |  | ${ }_{2} \mathrm{r}_{2}$ |  | 91191 | $\bigcirc \quad 46$ |



## 26 October hath xxxi Days. White.

## The Lunations.

Fiff quarter the 5 th day, at 34 minutes paft II night.
Full Moon the $x 3^{\text {th }}$ day, at 24 minutes paft 7 afternoon. Laft quarter the 21 ft day, at 44 minutes paft to night. New Moon the 28 th day, at 36 minutes paft 5 afternoon.




## 28 November hath xxx Days.

## White.

## The Lunations.

Firft quarter the 4 th day, at 34 minutes paft 11 morning. Full Moon the 12th day, at 8 minutes palt 2 afternoon. Laft quarter the 20th day, at 50 minutes paft II morning. New Moon the 27 th day, at 50 minutes paft 3 morning.

| $\underline{D}$ | Sundays remark | k.days | rifes | fets | declin. | declin. | $\begin{aligned} & \text { D rifes } \\ & \& \text { fets } \end{aligned}$ | South | Clock aft. $\odot$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | AI Saints Pr. Edwart bons 245,a. T. Prs.S. KinjW.lan. [60 Powder Plot |  | 712 | 48 | 14 s 33 | 27547 | 7 | $3^{\text {a } 50}$ | 16' $14^{\prime \prime}$ |
|  |  |  | All Sou | 46 | $14 \quad 52$ | 27 | $8 \quad 16$ |  | $\left\lvert\, \begin{array}{ll}16 & 15 \\ 16\end{array}\right.$ |
|  |  |  | 16 | 444 | 1511 | $25 \quad 30$ | 34 |  | $1 \begin{array}{ll}16 & 15\end{array}$ |
|  |  |  | 18 | $4 \quad 42$ | $15 \quad 29$ | 22 II | 10 | 40 | 16 |
|  |  |  | 19 | $4 \quad 41$ | 15 | 17 | morn |  |  |
|  | Leonard Ler. b. |  | 721 | 9 | 16 | - |  |  |  |
|  | Prao Am. Sope lif |  | 23 | $4 \quad 37$ | $16 \quad 23$ |  | 1 |  | 6 |
|  |  |  | $\begin{array}{ll}7 & 24\end{array}$ | 436 | 1641 | 2 | $2 \quad 38$ |  | 16 |
| 9 | Lord Mayor's d. |  | $\begin{array}{ll}7 & 26\end{array}$ | $4 \begin{array}{ll}4 & 34\end{array}$ | $16 \begin{array}{ll}16 & 58\end{array}$ | $3 \mathrm{n}_{32}$ | $3 \quad 40$ | 10 | 6 |
|  |  |  | 28 | $4 \quad 32$ | 17 |  | 59 |  | 15 |
| 11 | St.Martin |  | $\begin{array}{lll}7 & 30\end{array}$ | 30 | $17 \quad 32$ |  |  |  |  |
| 1 | Cam. T. div.m. |  | $7 \quad 31$ | $4 \quad 29$ | 17 | 18 | Drifes | morn | 15 43 |
| 131415 | Britius |  | 33 | 4 | $18 \quad 4$ | 22 | 4 a 40 | - 18 | $1{ }^{15} 5$ |
|  | Machutus |  | 34 | 4 | 18 | 25 | , |  | 15 |
| $\underline{1}$ |  |  | 36 | $4 \quad 24$ | 18 | 27 |  |  | 15 |
| 16 | 26 Sumo af. Trio |  | 7 | 423 | 18 | 27 |  |  | ) |
| $10$ |  |  | $7 \begin{aligned} & 7 \\ & 7\end{aligned}$ | $4 \quad 21$ | 19 | 27 | $7{ }^{7}$ 41 |  | $14 \quad 45$ |
| I8 |  |  | $7 \quad 40$ |  | 1919 | 24 | 8 |  | $14 \quad 32$ |
| 19 | Edmund |  | 42 |  | 19 | 21 | 10 |  | $14 \quad 19$ |
| 20 |  |  | $7 \quad 43$ | 4.17 | 1947 | I 6 | 11 |  |  |
|  | Cecilia. O.Mart. Clement 27 8us. af. Tri. <br> Dulse of Gle. |  | $7{ }^{7}$ | 4.15 | 20 | II | morn |  | 13 |
| 22 |  |  |  | $\begin{array}{ll} 4 & 14 \end{array}$ | 2014 | $44^{88}$ | $0 \quad 59$ | $7 \quad 50$ | 1333 |
| 23 |  |  | $47$ | $\begin{array}{ll} 4 & I_{3} \end{array}$ | 20.20 | $\mathrm{I}_{8}{ }^{\text {S }} 53$ | $\begin{array}{ll} 2 & 23 \end{array}$ | $8 \quad 38$ | 13 |
|  |  |  | 49 | 4 II | $20 \quad 38$ |  | 3 51 | $9 \quad 28$ | 12 |
| 25 |  |  |  | 4 | $20 \quad 50$ |  |  |  | $12 \quad 40$ |
| 26 |  |  | 7.51 | $4 \quad 9$ | $21 \quad 2$ |  | $6 \quad 55$ | II 18 | 12 |
|  | Mic. Term ends |  | $\begin{array}{lll}7 & 52\end{array}$ | 48 | 2113 |  | D fets | - a 20 |  |
| 28 |  |  | 54 | 46 | 2123 | 27 | 4 a 45 | 1 | 11 |
| 29 | as Andrew |  |  |  |  |  |  |  |  |
| 30 |  |  | 5 |  | 21 |  |  |  |  |
| $\left\lvert\, \begin{gathered} \bar{M} \\ \mathrm{D} \end{gathered}\right.$ | DayLength <br> decreaf day |  | Helioc. long. $b$ |  | Helioc. long. $\sigma$ | Helinc. long. 8 | Helioc. long. 9 | Helioc. <br> long. | rifes |
|  | 6 |  | 38232 | 22 II27 | $13 \sim 42$ | 986 | 18813 | $22 \mathrm{~m}_{45}$ | 10 a 38 |
|  | 7 20 | 14 | $3{ }^{3}$ |  |  | 15 | 275 | 9127 |  |
| 13 | $7 \quad 39$ | 55 | $3 \quad 59$ | $23 \quad 20$ | 19 13 |  | $7 \mathrm{II}^{\circ}$ | $25 \quad 58$ |  |
| 19 | $7 \quad 58$ | 36 | $4 \quad 12$ | 24 | 22 | $27 \quad 13$ | 17 -10 |  |  |
| 25 | 14 | 20 | $4 \quad 25$ |  | 2 | III |  |  |  |



## 30 December hath xxxi Days. <br> White.

The Lunations.
Firft quarter the $4^{\text {th }}$ day, at 26 minutes paft 3 morning. Full Moon the 12 th day, at 55 minutes paft 8 morning. Laft quarter the $19 \mathrm{t}^{\text {h }}$ day, at 41 minutes paft 10 night. New Moon the 26 th day, at 54 minutes paft 2 afternoon.



## 32 The Georgian or New Planet. White.




This Table may ferve the following Places, by adding

For Tinmouth Haven, Hartle pool, and Amfterdam $\quad$| h | m |
| :--- | :--- | :--- |
| 0 |  |



Time of High-Water at LONDON in the morning and afternoon of every day in the year.





|  | Jup | Satellites. | 37 |
| :---: | :---: | :---: | :---: |
| firft Satellite for the Year 17\%9. |  |  |  |
| September | Остов | BER | DE |
| Immerfions | Immerions | erions | Immerion |
| d h m s | d h m | d hm |  |
| 1*12 3229 | 1*14 45 | 2*11 2115 | $13 \quad 1756$ |
|  | $3 \quad 914$ | $\begin{array}{llll}5 & 49 & 37\end{array}$ | 74542 |
| 13026 | $5 \quad 3 \begin{array}{llllll}5 & 4 & 4 & 55\end{array}$ | - 1754 | 1325 |
| 6195925 | 6221148 | 7184611 | 0417 |
| 8*14 28 27 | 8*16 40 36 | $9^{*} 13^{1}+22$ | 9 |
| 1085725 | 10*11 926 | $\begin{array}{llllll}11 & 7 & 4^{2} & 36\end{array}$ | $11^{*} 93^{6} 31$ |
| $\begin{array}{lllll}12 & 3 & 26 & 27\end{array}$ | $12 \begin{array}{llll}12 & 5 & 3^{8} & 13\end{array}$ | $13 \begin{array}{llll}13 & 2 & 10 & 43\end{array}$ | 13048411 |
| 132155 | $14 \quad 0 \quad 7$ | $14.203^{8} \quad 51$ |  |
| $15^{* 16} 2426$ | 15 | $15 * 15654$ | $16 * 165931$ |
| 17105325 | $17^{*} 1348429$ | 18* $93+58$ | 18*13 38 |
| 19. $\begin{array}{llll}5 & 22 & 25\end{array}$ | 197073319 | 20425 | 20** 8 8 60 |
| 20235124 | 21 | 21223056 | $\begin{array}{llllll}22 & 2 & 33 & 42\end{array}$ |
|  | $22 \quad 20 \quad 3022$ | $23 * 15 \quad 5850$ | 23) 211822 |
| $24^{*} 124922$ | $24^{*} 145^{8} \quad 57$ | $25^{*} 1112643$ | $25^{*} 15$ 29 |
| $\begin{array}{lllll}26 & 7 & 18 & 19\end{array}$ | $26^{*} 927 \quad 29$ | $\begin{array}{llllll}27 & 5 & 54 & 35\end{array}$ | - 212 |
| $\begin{array}{llllll}28 & 7 & 47 & 17\end{array}$ | $28 \quad 356$ | $29 \quad 0 \quad 2223$ |  |
| 29201612 | $2922 \begin{array}{lll}24 & 27\end{array}$ | $30 * 18 \quad 50 \quad 12$ | $30 \quad 22 \quad 52 \quad 15$ |
|  | 31*16 52 52 |  |  |

The Times of the Eclipfes contained in this Table are adapted to the Meridian of the Royal Obfervatory at Greenwich, and afford an excellent Method to difcover the Longitude, or Difference of Meridians, between that and any other Place; which I fhall illuftrate by an Example:

Suppofe on the 29 th Day of September of this Year , the Time of the Immerfion of Jupiter's firf Satellite be obferved (by a Telefcope) in an unknown Meridian, to happen at 22 h .4 min . 32 fec.; 1 find by the Table, that the Time of this Immerfion will happen at the Brtith Obfervatory, at 20 h .16 min . 12 fec , the fame day: The Difference of the Times is x hour 48 min . 20 fec , which being convertedinto Degrees and Minutes of the Equator, will make 27 deg .5 min . the Longitude of the Place of Obfervation, to the Eaft, becaufe the Time is more than that at tha Britifh Obfervatory.
N. B. Thofe marked with an Afterik are vifibleat Greenwich.


Speculum Phænomenorum



## 40 <br> Semi-diurnal Arcs. <br> White.

A Table of the Sun's femi-diurnal Arches, or Times
The Sun's Declination North.

| 8 | Lat. 49 | Lat. 50 | Lat. 51 | Lat. 52 | Lat. 53 | 54 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | h m | h m | h m | h. m | h m | $\mathrm{h} \quad \mathrm{m}$ |
| 1 | $6$ |  | $\begin{array}{ll}6 & 4 \\ 6 & 8\end{array}$ | $\begin{array}{ll} 6 & 4 \\ 6 & 9 \end{array}$ | $\begin{array}{ll} 6 & 4 \\ 5 & 9 \end{array}$ | $\begin{array}{ll} 6 & 4 \\ 6 & 9 \end{array}$ |
| 2 | 6 | 6 | 6, 13 | 6-14 | 6 14 <br>   | 6 6 |
| 3 | 6 6-17 | 6 | $6 \quad 18$ | $6 \quad 19$ | $\begin{array}{ll}6 & 19\end{array}$ | $6 \quad 29$ |
| 4 | $6 \quad 22$ <br> 6 | $6 \quad 22$ | $6 \quad 22$ | $6 \quad 24$ | $6 \quad 25$ | 6 |
| 5 | 26 | 27 | $\begin{array}{ll}6 & 27\end{array}$ | $6 \quad 29$ |  | $6 \quad 31$ |
| 6 | $\begin{array}{ll}6 & 31\end{array}$ | $6 \quad 32$ | $6 \quad 33$ | $6 \quad 34$ | $6 \quad 36$ | $6 \quad 37$ |
| 7 | $\begin{array}{ll}6 & 36\end{array}$ | 6 | $6 \quad 38$ | 640 | 6811 | 43 |
| 8 | $6 \quad 41$ | $6 \quad 42$ | $6 \quad 43$ | 645 | 647 | 48 |
| 9 | 45 | $\begin{array}{ll}6 & 47\end{array}$ | $6 \quad 48$ | $6 \quad 50$ | 52 | 54 |
| 10 | 50 | 52 | $6 \quad 54$ | $6 \quad 56$ | 58 | 7.0 |
| 11 | $6 \quad 55$ | 57 | $6 \quad 59$ | 7-1 | 5 | $7 \quad 6$ |
| 12 | 7 | , | $7 \quad 4$ | 7 | $7 \quad 9$ | $\begin{array}{ll}7 & 12\end{array}$ |
| 13 | 7 | 7 | $7 \quad 10$ | $7 \quad 12$ | 715 | $\begin{array}{ll}7 & 18\end{array}$ |
| 14 | $7 \quad 10$ | $\begin{array}{ll}7 & 13\end{array}$ |  | $7 \quad 18$ |  | 24 |
| 15 | 15 | $\begin{array}{ll}7 & 18\end{array}$ | $7 \quad 21$ | $\begin{array}{ll}7 & 24\end{array}$ | $\begin{array}{ll}7 & 27\end{array}$ | $7 \quad 31$ |
| 16 | 21 | 24 | $\begin{array}{ll}7 & 27\end{array}$ | $7 \quad 30$ | $7 \quad 33$ | 7 7 |
| 17 | 26 | 29 | $7 \quad 33$ | $7 \quad 36$ | 740 | $7 \quad 44$ |
| 18 | $\begin{array}{ll}7 & 31\end{array}$ | $7 \quad 35$ | $\begin{array}{ll}7 & 38\end{array}$ | $7 \quad 42$ | $7 \quad 46$ | $7 \quad 51$ |
| $\underline{19}$ | $7 \quad 37$ | $7 \quad 41$ | $7 \quad 45$ | $7 \quad 49$ | $7 \quad 53$ | $7 \quad 58$ |
| 20 | $7 \begin{array}{ll}7 & 43\end{array}$ | $\begin{array}{ll}7 & 47\end{array}$ | $7 \quad 51$ |  | 8 | 5 |
| 21 | $\begin{array}{ll}7 & 49\end{array}$ | $7 \quad 53$ | $7 \quad 57$ | 82 | 8 | $8 \quad 12$ |
| 22 | $7 \quad 55$ | $7 \quad 59$ | $8 \quad 4$ |  | $8 \quad 14$ | $8 \quad 20$ |
| 23 | 5 | 85 | 8 II | $8 \quad 15$ | 8 22 | $8 \quad 28$ |
| 24 | 87 | 12 | 18 | 24 | 30 | 6 |

By thefe Tables the Times of the Sun's Rifing and Setting may be found, in any Part of the Kingdom of Great-Britain or lreland, after the following Manner: Where the Latitude of the Place is known, take the Sun's Declination out of the Table, on the Noon of the Day you defire to know the Time of his Rifing and Setting; and with it, according as it is either North or South, enter thefe Tables in the
1799. Semi-diurnal Arcs. 41
of his vifible half Duration above the Horizon.
The Sun's Declination South.


Left-fiand Column, under the Word Degrees; then look for the Latitude of the Place in the Top of the Table; and in that Column, againft the Sun's Declination, will be found the time of his vifible half Duration above the Horizon, or Time of his Setting, correct by Refraction ; then fubtract the Time of his Setting from 12 Hours, the Remainder will oe the Time of his Riling; double the Time of his Setting,

| 42 |  | Semi-diurnal Arcs. |  |  | White. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A Table of the Sun's femi-diurnal Arches, or Times |  |  |  |  |  |  |
| The Sun's Declination North. |  |  |  |  |  |  |
|  | Lat | Lat. $5^{6}$ | Lat. 57 | Lat. $5^{8}$ | 59 | Lat. 60 |
|  | h m | h m | h m | h m | h m | h m |
| 0 |  |  | $\begin{array}{ll}6 & 4\end{array}$ | 6 | 0 | 6 |
| 1 | $6 \quad 9$ | $6 \quad 10$ | $6 \quad 10$ | $6 \quad 10$ | 6 11 | 6 |
| 2 | 6 | $6 \quad 16$ | 616 | $\begin{array}{ll}6 & 17\end{array}$ | 6 | $\begin{array}{ll}6 & 18\end{array}$ |
| 3 | $\begin{array}{ll}6 & 21\end{array}$ | 6 | $6 \quad 22$ | 6 | $6 \quad 24$ | $6 \quad 25$ |
| 4 | $\begin{array}{ll}6 & 27\end{array}$ | $6 \quad 28$ | $6 \quad 29$ | $6 \quad 30$ | $6 \quad 3$ | $6 \quad 32$ <br> 6 |
| $5$ | $\begin{array}{ll}6 & 32\end{array}$ | $\begin{array}{ll}6 & 34\end{array}$ | 635 | $\begin{array}{ll}6 & 36\end{array}$ | $6{ }^{6} 38$ | $6 \quad 39$ |
| 6 | 6 6 $3^{8}$ | 640 | $6 \quad 41$ | 6 | 644 | 646 |
| 7 | 6 | 646 | $6 \quad 48$ | 6 | 51 | $6 \quad 53$ |
| 8 | $6 \quad 50$ | $6 \quad 52$ | $6 \quad 54$ | $\begin{array}{ll}6 & 56\end{array}$ | 658 |  |
| 9 | $6 \quad 56$ | $6 \quad 58$ |  |  | 7 | 7 |
| 10 | $7 \quad 2$ | 7 | $7 \quad 7$ | $\begin{array}{ll}7 & 10\end{array}$ | $\begin{array}{lll}7 & 13\end{array}$ | $\begin{array}{ll}7 & 16\end{array}$ |
| 11 | $\begin{array}{ll}7 & 8\end{array}$ | $7 \quad 10$ | $7 \quad 14$ | $7 \begin{array}{ll}7 & 17\end{array}$ | $7 \quad 20$ | $\begin{array}{ll}7 & 23\end{array}$ |
| 12 | $\begin{array}{ll}7 & 15\end{array}$ | $7 \quad 18$ | $7 \quad 21$ | $\begin{array}{ll}7 & 34\end{array}$ | $7 \quad 27$ | 77 |
| 13 | 7 7 21 | 7 7 | 7 7 28 | 7 7 11 | $\begin{array}{ll}7 & 35\end{array}$ | $7 \quad 39$ |
| 14 | $7 \quad 28$ | $7 \quad 31$ | $7 \quad 35$ | $7 \quad 39$ | $7 \quad 43$ | $\begin{array}{r}7-47 \\ \hline\end{array}$ |
| 15 | $\begin{array}{ll}7 & 34\end{array}$ | $7 \begin{aligned} & 7 \\ & 7\end{aligned}$ | 742 | $\begin{array}{ll}7 & 46\end{array}$ | $\begin{array}{ll}7 & 51\end{array}$ | 756 |
| 16 | $7 \begin{array}{ll}7 & 41\end{array}$ | $7 \quad 45$ | 7 7 | $7 \quad 54$ | $\begin{array}{ll}7 & 59\end{array}$ | 84 |
| 17 | $\begin{array}{ll}7 & 48\end{array}$ | $7 \quad 52$ | $7 \quad 57$ | 81 | 87 | $8 \quad 13$ |
| 18 | 7 7 5 | 80 | 85 | $8 \quad 10$ | $\begin{array}{ll}8 & 16\end{array}$ | $8 \quad 22$ |
| 19 | 8 | 87 | 8 13 |  | $8 \quad 25$ | $8 \quad 32$ |
| 20 | 88 | $8 \quad 15$ | $8 \quad 21$ | $\begin{array}{ll}8 & 28\end{array}$ | $\begin{array}{ll}8 & 35\end{array}$ | $8 \quad 42$ |
| 21 | $8 \quad 18$ | $8 \quad 24$ | $8 \quad 30$ | $8 \quad 37$ | 8 | $8 \quad 53$ |
| 22 | $8 \quad 26$ | $8 \quad 32$ | 839 | 8 | 55 | 94 |
| 23 | $8 \quad 34$ | $\begin{array}{ll}8 & 41 \\ 8 & 51\end{array}$ | $8 \quad 49$ | $8 \quad 57$ | 96 | 916 |
| $2+$ | 843 | $8{ }^{8} 51$ | 59 | 9 | 9181 | $9 \quad 29$ |

the Sum will be the Length of the Day ; and double the fime of his Rifing, the Sum will be the Length of the Night. But if the Latitude of the Place, and Declination of the Sun. confitt of Degrees and Minutes, then a fmall Allowance mufl be made for the Minutes in both Cafes, which may be done by a Perfon of an ordinary Capacity by a mental Proportion fonly. Thus, to find the Time of the Sun's Rifing and Setting
of his vifible half Duration above the Horizon.
The Sun's Declination South.

at Alterdeen in Scotland, on the Longef Day; the Latitude of that Place is accounted 57 Degr. 7 Min. North, and the Sun's Declination 23 Deg. 28 Min. likewife North. By thefe you will find by the Table, that 5 Min. for the Sun's Declination, and I Min. for the Latitude of the Place, are both, to be added to 8 Hours 49 Min . the Time belonging to 57 Degr. of Latitute and 23 Degr. of North Declination, and the Sum will be 8 Hours 55 Min. the Time of his apparent Setting at Aberdeen, on the longeft Day, whofe Complement to 12 Hours, viz. 3 Hours 5 Min. will be the Time of his Rifing, $E^{\circ}$.

44 Sun's Right-Afcenfion. White.

A Table of the Sun's Right-Afcenfion in Time, the greatert


The time of the fouthing or meridian tranfits of the fixed fais in pa. 46 , may be found thus. On the noon of the day, preceding the night in which you want to know the time of the fouthing of any of thofe fars, find the Sun's place in the Ephemeris, and with it take out of the above table his right afcenfion in time; this you may do by infpection to a minute, which will be fufficient for your prefent purpofe: Then from the right-afcenfion of the ftar in pa, 46 , fubtract the ripht-afcenfion of the Sun, the remainder will be the eftimate time of the flar's fouthing, and wili not differ from the true time above 2 or 3 minutes at moft, which may be near enough for ordinary ufes. But when great exactneís is required, reduce the Sun's place to this effimate time, and with it find in the above table his right afcenfion to feconds, which being fubtracted from that of the far, the remainder will he

|  | 179 | Sun's | Rig |  |  | 45 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Obliquity of the Ecliptic being $23^{\circ} 28^{\prime}$. |  |  |  |  |  |  |
|  |  | m | $\hat{f}$ | $\%^{\circ}$ | $\ldots$ | $x$ |
| $\stackrel{\text { öd }}{\underset{\sim}{4}}$ | h m | h m | h m | h m | h m | h |
|  | $\begin{array}{lll} 12 & 0 & 0 \\ 12 & 3 & 40 \end{array}$ | 13 131 | 15 51  <br> 15 51 15 <br> 15   | $\begin{array}{\|ccc} 18 & 0 & 0 \\ 18 & 4 & 22 \end{array}$ | $\begin{array}{llll}20 & 8 & 45 \\ 20 & 12 & 54\end{array}$ | 22 8 8 <br> 22 12 12 <br> 22   |
|  | $\begin{array}{llll}12 & 3 & 40 \\ 12 & 7 & 20\end{array}$ | 1313 55 27 <br> 13 59 17 | $\left\lvert\, \begin{array}{ll}15 & 5 \\ 15 & 59 \\ 16 & 25 \\ 16 & 3 \\ 1\end{array}\right.$ | 188 | 20017 | $2216 \quad 0$ |
|  | $\begin{array}{llll}12 & 11 & 0 \\ 12 & 14 & 41\end{array}$ | 14 $\begin{array}{lrr}3 & 8 \\ 14 & 6 & 59\end{array}$ | $\begin{array}{lll}16 & 3 & 48 \\ 16 & 7 & 0\end{array}$ | 18 18 135 <br> 18 <br> 17 <br> 26 | $\begin{array}{ll} 20 & 21 \\ 20 & 25 \end{array}$ |  |
|  | $\begin{array}{ll} 12 & 14 \\ 12 & 41 \\ 12 & 18 \end{array}$ | 114 6 59 <br> 14 10 51 <br> 4   |  | 1818 <br> 18 | 20 29 | 22 <br> 22 <br> 28 <br> 23 |
|  | 122 | 14 4444 | $\overline{161626}$ | 18269 | $20333^{11}$ | $22{ }^{11}$ |
|  | 122542 | 14 1818 | 162040 | 183030 | 20 3737 | 223454 |
|  | $12 \quad 2923$ | $\begin{array}{llll}14 & 22 & 31\end{array}$ | $1 \begin{array}{llll}16 & 24 & 55 \\ 16 & 29 & 10\end{array}$ |  |  |  |
|  | $\begin{array}{llll}12 & 33 & 4 \\ 12 & 36 & 45\end{array}$ | $\left\lvert\, \begin{array}{llll}14 & 26 & 25 \\ 14 & 30 & 20\end{array}\right.$ | 16 162910 | $\begin{array}{ccc}18 & 3911 \\ 18 & 43 & 31 \\ 18 & 4751\end{array}$ | $\begin{array}{ll} 20 & 45 \\ 20 & 49 \\ \hline \end{array}$ | $\begin{aligned} & 2242 \\ & 22 \\ & 22 \end{aligned} 469$ |
|  | $\frac{123645}{124026}$ | 14430 16 | $\overline{163742}$ | $\overline{184751}$ | 205351 | 224953 |
| 12 | 1244 | $143^{148} 813$ | 164159 | 1852 II | 205752 | 225337 |
| 13 | 124750 | 144210 | 164616 | $185^{6} \quad 31$ |  | 225720 |
| 14 | $125^{1} 32$ | 1446 | 165034 | $19 \bigcirc 50$ |  | $\begin{array}{llll}23 & 1 & 3 \\ 23 & 4 & 46\end{array}$ |
| 15 | 125514 | 14. 50 | 165452 | 19 5 8 <br> 19 9 26 | 21-953 | $\frac{23-46}{23888}$ |
| 16 | $\begin{array}{llll}12 & 58 & 57 \\ 13 & 2 & 40\end{array}$ | It 54 | 116 $\begin{array}{rrrr}169 & 10 \\ 17 & 3 & 29\end{array}$ | $\begin{array}{llll}19 & 9 & 26 \\ 19 & 13 & 4.4\end{array}$ | $\begin{array}{\|lll} 21 & 13 & 52 \\ 21 & 17 & 50 \end{array}$ | $\begin{array}{lll} 23 & 8 & 28 \\ 23 & 12 & 10 \end{array}$ |
| 17 | $\begin{array}{lll}13 & 2 & 40 \\ 13 & 6 & 23\end{array}$ | $1 \begin{array}{lll}14 & 58 \\ 15 & 2\end{array}$ | $1 \begin{array}{lll}17 & 3 & 29 \\ 17 & 7 & 49\end{array}$ | $\begin{array}{llll}19 & 13 & 4.4 \\ 19 & 18 & 1 \\ 1\end{array}$ | $\left\|\begin{array}{lll} 21 & 1 & 17 \\ 21 & 21 & 50 \\ 21 & 1 \end{array}\right\|$ | $\begin{array}{lll} 23 & 12 & 10 \\ 23 & 15 & 52 \end{array}$ |
| $19$ | $\begin{array}{rrrr}\text { r3 } & 6 & 2 & 3 \\ 13 & 10 & 7\end{array}$ | $\begin{array}{ll}15 & 2 \\ 15 & 6\end{array}$ | $\begin{array}{\|rrr\|}17 & 7 & 49 \\ 17 & 12 & 9\end{array}$ | 19 | 212544 | 23 1934 |
| 20 | 131351 | 15 10 12 |  | 192634 | $21294^{\circ}$ | $23 \quad 2315$ |
| 21 | 131735 | 15 $14 \times 15$ | 172049 | $1930{ }^{5}$ | 2 I 3335 | 232656 |
| 22 | 13 2120 | $15 \begin{array}{llll}18 & 19\end{array}$ | 1725 | 1935 | 21 3729 | $23 \quad 3037$ |
| 23 | 1325 | $15 \begin{array}{llll}15 & 22 & 23\end{array}$ | $17 \quad 2939$ | 1939 | 21 |  |
| 24 | 132852 | 152629 | $1733{ }^{17}$ | 1943 | 2145 | $23375^{8}$ |
| 25 | $13{ }^{132} 3^{8}$ | 153035 | 17.3812 | 194747 | $21 \quad 49$ | $234^{1 \times 39}$ |
| 26 | $133^{6} 25$ | 1534.41 | $174234$ | $\begin{aligned} & 1952 \quad 0 \\ & 19-56 \end{aligned}$ | $\begin{array}{lll} 2 x & 53 & 1 \\ 2 x & 56 & 52 \end{array}$ |  |
| 27 | 13 40 <br> 13 44 <br> 13 44 | $\begin{array}{llll} 15 & 3 & 8 & 45 \\ 15 & 4^{2} & 57 \end{array}$ | $\begin{array}{lll} 17 & 46 & 55 \\ 17 & 51 \end{array}$ | $\begin{array}{llll}19 & 56 & \text { 12 } \\ 20 & 0 & 24\end{array}$ | $4 \begin{array}{lll} 21 & 56 & 52 \\ 22 & 0 & 43 \end{array}$ | $\begin{array}{lll} 23 & 49.0 \\ 23 & 52 & 40 \end{array}$ |
|  | 1344 | $\begin{array}{lll} 15 & 42 & 57 \\ 15 & 47 & 6 \end{array}$ | $\begin{array}{\|ccc\|} 17 & 51 & 17 \\ 17 & 55 & 3 \end{array}$ |  |  | $\begin{array}{llllll}23 & 56 & 20\end{array}$ |
| 29 | 13 | 1547 | I7-55 $3^{\text {s }}$ | 20 |  |  |

the true time of the fiar's culminiting or fouthing. And if from the time of the flar's fouching you fubtract the femidiurnal arc belonging to it, the remainder will be the time of the far's rifing; and being added to it, the fum will be the time of its fetting.

Annexed is an Ex, of SIRIUS for Jan. 3 , 1799.
 kt, Alc. of Sirius ©.'s st. afc. fubera ta *'s enimate fouthing ${ }^{T}$ ©'sirt, afe, at that tume fub. *'s true fouthing Senid. arc fub, \& add *'s rifing aitern. *." fetting
h m s $6355^{8}$ 205643 93915 $205^{8} 22$ , $9373^{6}$ 43655 5041 141431

> 46 Fixed Stars. White.

A Table of the mean Right-Afcenfions in time, Semidurnal-Arcs, Declinations, and Magnitudes of 40 remarkable fixed Stars, with their Names, and Bayer's Literal Characters, for January I, 1790.


A Table of the Longitudes, Latitudes, and Magnitudes of the moft remarkable fixed Stars that the Moon can Eclipfe, or make a néar Appulfe unto; exactly rectified to the beginning of the year 1790.


This table thewing the mean lingitades of 60 fars to the beginning of the year 1790, their mean longituees for any other time may be found if $5<\frac{1}{3} \mathrm{fe}$ conds be added for each fucceeding, and fubtracted for each preceding year, and proportionably for a part of a year. Thus, to find the longitude of the firft ftar $)(\delta$, or 8 pifcium, for Feb. 15,1792 , or 2 years and one eigh $h$ after the tabular time; here $2 \frac{\pi}{3}$ times $50 \frac{\pi}{3}$ fee, make $\mathrm{I}^{\prime} 47^{\prime \prime}$, which being added to the tabular longitude, gives $\gamma^{\prime} 1 f^{0^{3}} 14^{\prime}, 58^{\prime \prime}$ for the longitude required at the given time.-The latitudes vary not.

The Latitudes and Longitudes of Ninety Places.


## F $1 \quad \mathrm{~N} \quad 1 \quad$.


[^0]:    

[^1]:    When man was firft created on this earth, I from that early period took my birth. 3120 No noxious deeds did then my fate moleft,
    
     And on a woman then was laid the blame:

[^2]:    ** It is particularly requefted tbat all letters be fent wirbin tbe limited sime, and poft paid, or they will not be received; tbar tbe feveral compojitiont be as foort as may be with propriety; that the anfwers to the Enignas anit to tbe Refufes and Cbarades never be given in tbe jame compyjotion, but tbe latior Separate from the former, as they canmot be inferted togetber.- Sevirall Zettin! came too late to band, fo as not ro be properly noticed. Mr. Mic. O'Riordan's tetter of laft year zuas not-received, containing, be fays, foiutions to almoff all tbe quefions.-- Several Gent/emen who enquive concerning Dr. Hution's niti Courfe of Matbematics in 2 vils. are informed, ibat tbe firft wiame is now (in $\mathrm{J}_{\text {uly }} 1798$ ) all primted, and may be bad; and tbe facond volume is printing, and will probably be out before the end of this year.

[^3]:    vins

[^4]:    * All fruch as write to him upon their own Bufinefs, efpecially cumerning Points of Curiofity, are defired to pay the Poftage of thin Letters, if they exped any Abfwer.

[^5]:    THE

[^6]:    ontac

[^7]:    

[^8]:    52

[^9]:    * Several of our Correfponden ts miftook the $4^{\text {th }}$ Rebus for monkey, on secount of "f four-fuxths," inflead of thrce-fiwhs.

